



3RD GLOBAL HYDROGEN AND RENEWABLE ENERGY CONFERENCE AND EXHIBITION

November 27-29, 2023
Crowne Plaza Melbourne, Australia



POSITIONING HYDROGEN 2023 AND ENERGY OCEANIA 2023

DAY — 1 27TH, NOVEMBER, 2023 - (ROOM A)

08:30 - 09:00 Registration and Arrival Coffee

09:00 - 09:15 **Opening Address - Conference Chair**
Luigi Bonadio, Principal/Director, Luigi Bonadio & Associates

09:15 - 09:20 **Sponsor Presentation:**
Speaker instructions
Yokoo Michihiro, Manager, Tanaka Kikinzo (Singapore) Pte Ltd.



Session 1: Hydrogen Projects 1

09:20 - 09:40 **Title: South Australia's Hydrogen Jobs Plan – A South Australian Government Investment of Over Half a Billion Dollars to Build 250 MWe of Electrolyzers, 250 MWe of Power Generation and Hydrogen Storage by the End of 2025**
Paul Radford, Project Manager, Office of Hydrogen Power South Australia, Australia

09:40 - 10:00 **Title: The CarbonNet Project – Actively Working Towards Decarbonisation**
Jane E Burton, Project Director, CarbonNet, Australia

10:00 - 10:20 **Title: Gippsland Hydrogen Hub: Recent Developments, key insights and achievements from the HESC Project**
Jeremy Stone, Non-Executive Director & Advisor, J-Power Latrobe Valley, Australia

10:20 - 10:35 Q&A Session

10:35 - 11:00 Morning Coffee Break and Group Photo

Session 2: Hydrogen Projects 2

11:00 - 11:25 **Title: Korea Green Energy Island Project with Near Shore Hydrogen Production & Liquefaction Platform; The Most Economical Solution for Hydrogen Production and Storage**
Jihyun Hwang, Managing Director, FIP-H2ENERGY@KENTECH, South Korea

11:25 - 11:50 **Title: Accelerating Bhutan's Hydrogen Initiatives for a Sustainable Future**
Karma Dupchu, Program Officer, Horticulture Association of Bhutan, Bhutan

11:50 - 12:15 **Title: Investing in Clean Energy**
Sally Torgoman, Partner, Commercial Advisory & Transactions, KPMG, Australia

12:15 - 12:40 **Title: Australia's Role in Hydrogen Economy**
Jeremy Harris, CTO, Climate Impact Corporation, Australia

12:40 - 13:00 Q&A Session

13:00 - 14:00 Lunch Break

Session 3: Hydrogen Innovation and R&D 1

14:00 - 14:20 **Title: Hydrogen Technology – Continuing Research and Innovation in Australia**
Dr. Andrew Dicks, AHRN Coordinator, Griffith University, Australia

14:20 - 14:40 **Title: Developing the Future Generation of Electrolyzers: Fundamental Research, Prototyping and Implementation**
Bianca Grabner, Project Manager, HyCentA Research GmbH Graz, Austria

14:40 - 15:00 **Title: Global Assessment of Hydrogen Production Technologies**
Prof. G.F Metha, University of Adelaide, Australia

15:00 - 15:20 Q&A Session

15:20 - 15:40 Afternoon Coffee Break

Session 4: Hydrogen Production A

15:40 - 16:00 **Title: Tanaka Kikinzoku's contribution to Hydrogen Economy through FC/Water Electrolysis Catalyst**
Yokoo Michihiro, Manager, TANAKA Kikinzoku (Singapore) Pte Ltd.

16:00 - 16:20 **Title: Catalytic Conversion of Municipal Solid Waste for Clean Hydrogen Fuel Production Distinguished**
Prof. Jonathan WC Wong, Dongguan University of Technology, China

16:20 - 16:40 **Title: Advanced Catalyst for Direct Seawater Splitting to Hydrogen**
Nasir Mahmood, Vice-Chancellor Fellow, RMIT University, Australia

16:40 - 17:10 **Title: Electrochemical Water Splitting Catalysis on 2D Nanomaterials**
Prof. Ziqi Sun, Queensland University of Technology, Australia

17:10 - 17:30 Q&A Session

17:30 - 17:40 **Closing Remarks - Conference Chair**
Luigi Bonadio, Principal/Director, Luigi Bonadio & Associates

17:40 - 19:40 Networking Drinks

POSITIONING HYDROGEN 2023

DAY — 2 28TH, NOVEMBER, 2023 - (ROOM A)

