

HiTeMP-3 Program

Monday 26 September

Session 1: Introduction, review, global drivers and projections

Time	Topic	Presenter
9:00 – 9:05am	Welcome from the Chair	Susan Jeanes, Chair HILT CRC
9:05 – 9:10am	Welcome to Country	Uncle Rod O'Brien
9:10 – 9:15am	Welcome to the University of Adelaide	Prof Peter Høj AC, Vice Chancellor and President, The University of Adelaide
9:15 – 9:25am	Welcome from SA government and alignment between HiTeMP and SA priorities	The Hon Dr Susan Close MP, Deputy Premier of South Australia
9:27 – 9:40am	Seizing the moment – Australia's clean energy opportunity	Mr Chris Faris, Chief Operating Officer, Australian Renewable Energy Agency (ARENA)
9:40 – 9:55am	Objectives of HiTeMP-3	Prof Gus Nathan, HiTeMP-3 Convenor, Director, Centre for Energy Technology, Research Director HILT CRC
9:55 – 10:40am	Panel discussion: Transition partnerships: how government, industry and researchers can partner to meet the challenges and harness the opportunities	Mr Wayne Harris, General Manager - Planning and Business Development, GFG Alliance/Dr Anthony Canfell, Chief Advisor Processing and Technology, Rio Tinto/Dr Paul Heithersay, Chief Executive, SA Department for Energy & Mining/Mr Chris Faris, COO ARENA/Prof Christian Sattler, Director, Institute for Future Fuels, DLR/Prof Gus Nathan
10:40 – 11:10am	Coffee break	

Session 2: Enablers and drivers for the net-zero industry transition

11:10 – 11:15am	Introduction from the Chair	Prof Christian Sattler, Director, Institute for Future Fuels, German Aerospace Center, DLR
11:15 – 11:30am Virtual	The emergence of large-scale hydrogen and market implications	Dr Xiaoting Wang, Energy Specialist, BloombergNEF, California
11:30 – 11:45am	Australian priorities in the pathway to net-zero for heavy industrial processes	Ms Zoe Von Batenburg, Director Business Development and Transactions, ARENA
11:45 – 12:00pm	The evolution of the grid and pathways to 100% renewable electricity	Dr Jaquelin Cochran, Director, Grid Planning and Analysis Center, NREL
12:00 – 12: 15pm	Drivers and enablers for the low-carbon transition in the SA context	Prof Caroline McMillen, SA Chief Scientist
12:15 – 12:30pm	SA hydrogen power station and opportunities for heavy industry	Mr Sam Crafter, CEO, Office of Hydrogen Power SA
12:30 – 12:33pm Virtual	Green Hydrogen-based industries: where do we start?	Mr Anthony Garnaut, CEO, Zen Energy
12:33 – 1:00pm	Panel discussion with keynote speakers	
1:00 – 1:05pm	HiTeMP-3 poster presentations	Dr Lachlan Carter Ms Isis Rosa Ignacio
1:05 – 2:00pm	Lunch	

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Session 3: Circular economy for the heavy industrial sector

Time	Topic	Presenter
2:00 – 2:05pm	Introduction from the Chair	Ms Margie Thomson, CEO, Cement Industry Federation
2:05 – 2:25pm	From residues, to resources, and ultimately resilience: cement as a case study	A/Prof Yiannis Pontikes, KU Leuven, Belgium
2:25 – 2:45pm Virtual	The steel production transformation process and its consequences for slag utilization	Dr Andreas Ehrenberg, Head, Department of Building Materials, FeHS Institute, Germany
2:45 – 3:05pm Virtual	Circular economy in the path to net zero for iron/steel	Dr Christina Meskers, Senior Researcher, SINTEF Manufacturing, Norway
3:05 – 3:15pm Virtual	Opportunities and pathways toward a circular economy for sulphur	Ms Agnes von Garnier, Senior Sales Manager, Metso Outotec
3:15 – 3:45pm	Panel discussion	
3:45 – 3:50pm	HiTeMP-3 poster presentations	Mr Richard Thomson Mr Bavinesh Maisuria
3:50 – 4:10pm	Coffee break	

Session 4: Prospective pathways to net-zero iron/steel and the role of hydrogen

4:10 – 4:15pm	Introduction from the Chair	Mr Chris McMahan, Senior Technical Marketing Manager, Fortescue Metals Group
4:15 – 4:30pm Virtual	Leaving carbon behind – a long and bumpy road ahead	Dr Alexander Fleischanderl, Head of Green Steel and CTO Upstream, Primetals Technologies
4:30 – 4:45pm	Prospective technology pathways to green iron and steel	Gino de Villa, Decarbonisation Technologies Lead, Hatch
4:45 – 5:00pm Virtual	Circored Hydrogen-based direct reduction of fine ores as a step to carbon-neutral steelmaking	Dr Sebastian Lang, Director, Modelling & New Business, Metso Outotec
5:00 – 5:15pm	Electric smelting furnace for alternate hot metal production	A/Prof Tom Honeyands, Director, Centre for Ironmaking Materials Research, University of Newcastle
5:15 – 5:30pm	Perspective of an Australian DSO exporter	Mr Brian McDonald, Technical Development Director, Roy Hill
5:30 – 6:00pm	Panel discussion	
6:15 – 8:15pm	Cocktail function	
6:40 – 6:50pm	Address from the SA Minister for Energy and Mining	The Hon Tom Koutsantonis MP

