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# Australian Hydrogen Projects Paper

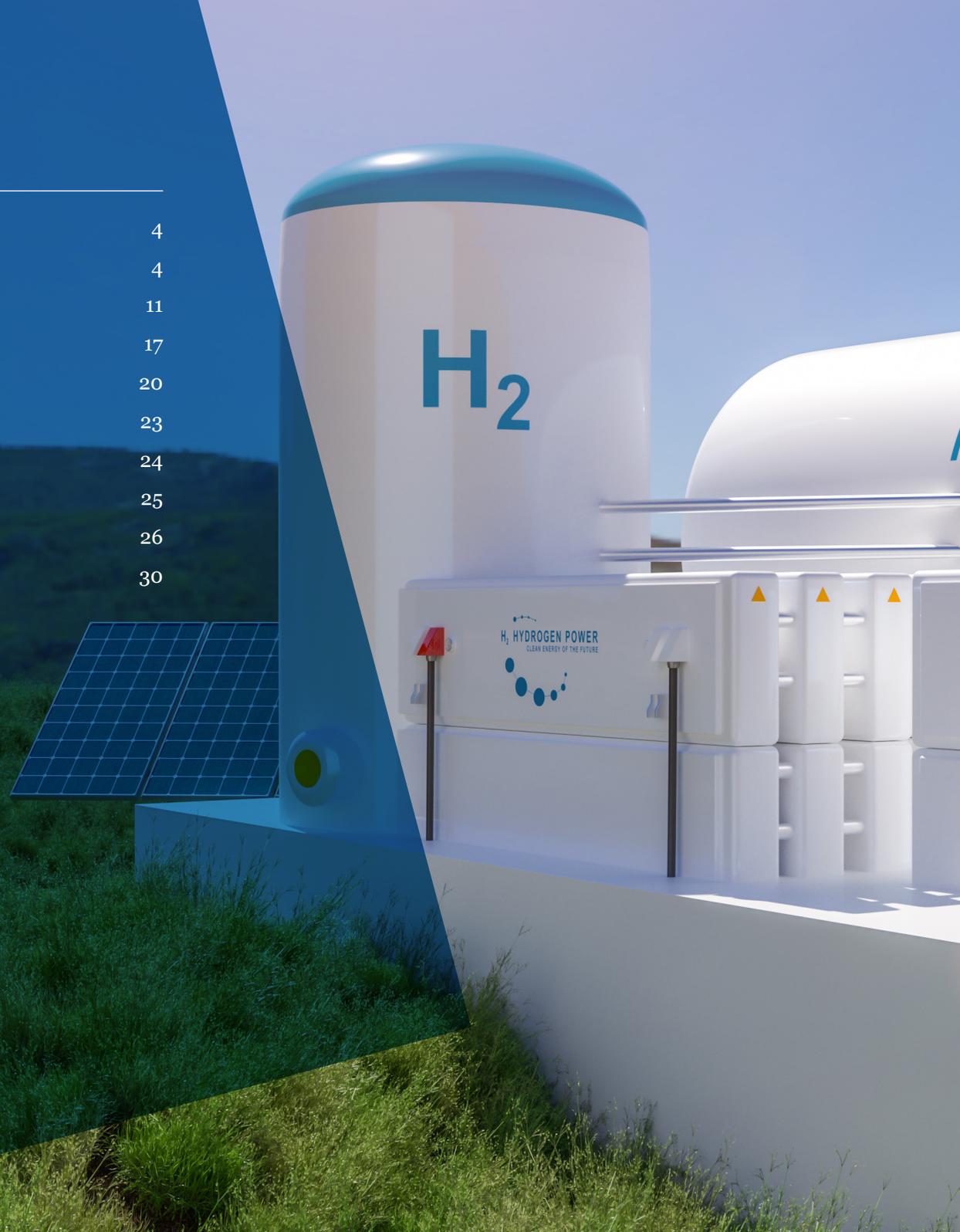
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*This publication is of a general nature only and should not be relied upon as a substitute for specific advice.*



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**Want to know more?**

If you would like more information or assistance, drop us an email or give us a call.



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# 1. Current Australian hydrogen projects

We set out in the table below an updated list of Australian-based hydrogen projects, including pilot and development projects for hydrogen production, hydrogen transportation, refuelling projects, feasibility studies and research projects. This list is not necessarily complete, and is based on information that is available to the public as at 30 November 2021.

Legend:

■ Production / pipeline projects (including pilot and demonstration projects)