08:30 - 09:00 Registration and Arrival Coffee

09:00 - 09:10 **Opening Address - Conference Chair**
Luigi Bonadio, Principal/Director, Luigi Bonadio & Associates

Session 5: Hydrogen Production B

09:10 - 09:35 **Title: Electrolytic Hydrogen Market Trends and Technology Landscape - a Plug Perspective**
Laurent van Helden, Director Sales & Market Development, Plug Power, Australia & New Zealand

09:35 - 10:00 **Title: Tracking Advances: AEM electrolyser Technology for Hydrogen Generation - A Status Overview**
Aniruddha Kulkarni, Founder & CEO, Cavendish Renewable Technology, Australia

10:00 - 10:25 **Title: Development of Cost Competitive H2 Production from Water Using Light Driven Microalgae Biotechnologies**
Prof. Ben Hankamer, The University of Queensland, Australia

10:25 - 10:40 Q&A Session

10:40 - 11:00 Morning Coffee Break

Session 6: Hydrogen Fuel Cells

11:00 - 11:25 **Title: Hydrogen Fuel Cell Technology for Maritime Applications: From Feasibility Studies to First Demonstrations**
Lennie Klebanoff, Principal Member of the Technical Staff, Sandia National Laboratories, USA

11:25 - 11:50 **Title: eCoCell : An Improved and Sustainable Gas Diffusion for PEMFC and PEME. An Item Born at the University for the Industry**
Prof. Jose Javier Lopez Cascales, Universidad Politecnica de Cartagena, Spain

11:50 - 12:15 **Title: Hydrogen Fuel Cell Buses Manufacturing in Australia**
Arnaldo Sanchez, ZEB Specialist, Volgren Australia Pty Ltd., Australia

12:15 - 12:30 Q&A Session

12:30 - 13:30 Lunch Break

Session 7: Hydrogen Storage and Utilisation

13:30 - 13:55 **Title: Hydrogen Storage: Innovations, Collaborations, and Regulations for Scaling H2 Supply Chains**
Joe L Spease, CEO, WindSoHy LLC., USA and Dennis Weidemann, CAES and Steam Turbine Sales, Siemens Energy, Malaysia

13:55 - 14:20 **Title: Hydrogen Storage – Alternatives to C/C storage Cylinders – New Solutions in Vessel Manufacturing**
K.Bala Subramanian, Director, NFTDC, India

14:20 - 14:45 **Title: Solid H2 Logistics & The Emerging Ecosystem**
James Khong, COO, Galaxy FCT, Malaysia

14:45 - 15:00 Q&A Session

15:00 - 15:30 Afternoon Coffee Break

Session 8: Hydrogen Workforce Skills and Training

15:30 - 15:55 **Title: Hydrogen Skills Modules Project**
Kerrin Pryor, Project Manager, Swinburne University of Technology, Australia

15:55 - 16:20 **Title: RECLAIM-AI™: A Game Changing Growth Philosophy for the Green Hydrogen Revolution Integrating Design and Systems Thinking**
Orestis D. Valianatos, Global President, ATMOS Global Pty Ltd, Melbourne, Australia

16:20 - 16:45 **Title: Hydrogen: Revolutionizing Plumbing in Australia- Replacing Natural Gas with a Sustainable Future**
Glen Doorey, Manager, R & L Smith Plumbing, Australia

16:45 - 17:10 Q&A Session

17:10 - 17:20 **Closing Remarks - Conference Chair**
Luigi Bonadio, Principal/Director, Luigi Bonadio & Associates

17:20 - 18:00 Session 9: Poster Presentations

ENERGY OCEANIA 2023

DAY — 2 28TH, NOVEMBER, 2023 - (ROOM B)

08:30 - 09:00 Registration and Arrival Coffee

09:00 - 09:10 Opening Address - Conference Chair
TBA

Session 10: Harnessing Innovation: Sunrise to Sunset

09:10 - 09:35 **Title: Towards 26% Efficient Silicon Solar Cells in Mass Production**
Prof. Daniel Macdonald, Australian National University, Australia

09:35 - 09:55 **Title: History and Future of the PV Industry**
Prof. Martin Green, University of New South Wales, Australia

09:55-10:15 **Title: The path towards high efficiency high bandgap Cu₂ZnSnS₄ solar cells**
Kaiwen Sun, Senior Lecturer, University of New South Wales, Australia