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Session 5: Barriers and pathways to hydrogen in iron and steel

9:00 – 9:05am	Introduction from the Chair	Mr John Tsalapatis, Zen Energy
9:05 – 9:25am Virtual	Challenge to carbon neutrality in the Japanese steel industry	Dr Koji Saito, Senior Fellow, Research and Development, Nippon Steel Research Institute Corporation
9:25 – 9:35am	Industrial net zero: working together to deliver the transition	Mr Michiel Freislich, Project Manager, Carbon Abatement, BlueScope
9:35 – 9:50am	Future directions in steelmaking technology	Prof Geoff Brooks, Swinburne University
9:50 – 10:05am Virtual	More than hydrogen: steelmaking decarbonisation with current and likely near-term technologies	Prof Chris Pistorius, Carnegie Mellon, Pittsburgh
10:05 – 10:20am Virtual	Potential application of South African slags in thermal storage	Dr Joalet Steenkamp, Visiting Adjunct Professor, University of Witwatersrand, South Africa
10:20 – 10:50am	Panel discussion	
10:50 – 11:20am 11:00 – 11:15am	Coffee break CO ₂ capture from the air	Dr Jennifer Wilcox, Principal Deputy Assistant Secretary, Office of Fossil Energy and Carbon Abatement, DOE

Session 6: Carbon capture technologies for heavy industry transition

11:20 – 11:25am	Introduction from the Chair	Prof Bassam Dally, King Abdullah University of Science and Technology
11:25 – 11:45am	Improved CCUS technologies for industrial processing	Prof Bernd Epple, Director of the Institute for Energy Systems and Technology, Technical University of Darmstadt
11:45 – 12:05pm	New technology for direct carbon capture	Dr Mark Sceats, Chief Scientist, Calix
12:05 – 12:25pm Virtual	Recent Developments in Cryogenic Carbon Capture in Saudi Arabia	Prof Bill Roberts, Clean Combustion Research Centre, KAUST
12:25 – 1:00pm	Panel discussion	
1:00 – 1:05pm	HiTeMP-3 poster presentations	Dr Alireza Salmachi Mr Daniel Ang Dr Leok Lee
1:05 – 2:00pm	Lunch	

Session 7: Carbon re-use and sequestration from industrial processes

2:00 – 2:05pm	Introduction from the Chair	Prof Peter Ashman, the University of Adelaide and HILT CRC
2:05 – 2:25pm	Assessing carbon utilisation and recycling opportunities for the Australian heavy industry sector	Prof Greg Metha, Centre for Energy Technology, The University of Adelaide
2:25 – 2:40pm Virtual	Becoming CarbonSmart: Innovating your way to a post pollution future	Dr Sean Simpson, Chief Science Officer & Co-Founder, LanzaTech
2:40 – 2:55pm	Demonstration of carbon capture technologies for sequestration and utilization – a European perspective from Sumitomo SHI FW	Dr Edgarda Coda-Zabetta, Director R&D and Patents, Sumitomo SHI FW
2:55 – 3:10pm	An update on the status of CCS projects in Australia and the region	Ms Allison Hortle, Research Group Leader, CSIRO Energy
3:10 – 3:25pm Virtual	CO ₂ from cement to liquid fuels	Dr Philipp Furler, CEO and Founder Synhelion SA

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3:25 – 3:55pm	Panel discussion	
3:55 – 4:05pm	HiTeMP-3 poster presentations	Mr Eyad Smadi Dr Andres Chacon Parra
4:05 – 4:25pm	Coffee break	

Session 8: The dominant pathways to net-zero cement and lime

4:25 – 4:30pm	Introduction by the Chair	Ms Felicity Lloyd, CEO, HILT CRC
4:30 – 4:50pm Virtual	Decarbonisation pathways for the cement and concrete industries	Dr Martin Schneider, CEO, VDZ
4:50 – 5:05pm Virtual	Holcim's net-zero journey	Ms Magali Anderson, Chief Sustainability and Innovation Officer, Holcim, Switzerland
5:05 – 5:20pm Virtual	Progress and perspective of the China cement industry towards carbon neutrality and sustainability	Mr Sui Tongbo, Vice-President, Sinomat, China
5:20 – 5:35pm	Alternative Cementing Materials	Mr Warren South, Director, Valkokivi Pty Ltd
5:35 – 6:00pm	Panel discussion	
6:00 – 6:15pm	Invited summary of key points	Prof Mikko Hupa, Åbo Akademi, Finland & HILT CRC
6:30 – 8:30pm	Forum dinner	
	Invited dinner speaker	Mr Tony Wood, Energy and Climate Change Program Director, Grattan Institute

