Australian Hydrogen Research Conference 2026

As at 07 January 2026

Preliminary program subject to change

Monday, 16 February 2026				
11:30-16:00	Site Visit 1: Viva Energy Hub, Geelong			
11:30-16:00	Site Visit 2: The Calix Technology Centre, Bacchus Marsh			
16:00-18:30	**Registration Open (Promenade, 1st Floor, Sofitel on Collins, Melbourne)**			
17:30-18:30	**Welcome Reception (Sofi's Lounge, Sofitel on Collins, Melbourne)**			
Tuesday, 17 February 2026				
07:30-18:00	**Registration**			
08:30-18:00	**Exhibition & Poster Gallery**			
09:00-09:30	**Conference Opening and Welcome**			
Chair	Patrick Hartley			
09:30-10:15	**Plenary Session 1 - Grand Ballroom**			
Chair	Ken Baldwin			
Presentation title	Chemical hydrogen storage – systems, challenges and innovations			
Speaker	**Prof Peter Wasserscheid (The Friedrich-Alexander University of Erlangen-Nuremberg, Germany)**			
10:15-11:00	**Morning Tea**			
11:00-13:00	**Concurrent Session 1**			
Session	Concurrent 1A - Perth Room	Concurrent 1B - Sydney Room	Concurrent 1C - Brisbane Room	Concurrent 1D - Fitzroy Ballroom
Theme	*Electrolysis*	*Underground hydrogen storage*	*Combustion & high-temperature industrial processes*	*Hydrogen policy & regulation*
Chair	Jonathan Love	Stephanie Rees	Matthew Watson	Peta Ashworth
11:00-11:40	Keynote Speaker Hydrogen production via steam electrolysis **Prof Hiroshige Matsumoto**	Keynote Speaker Beneath the surface: challenges and opportunities in underground hydrogen storage **Dr Joel Sarout**	Keynote Speaker Opportunities and challenges for hydrogen in the net-zero transition for heavy industry **Prof Gus Nathan**	Keynote Speaker The necessity of diverse knowledge for progressing the hydrogen industry **Dr Mitchell Scovell**
11:40-12:00	Modelling the impact of elevated temperatures on mass transport in electrolysis **Muhammad Yousuf**	Underground hydrogen storage – a demonstration pilot **Rod Harris**	Investigation of velocity effects on large-scale hydrogen combustion modelling as an energy source for industrial drying applications **Sams Jarin**	Hydrogen patents and publications: global trends and Australia overview **Peter Grubnic**
12:00-12:20	Optimising water electrolyser system to improve green hydrogen production **Lixue Jiang**	Underground hydrogen storage in the Otway Basin - H_2 interactions in geological formations **Regina Sander**	Flame-acoustic interaction in hydrogen/natural gas flames **Mohsen Talei**	Optimal temporal correlation for grid-connected hydrogen certification: the interplay between grid characteristics and renewable resources **Chengzhe Li**
12:20-12:40	Overcoming substrate pore size constraints in fabrication of BTSE-derived hydrogen-selective silica membranes **Derrick Ng**	How low can you go? Exploring the minimum viable hydrogen mass for a pilot UHS project in the onshore Otway Basin, Victoria, Australia **Samuel Jackson**	Ammonia-moderated hydrogen engine combustion **Alex Sherwood**	Hydrogen electrolysers as flexible loads: simulation studies and experimental tests on their grid support capabilities **Supun Meetiyagoda**
12:40-13:00	Full pH range hydrogen evolution using MXene-supported dual-single-atom electrocatalyst **Jianan He**	Monitoring of underground hydrogen storage in depleted fields **Jonathan Ennis-King**	Predicting thermoacoustic stability limits in hydrogen-enriched gas turbines **Jeremias Fleger**	Enhanced gas isotope capabilities for hydrogen and atmospheric methane: applications in sample containment and source fingerprinting **Se Gong**
13:00-13:40	**Lunch**			