■ Feasibility studies

■ Refuelling / fuel-cell projects

■ Research projects / hydrogen strategies

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
<b>1.1 Western Australia</b>							
1	Arrowsmith Hydrogen Project	Infinite Blue Energy ("IBE")	Commenced in mid-2020 and expected to be completed in 2022	This project involves building Australia's largest hydrogen production facility in Dongara. The facility is expected to produce 25 tonnes of green hydrogen a day using water, wind and solar energy. In November 2020, IBE signed an agreement with Western Power to complete the initial studies for a 330KV power line to Arrowsmith. On 21 September 2021, IBE signed a Memorandum of Understanding (MoU) to supply green hydrogen from its Arrowsmith hydrogen complex to Strike Energy's proposed urea production facility.	Green	A\$300m investment funding	A\$300m
2	APA Conversion of Gas Pipeline	APA Group	Testing and research expected to be completed in late 2022	APA Group has announced a new initiative to convert the Parmelia Gas Pipeline in Western Australia into a hydrogen-ready transmission pipeline.  In September 2021, APA Group has received A\$300,000 from the Western Australia Government to help test the ability of 43km (26.7 miles) of the Parmelia Gas Pipeline to transport up to 100 percent hydrogen. The second phase of testing is intended to demonstrate the operational capacity of the existing gas transmission pipeline to transport pure hydrogen or blended with natural gas.	N/A	Unknown	A\$3m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
3	Xodus and Unique Metals Hydrogen Project	Xodus and Unique Metals	Unknown	Energy consultancy Xodus and metals manufacturing company Unique Metals announced an MoU which will leverage each company's expertise to deliver the Unique HyMetals project for green metals fabrication. It integrates hydrogen production for power generation, oxygen generation for laser-cutting machinery and use, as well as providing fuel for onsite mobility, including forklift transport. As part of the MoU, Xodus will collaborate with Unique Metals to design the project and explore the company's current emissions profile and the potential impact of the proposal.	Green	Unknown	Unknown
4	ATCO Hydrogen Microgrid, Clean Energy Innovation Hub	ATCO Australia Pty Ltd	Completed in 2017	Approximately 1,000 solar panels have been installed at the Jandakot Operations Centre, capable of generating 300kW of power. The design stores 500kWh of energy in batteries, with excess renewable energy utilised to power an electrolyser for the production of hydrogen which can be stored or injected into the micro-grid for testing, as a direct fuel or blended with natural gas.	Green	A\$1.79m by ARENA	A\$3.53m
5	ATCO and Fortescue Hydrogen Refuelling Station ("HRS")	ATCO Australia Pty Ltd ("ATCO"), Fortescue Metals Group ("Fortescue")	Unknown	ATCO is working with Fortescue to deploy hydrogen vehicle fuelling infrastructure in Western Australia. Under the agreement, ATCO and Fortescue will construct and operate the refuelling facility at ATCO's existing facility in Jandakot.	N/A	\$1m from the WA Government's Renewable Hydrogen Fund	Unknown
6	H2Perth	Woodside Petroleum	To launch in 2023	Woodside has proposed to build a \$1 billion hydrogen plant in south of Perth, Western Australia that at full potential, would be one of the largest hydrogen facilities in the world producing up to 1,500 tonnes per day of hydrogen for export in the form of ammonia and liquid hydrogen. The facility will expand gradually to meet demand from customers in Asia, according to Woodside Chief Executive Officer Meg O'Neill.	Blue / green	Unknown	A\$1bn
7	Clean Energy Innovation Park	ATCO Australia Pty Ltd, Australian Gas Infrastructure Group ("AGIG")	Final Investment Decision in February 2022	ATCO with AGIG is progressing its Clean Energy Innovation Park in the mid-west region of Western Australia, which includes a 10MW electrolyser powered from the nearby 180MW Warradarge Wind Farm, with the hydrogen generated to be trucked to injection points for blending into the Dampier to Bunbury Pipeline. In May 2021, the project received A\$28.7 million in funding from the Australian Renewable Energy Agency.	Green	A\$28.7m from ARENA	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
8	Green Hydrogen for City of Cockburn	City of Cockburn	Unknown	Feasibility study for solar hydrogen production for waste collection and light vehicle fleets. The study will also examine co-generation opportunities for electricity and heat production.	Green	A\$149,412 by WA Government's Renewable Hydrogen Fund	A\$325,704
9	Hazer Commercial Demonstration Plant ("HCDP")	Hazer Group	Commenced in March 2020	<p>The Hazer Group will build a 100 tonne per annum facility which converts biogas from sewerage treatment into hydrogen and graphite. The hydrogen produced will be fuel cell grade, capable of being used as a low emissions transport fuel.</p> <p>In May 2020, the Hazer Group executed a binding Gas Supply Agreement ("GSA") and Collaboration Deed with Western Australian Water Corporation ("WAWC") for the supply of biogas and co-location of the HCDP. Under the GSA, the WAWC will supply biogas produced at its Woodman Point Wastewater Treatment Plant as feedstock for the proposed HCDP.</p> <p>Delivery of biogas under the GSA is scheduled to begin in 2021 and continue for three years.</p>	Green	A\$9.4m by ARENA	A\$22.6m
10	Horizon Power Hydrogen Microgrid	Horizon Power, Hybrid Systems	Starting August 2021	<p>Horizon Power is set to build a microgrid using renewable hydrogen in Denham, Western Australia. The Denham Hydrogen Demonstration Plant will feature a 704 kilowatt (kW) solar farm, 348kW electrolyser, hydrogen compression and storage and 100kW fuel cell and use renewable energy to power an electrolyser, which will produce hydrogen that can be stored for later use in a fuel cell to deliver electricity. The plant will connect into the Denham hybrid power system.</p> <p>The plant will generate 526MWh per year, which is equivalent to the energy required to power up to 100 residential houses in Denham.</p>	Green	The Project has secured A\$2.6m from ARENA. A further A\$5.7m will be provided by the WA Government as part of its Recovery Plan, including A\$1m from the WA Renewable Hydrogen Fund.	Unknown
11	Hybrid PV-Battery Hydrogen System for Microgrids	Murdoch University	Unknown	Feasibility study for 100% renewable energy standalone power system for an indigenous community in the Pilbara. The study includes development of a new modelling tool to optimise design.	Green	A\$75,000 from the WA Government's Renewable Hydrogen Fund	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
12	Hydrogen Peaking Plant for Collie, WA	ATCO, Nedstack, Hydrogenics, Siemens, Nel, Hydrogen Society of Australia	Unknown	Proposal to use green hydrogen as a power source for a peaking plant. The project will be implemented in three stages. Stage 1 will be the pilot project based around a 100kW electrolyser. Stage 2 will implement the 5kW modular system. Stage 3 will implement a 120MW+ system.	Green	Unknown	Unknown
13	Hyer Penetration – EDL Hydrogen Enabled Hybrid Renewables	Energy Developments Limited	Unknown	Feasibility study for integration of renewable hydrogen production with isolated power stations.	Unknown	A\$242,500 from the WA Government's Renewable Hydrogen Fund	Unknown
14	Murchison Renewable Hydrogen Project	Hydrogen Renewables Australia Pty Ltd, Copenhagen Infrastructure Partners, Siemens	Unknown	5GW wind and solar project to produce green hydrogen for export to Asia. The project is located near Murchison House Station, north off the coast of Kalbarri. In November 2020, the project secured the financial backing of Copenhagen Infrastructure Partners (“CIP”). Under current planning, the proposed project would be developed in three stages: <ol style="list-style-type: none"> <li>1. a demonstration phase producing hydrogen for transport fuels;</li> <li>2. an expansion to blend with natural gas into the nearby Dampier to Bunbury pipeline; and</li> <li>3. a larger expansion to produce hydrogen for export to Asian markets.</li> </ol>	Green	Unknown	A\$10bn
15	Oakajee Strategic Industrial Area	WA Government	Assessment of submissions	The WA Government received 65 expressions of interest to produce and export renewable hydrogen from a new hub that could feature up to 1,250MW of solar and 270MW of wind generation. After releasing an EOI call in September 2020 for the hub in the Oakajee Strategic Industrial Area, it secured submissions from Australia, Japan, Korea, India, Germany, Spain, UK, France and U.S. In September 2021, the Western Australian Government provided an additional A\$61.5 million in funding, including A\$7.5 million towards an access road into the area. It has also pledged A\$4 million towards developing the plan for the hub.	Green	N/A	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
16	Ord Hydrogen	Pacific Hydro Australia Developments Pty Ltd (“Pacific Hydro”)	Unknown	Feasibility study for hydrogen production facility near Kununurra utilising existing hydro generation. Global Energy Ventures and Pacific Hydro executed a MoU to explore opportunities regarding the production, storage, loading, and ground and marine transportation of green hydrogen produced by Pacific Hydro’s Ord Hydrogen Project.	Green	A\$370,000 by WA Government’s Renewable Hydrogen Fund	Unknown
17	Green Shepherd	Pearl Clean Energy Pty Ltd	Pre-Feasibility	A phased hydrogen production facility located in the southwest of Western Australia, with an initial 10MW electrolysis plant producing 1,400 tonnes of hydrogen, for use in heavy transportation.	Green	Unknown	Unknown
18	Preparing the Dampier to Bunbury Natural Gas Pipeline for Hydrogen	DBNGP (WA) Nominees Pty Ltd	Unknown	Feasibility study examining the compatibility of the transmission pipeline with blended hydrogen, which includes preparing a roadmap for the development of regulations for hydrogen blended gas in Western Australia.	Blue	A\$216,000 by WA Government’s Renewable Hydrogen Fund  A\$234,000 by Australian Gas Infrastructure Group	A\$450,000
19	Project GERI Feasibility Study	BP Australia Pty Ltd, GHD Group Limited	Commenced in April 2020 and completed in February 2021	The Geraldton Export-Scale Renewable Investment Feasibility Study will explore the potential for developing a green hydrogen and ammonia production supply chain.	Green	A\$1.17m by ARENA	A\$4.42m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
20	Renewable Hydrogen Transport Hub in the City of Mandurah	Hazer Group Limited (“Hazer”)	Completed	<p>Feasibility study for a hydrogen refuelling infrastructure hub and associated transport applications. Hazer has completed the feasibility study to identify and aggregate the customer base for hydrogen-based transport applications in the city of Mandurah (around 75km south of Perth) and the wider region, and to match this with implementable infrastructure and hydrogen supply options.</p> <p>The feasibility study was undertaken by Aurecon and a study group comprising Hazer, Hyzon Motors Australia and Macquarie Group. The study was completed and a report has been issued for review and finalisation.</p>	Various	A\$250,000 by WA Government’s Renewable Hydrogen Fund	Unknown
21	UWA Methanol from Syngas Research and Development	The University of Western Australia, Anergy Pty Ltd	Commenced in August 2018	The research project seeks to develop an innovative and miniaturised process technology for synthesising renewable methanol from biomass pyrolysis syngas and demonstrate the technology in a laboratory-scale pilot plant for engineering evaluation and process economic studies.	Blue	A\$1.07m	A\$2.9m
22	Kwinana Refinery Conversion Study	BP, Macquarie	Unknown	British energy major BP and Macquarie teamed up for a feasibility study into a potential green hydrogen plant at BP’s former refinery site at Kwinana, Western Australia.	Green	Unknown	Unknown
23	Yara Pilbara Renewable Ammonia Feasibility Study (“Project YURI”)	Yara Pilbara Fertilisers Pty Ltd (“Yara”), Engie Services Australia Pty Limited (“Engie”)	Environmental review is underway with the facility scheduled for completion in 2023	<p>Yara and Engie completed their feasibility study report in October 2020 on the demonstration-scale renewable hydrogen and renewable ammonia production and export facility on the Burrup Peninsula, Western Australia. Now named Project YURI, Yara and Engie will produce green hydrogen via renewable energy-powered electrolysis, commencing with on-site solar PV. This renewable hydrogen will in turn be used as feedstock to produce ammonia which will be exported.</p> <p>Key elements include:</p> <ul style="list-style-type: none"> <li>• a 10MW electrolyser;</li> <li>• an on-site facility of photovoltaic panels; and</li> <li>• a battery storage system that will allow the plant to operate without being connected to the main electrical grid.</li> </ul> <p>The project is scheduled to commence production in 2023, the first concrete phase of the project will produce up to 625 tonnes of renewable hydrogen and 3,700 tonnes of renewable ammonia per year.</p>	Green	A\$2m by WA Government’s Renewable Hydrogen Fund; A\$42.5m from the ARENA Renewable Hydrogen Deployment Funding Round	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
24	Western Green Energy Hub	InterContinental Energy, CWP Energy Asia ("CWP"), Mining Green Energy	Unknown	InterContinental Energy and CWP (sponsors of the previous Asian Renewable Energy Hub) together with Mining Green Energy are forming a new consortium to develop the largest renewable energy hub in the world. The Western Green Energy Hub ("WGEH") will be located on a 15,000 square kilometres in South-East WA, across the Shires of Dundas and the City of Kalgoorlie-Boulder. The project will be built in phases and aims to produce up to 3.5 million tonnes of zero-carbon green hydrogen or 20 million tonnes of green ammonia each year.	Green	Unknown	A\$100bn
25	Blue Hydrogen and CCS Study	Pilot Energy	Study due to be completed Q1 2022	On 4 November 2021, Pilot Energy formed a consortium to jointly undertake and fund the feasibility study for the Mid West Blue Hydrogen and Carbon Capture and Storage project. Consortium member APA Group will provide expertise for the infra component of the project; Pilot will bring its carbon management expertise; and Warrego Energy will deliver natural gas supplies. French engineering player Technip Energies, along with advisory companies Genesis and Risc Advisory, will act as the "key consultants" on the study, which is expected to be completed in Q1 2022.	Blue	Unknown	A\$2.1m
26	Kwinana Energy Transformation Hub ("KETH")	Luth Eolas Pty Ltd	Construction expected to commence in 2022	<p>The KETH project will convert 2.8 hectares of vacant land in the Kwinana Strategic Industrial Area located south of Perth into an industrial-scale facility for research, technology demonstration, validation, qualification, certification, and training purposes.</p> <p>This involves constructing and integrating:</p> <ol style="list-style-type: none"> <li>1. a 10 tonne per day LNG plant; and</li> <li>2. 800kg per day of renewable hydrogen production, compression and storage.</li> </ol> <p>Once completed, KETH will provide an industrial scale test facility for strategic research projects, including those planned by the Future Energy Exports Cooperative Research Centre ("FEnEx CRC").</p>	Green and blue	Unknown	A\$78m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
<b>1.2 Queensland</b>							
27	APA Renewable Methane Demonstration Plan	APT Facility Management Pty Ltd, Southern Green Gas Pty Limited	Commenced in March 2020	This power to gas demonstration plant is to be built at the Wallumbilla Gas Hub near Roma will create methane using solar-generated electricity, water and CO2 from the atmosphere. The power to gas demonstration plant will produce approximately 620kg of hydrogen per year, converting it into 74 gigajoules of methane that can then be injected into APA's natural gas pipelines across the East Coast Gas Grid.	Blue	A\$1.1m by ARENA	A\$2.26m
28	Kogan Hydrogen Demonstration Plant	CS Energy, IHI Corporation	Construction to commence in 2022	The Government of Queensland confirmed that green hydrogen will be produced in the State's Darling Downs region, with a "unique" demonstration facility capable of producing an estimated 50,000kg of solar-powered renewable hydrogen each year to be operating before the end of 2023. The facility would be built beside the existing Kogan Creek Power Station and would include the co-location of a solar farm, battery energy storage system, hydrogen electrolyser and a hydrogen fuel cell.	Green	Unknown	Unknown
29	Bulwer Island Refuelling Station	BOC	Commenced in May 2019	The Feasibility of Renewable Green Hydrogen project will conduct and assess the feasibility of producing renewable hydrogen and ammonia at Dyno Nobel's existing facility in Moranbah, Queensland.	Green	A\$950,000 by ARENA	A\$4.18m
30	Plug Power and Fortescue Future Giggafactory	Plug Power, Fortescue Future Industries	Delivery planned for the second half of 2022	Fortescue Future Industries, the green energy arm of Australia's third largest iron ore producer Fortescue Metals, plans to build a hydrogen electrolyser production plant at Gladstone in Queensland and convert an ammonia production facility near Brisbane to green hydrogen. The two major Queensland projects will reduce the carbon emissions of a state that is heavily reliant on coking and thermal coal exports for royalty income.	Green	Unknown	Unknown
31	1GW production plant in Lansdown	Edify Energy	Application approved	Renewables developer Edify Energy has been granted development approval to build and operate a green hydrogen production plant of up to 1GW, as well as a behind-the-meter solar and battery storage facility within the Lansdown Eco-Industrial Precinct in Townsville, northern Queensland.	Green	Unknown	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
32	Gladstone Hydrogen Plant Study	APA Group, Stanwell Corporation, Iwatani, Kawasaki Heavy Industries, Kansai Electric Power Co, Marubeni	Feasibility study	Gas pipeline owner APA Group has joined a line-up of Japanese heavyweights in what would be Queensland's largest green hydrogen project, with the start-up of exports to Japan targeted from 2026. The project involves building a plant near Gladstone in central Queensland, which is being supported by both the Australian and Japanese governments, would then be significantly expanded early next decade as demand for the emissions-free fuel grows in the transportation and industrial sectors.	Green	A\$2.17m from the Australian Renewable Energy Agency and Japanese Ministry of Economy, Trade and Industry	A\$10.4m
33	EEW Green Hydrogen Plant	Eco Energy World	In development	London-based renewables developer, Eco Energy World ("EEW"), is building a green hydrogen plant in Queensland while pushing ahead with plans for an IPO. The entire project will consist of a 300MW solar PV plant and a 200MW hydrogen plant along with 100MW battery storage capacity.	Green	Unknown	A\$500m
34	Feasibility of Renewable Green Energy	Dyno Nobel Moranbah Pty Ltd, Incitec Pivot Limited	Completed	Feasibility Study for a Green Hydrogen and Ammonia Project is a study of using green hydrogen to produce ammonia at Queensland Nitrates Pty Ltd ("QNP")'s existing manufacturing plant at Moura site. The proposed facility includes a 30MW electrolyser and a small-scale ammonia plant consuming 208GWh of electricity.	Green	A\$980,000 by ARENA	A\$2.67m
35	Green Hydrogen Studies for Australia-Japan Supply Chain	Origin Energy and Eneos	Unknown	Australian energy utility Origin Energy and Japanese energy company Eneos announced they will jointly explore the feasibility of producing green hydrogen made with wind and solar energy in Queensland. They will also look at establishing a supply chain including exporting green hydrogen from Australia to Japan. The study will examine the potential for the stable supply of green hydrogen produced from renewable energy in Queensland.	Green	Unknown	Unknown
36	Gladstone Energy and Ammonia Project	Itochu, Australian Future Energy	Commencing Front End Engineering Design ("FEED") studies with production expected in July 2024	Itochu, one of Japan's largest conglomerates, has signed an MoU with renewables developer Australian Future Energy to develop the Gladstone Energy and Ammonia Project ("GEAP"). GEAP is expected to produce around 230,000 tonnes of ammonia per annum (tpa) and 14PJ of pipeline quality gas. The plant has been granted "project of significance" status by the Queensland Government, while initial production is slated for July 2024.	Blue	Unknown	A\$1bn