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Session 9: Dominant pathways to net-zero alumina

9:00 – 9:05am	Introduction from the Chair	Dr David Cochrane, Technology Lead, South32
9:05 – 9:25am	Alcoa's view of refining decarbonisation technologies	Mr Ray Chatfield, Global Technical Manager Refining Energy, Alcoa and Mr Fuad Desai, Senior Process Consultant, Process Design and Development, Alcoa
9:25 – 9:45am	Plausible pathways to high temperature calcination	Prof Gus Nathan & Dr Woei Saw, Centre for Energy Technology & HILT CRC
9:45 – 9:55am	Green hydrogen in mining and refining at Rio Tinto	Dr Sreeraj Balachandran, Rio Tinto Aluminium
9:55 – 10:05	Perspective on technology	Ms Helen Adamson, Global Director for Bauxite & Alumina, Hatch
10:05 – 10:15am	Norsk Hydro's plans for transition to net-zero production of alumina	Mr Andre Vidal, Head of Hydrogen Fuel Switch, Norsk Hydro, Norway
10:15 – 10:45am	Panel discussion	
10:45 – 10:50am	HiTeMP-3 poster presentations	Dr Philip Ingenhoven Mr Tse Chuen Tsai
10:50 – 11:15am	Coffee break	

Session 10: Emerging processes and technologies

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11:15 – 11:20am	Introduction from the Chair	Dr Alessio Scarsella, Director Light Metals, Metso Outotec, Germany
11:20 – 11:40am Virtual	Towards sustainable and decarbonised production of lithium battery chemicals and materials derived from Australian hard rock resources	Prof Jacques Eksteen, Curtin University and FBI CRC
11:40 – 12:00pm Virtual	The global energy transition and the metals industry: New technology developments in metals production for a low-carbon world	Dr Phil Mackey, President, P.J.Mackey Technology Inc.
12:00 – 12:20pm Virtual	The Hydrogen transition of infrastructure prerequisites for industrial decarbonization	Prof Mario Ragwitz, Director, Fraunhofer IEG
12:20 – 12:30pm	Towards Net Zero Pyrometallurgical Processing with the ISASMELT™ and ISACYCLE™	Mr Ben Hogg, Senior Metallurgist, Glencore Technology
12:30 – 12:40pm Virtual	How heavy industry can decarbonise quickly and gain a competitive edge by replacing fossil fuels with computing power and concentrated sunlight	Bill Gross, Founder and CEO, Heliogen
12:40 – 1:00pm	Panel discussion	
1:00 – 1:05pm	HiTeMP-3 poster presentations	Mr Xiaopeng Bi Dr Elliott Lewis
1:05 – 2:00pm	Lunch	

Session 11: Non-technical barriers and enablers: ESG; risk management; social & environmental

2:00 – 2:05pm	Introduction from the Chair	A/Prof Liam Wagner, University of Adelaide
2:05 – 2:20pm	International green economy collaborations as an approach to overcoming non-technical barriers to transitioning cross-border supply chains for emissions-intensive materials	A/Prof Emma Aisbett, ANU College of Law
2:20 – 2:35pm Virtual	ESG drivers and opportunities for the transition in energy-rich nations	Dr Manal Shehabi, St Antony's College, University of Oxford and Founding Director, SHEER Research and Advisory
2:35 – 2:50 pm Virtual	The European drivers and pathways for the transition	Mr Jürgen Tiedje, Head of Unit, European Commission
2:50 – 3:20 pm	Panel discussion	
3:20 – 3:50 pm	Coffee break	

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Session 12: Conclusions and next steps

3:50 – 3:55pm	Introduction	Dr David Cochrane, Technology Lead, South32
3:55 – 4:05pm	Panel highlights – Drivers and opportunities	Susan Jeanes, A/Prof Liam Wagner, Dr Alfonso Chinnici
4:05 – 4:10pm	Panel discussion	
4:10 – 4:22pm	Panel highlights – Cross-cutting	Prof Christian Sattler, Margie Thomson, Prof Peter Ashman, Prof Bassam Dally
4:22 – 4:30pm	Panel discussion	
4:30 – 4:45pm	Panel highlights: Industrial producers	Chris McMahan, John Tsalapatis, Felicity Lloyd, Alessio Scarsella
4:45 – 4:55pm	Panel discussion and chair wrap up	
4:55 – 5:05pm	Best poster awards	Prof Maziar Arjomandi & Dr Woei Saw
5:05 – 5:15pm	Final remarks from the convenor	Prof Gus Nathan