13:40-15:20	**Concurrent Session 2**			
Session	Concurrent 2A - Perth Room	Concurrent 2B - Sydney Room	Concurrent 2C - Brisbane Room	Concurrent 2D - Fitzroy Ballroon
Theme	*Natural hydrogen*	*Cryogenic & liquid hydrogen*	*Fuel cells*	*Social licence*
Chair	Andrew Feitz	Saif Al Ghafri	Bahman Shabani	Mitch Scovell
13:40-14:20	Keynote Speaker Natural hydrogen systems in Australia: learnings from CSIRO's geogenic hydrogen project **Dr Emma Frery**	Modelling of long distance hydrogen transport on ships in liquid carriers **Rupert Bachler** *20 mins* Enabling future hydrogen infrastructure: design and optimisation of large-scale liquid hydrogen tanks **Upeka Gunarathne** *20 mins*	Keynote Speaker Accelerating PEM fuel cell innovation through rapid prototyping and open source technology pathways **A/Prof Michael Pereira**	Keynote Speaker Unlocking impediments to a hydrogen industry at scale: Fact or Fiction? **Prof Peta Ashworth**
14:20-14:40	Experimental characterisation of natural hydrogen generation through fluid-olivine interactions under high-pressure high-temperature conditions **Lingping Zeng**	Weak nonlinear sloshing hydrodynamics in liquid hydrogen storage tanks **Nisanga Nuwantha**	High temperature PEM fuel cell development for hydrogen aircraft **Andrew Dicks**	Clearing the path for green hydrogen: stakeholder insights on approvals and obstacles **Nehemia Gurusinga**
14:40-15:00	Nickel-enhanced hydrogen production from iron minerals: implications for natural and engineered systems **Emma Black**	Re-evaluating the role of purification adsorbents in ortho-para hydrogen conversion for liquefaction systems **Guinevere Sellner**	Approaches and challenges in thermal management of high temperature proton-exchange membrane fuel cells **Michael Opolot**	Hydrogen futures in Central Queensland: expert perspectives after the 2025 federal election **Analiese Barr**
15:00-15:20	Life cycle assessment of natural hydrogen production: a modelling case study **Mutah Musa**	Ortho-para hydrogen adsorption analysis using diffuse reflectance infrared fourier transform spectroscopy at cryogenic temperatures **Amin Kamiar**	Reliability of hydrogen fuel cell based emergency power supply systems **Kosala Gunawardane**	Cautious curiosity: social licence for underground hydrogen storage in regional Victoria **Molly Campbell**
15:20-16:05	**Afternoon Tea**			
16:05-16:50	**Panel Session 1: Australia's hydrogen industry policy: R&D aspects - Grand Ballroom**			
Moderator	**Patrick Hartley** (Leader of Hydrogen Industry Mission, CSIRO Energy)			
Panellists	**Catherine Zerger** (Branch Head, Hydrogen, Australian Government Department of Climate Change, Energy the Environment and Water) **Prof Ken Baldwin** (Professor of Physics, The Australian National University) **David Oglesby** (Director of Renewable Energy Activation and Development, Victorian Government Department of Energy Environment and Climate Action)			
16:50-18:00	**Poster Networking Session**			

Wednesday, 18 February 2026	
08:00-17:00	**Registration**
08:30-17:00	**Exhibition & Poster Gallery**
09:10 - 09:15	**Introductory Remarks**
Chair	Tom Hughes
09:15-10:15	**Plenary Session 2 - Grand Ballroom**
Chair	Nikolai Kinaev
09:15 - 09:35	State of Australia's hydrogen industry and role of R&D
Speaker	**Dr Fiona Simon (CEO, Australian Hydrogen Council)**
09:35 - 10:15	Metal hydrides based hydrogen storage solutions
Speaker	**Prof Pratibha Sharma (Indian Institute of Technology, India)**
10:15-11:00	**Morning Tea**

