TASMANIAN RENEWABLE HYDROGEN ACTION PLAN
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Action #	Action	Lead agency	Proposed Timeframe	Status	Comments
Pillar 1 - Explore the opportunities for using locally produced renewable hydrogen in Tasmania and for export					
1.1	Investigate opportunities for the use of hydrogen transport technologies in the state, with an initial focus on 'return-to-base' transport activities, such as buses, fleet vehicles, freight (including road and rail) and marine applications (such as ferries or barges).	State Growth (support from the Tasmanian Climate Change Office)	End 2022		A Tasmanian Renewable Hydrogen Industry Activation Study has recently been completed, with a summary and outline of next steps available here. The Tasmanian Government has committed to: 1. Conduct a near-term trial of two to three hydrogen buses by Metro Tasmania (complementing $6 million for electric bus trials under Metro Tasmania's Zero Emissions Bus Strategy) 2. Develop a hydrogen truck demonstration and longer-term rollout strategy 3. Conduct a feasibility study investigating the potential for hydrogen marine vessels 4. Conduct demonstrations of hydrogen trucks and hydrogen marine vessels, subject to feasibility study and strategy development findings, and available funding support As a part of the 2020-21 Budget, the Tasmanian Government has committed $2.3 million over three years, and set a target for its Government vehicle fleet to be 100 per cent electric by 2030. This target includes battery electric, plug-in hybrid, and hydrogen vehicles.
1.2	Investigate optimised deployment and use of hydrogen refuelling infrastructure, with the intent of promoting open access where practical, to best facilitate industry development.	State Growth (support from the Tasmanian Climate Change Office)	Ongoing		A Tasmanian Renewable Hydrogen Industry Activation Study has recently been completed, with a summary and outline of next steps available here. The Tasmanian Government has committed to develop a hydrogen refuelling network strategy that covers Tasmania's main population centres and freight hubs, informed by the hydrogen truck strategy, hydrogen bus trial and marine feasibility study. The strategy will be aligned with existing work currently being undertaken by the Tasmanian Climate Change Office for electric vehicles.
1.3	Explore opportunities to trial hydrogen fuel cell electric vehicles within government fleets to gain first-hand experience of the technology and act as a potential catalyst for broader uptake across the private sector.	DSG	End June 2021		A Tasmanian Renewable Hydrogen Industry Activation Study has recently been completed, with a summary and outline of next steps available here. The study did not recommend trials into fuel cell electric passenger vehicles, however has funded a trial of fuel cell buses through Metro Tasmania. As a part of the 2020-21 Budget, the Tasmanian Government committed $2.3 million over three years, and set a target for its Government vehicle fleet to be 100 per cent electric by 2030. This target includes battery electric, plug-in hybrid, and hydrogen vehicles.
1.4	Work with the incumbent natural gas distribution network infrastructure owner to explore opportunities for hydrogen blending at 10 per cent and to investigate potential trials of higher hydrogen blends in Tasmania's hydrogen compatible gas distribution networks.	DSG	End June 2022		A Tasmanian Renewable Hydrogen Industry Activation Study has recently been completed, with a summary and outline of next steps available at here. The Tasmanian Government will evaluate the potential for future use of hydrogen for heating applications through gas networks, subject to the findings of the Tasmanian Future Gas Strategy. A Review of the National Gas Law under NHS implementation has been commenced and is to be completed by end 2021. Department of State Growth with the Department of Justice are working with the *Hydrogen in the gas networks* national work stream to progress this work.