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
37	Hydrogen Park Gladstone	AGN	Plant expected to be operational in December 2021	Development of a renewable hydrogen plant, that is capable of delivering up to 10 percent blended hydrogen across Gladstone's 770 residential, small commercial and industrial customer base.	Unknown	A\$1.78m by the Queensland Government's Hydrogen Industry Strategy Fund	A\$4.2m
38	H2-Hub™ Gladstone	Hydrogen Utility ("H2U")	Targeted approvals by 2023 and first production by 2025	Proposal for an industrial complex for the large-scale production of green hydrogen and ammonia. H2U has a contract for a 171 hectare site at Yarwun in the Gladstone State Development Area, which is in close proximity to the export precinct at Fisherman's Landing. The plant hit a milestone ahead of schedule in March 2021 with procurement of the plant's 175kW electrolyser. In October 2021, H2U moved its H2-Hub Gladstone green hydrogen and ammonia project a step closer with the signing of a letter of intent with Gladstone Ports Corporation.	Unknown	Unknown	A\$1.61bn
39	National Hydrogen Materials Reference Facility	Griffith University	Unknown	Reference facility focused on characterising the performance of hydrogen storage materials. Capabilities include: measurement of hydrogen absorption, adsorption and desorption, lifetime testing, and hydrogen storage testing systems.	Unknown	Unknown	Unknown
40	Northern Oil Advanced Biofuels Laboratory	Southern Oil Refining Pty Ltd	Completed on 21 August 2019	The Northern Oil Advanced Biofuels Laboratory project involves the development and construction of Australia's first biocrude and biofuel laboratory at the site of the Northern Oil Advanced Biofuels Pilot Plant in Yarwun, Central Queensland. Hydrogen will be produced from waste through the chemical looping process to support refining of waste oil. Surplus hydrogen will be used to power a 200-400kw fuel cell.	Blue	A\$3.19m by ARENA	A\$6.94m
41	Pacific Solar Hydrogen	Austrom Hydrogem	Unknown	Proposed development of a solar farm and battery facility near Callide, Central Queensland, with a capacity of up to 3,600MW. The solar farm will supply renewable energy for a hydrogen production facility at Gladstone for export of hydrogen.	Unknown	Unknown	Unknown
42	Green Hydrogen Potential at Juilia Creek	QEM Limited ("QEM")	Commenced March 2021	QEM commenced exploratory work on green hydrogen opportunities at its flagship Julia Creek vanadium and oil shale project in North Queensland. QEM is assessing financial and regulatory requirements for installing a solar powered electrolyser.	Green	Unknown	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
43	Redlands Research Centre	Queensland University of Technology	Unknown	Hydrogen produced at the State Government's Redlands Research Centre has been exported to Japan by JXTG, Japan's largest petroleum conglomerate, with the hydrogen produced at the Queensland University of Technology's solar cell facility in Cleveland. The green hydrogen was produced by adding water and acid to a chemical called toluene using solar power as the energy source in the electrochemical conversion process.	Unknown	A\$250,000 from the Queensland Government	A\$7.5m
44	Renewable Ammonia Plant	(Dyno Nobel Moranbah) Incitec Pivot Limited	Commenced September 2019	Assessing the feasibility of creating the world's largest ammonia plant at the Moranbah facility in Queensland, using a 160MW electrolyser powered by a 210MW solar farm.	Green	A\$980,000 by ARENA	A\$2.7m
45	Renewable Hydrogen Microgrid	Daintree Renewable Energy Pty Ltd	Unknown	Feasibility study assessing the feasibility of a microgrid will store energy generated by new and existing solar panels by converting it to hydrogen for use in a fuel cell remote area power supply ("RAPS").	Unknown	A\$950,150 by Commonwealth Government's Regional and Remote Communities Reliability Fund	Unknown
46	Renewable Hydrogen Production and Refuelling Project, Pinkenba	BOC Limited, ITM Power Pty Ltd, Queensland University of Technology, Hyundai Motor Company Australia Pty Limited	Completed	The Renewable Hydrogen Production and Refuelling Project aims to demonstrate renewable hydrogen production at a commercially viable scale, and help progress the commercialisation of hydrogen for vehicle transport in Australia.	Blue	A\$950,000	A\$4.18m
47	Stanwell Hydrogen Electrolysis Deployment Feasibility Study	Stanwell Corporation Limited, Deloitte Financial Advisory Pty Limited, Advisian Pty Ltd	Feasibility study completed in October 2021	Assessing the feasibility of a large (10MW or bigger) hydrogen electrolysis demonstration plant at Stanwell Power Station, near Rockhampton in Queensland. The study concluded in October 2020. Next, Stanwell will consider establishing a consortium for the development of a large-scale hydrogen industry in Central Queensland, with the view of exporting hydrogen.	Green	A\$1.25m by ARENA	A\$4.99m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
48	Sumitomo Gladstone Hydrogen Plant	Sumitomo Corporation ("Sumitomo"), JGC Holdings	FEED commenced in January 2021 with production expected in 2023	<p>Sumitomo has plans to develop a significant hydrogen hub near one of Australia's major liquefied natural gas export complexes. Sumitomo Corporation and JGC Holdings have signed a FEED contract for the hydrogen project being developed in Queensland.</p> <p>In August 2021, Sumitomo and Rio Tinto announced plans to explore hydrogen production in Queensland. Sumitomo and Rio Tinto said they would study the building of a hydrogen pilot plant to help power the mining giant's Yarwun alumina refinery in Gladstone. Rio Tinto said the two companies would explore the use of hydrogen not only for the refinery but to supply industry more broadly in Gladstone.</p>	Unknown	Unknown	Unknown
49	Sun Metals Hydrogen Queensland SunHQ Project	Sun Metals Corporation Pty Ltd ("Sun Metals"), Ark Energy H2 Pty Ltd	Unknown	<p>In June 2020, the Queensland Government announced an offer of funding of A\$5 million to Sun Metals in support of the Sun Metals Hydrogen Queensland SunHQ Project. The project will see the construction of a renewable hydrogen facility at the Sun Metals refinery. The produced hydrogen will be used across multiple applications predominately focussed on diesel fuel displacement, including heavy vehicles, off-grid remote power generation and a gas blending trial with liquefied petroleum gas ("LPG") within the zinc refinery process.</p> <p>In November 2021, the project secured A\$3 million in support from ARENA to deploy a 1MW polymer electrolyte membrane ("PEM") electrolyser with storage and infrastructure to fuel 5 new fuel-cell electric trucks with green hydrogen.</p>	Unknown	A\$5m by Queensland Government's Hydrogen Industry Development Strategy Fund; A\$3m from ARENA	Unknown
50	Bundaberg Hydrogen Hub ("BHH")	Elvin Group Renewables, Denzo Pty Ltd, H2X	Unknown	The BHH will provide clean green hydrogen for a wide range of industrial and vehicle uses. It will start with the development of a state of the art 80MW Hydrogen Electrolyser. The BHH is targeting production of zero-emission clean hydrogen. The project secured approval in September 2020.	Green	N/A	A\$300m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
51	Wildfire Energy MIHG Pilot Plant	Wildfire Energy	Commenced in mid-2016	The MIHG (Moving Injection Horizontal Gasification) Pilot Plant in Murarrie converts biomass and carbonaceous waste into clean, hydrogen rich synthetic gas. In 2021, purification equipment will be added to the Pilot Plant for waste to be converted to fuel cell grade hydrogen with net negative carbon emissions.	Green	A\$200,000 from Queensland Government's Ignite Ideas Fund	Unknown
52	Green Liquid Hydrogen Export Project	Origin Energy, Kawasaki Heavy Industry, Port of Townsville	Feasibility study completed in 2020	Origin Energy plans to partner with Kawasaki Heavy Industry to build a renewable liquid hydrogen production and export facility. A feasibility study was completed in 2020. In April 2021, Origin Energy and the Port of Townsville signed a preliminary deal to use the Townsville ports to ship cargoes in the future and potentially expand the facility, develop a plant to liquefy hydrogen and build a new berth and other infrastructure.	Green	A\$312m by the Queensland Government in relation to the Townsville Port	Unknown
53	Dalrymple Bay Terminal Feasibility Study	North Queensland Bulk Ports Corporation Limited, ITOCHU Corporation, Brookfield Asset Management Inc. ("Brookfield")	Feasibility study to conclude by mid-2022	Queensland's port authority, North Queensland Bulk Ports Corporation has signed a MoU with Dalrymple Bay Infrastructure ("DBI"), Brookfield and ITOCHU Corporation on the development of a hydrogen export facility. Under the MoU, the parties will jointly explore the feasibility of producing and storing green hydrogen utilising port land at Dalrymple Bay Terminal and of establishing a supply chain including exporting green hydrogen using existing export facilities. In November 2021, Dalrymple Bay Infrastructure's CEO Anthony Timbrell said: "We're currently in the middle of a full feasibility study - it's about a \$26 million job that will be concluded around mid-2022."	Green	Unknown	Unknown
54	Hydrogen Energy Storage Advanced Manufacturing Facility	LAVO, Springfield City Group ("SCG"), Nedstack	In development	LAVO and SCG signed an MoU to deliver energy solutions to the City of Springfield and surrounding areas. LAVO and Nedstack will establish a facility to produce the Nedstack fuel cell – the first fuel cell production line to offer locally produced hydrogen fuel cells to the broader industry in Australia. In September 2021, SCG lodged a development application to build the LAVO Advanced Manufacturing Facility on land it owns on Gateway Drive in Augustine Heights. The two-storey facility will involve the manufacture and assembly of hydrogen fuel cells with the final construction of hydrogen batteries to happen at another site.	Unknown	Unknown	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
<b>1.3 New South Wales</b>							
55	ARC Training Centre for The Global Hydrogen Economy	University of New South Wales	Unknown	Creation of a centre for the training and development of hydrogen engineering professionals to meet the demand for hydrogen production, storage and distribution skills. Researchers from the centre have been noted for recent breakthroughs in the hydrogen space.	Unknown	A\$4.9m by the Australian Research Council	Unknown
56	Biological Hydrogen Production	Macquarie University, Bioplatforms Australia Ltd, BOC Australia	Started in August 2018	The Biological Hydrogen Production project aims to produce a bacteria that can efficiently and rapidly convert sugars from various renewable sources into hydrogen gas.	Unknown	A\$1.17m by ARENA	A\$2.83m
57	Wood-fed Hydrogen Plant	Sweetman Renewables Limited and CAC-H <sub>2</sub>	Proposed	Sweetman Renewables Limited entered into a joint venture with Singaporean company CAC-H <sub>2</sub> to produce hydrogen by gasifying woodchips. The A\$15 million deal will see CAC-H <sub>2</sub> owning 80 percent of the Hunter Valley-based operation, while Sweetman will own 20 percent, and be responsible for providing the wood feedstock, as well as the EPC engineering.	Unknown	Unknown	Unknown
58	KEPCO Bylong Valley Hydrogen Project	KEPCO	Proposed	KEPCO, which is majority-owned by the South Korean Government, has announced its proposal to develop a hydrogen project in the Bylong Valley, following the rejection of plans for an open-cut coal mine in the area.	Unknown	Unknown	Unknown
59	Hunter Taskforce Hydrogen Energy Strategy	University of Newcastle	Preparation stages	<p>The taskforce, a University of Newcastle-led collaboration with the CSIRO and various industry, training and advocacy groups, has published the Hunter Hydrogen Roadmap 2021-2040. The plan sets out three phases of action:</p> <ol style="list-style-type: none"> <li>1. “Prepare and pilot” from 2021 to 2025;</li> <li>2. “Deploy and scale” from 2025 to 2035; and</li> <li>3. “Prosper” from 2035 onwards.</li> </ol> <p>It proposes setting up an entity to oversee the plan, naming a hydrogen “ambassador”, developing a Hunter hydrogen brand, establishing a research demonstration site, and starting an annual hydrogen conference, all in the next four years.</p>	Unknown	Unknown	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
60	Hunter Hydrogen Network (“H2N”)	Energy Estate, AGL, APA Group, ITM Power, Idemitsu Kosan, Trafigura, RES Australia, WalchaEnergy	Feasibility studies to commence by end of 2021	<p>H2N is a large-scale hydrogen production, transportation and export project designed to bring about a “hydrogen economy” in the Hunter Valley, in partnership with hydrogen users and exporters. This development will consist of a whole series of interconnected projects to form an eco-system. Following conclusion of a feasibility study, the financial close for this stage is expected in late 2023/early 2024.</p> <p>In September 2021, the Federal Government declared the Hunter as one of seven national hydrogen hubs that will supercharge the development of a multi-billion dollar export industry. The state hubs will provide groups of hydrogen users a common infrastructure for local production, use and distribution.</p>	Unknown	Unknown	A\$2bn
61	H2Store Technology	University of Newcastle	Second half of 2020	H2Store Technology has been proposed to serve as being a compact and effective way to store and generate renewable energy, mitigate the fluctuation of renewable generation and increase confidence in the security of supply. This is done in collaboration with the Manilla Solar project.	Green	A\$3.5m by NSW Government	Unknown
62	Santos Blue Hydrogen Supply to New South Wales	Santos, Qenos	Initial stages	Santos is teaming up with local polyethylene and polymer producer Qenos to carry out a feasibility study that could see it supplying blue hydrogen to New South Wales. Santos and Qenos will look at the use of hydrogen to reduce carbon emissions at Qenos’ Port Botany operations. The pair will study the feasibility of Santos supplying up to 2PJ of blue hydrogen per annum, produced using natural gas.	Blue	Unknown	Unknown