11:00-13:00	**Concurrent Session 3**			
Session	Concurrent 3A - Perth Room	Concurrent 3B - Sydney Room	Concurrent 3C - Brisbane Room	Concurrent 3D - Fitzroy Ballroom
Theme	*Techno-economic modelling*	*Hydrogen storage applications & materials*	*Green iron & steel*	*Hydrogen risk & safety*
Chair	Ken Baldwin	Ashleigh Cousins		Emma Frery
11:00-11:40	Keynote Speaker Economic modelling of hydrogen technologies **Dr Jenny Hayward**	Keynote Speaker Polymer coatings to reduce hydrogen embrittlement **Prof Sandra Kentish**	Keynote Speaker Hydrogen DRI: Where is it heading? **Prof Geoffrey Brooks**	Keynote Speaker Geoscience informing environmental risk in the hydrogen industry **Dr Andrew Feitz**
11:40-12:00	A techno-economic and environmental comparison of Fischer–Tropsch and methanol-to-jet SAF production **Mehdi Parivazh**	Sustainable hydrogen storage materials from cheap and widely available household materials **Melinda Krebsz**	Spatio-temporal techno-economic mapping of green steel production: an Australian case study **Changlong Wang**	Advancing safe hydrogen infrastructure: challenges, knowledge gaps, and research priorities **Sara Ahmadi**
12:00-12:20	Industrial hydrogen storage to support high-renewable grids **Bin Lu**	Room temperature hydrogen permeability of plastics, metals and ceramics **Joshua Butson**	Hydrogen fluidised-bed reduction of Australian hematite-goethite iron ores **Daniel Lane**	Advancing safety and reliability for large-scale deployment of hydrogen **Fatemeh Salehi**
12:20-12:40	Sustainable valorization of PET plastic waste via solar-powered electroreforming: a feasibility study on hydrogen and valuable chemical production **Gavesha Gunasekara**	Engineering nanoporous materials for achieving extremely high hydrogen densities for storage applications **Valeska Ting**	Studies of H_2 direct reduction of iron ore in fluidised bed reactor and DRI smelting **Kwaku Owusu**	Understanding the hydrogen embrittlement behavior of welded high strength low alloy steels **Shahid Parapurath**
12:40-13:00	Cost analysis of hydrogen methanation in the Australian context **Mohsen Talei**	Thermodynamic modelling of a hydrogen tube-trailer filling process **Matthias Welzl**	Hydrogen plasma reactor: design, development, and application to oxide smelting and reduction **Akbar Rhamdhani**	Highly sensitive, selective and innovative hydrogen gas sensors **Mahnaz Shafiei**
13:00-13:40	**Lunch**			
13:40-15:40	**Concurrent Session 4**			
Session	Concurrent 4A - Perth Room	Concurrent 4B - Sydney Room	Concurrent 4C - Brisbane Room	Concurrent 4D - Fitzroy Ballroom
Theme	*Technical & economic evaluation*	*Underground hydrogen storage*	*International perspectives*	*Hydrogen risk & safety*
Chair	Melinda Krebsz	Jonathan Ennis-King	Mahnaz Shafiei	Fatemeh Salehi
13:40-14:20	Keynote Speaker Future directions for hydrogen energy research: why 'URFCs' and 'proton batteries' have a role to play **Emeritus Prof John Andrews**	A structured workflow to increase confidence in underground hydrogen storage feasibility assessments **Jacqueline Sutton** *20 mins* Mined, lined rock caverns and their application for hydrogen storage **Andrew Feitz** *20 mins*	Keynote Speaker He Honoka Hauwai / Green Hydrogen in New Zealand **Prof Sally Brooker**	Keynote Speaker Hydrogen and gas transmission pipeline structural integrity **Prof Andrej Atrens**
14:20-14:40	Techno-economic comparison of electrochemical compression via water electrolysis and mechanical compression of hydrogen **Matthew Watson**	The Petrel sub-basin: underground hydrogen storage potential **Stephanie Rees**	Invited Speaker Coping with the Dunkelflaute: power sector implications of variable renewable energy droughts in Europe **Martin Kittel**	Experimental investigation of impact of ambient air humidity on hydrogen plume dispersion **Qiang Ge**

14:40-15:00	Assessing the impact from underground salt storage of hydrogen on Australian green iron and steel production potential **Marcus Haynes**	Simulation-based optimisation of underground hydrogen storage under supply–demand fluctuations **Mohammad Sayyafzadeh**	Invited Speaker Hydrogen programs and initaitives in India **Ranjith Krishna Pai**	An Australian field study of large-scale hydrogen-air explosions **Alex Remennikov**
15:00-15:20	Levelised cost of hydrogen compression for metal hydride-based compressors **Ashleigh Cousins**	Impact of hydrogen exposure on the mechanical properties of the Waarre sandstone formations – an experimental study. **Jeremie Dautriat**	Invited Speaker A mix of long-duration hydrogen and thermal storage enables large-scale electrified heating in a renewable European energy system **Wolf-Peter Schill**	Using artificial intelligence in the blast load prediction of unconfined hydrogen explosions **Kirilous Gindie**
15:20-15:40	Techno-economic evaluation of heavy-duty hydrogen powered prime movers, tipper trucks, excavators and front wheel loaders in an industrial environment **Anthony Parrington**	Short-term hydrogen storage in subsurface lenses **Saeed Salimzadeh**	A model intercomparison of international hydrogen supply chains under IEA/H_2TCP: lessons from ongoing analysis **Yuki Ishimoto**	Ignition hazard assessment of cryogenic hydrogen leaks in the presence of ambient wind **Deepak Saini**
15:40-16:25	**Afternoon Tea**			
16:00-17:15	**IEA/H2TCP Task50 Workshop in AHRC2026: Techno-economic workshop: How we can reduce costs and CI in international hydrogen supply chains? - Victoria Suite**	**16:25-17:10**	**Panel Session 2: How R&D can suport hydrogen end-use in industry - Grand Ballroom**	
Facilitator	**Dr Patrick Hartley** (Leader of Hydrogen Industry Mission, CSIRO Energy)	Moderator	**Gus Nathan** (Research Director, Heavy Industry Low-Carbon Transition Cooperative Research Centre)	
Panellists	**Dr Jenny Hayward** (Principal Research Scientist, CSIRO Energy) **Dr Tara Hosseini** (Team Leader, CSIRO) **Dr Yuki Kudoh** (National Institute of Advanced Industral Science and Technology) **A/Prof Yoku Nobuoka** (University of Tokro)	Panellists	**Natasha Penno** (Principal Advisor Operational Readiness, Rio Tinto Aluminium) **Michael van Baarle** (Executive Chairman, Abel Energy) **Dr Matt Boot-Handford** (Chief Scientist, Calix Ltd)	
18:30-20:30	**Cocktail Networking Reception, Investment Centre Victoria**			