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1.5	Hydro Tasmania will investigate the production and use of renewable hydrogen as a component of its hybrid energy systems on King and Flinders Island, and for incorporation into its hybrid energy solutions services.	Hydro Tasmania	November 2020 (complete)		Hydro Tasmania has prepared a draft report outlining the opportunities for the use of hydrogen in its hybrid energy systems on King and Flinders Island. The report has identified that hydrogen at small scale on the islands is economically challenging, with negative operational returns even if initial capital outlay was fully funded. Entura are discussing the potential for hydrogen use in renewable micro-grids with clients.
1.6	Work with Tasmania's Antarctic and energy business sectors to investigate the opportunity for hydrogen based renewable energy systems to provide power and fuel requirements in Antarctica.	DSG	End December 2021		State Growth is progressing discussions with the Australian Antarctic Division and the Davis Project Team as well as other relevant stakeholders to explore the opportunities for renewables energy/hydrogen energy systems in Antarctica.
1.7	Investigate industrial applications of Tasmanian renewable hydrogen, including opportunities for the use of 'green' ammonia and related products, derived from renewable hydrogen, for use in the Tasmanian agricultural sector.	DSG	End December 2021		Findings from the feasibility studies, that received funding support under our Funding Program, will inform this work. Findings from these feasibility studies are anticipated before December 2021. A Tasmanian Renewable Hydrogen Industry Activation Study has recently been completed, with a summary and outline of next steps available at here. The Study did not, however, focus on these applications.
1.8	Investigate opportunities for export of renewable hydrogen from identified sites, including the Bell Bay Advanced Manufacturing Zone and in the north west coast region.	DSG	Ongoing		The Department of State Growth and Office of the Coordinator-General will continue to work with key infrastructure providers and proponents to investigate the opportunities for hydrogen production and export. This includes participating in the National Hydrogen Infrastructure Assessment work, to be completed as a part of the National Hydrogen Strategy implementation. The Tasmanian Government will also support Tasmanian applicants to develop 'hydrogen hubs', as a part of the Australian Government's support for clean technologies under its Technology Investment Roadmap. An outline of how this funding will be provided is being sought from the National Hydrogen Project Team.

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Pillar 2 - Provide financial support for renewable hydrogen projects for export and domestic use, and continue investment attraction activities including with international trade partners					
2.1	Tasmania's Coordinator-General will continue its investment attraction and industry development work, including with prominent international proponents and consortia, to facilitate investment in renewable hydrogen production for export and domestic use.	Office of the Coordinator-General	Ongoing		The Office of the Coordinator-General is continuing to actively work with a range of proponents, including prominent international proponents and consortia, to facilitate investment in renewable hydrogen production for export and domestic use. Following the completion of the Tasmanian Renewable Hydrogen Industry Development Funding Program, the Office of the Coordinator-General is continuing to work with all successful proponents to advance their feasibility studies. The Tasmanian Renewable Hydrogen Prospectus (Prospectus) released by the Office of the Coordinator-General in late 2019, continues to be a key part of the investment attraction and industry development work. Despite Covid-19, the Office has continued its international efforts engaging with a range of key international markets. This included Tasmania's presence at the Korean H2 Mobility+Energy Show 2021 which hosts leading companies in the hydrogen industries from around the world. Austrade presented on Tasmania's behalf utilising the materials in the Prospectus and TRHAP.
2.2	Continue to foster international partnerships with governments and businesses in countries seeking to import renewable hydrogen, including Japan, South Korea and China, and to strengthen relationships through facilitating and attending trade delegations.	Office of the Coordinator-General	Ongoing		The Office of the Coordinator-General has actively worked to build relationships with government and businesses, within Australia and internationally. This work is ongoing. While COVID-19 restrictions prevented physical travel in 2020, the Office continues to assist and engage extensively with potential proponents via a range of digital and online platforms to market Tasmania's credentials and opportunities for green hydrogen. The Office continues to engage key international markets with extensive engagement occurring with countries including Japan and Korea. Other work includes: • Working directly with many local, national and international investors and proponents with tailored, confidential assistance. • Presentations at online investment seminars by senior OCG representatives during 2020-21, promoting investment ready opportunities in hydrogen and utilising renewable energy. • Developing additional tools, such as additional prospectuses and site footage to help investors overcome the inability to attend site visits. • Working with the State's business development managers in China, Japan, Hong Kong SAR, USA and Singapore to promote the state's investment opportunities. A number of hydrogen MOUs are being progressed between Tasmania and partners in Northern Europe. The Office of the Coordinator General and Renewables Tasmania continue to explore hydrogen cooperation opportunities with Asian partners.