63	Highly Efficient and Low Cost Photovoltaic-Electrolysis System	University of New South Wales, Beijing Zhongchao Haiqi Technology Co Ltd, RayGen Resources Pty Ltd, Shenzhen Kohodo Sunshine Renewable Energy Co. Ltd	Started in August 2018	The Highly Efficient & Low Cost Photovoltaic-Electrolysis System project is a proposed method to produce renewable hydrogen (“H2”) for export from sunlight and water. The project aims to lower the cost of renewable hydrogen produced via PVE by improving the energy efficiency of transition metal-based alkaline water electrolyzers and the overall solar to hydrogen (“STH”) conversion efficiency of PVE systems. This approach is anticipated to lead to the development of an integrated PVE system demonstrating an overall STH conversion efficiency > 30 percent.	Green	A\$1.31m by ARENA	A\$5.04m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
64	Jemena Power to Gas Demonstration	Jemena	Construction started in February 2021	The Jemena Power to Gas Demonstration project involves designing and constructing a Power-to-Gas facility which will source renewable electricity and convert it into hydrogen via electrolysis.	Blue	A\$7.5m by ARENA	A\$15m
65	Methane Fuel Carrier Research and Development	CSIRO	Started in August 2018	The Methane Fuel Carrier Research and Development project will investigate the production of synthetic methane as a readily exportable, renewable fuel, derived from atmospheric carbon dioxide and hydrogen produced from renewable sources.	Blue	A\$1.08m	A\$2.17m
66	Project NEO	Infinite Blue Energy	Unknown	A project proposing 1,000MW of combined wind, solar and hydrogen fuel cell generation capacity to be deployed in New South Wales, delivering continuous green power for the State.	Green	Unknown	A\$2.7bn
67	Solar Thermochemical Hydrogen Research and Development	CSIRO, Niigata University, Japan Institute of Applied Energy ("IAE")	Started in August 2018	The Solar Thermochemical Hydrogen Research and Development project will demonstrate Australia's first solar thermal beam down system, concentrating solar energy from a heliostat field in order to heat a fluidised bed on the ground to 1300 °C. Water added to this bed will be split into hydrogen and oxygen using a two-step chemical process. Additional research will examine the conversion of the produced hydrogen into methanol that can be used as a hydrogen carrier to export markets.	Green	A\$2m by ARENA	A\$4.04m
68	Waste Biomass to Renewable Hydrogen	University of New South Wales, Beijing Origin Water Technology Co. Ltd, Apricus Energy	Started in August 2018	Extracting hydrogen from biomass to convert a waste organic stream into hydrogen (or hydrogen-carriers) for downstream use or as an exportable commodity. The Waste Biomass to Renewable Hydrogen project aims to develop a biomass reforming system capable of extracting hydrogen and/or hydrogen-carriers – such as bio-alcohols and bio-acids – from biomass.	Blue	A\$1.04m by ARENA	A\$2.54m
69	Warrambool Research Centre	Deakin University, Kenworth	Unknown	The centre will test how hydrogen fuel-cells can work together with electric vehicle technologies.	Green	A\$2m by Commonwealth Government	A\$20m
70	Port Kembla Hydrogen Production Hub	Coregas	Unknown	The largest producer of hydrogen in the country, Coregas, proposes to acquire 2 hydrogen-powered prime movers and build a hydrogen refuelling facility at its Port Kembla plant. The project was green-lit after it received A\$500,000 in backing from the State Government of NSW in the latest round of the Port Kembla Community Investment Fund.	Unknown	A\$500,000 by NSW Government	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
<b>1.4 South Australia</b>							
71	Australian Hydrogen Centre	Australian Gas Networks Limited (“AGN”), Department for Energy and Mining, Department of Environment, Land, Water and Planning, AusNet Services, Engie Energy Services, Neoen Australia	Started in December 2019	<p>The Australian Hydrogen Centre will assess the feasibility of blending renewable hydrogen into gas distribution networks in Victoria and South Australia. The Australian Hydrogen Centre will also work on feasibility studies focused on 10 percent blending into the entire state gas networks in South Australia and Victoria. This work will also consider the feasibility of converting the state gas networks to 100 percent hydrogen.</p> <p>The project is seen as the next step to Australian Gas Network’s power-to-gas demonstration facility at the Tonsley Innovation District in Adelaide (Hydrogen Park SA) which was co-funded by the South Australian Government’s Renewable Technology Fund. This project will demonstrate a 5 percent hydrogen blend in gas distribution to 710 properties in Adelaide when it begins in mid 2020 (see below on this).</p>	Blue	A\$1.28m by ARENA	A\$4.15m
72	Crystal Brook Energy Park	Neoen Australia	Feasibility studies completed. Construction to start in 2021	Neoen is looking to construct a A\$600 million renewable hydrogen production facility, to support its solar and wind generation facilities at the Crystal Brook Site. The proposed 50MW hydrogen super hub would be one of the largest co-located wind, solar, battery and hydrogen production facilities in the world, producing about 7,000 tonnes of hydrogen a year.	Green	A\$1m by South Australian Government	A\$500m
73	Port Bonython Hydrogen Hub	Not specified	Proposed	South Australia has short-listed 7 major renewable hydrogen projects for its proposed Port Bonython Hydrogen Hub as it ramps up plans to export wind and solar power nationally and internationally. The South Australian Government says the projects amount to “tens of billions” of dollars of investment, and together could produce more than 1.5 million tonnes of green hydrogen a year, potentially turning the State into one of the most significant renewable hydrogen producers in the world.	Green	Unknown	Unknown
74	Connecting the Power and Gas Grids	AquaHydrex Pty Ltd	Completed	The “Connecting the Power and Gas Grids project” aims to design and build an electrolyser pilot plant and test it in partnership with Australian Gas Networks (“AGN”) as a demonstration of power-to-gas injection of hydrogen into the natural gas grid.	Blue	A\$5m by ARENA	A\$12.21m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
75	H2U Eyre Peninsula Gateway Hydrogen Project	H2U	Unknown	<p>South Australia launched the A\$240 million H2U Gateway Hydrogen Project which is set to be the largest green ammonia plant in the world. The project will see the installation of a 75MW electrolyser near Whyalla and associated upgrades to the Port Bonython jetty which will be used to export the hydrogen.</p> <p>In November 2021, chemical firm Casale signed an agreement with H2U. The agreement cements the relationship between Casale and H2U to develop the engineering package along with the supply, and potentially the construction, of proprietary equipment for the production of green ammonia. The first 2 pilot plants will be integrated into H2U's Eyre Peninsula Gateway Demonstrator Project in South Australia and are the first of a series of green ammonia facilities that will be strategically developed by the partnership in Australia, with the goal of spreading this technology to different industrial segments and other countries.</p>	Green	A\$37m by South Australian Government allocated in its 2020/21 State budget for upgrades to the Port Bonython jetty	A\$240m
76	Hydrogen Park of South Australia	Australian Gas Networks ("AGN"), part of the Australian Gas Infrastructure Group ("AGIG"), Siemens	Commissioned in December 2020	<p>Hydrogen Park of South Australia was officially opened in May 2021 and is blending renewable hydrogen into part of its natural gas distribution network in Adelaide. The facility is owned by AGN part of AGIG and located south of Adelaide at the Tonsley Innovation District. AGN will blend approximately 5 percent renewable hydrogen into its existing natural gas distribution network to deliver a blended gas to more than 700 homes in parts of the Adelaide suburb of Mitchell Park. AGN received a A\$4.9 million grant from the South Australian Governments Renewable Technology Fund to build and operate the project.</p> <p>Hydrogen Park of South Australia saw the first production of renewable hydrogen at its facility during commissioning of its key component, a 1.25MW electrolyser, in December 2020.</p>	Green	A\$4.9m by South Australian Government	A\$11.4m
77	Mawson Lakes Renewable Energy System	University of South Australia	Completed in 2019	The University of South Australia has built a A\$7.7 million research facility incorporating solar power, flow batteries, a hydrogen fuel cell stack and thermal energy storage at its Mawson Lakes campus.	Green	A\$3.6m by South Australian Government	A\$7.7m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
78	South Australia renewable hydrogen hub wins backing from Marubeni and the South Australian Government	Marubeni Corporation (“Marubeni”), South Australian Government	Unknown	Plans to export renewable hydrogen from South Australia through a pilot project co-developed by Marubeni has won funding from the Japanese government, in a bilateral bid to build an Indo-Pacific supply chain. The project will produce green hydrogen from South Australia’s abundance of large-scale wind and solar. At this stage of the plans, Marubeni is said to be working with the South Australian Government on project development, including site selection.	Green	Unknown	Unknown
79	Green Hydrogen Studies	Neoen, Eneos	Unknown	Neoen and Eneos have entered into a partnership to explore the potential for a green hydrogen supply chain between Japan and Australia, with the study to be conducted in South Australia. Neoen will look at the use of renewable energy and water to produce clean hydrogen. Eneos will be responsible for a “more efficient” production of methylcyclohexane (MCH) – a liquid form of hydrogen that can be stored and transported – and maritime transport of MCH as a form of hydrogen storage and transport from Australia to Japan. Eneos also plans to repurpose its existing petroleum infrastructure, including tankers, storage tanks and dehydrogenation facilities, to transport hydrogen.	Green	Unknown	Unknown
80	Port Lincoln Hydrogen and Ammonia Supply Chain Demonstrator	H2U, Hydrogen Utility, ThyssenKrupp	Initial stage commenced in late 2020	A proposed 30MW water electrolysis plant and a facility for sustainable ammonia production. The project is expected to be completed in late 2022. Mitsubishi Heavy Industries has invested in H2U and is set to be involved in the FEED study for the Eyre Peninsula project.	Green	A\$4.7m by South Australian Government	A\$117.5m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
<b>1.5 Victoria</b>							
81	Enabling the Efficient, Affordable and Robust Use of Renewable Hydrogent	University of Melbourne, University of New South Wales, MAN Diesel & Turbo SE, Energy Power Systems Australia Pty Ltd, Continental Automotive Systems Inc, Energy Australia Pty Ltd	Commenced in August 2018	A number of experimental facilities and modelling tools will be used to develop and implement high efficiency, hydrogen fuelled engines. Fundamental experiments will be conducted to assess hydrogen combustion at engine-relevant conditions.	N/A	A\$2.59m	A\$8.61m
82	Heywood Hydrogen and Solar Farm Project	Gleneilg Shire Council, Deakin University, CSIRO, Countrywide Renewable Energy, ITM Power, Port of Portland and Ausnet Services	Unknown	Funding is being sought for a feasibility study to develop a project to generate electricity from an 80MW solar farm to produce green hydrogen gas for export out of the Port of Portland. The project proponents hope to have the facility up and running within 5 years, but it is still subject to planning approval.	Green	Unknown	A\$160m
83	Hydrogen Energy Supply Chain Project	Kawasaki Heavy Industries, J-POWER, Iwatani Corporation, Marubeni Corporation, Shell and AGL	Commenced in 2019	During the pilot phase, brown coal will be gasified in the Latrobe Valley to produce hydrogen-rich syngas which will then be purified and transported to the Port of Hastings to be liquefied and loaded onto a specialised tanker for transport to Japan.	Brown	A\$100m by Victorian Government and Commonwealth Government	A\$496m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
84	Port Anthony Renewables Biomass-to-Hydrogen Project	Port Anthony Renewables, Babcock and Wilcox	Unknown	The developer of a proposed clean hydrogen hub in Australia's south-east has agreed a \$30 million deal with United States-based manufacturer Babcock and Wilcox to deliver a biomass-to-hydrogen project at the site. Port Anthony Renewables is bringing New York-listed Babcock and Wilcox's technology for producing hydrogen from waste timber to its hub at Port Anthony in Victoria's Gippsland region. Port Anthony Renewables, run by the Anthony family which has owned and operated the port for 20 years, is targeting production of more than 6,000 tonnes of hydrogen over the next 5 years.	Green	Unknown	A\$30m
85	Hydrogen to Ammonia Research and Development	CSIRO, Orica Australia Pty Ltd, Grains Research and Development Corporation	Commenced in August 2018	The Hydrogen to Ammonia Research and Development project aims to develop an ammonia production process which is less energy intensive than the conventional Haber-Bosch process and does not contribute to any greenhouse gas emissions.	Blue	A\$1.17m by ARENA	A\$2.83m
86	Liquid Fuel Carrier Research and Development	CSIRO, Johnson Matthey, BG Negev Technologies and Applications Ltd	Started in August 2018	The Liquid Fuel Carrier Research and Development project proposes a new technology for conversion of solar energy to liquid fuels. Both solar heat and solar PV electricity will be used to drive a solid oxide electrolyser device for production of hydrogen and syngas which can then be converted onsite into transportable liquid fuels enabling large-scale energy export and storage.	Green	A\$1.01m	A\$2.51m
87	Toyota Hydrogen Fuel Site	Toyota Motor Corporation	Started in March 2021	Toyota opened its first commercial hydrogen fuel pump site in Victoria, also being Victoria's first hydrogen refuelling station powered entirely by renewable energy.	Green	A\$3.04m by ARENA	A\$7.37m
<b>1.6 Australian Capital Territory</b>							
88	Efficient Solar Hydrogen Generation	The Australian National University, Shenzhen Kohodo, Hydrogen Energy, University of New South Wales	Started in August 2018 with completion planned for March 2022	The Efficient Solar Hydrogen Generation project investigates the fabrication and integration of low-cost semiconductors and earth abundant catalysts to address one of the most significant challenges for hydrogen production: the development of efficient, stable and cheap solar water splitting systems.	Green	A\$1.72m by ARENA	A\$4.4m