Thursday, 19 February 2026	
08:30-15:15	**Registration**
08:30-13:45	**Exhibition & Poster Gallery**
09:15 - 09:30	**Introductory Remarks**
Chairs	Andrew Dicks & Patrick Hartley
09:30-10:15	**Plenary Session 3 - Grand Ballroom**
Chair	Jonathan Love
Presentation title	Hydrogen pathways in Australia – production costs and price expectations
Speaker	**Prof Andreas Löschel (Ruhr-Universität Bochum, Germany)**
10:15-11:00	**Morning Tea**

11:00-13:00	**Concurrent Session 5**			
Session	Concurrent 5A - Perth Room	Concurrent 5B - Sydney Room	Concurrent 5C - Brisbane Room	Concurrent 5D - Fitzroy Ballroom
Theme	*Emerging hydrogen production pathways*	*Chemical & physical hydrogen carriers*	*Cryogenic & liquid hydrogen*	*Emerging hydrogen materials*
Chair	Bita Bayatsarmadi	Valeska Ting	Tom Hughes	Craig Buckley
11:00-11:40	Keynote Speaker Ion beam engineered electrocatalysts for Hydrogen and Ammonia **Prof John Kennedy**	Chemical hydrogen storage using 3D printed structured catalysts **Christian Hornung**	Keynote Speaker Hydrogen technologies supporting domestic utilization and prospective exports **Prof Eric May**	Invited Speaker Organic-inorganic blended structures: possible catalysts for seawater splitting **Nasir Mahmood** *20 mins*
		Enhanced LOHC dehydrogenation performance via carbon-based catalytic static mixer coatings with improved selectivity **Marcel Disl**		Low-cost and high-performance electrocatalysts for water splitting **Jiaxi Ding** *20 mins*
11:40-12:00	Hydrogen production from biomass via formic acid: a technoeconomic and experimental investigation **Patrick Schuehle**	Modular hydrogel scaffolds for reversible hydrogen enclathration under mild conditions **Lijin Chen**	Linking ortho-para hydrogen kinetics to catalytic converter design: a quantitative review. **Liam Turner**	Novel material design approach towards lightweight liquid hydrogen polymer composite tanks **Susiri Costa**
12:00-12:20	Sustainable valorization of beverage waste into 5-hydroxymrthylfurfural using ZSM-5/KH_2PO_4 catalyst: a route to green hydrogen production **Sumaya Sarmin**	Dehydrogenation of liquid hydrogen carriers in an integrated membrane flow reactor **Christian Doblin**	High-temperature superconducting magnetic refrigeration enables hydrogen liquefaction use in heavy vehicles **Saif Al Ghafri**	Hydrogen materials for heavy industrial applications **Lachlan Carter**
12:20-12:40	Desalination technologies: an undervalued opportunity for rapid scaling of renewable hydrogen systems **Pranjal Kumar**	Sodium borohydride hydrolysis for hydrogen export: catalyst design and reactor development **Terry Humphries**	Detailed simulation of a liquid H_2 plant including ortho-para hydrogen conversion **Fuyu Jiao**	Scalable magnetron-sputtered catalysts for pH-universal and (photo)electrochemical water splitting **Farid Attar**
12:40-13:00	A description of the untapped potential of PEM water electrolysis **Pierre Millet**	Degradation pathways of intermetallic metal hydrides under isochoric thermal cycling: establishing a baseline for machine-integrated hydrogen storage alloy **Evan Gray**	Towards cost-effective hydrogen liquefaction: rare-earth intermetallic with enhanced magnetocaloric properties **Mahboobeh Shahbazi**	In silico investigation of advanced functional materials for hydrogen adsorption, separation, and transport **Anjaiah Nalaparaju**
13:00-13:45	**Lunch**			
13:45-14:30	**Panel Session 3: Navigating the startup journey for hydrogen technologies - Grand Ballroom**			
Moderator	**Karen Kozielski** (Deputy Lead of CSIRO's Hydrogen Industry Mission)			
Panellists	**Chris Rowland** (CEO, Hadean Energy) **Sam Rowe** (Engineering Manager, Energys Australia) **Dr Jehan Kanga** (CEO, Rux Energy)			
14:30 - 15:00	**Conference Close and Award Presentations - Grand Ballroom**			
Chairs	Andrew Dicks & Patrick Hartley			