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2.3	Industrial precincts in Tasmania, in particular the Bell Bay Advanced Manufacturing Zone and in the north west coast region, will continue to be promoted as prime hydrogen hub locations.	Office of the Coordinator-General	Ongoing		The Office of the Coordinator-General has, and continues to promote the Bell Bay Advanced Manufacturing Zone, and other industrial zones, as an ideal location for a hydrogen hub. This has included promotion of Bell Bay in the Office of the Coordinator-General's Renewable Hydrogen Prospectus, as well as holding delegations in the Zone. BBAMZ was successful in receiving $100 000 in seed funding through the NERA Regional Hydrogen Technology Cluster grant program, with an additional $200 000 contribution from the State Government to expand this work. The Office continues to work closely with Renewables Tasmania as it develops the Tasmanian Government formal request for funding for BBAMZ, to assist the growth of BBAMZ into a clean hydrogen hub.
2.4	Deliver a comprehensive $50 million package of renewable hydrogen support measures over 10 years through a competitive Expression of Interest (EOI) process, commencing in the second quarter of 2020.	DSG – Energy and Strategic Projects Team	Stage 1 completed. Ongoing		Funding support for four feasibility studies was announced on 17 November 2020. See here for further information. A Tasmanian Renewable Hydrogen Industry Activation Study has recently been completed, with a summary and outline of next steps available here. The Tasmanian Government has committed to conduct a near-term trial of two to three hydrogen buses by Metro Tasmania (complementing $6 million for electric bus trials under Metro Tasmania's Zero Emissions Bus Strategy). Tasmania will also explore the potential for demonstration projects and feasibility studies, in the areas of: • Heavy trucking; • Marine vessels; and • Heating applications in gas networks. Building on this work, Tasmania will develop a hydrogen refuelling network strategy that covers Tasmania's main population centres and freight hubs. Tasmania will also continue working with hydrogen project proponents. Funding support will be provided where possible utilising remaining Tasmanian Renewable Hydrogen Industry Development Funds.
2.5	Work collaboratively with supportive local governments and representative organisations to facilitate renewable hydrogen development.	DSG	Ongoing		The Tasmanian Government is working with local government and representative bodies to develop a Tasmanian renewable hydrogen industry. State Growth, in partnership with the Bell Bay Advanced Manufacturing Zone, has established the Tasmanian Renewable Hydrogen Industry Network as a forum for industry and government to share information, collaborate, and help inform advice to government to implement the TRHAP and develop a Tasmanian hydrogen industry. The first meetings of the Network were held in Q3 2021 in the North, North-West, and South of the State, with over 200 attendees across the three events.