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
89	Government Fleet and Refuelling Station	ActewAGL, Neoen, Megawatt Capital, Siemens, Hyundai	Opened in March 2021	Public hydrogen refuelling station will open in Canberra to service 20 new FCEV's under order by the ACT Government. The station opened in March 2021.	Unknown	Unknown	A\$1m
90	Hydrogen Test Facility	Evoenergy, Canberra Institute of Technology ("CIT")	Opened in December 2018	CIT will use the facility together with Evoenergy to train plumbing students in these new technologies, and to equip future tradespeople with skills not only for now, but for the future. Through this partnership, Evoenergy will gain a clear understanding of the impact of introducing hydrogen to existing infrastructure, and how it can viably be used as a new energy source.	N/A	Unknown	Unknown
<b>1.7 Tasmania</b>							
91	Bell Bay Hydrogen Hub	Fortescue Metals Group	Final Investment Decision aimed for late 2021 aimed for late 2021 with construction slated for February 2022	<p>The Bell Bay Advanced Manufacturing Zone is Tasmania's premier industrial zone and has the established infrastructure, capacity and ease of access to transport options to support the production of hydrogen and its derivatives. In November 2020, it was announced Fortescue Metals Group's subsidiary, Fortescue Future Industries ("FFI"), will develop a 250MW green hydrogen plant in Bell Bay. The plant will produce 250,000 tonnes per year of green ammonia for domestic and international export.</p> <p>In June 2021, FFI signed an Option Agreement with TasPorts to exclusively negotiate all land and operating access requirements for its proposed project, marking an important milestone in the development of the project.</p>	Green	Unknown	A\$500m+
92	Burnie Hydrogen Hub ("Bernie")	Tasmanian Government	Unknown	In addition to the Bell Bay Hydrogen Hub, Burnie has also been confirmed by the Tasmanian State Government as Tasmania's other key hydrogen hub under the Tasmanian Government's A\$50 million support package. The goal is to ensure that Tasmania is a global producer of hydrogen by 2030 and will start production of hydrogen by 2022-2024.	Unknown	Unknown	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
93	H2TAS Project	Woodside Energy, Tasmanian Government, Countrywide Renewable Energy	Moving out of feasibility	<p>The Tasmanian State Government signed an MoU with Woodside Energy, supporting the development of the proposed H2TAS Project in Launceston. H2TAS involves a 10MW pilot project producing 4.5 temperature-programmed desorption (“TPD”) of hydrogen for domestic use. The project is being developed in a Joint Venture with Countrywide Renewable Energy. Woodside has also executed a non-binding term sheet with TasGas to develop a framework for blending and for the potential sale of green hydrogen into the Tasmanian gas network.</p> <p>In November 2021, Woodside announced it had secured land for the proposed plant, marking another step forward in the company’s plans for large-scale production of renewable hydrogen and ammonia. The land is a partially cleared site in the Austrak Business Park, in the Bell Bay area of northern Tasmania.</p>	Unknown	Seeking funding from ARENA	Unknown
94	Tasmanian Renewable Hydrogen Industry Development Funding Program	Tasmanian Government, Origin Energy, ABEL Energy, Grange Resources	Unknown	The Tasmanian Government will fund 3 studies, including Origin Energy’s export scale green hydrogen and ammonia plant; ABEL Energy’s 100MW green hydrogen and methanol; and Grange Resources 90-100MW renewable hydrogen project.	Green	A\$2.6m by Tasmanian Government	Unknown
<b>1.8 Other</b>							
95	Hanwha Energy Corp. Hydrogen Project	Hanwha Energy Corp., Woori Private Equity (“Woori PE”)	Unknown	Hanwha Energy Corp., part of South Korea’s Hanwha Group, will raise about 150 billion won (US\$130 million) from Woori PE to fund up to 2 solar energy-based green hydrogen projects in Australia. Hanwha Energy is in the final stages of talks with Woori PE for the new funding, according to investment banking sources. The company plans to list the Australian subsidiary in the US via a special purpose acquisition company (“SPAC”) in 2023.	Green	US\$130 million	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
96	Tiwi Hydrogen Project	Global Energy Ventures	Financial investment decision targeted for 2023	A 2.8GW solar farm has been proposed for the Tiwi Islands off the coast of the Northern Territory as part of plans to create a major renewable hydrogen hub for export to Asia's markets. The project would start as a 500MW plant and be expanded in stages to become a 2.8GW plant, to ultimately produce approximately 100,000 tonnes of green hydrogen a year for export around Asia Pacific — specifically Japan, Korea and Singapore — using a fleet of specially designed compressed-H2 shuttle tankers.	Green	Unknown	Unknown
97	Global H2OzBus Project	Transit Systems, Ballard Power Systems, BOC Limited, Palisade Investment Partners and ITM Power	Unknown	In May 2020, the H2OzBus Project was established, with a consortium of partners signing an MoU as a further step in evaluating and demonstrating the concept of hydrogen fuel cell electric buses for use in public bus transport in Australia.	Unknown	Unknown	Unknown
98	Woodside International Agreements	Woodside	Unknown	Woodside is developing collaborative partnerships, particularly with Japan and Korea to progress hydrogen export, including: <ul style="list-style-type: none"> <li>• an MoU has been signed with Korea Gas Corporation (KOGAS) to conduct a feasibility study to explore a green hydrogen export project;</li> <li>• an investment in HyNet (a 13 -party consortium led by KOGAS and Hyundai Motor Co.) which aims to deliver 100 hydrogen refuelling stations over the next 4 years in Korea; and</li> <li>• a consortium with Japanese companies to undertake a joint study examining the large-scale export of hydrogen as ammonia for use in decarbonising coal-fired power generation in Japan.</li> </ul>	Green	Unknown	Unknown
99	Shell Pursuing Hydrogen Opportunities in Australia in Net Zero Push	Royal Dutch Shell	Unknown	Shell has announced that it is pursuing development of its hydrogen business in Australia, and is developing a shipping process for hydrogen which is now in sea trials. It sees this as an area of opportunity in Australia. In October 2021, the media reported that Shell is mapping out its next moves to expand its Australian power business and aims to develop more renewables and zero-emissions hydrogen projects locally to capitalise on the accelerating clean energy revolution.	Green and blue	Unknown	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
100	Hydrogen Park Murray Valley	Australian Gas Infrastructure Group, Engie	Unknown	Australian Gas Infrastructure Group has partnered with French utilities giant Engie to develop a green 10MW hydrogen project co-located in New South Wales and Victoria.	Green	Part of A\$70m Renewable Hydrogen Deployment Funding Round	Unknown
101	Hydrogen Clusters across Australia	National Energy Resources Australia ("NERA")	Unknown	NERA has announced seed funding for 13 hydrogen technology clusters across all Australian states and territories.	Green and blue	Each cluster will receive around A\$75,000 to A\$250,000	A\$1.8m
102	Northern Territory Hydrogen Hub	Northern Territory Government	To be built by 2023	The Northern Territory Government has released plans for an export-oriented hydrogen production hub fuelled by solar PV and battery storage. The NT plan compliments the Australian Government's National Hydrogen Strategy, which has marked the Territory's capital, Darwin as one of its 7 national hydrogen hubs. The plan is to build a renewables and hydrogen hub in the region surrounding Tenant Creek.	Green	Unknown	Unknown
103	Pure Hydrogen and Liberty Hydrogen Form JV for Hydrogen Hubs in Australia	Joint venture between Pure Hydrogen International, Liberty Hydrogen ("Joint Venture")	Expected to lock in off-takers before the end of 2021.	The Joint Venture plans to develop 4 hydrogen hubs in 3 states across Australia. Pure Hydrogen will deliver 2 hubs in Queensland named Project Jupiter and Project Mars, while Liberty Hydrogen will develop 1 hub in New South Wales and another in South East Victoria.  Locations for the 4 hubs have been identified, with the companies now working towards securing site control. The Joint Venture expects to lock in off-takers before the end 2021.	Unknown	Unknown	Unknown
104	Hydrogen Corp, Hyzon Motors to Develop Hydrogen Refueling Network	Hydrogen Corporation, Hyzon Motors	Unknown	Pure Hydrogen Corporation and Hyzon Motors signed an MoU to develop a network of hydrogen refueling points across Australia.	Unknown	Unknown	Unknown
105	Posco and FMG Partner for Green Hydrogen Projects	Posco, Fortescue Metals Group ("FMG")	Unknown	South Korea's largest steelmaker, Posco, has teamed up with iron ore producer FMG on green hydrogen production. Under the partnership, Posco will produce its premium PosMAC steel materials with iron ore imports from FMG and supply them back to FMG's solar power plant under construction for production of green hydrogen.	Green	Unknown	Unknown

#	Project name	Proposing company	Status	Description	Hydrogen type	Funding received	Total cost
106	Global Energy Ventures Hydrogen Ship	Global Energy Ventures	Construction in 2023 and first operations in the mid-2020s	Global Energy Ventures Ltd has concluded ship-specification engineering for its proposed 430-tonne pilot ship, which is designed to transport green hydrogen to capitalise on opportunities in the Asia Pacific and Europe.	Green	Unknown	Unknown
107	German-Australian Supply Chain Feasibility Study of Hydrogen Produced from Renewables	University of New South Wales, Deloitte, Baringa Partners	Unknown	Academic and industry experts will explore establishing a hydrogen supply chain between Germany and Australia. The Australian consortium will work with peers in Germany to analyse the entire hydrogen supply chain (production, storage, transport, recovery and use) to establish how Australia can best deliver renewable hydrogen to Germany.	Green	Federal Government providing A\$363,000, the Australian consortia contributing A\$1.1m in-kind and cash contributions.	Unknown
108	Hydrogen Export and Value Chains Program	Future Energy Exports CRC Ltd ("FEnEx CRC")	Commenced 1 July 2020	<p>The Hydrogen Export and Value Chains Program is one of FEnEx CRC's 4 key research programs. This Program focuses on addressing research challenges associated with developing export-class infrastructure systems, operations and procedures in Australia's hydrogen export industry.</p> <p>These research challenges concern the following matters:</p> <ul style="list-style-type: none"> <li>• Processing and delivery methods for cost-effective large-scale Hydrogen Export;</li> <li>• Target Export markets;</li> <li>• Supply chain architecture, design and operations;</li> <li>• Export-class systems and technologies for hydrogen production, storage and delivery; and</li> <li>• Mapping future world-scale hydrogen and export regions.</li> </ul>	Green and blue	A\$22.8m	A\$22.8m