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Pillar 3 - Ensure a robust and supportive regulatory framework and assess supporting infrastructure					
3.1	Continue progressing *the Land Use Planning and Approvals Amendment (Major Projects) Bill 2018*. The Bill will amend the *Land Use Planning and Approvals Act 1993* to introduce a new single assessment process for major projects.	DOJ – Planning Policy Unit	September 2020 (completed)		Completed. The Bill has passed through both houses of Parliament on 24 September 2020, and received Royal Assent on 13 October 2020.
3.2	Review state-based legislation and regulations that are relevant to the hydrogen industry, particularly in regard to safety, and participate in national regulatory review and reform processes implemented under the National Hydrogen Strategy.	DSG	Nov 2021		State Growth is coordinating the review of legislation with other Tasmanian Government agencies as it relates to hydrogen. It is currently undertaking scoping work on this review, and is expecting advice from a national review of energy legislation. State Growth has engaged with other Australian jurisdictions and the Commonwealth in relation to their hydrogen regulatory review work programs, to work collaboratively where possible. Engagement is now also being coordinated through a hydrogen regulatory frameworks sub-group (involving states/territories and the Commonwealth). This work is progressing, however may not meet the intended timeframe due to reliance on work being carried out in other jurisdictions.
3.3	Work collaboratively with other governments and industry to facilitate the development of a renewable hydrogen certification scheme that recognises and values Tasmania's renewable energy characteristics and sustainable water resources.	DSG	Ongoing		Work is underway nationally to develop a national certification scheme for hydrogen. Renewables Tasmania has been working with Hydro Tasmania and the Clean Energy Regulator on a proof-of-concept approach to verify that renewable electricity produced in Tasmania will provide certainty to investors that Tasmanian renewable electricity is traceable and verifiable. As a result, the Commonwealth government has outlined a proposed approach to trace all renewable electricity by means of a market-based mechanism. Renewables Tasmania is engaging with the Commonwealth to ensure this scheme aligns with Tasmania's strategic interests. The Department of State Growth has committed funding and in-kind support towards a successful UTAS submission for an Australian Research Council linkage grant. Commencing 2022, the project will investigate a best practice approach for hydrogen certification at the national and international levels, that also seeks to advance Tasmanian interests.
3.4	Work collaboratively with national infrastructure assessments carried out under the National Hydrogen Strategy.	DSG	End June 2022		Funding has been secured by the National Hydrogen Project Team (NHPT) to carry out national infrastructure assessments, and work began in mid- 2021. Renewables Tasmania is engaging with the NHPT to provide required infrastructure information regarding key sites identified as prospective hydrogen production hubs, which will inform assessment of future investment requirements.
3.5	Work with local infrastructure providers to assess infrastructure requirements associated with renewable hydrogen developments. This will include working with TasNetworks to assess the network requirements at identified sites including the Bell Bay Advanced Manufacturing Zone, and exploring options for minimising network costs. Water requirements will be assessed in consultation with TasWater and TasIrrigation. Port requirements for export will be assessed in consultation with TasPorts.	Office of Coordinator General DSG (Broader Issues)	End June 2021		The Department of State Growth through Renewables Tasmania and the Office of the Coordinator-General have, and continue to work with local infrastructure providers and engage specialist commercial advice to assess infrastructure requirements for renewable hydrogen developments and to identify appropriate infrastructure projects to support industry growth. Assessing infrastructure requirements will also occur through a national assessment, which began in 2021. Successful proponents for the Tasmanian Renewable Hydrogen Industry Development Funding Program will likely undertake similar infrastructure work as a part of their feasibility analysis.

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3.6	Establish a dedicated Renewable Hydrogen Development Unit within the Department of State Growth to support implementation of the Tasmanian Renewable Hydrogen Action Plan, and support Tasmania's contribution to implementation of the National Hydrogen Strategy.	DSG	Budget Day 2021		The Department of State Growth has been allocated funding in the 2021-22 Budget to provide additional staffing and project support necessary to implement the TRHAP. The focus over the coming months will be finalising recruitment of additional resources to implement the TRHAP and support the implementation of the National Hydrogen Strategy. In line with the announcement by the Premier of Tasmania on Budget day, the Hydrogen Development Unit will transition into the newly created Renewables, Climate, and Future Industries Tasmania.