## 2. Australian hydrogen funding initiatives

State	Funding initiatives	Is this funding currently available to projects?
WA	<p><a href="#">Renewable Hydrogen Strategy Fund and Hydrogen Fuelled Transport Program Fund</a></p> <p>The West Australian Government has recently announced in its 2021-22 State Budget that it will invest an additional A\$61.5 million into its existing A\$22 million commitment towards its Renewable Hydrogen Strategy. The Strategy focuses on the development of hydrogen in Western Australia. It is currently supporting fifteen feasibility studies and projects.</p> <p>As part of the Strategy, the following investments have been made:</p> <ul style="list-style-type: none"> <li>• A\$5.7 million to an Australia-first renewable energy microgrid in Denham</li> <li>• A\$2 million for the FMG H2's renewable hydrogen mobility project in Pilbara</li> <li>• A\$1 million for ATCO's hydrogen refueller project in Jandakot</li> <li>• A\$5 million for the State Government's existing A\$10 million Renewable Hydrogen Fund for grants to support the hydrogen industry development in Western Australia</li> <li>• A\$3 million for a regulatory reform package to undertake and support a local hydrogen industry</li> <li>• A\$2.7 million to expand the Renewable Hydrogen Unit in the Department of Jobs, Tourism, Science and Innovation</li> <li>• A\$1 million to identify locations suitable for hydrogen storage</li> <li>• A\$1 million to develop a detailed supply chain model that promotes hydrogen and identifies bottlenecks and limitations affecting the hydrogen export industry</li> <li>• A\$600,000 to study blending hydrogen in the Western Australian gas network</li> <li>• A new A\$50 million fund to finance domestic demand for hydrogen from renewable sources such as wind and solar photovoltaic</li> <li>• A\$2 million for Yara Pilbara Fertilisers' YURI Green Ammonia Project</li> <li>• A\$7.5 million to 'kick-start' development of the Oakajee Strategic Industrial Area as a renewable hydrogen hub through access road construction</li> <li>• A\$4 million to bolster the Renewable Hydrogen Unit within the Department of Jobs, Tourism, Science and Innovation and to progress Mid-west hydrogen activation</li> <li>• A\$900,000 towards three feasibility studies which examines technologies and capabilities to support the transport of renewable hydrogen</li> <li>• A\$10 million to accelerate the uptake of hydrogen fuelled transport as part of A\$61.5 million budget ("Hydrogen Fuelled Transport Program")</li> </ul> <p>Expressions of Interest for the Hydrogen Fuelled Transport Program are currently open until January 2022.</p>	Yes

State	Funding initiatives	Is this funding currently available to projects?
Qld	<p><b>Hydrogen Industry Development Fund</b></p> <p>The Queensland Government has allocated A\$25 million over four years for a Hydrogen Industry Development Fund (“HIDF”). The purpose is to actively support existing and new businesses looking to develop hydrogen projects. The HIDF provides financial assistance towards the Eligible Project Costs for an eligible project, under two funding streams:</p> <ul style="list-style-type: none"> <li>• <b>Funding Stream One – Plant and Equipment:</b> Financial assistance of between A\$500,000 and A\$5 million – to a maximum of 50 percent of Eligible Project Costs (investment in hydrogen related plant, equipment or technology) for projects that will contribute to the HIDF objectives.</li> <li>• <b>Funding Stream Two – Feasibility Studies:</b> Financial assistance of up to A\$500,000 – to a maximum of 25 percent of Eligible Project Costs (whichever is lesser), for a feasibility study related to a proposed project that will contribute to the HIDF objectives.</li> </ul> <p>Expressions of interest for round one closed on 21 August 2019 and round two closed on 2 June 2021. Applications for funding will only be accepted when a funding round is open with future rounds of the HIDF dependent on the funding available.</p> <p><b>CleanCo Funding Investment</b></p> <p>In August 2021, the Queensland Government announced it will invest A\$1.5 million in funding to support the publicly-owned generator CleanCo to undertake preliminary work to establish a future energy and hydrogen precinct at Swanbank.</p> <p><b>Queensland Renewable Energy and Hydrogen Jobs Fund</b></p> <p>The Queensland Government announced it will establish a A\$2 billion Queensland Renewable Energy and Hydrogen Jobs Fund which aims to spur employment growth in the hydrogen and renewable energy sector. It aims to achieve this through three avenues:</p> <ul style="list-style-type: none"> <li>• Support manufacturing investment in Queensland along the renewables and hydrogen supply chain.</li> <li>• Support the development of projects in the hydrogen and renewable industries.</li> <li>• Through increased demand for cleaner fuels, support expansion of the Queensland resources sector, especially for those crucial minerals required to support expansion of clean energy supply.</li> </ul> <p>Each avenue has its own application processes and time frames.</p>	<p>No</p> <p>No</p> <p>Subject to terms of the project.</p>

State	Funding initiatives	Is this funding currently available to projects?
NSW	<p><b>Regional Community Energy Fund</b></p> <p>The New South Wales Government has offered A\$15 million in grants for regional community energy. The projects funded include New South Wales' first hydrogen energy storage system alongside a solar-battery system to store renewable energy, at Manilla. Applications for the first round of funding have now closed and it has not yet been confirmed if a second round will take place.</p> <p><b>Emerging Energy Program</b></p> <p>The New South Wales Government has offered A\$75 million in its Emerging Energy Program to support the development of innovative, large-scale electricity and storage projects in New South Wales. The program will help reduce barriers to investing in emerging technologies, supporting affordable, reliable and clean energy across the state. There are two funding streams offering grants to speed up project development:</p> <ul style="list-style-type: none"> <li>• <b>Pre-investment studies:</b> funding for activities that will lead to development of a dispatchable electricity project.</li> <li>• <b>Capital projects:</b> funding to assist with the construction of a dispatchable electricity project.</li> </ul> <p>They have awarded grants in stream one and two. At this stage there are no further funding rounds scheduled for both streams.</p> <p><b>Green Hydrogen Strategy</b></p> <p>In November 2021, the NSW Government announced a green hydrogen strategy which supports various hydrogen-related initiatives valued at a total of A\$3 billion. This includes a A\$70 million investment to establish a hydrogen hub that is designed to increase electrolyser capacity to 700MW by 2030.</p> <p>The Strategy focuses on two development avenues:</p> <ul style="list-style-type: none"> <li>• Grant funding for commercial scale green hydrogen projects and identifying consumers.</li> <li>• Potential sources for demand across NSW.</li> </ul> <p>Grant funding will only be available for the hydrogen projects stream and are currently open until 28 January 2022.</p>	<p>No</p> <p>Possible</p> <p>Yes</p>
SA	<p><b>Renewable Technology Fund</b></p> <p>In 2017, the South Australian Government named 4 utility-scale energy projects which it will support with grants toward the total cost of development. Investment guidelines issued via the fund called for projects in three key areas of renewable and clean energy technologies: projects to firm renewable generation, storing energy in bulk and bioenergy. The fund is 50% comprised of grant funding, with the remaining A\$75 million available as loans.</p> <p>The South Australian Government has invested more than A\$15 million in grants and A\$25 million in loans in 4 green hydrogen projects through its A\$150 million Renewable Technology Fund. The South Australia Government has committed over A\$1 million as part of its Hydrogen Action Plan towards identifying locations for renewable hydrogen production and export infrastructure. The study will consider supply chains based around liquid hydrogen, ammonia and methylcyclohexane. Key findings will be summarised as a modelling tool and detailed prospectus, which will be made available to international customers, infrastructure developers and investors.</p> <p>The South Australian Government has also launched a A\$50 million fund supporting construction of new energy storage projects. Proposals involving pumped hydro energy storage, hydrogen and natural gas storage, bioenergy, solar thermal and batteries, to be submitted into one of the following investment streams:</p> <ul style="list-style-type: none"> <li>• Stream 1 – targeting behind-the-meter projects in commercial or industrial facilities, or in the distribution network.</li> <li>• Stream 2 – targeting centralised, bulk energy storage projects.</li> </ul> <p>Applications closed on 7 February 2019 and successful projects were announced in mid-2019.</p>	<p>No</p>

State	Funding initiatives	Is this funding currently available to projects?
Vic	<p><b>Victoria Hydrogen Investment Program</b></p> <p>The Victorian Government has invested A\$2 million to establish the Victoria Hydrogen Investment Program which aims to boost the development of clean hydrogen technologies in Victoria. The A\$2 million was used to fund Deakin's Warrnambool Hydrogen Project. The funding will support the first stage of a hydrogen hub to enable the creation of a research, manufacturing and supply chain project in Warrnambool.</p> <p><b>New Energy Jobs Fund</b></p> <p>Groups ready to develop community-scale renewable energy projects could apply for funding through the New Energy Jobs Fund ("NEJF") Round 5 before 18 June 2020. By using the visions of the <a href="#">Regional Renewable Energy Roadmaps</a>, together with the experiences of the pilot Community Power Hubs, there was A\$1 million worth of grants to support community-owned renewable energy projects, directly benefiting the local groups and associations delivering them. Round-5 focuses on projects that:</p> <ul style="list-style-type: none"> <li>• Deliver benefits to the participating community;</li> <li>• Utilise technology that is a commercially-ready renewable energy project or new energy generation, storage and technology; and</li> <li>• Implement community energy retailing in Victoria.</li> </ul> <p><b>Renewable Hydrogen Business Ready Fund and Renewable Hydrogen Commercialisation Fund</b></p> <p>On 26 February 2021, the Victorian Government launched the Victorian Renewable Hydrogen Industry Development Plan which provides a blueprint for growing a renewable hydrogen economy over the next 5 years. The Plan includes 2 grant programs:</p> <ul style="list-style-type: none"> <li>• Renewable Hydrogen Business Ready Fund ("BRF") – financial support up to A\$1 million to assist businesses to transition to renewable hydrogen.</li> <li>• Renewable Hydrogen Commercialisation Fund ("CPF") – financial support up to A\$6.2 million for capital works projects that support the building of hydrogen pilots, trials and demonstrations under the Renewable Hydrogen Commercialisation Pathways Fund.</li> </ul> <p>Applications for the 2 programs closed on 27 August 2021 and successful applicants were notified in November 2021.</p> <p><b>Victorian Hydrogen Technology Cluster Network</b></p> <p>One of the key components of the Victorian Renewable Hydrogen Industry Development Plan is a partnership between the Victorian Government and National Energy Resources Australia (NERA) to co-fund regional technology clusters in Gippsland, Clayton, Greater Geelong and Mallee ("Victorian Hydrogen Technology Cluster Network"). The Victorian Government will contribute A\$315,000 to establish the 4 clusters.</p>	<p>No</p> <p>No</p> <p>No</p> <p>No</p>

State	Funding initiatives	Is this funding currently available to projects?
ACT	<p><a href="#">Renewable Energy Innovation Fund</a></p> <p>The ACT Government's A\$12 million industry-funded Renewable Energy Innovation Fund ("REIF") is driving the long-term development and sustainability of the renewable energy industry in the ACT. REIF Direct Grants aim to provide flexible, early-stage funding to businesses to support a broad diversity of new and emerging technologies, ventures and activities including hydrogen innovation. The last round of Direct Grants had up to A\$1.13 million in funding available. In considering proposals, the Government looked at how REIF money could leverage private and/or other public funding sources, and the level of direct return to the ACT economy. Submissions for the REIF Direct Grants Round 2 closed on 29 February 2020.</p>	No
Tas	<p><a href="#">Tasmanian Hydrogen Industry Development Funding Program</a></p> <p>The Tasmanian Government is offering a A\$50 million support package for the purpose of using abundant existing and expendable renewable energy resources to commence production of renewable hydrogen by 2022-2024. Total funding is available as:</p> <ul style="list-style-type: none"> <li>• up to A\$20 million through a Tasmanian Renewable Hydrogen Fund;</li> <li>• up to A\$20 million in concessional loans; and</li> <li>• up to A\$10 million in support services which include competitive electricity supply arrangements and payroll tax relief.</li> </ul> <p>Up to A\$12.3 million has been approved from the Funding Program.</p> <p><a href="#">Hydrogen Hub Program</a></p> <p>In September 2021, the Tasmanian Government announced an investment of A\$150 million for clean hydrogen hubs in Bell Bay as part of the regional renewable hydrogen hub program. This forms part of the Tasmania Government's partnership with the Commonwealth Government to maximise the opportunities for Bell Bay to be a hydrogen hub.</p> <p><a href="#">Metro Tasmania Hydrogen Buses</a></p> <p>The Tasmanian Government announced it will invest A\$6 million in equity investment for Metro Tasmania electric bus trials. These buses will be powered by hydrogen. Funding will be available for testing fuel cell buses in partnership with Tasmanian Transport Association, testing hydrogen vessels and other demonstrations related to hydrogen.</p>	<p>Yes</p> <p>No</p> <p>No</p>

State	Funding initiatives	Is this funding currently available to projects?
Cth	<p><b>Advancing Hydrogen Fund</b>                      The Australian Government, through the Clean Energy Finance Corporation (“CEFC”) Investment Mandate Direction 2020, established a A\$300 million fund to support the growth of a clean, innovative, safe and competitive Australian hydrogen industry. This is known as the Advancing Hydrogen Fund. The Advancing Hydrogen Fund will draw on existing CEFC finance lines. In line with the CEFC Act, projects seeking CEFC finance through the Advancing Hydrogen Fund are required to be commercial, draw on renewable energy, energy efficiency and/or low emissions technologies and contribute to emissions reduction. Eligible projects can include those which advance hydrogen production; develop export and domestic hydrogen supply chains, including hydrogen export industry infrastructure; establish hydrogen hubs and assist in building domestic demand for hydrogen.</p> <p><b>Regional and Remote Communities Reliability Fund</b>                      The Regional and Remote Communities Reliability Fund (“Regional Fund”) will provide up to A\$50.4 million over 5 years from 2019-20 to 2023-24. The Regional Fund supports feasibility studies looking at microgrid technologies to replace, upgrade or supplement existing electricity supply arrangements in off-grid and fringe-of-grid communities located in regional and remote areas. Recipients of Round One were announced on 5 June 2020.</p> <p><b>Climate Solutions Fund</b>                      The Australian Government has established the Climate Solutions Fund, providing A\$2 billion to continue purchasing low cost abatement and build on the success of the Emissions Reduction Fund. It aims to deliver a step change to the offsets market in Australia by boosting the supply of Australian carbon credit units (carbon credits). The Climate Solutions Fund offers landholders, communities and businesses the opportunity to run new projects that reduce or remove greenhouse gas emissions from the atmosphere. In running a Climate Solutions Fund project, one can earn carbon credits and sell them to the Australian Government, or to businesses and other private purchasers. Each carbon credit represents one tonne of carbon dioxide equivalent greenhouse gas emissions stored or avoided.</p> <p><b>2021-22 Federal Budget</b>                      The Commonwealth Government has allocated \$A539.2 million in the 2021-2022 Federal Budget for investment in new clean hydrogen and in carbon capture, use and storage (“CCUS”), including A\$275.5 million over 5 years for the development of 4 new clean hydrogen hubs in regional Australia and implementing a clean hydrogen certification scheme, and A\$263.7 million over 10 years for the development of CCS/CCUS projects and funds.</p> <p><b>Carbon Capture, Use and Storage Development Fund</b>                      The Commonwealth Government has created a fund that provides businesses and government agencies up to A\$25 million for pilot or pre-commercial projects engaged in carbon capture, use and storage. The objectives of the Fund include reducing emissions across hydrogen production and assisting projects that support this objective, provided that the projects are completed by 30 June 2025. Applications for the Fund have closed and the recipients were announced on 8 June 2021.</p> <p><b>Hydrogen Industrial Hub Grants</b>                      The Commonwealth Government has invested a total of A\$464 million in funding for hydrogen hubs across 7 prioritised regional sites across Australia. These sites include Bell Bay in Tasmania, the Pilbara in Western Australia, Gladstone in Queensland, La Trobe Valley in Victoria, Eyre Peninsula in South Australia, Hunter Valley in New South Wales and Darwin in Northern Territory. There are 2 grant types for hydrogen hubs in different stage of development:</p> <ul style="list-style-type: none"> <li>• Hub development and design grants round – financial support up to A\$3 million for the initial development, feasibility and design work needed to advance Hydrogen Hub proposals; and</li> <li>• Hub implementation grants - financial support up to A\$70 million to support “investment ready” hydrogen industrial hub projects (Hub Implementation Grant Round 1).</li> </ul> <p>Applications for the 2 grants opened on 28 September 2021 and closed on 22 November 2021.</p>	<p>Yes</p> <p>No</p> <p>Possible</p> <p>N/A</p> <p>No</p> <p>No</p>

State	Funding initiatives	Is this funding currently available to projects?
ARENA (Cth)	<p><a href="#">Renewable Hydrogen Deployment Fund</a></p> <p>In 2019, ARENA announced the Renewable Hydrogen Deployment Funding Round of up to A\$70 million to help fast track the development of renewable hydrogen in Australia. ARENA has shortlisted and invited 7 applicants to submit a full application for the next stage of the Agency's A\$70 million hydrogen funding round. The total grants requested across all 7 applicants are over A\$200 million, with a total project value of almost A\$500 million. ARENA aims to support 2 or more of the shortlisted large scale renewable hydrogen projects. These projects will be expected to be among some of the largest electrolysers in the world. Each project will need to be powered by renewable electricity, either directly or through a contracting approach. All applicants may also be considered for financing from the CEFC under the CEFC's A\$300 million Advancing Hydrogen Fund.</p> <p>Final applications for ARENA Renewable Hydrogen Deployment Funding Round closed on 20 January 2021.</p>	No
NERA (Cth)	<p><a href="#">Regional Hydrogen Technology Clusters Seed Funding Program</a></p> <p>In September 2020, NERA opened applications for the Regional Hydrogen Technology Clusters Seed Funding Program which provides each project up to A\$100,000 to develop a hydrogen technology cluster. In February 2021, NERA announced a network of 13 regional hydrogen technology clusters with a total investment of A\$1.85 million. The regional clusters have been established around key hydrogen projects and technology supply chains, including 4 clusters in Victoria, 3 in Western Australia and 1 cluster in each other State and Territory.</p>	No

# H<sub>2</sub>







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