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Pillar 4 - Build community and industry awareness, develop skills, and support research and education					
4.1	Ensure nationally developed community education and awareness raising materials and programs related to hydrogen are relevant for, and made available to, the Tasmanian community.	DSG	June 2022		Tasmania is leading the implementation of the community education and engagement Action Items under the National Hydrogen Strategy (Action Items 5.1 and 5.2). The agreed approach and funding was agreed to by other Australian jurisdictions in December 2020. A working group is being established to guide the process, with involvement from other jurisdictions, and a consultant has been engaged to carry out phase 1 of this work, due for completion in October 2021. Funding to progress to further stages of this work will be sought in late 2021.
4.2	Facilitate the delivery of community education and awareness raising sessions related to renewable hydrogen.	DSG	June 2022 End 2020 (initial)		A plan for Tasmanian community education and engagement has been developed, and as an outcome of the 2021-22 Tasmanian Budget, State Growth has commenced work to recruit the necessary personnel to implement this plan. Tasmanian education and engagement will leverage the work being undertaken by State Growth to implement the community education and engagement work under the National Hydrogen Strategy.
4.3	Continue to facilitate industry stakeholder engagement, including through the delivery of an industry workshop in 2020 to advance the Tasmanian Renewable Hydrogen Action Plan.	DSG	Ongoing		Industry stakeholder engagement is ongoing. State Growth, in partnership with the Bell Bay Advanced Manufacturing Zone, has established the Tasmanian Renewable Hydrogen Industry Network as a forum for industry and government to share information, collaborate, and help inform advice to government to implement the TRHAP and develop a Tasmanian hydrogen industry. The first meetings of the Network were held in Q3 2021 in the North, North-West, and South of the State, with over 200 attendees across the three events.
4.4	Facilitate the implementation of the Australian Government funded $17 million 'Energising Tasmania' initiative, to provide training in major energy development related priority skills needs areas such as engineering, project management, civil construction and trades.	DSG - Skills Tasmania	Under implementation		State Growth is implementing the Energising Tasmania initiative. A main component of this is the Energising Tasmania Training Fund, which provides fully subsidised training places to deliver nationally recognised qualifications to workers in areas of priority skills, needed to support energy developments in Tasmania. The Grant Round was extended until3 September 2021. See here for further information. The first iterations of two new funding programs which reflect key outputs of the Project Agreement for Energising Tasmania were released in October 2020 and have now closed. The Energy and Infrastructure Training Market Development Fund intends to support registered training organisations to increase training capacity and undertake other projects that respond to the needs of Tasmania's energy (and related) sectors. The first iteration of the Fund closed in 5 2021. The second round of the Fund has now launched, and will be open over the course of 2022. See here for further information. The Energy and Infrastructure Workforce Development Fund aims to support eligible organisations undertake projects and activities that are responsive to the workforce needs of Tasmania's energy (and related) sectors. The first round of the Fund closed in December 2020, and the second round has now launched, and will remain open until 23 September 2021. For details, see here. Five applicants were successful in being allocated funding from the first round to deliver projects which respond to the key objectives of the Fund. Two of these have a specific focus

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					on enhancing training and workforce capability relative to the Tasmanian hydrogen sector. For a summary of all five projects, including those with a hydrogen focus, please see here. The Tasmanian Energy and Infrastructure Workforce Advisory Committee (TEIWAC) was established in June 2020. Consisting of key education, training and industry stakeholders, TEIWAC provides advice to Government on the implementation of the Energising Tasmania commitment and broader renewable energy sector pertinent to training and workforce development. For further information regarding Energising Tasmania, please see here.
4.5	The Blue Economy CRC, in collaboration with Government, will investigate: ○ the use of hydrogen as a shipping fuel to support offshore aquaculture operations ○ the use of hydrogen based renewable power systems to support offshore aquaculture operations ○ opportunities to add value to hydrogen production by electrolysis by utilising the oxygen co-product in Tasmania's aquaculture industry	Blue Economy CRC	January - June 2021		The Blue Economy Cooperative Research Centre (CRC) is progressing a number of research and development projects with its partners involving hydrogen energy technology. Summaries of this research can be found at: https://blueeconomycrc.com.au/research/offshore-renewable-energy-systems/. Projects underway and planned are investigating: ○ renewable energy system technologies for offshore, off grid applications, including hydrogen generation, hydrogen storage and hydrogen-powered vessels; ○ hydrogen microgrids to support offshore industries, including aquaculture; and ○ opportunities to add value to hydrogen production by electrolysis by utilising the oxygen co-product in the aquaculture industry. A flagship demonstration project has begun to build a hydrogen microgrid in three phases, initially onshore, ultimately offshore. The onshore phase consists of a 700-kilowatt electrolyser integrated with a DC microgrid managing a photovoltaic array, advanced hydrogen storage and a hydrogen turbine to generate electricity. The microgrid will support research and development through its capacity to emulate real-world scenarios relevant to offshore industries. The Department of State Growth is a Participant in the Blue Economy CRC.
4.6	Support the University of Tasmania's ARC Industrial Transformation Training Centre funding application through a $100 000 cash and in-kind contribution to support renewable hydrogen research.	University of Tasmania	Completed		The University of Tasmania was unsuccessful in its application to this program. However, State Growth is supporting another research funding opportunity with UTAS, outlined against Action 3.3 above.

Key

Project is on track

Project may be at risk of meeting deadlines if issues are not addressed

Project is at risk of missing a scheduled completion date, may be over budget or out of scope