10:15 - 10:35 **Title: All-Electric Australia**
Bin Lu, Senior Research Fellow, Australian National University, Australia

10:40 - 11:00 Morning Coffee Break

Session 11: Solar Energy

11:00 - 11:30 **Title: Ultra-Efficient Coloured Photovoltaic Devices for Buildings and Vehicles**
Prof. Nicholas Ekins-Daukes, University of New South Wales, Australia

11:30 - 12:00 **Title: Resource Demands for Glass for TW-scale PV**
Richard Corkish, Chief Operating Officer, University of New South Wales, Australia

12:00 - 12:30 **Title: Silicon Materials for Photovoltaic Applications**
Anyao Liu, Senior Research Fellow, Australian National University, Australia

12:30 - 13:30 Lunch Break

Session 12: Renewable Energy

13:30 - 14:00 **Title: Silicon Carbide Quantum Sensing for Energy Applications**
Ass. Prof. Stefania Castelletto, RMIT University, Australia

14:00 - 14:30 **Title: Using Theory and Computation to Design New Materials for Sustainable Technologies**
Prof. Catherine Stampfl, University of Sydney, Australia

14:30 - 15:00 **Title: Utilising Environmental, Social, and Governance (ESG) Principles for Decentralising Energy-Intensive Mega Plants**
Nam Nghiep Tran, Senior Lecturer, University of Adelaide, Australia

15:00 - 15:30 **Title: Recent Developments in Energy Accounting which Explain the Amplified Impacts of Atmospheric CO₂ Increases and the need for Urgent Response**
Prof. Geoff Smith, University of Technology, Sydney, Australia

15:00 - 15:20 Afternoon Coffee Break

Session 13: Sustainable Energy

15:20 - 15:50 **Title: N-fixation via Gas and Gas-Liquid Plasmas: Hydrodynamics, Field Enforcement, Catalysis, and Sustainability**
Prof. Volker Hessel, University of Adelaide, Australia

15:50 - 16:20 **Title: Empowering Communities: Navigating Microgrid Opportunities and Challenges**
Prof. Alan Brent, Victoria University of Wellington, New Zealand

16:20 - 16:40 **Title: How much Electricity should we ask to Electric Vehicles for Grid Support?**
Lluc Canals Casals, Researcher, Universitat Politècnica de Catalunya, Spain

16:40 - 17:00 **Title: Ammonia Formation in a Microreaction Chamber with Electrically Intensified Arc Plasma**
Van Duc Long Nguyen, Senior Researcher, University of Adelaide, Australia

17:00 - 17:10 **Closing Remarks - Conference Chair**
TBA

17:10 - 18:00 **Session 9: Poster Presentations**

Title: FAPbI₃-based Perovskite Thin Film using all Vacuum Deposition Process
Hyo Sik Chang, Researcher, Chungnam National University, South Korea

Title: Optimization of CCHP System Operation based on High-Temperature Polymer
Seonghyeon Ham, PhD Student, Korea Institute of Energy Research, South Korea

Title: ZnO/TiN_xO_y Thin Films for Solar Driven Photoelectrochemical Water Splitting
Nark-Eon Sung, Researcher, Pohang University of Science and Technology, South Korea

Title: 3D-Nanostructured NiCo₂O₄ and CoNi₂O₄ Semiconducting Films for Supercapacitor's Electrode Material
Suresh Kumar, Researcher, Al-Falah University, India

Title: Low-Temperature Hydrogen Production through Dual Catalytic Water Splitting
Emma Holder, Experimental Scientist, CSIRO, Australia

Title: Catalytic Innovation for Sustainable Hydrogen Economy: Low-Temperature Doubly Catalysed Water Splitting
Anuradha Meena, Masters Student, CSIRO, Australia

Title: Flexible and highly conductive PS-b-PEO-b-PS/EMI/TFSI membranes for solid-state supercapacitors
Anto Puthusseri Varghese, PhD Student, Deakin University, Australia

Title: Novel Approaches to Investigate Electrolyte-Electrode Interface and Interphase in Advanced Na-ion Batteries
Mahin Maleki, PhD Student, Deakin University, Australia

Title: Investigation on the influence of mixed-cation ionic liquid on SEI formation on Na metal anodes
Lixu Huang, PhD Student, Deakin University, Australia

Title: Carrageenans as water-soluble binders for high-energy cathodes
Ana Clara Rolandi, PhD Student, Deakin University, Australia

POSITIONING HYDROGEN AND ENERGY OCEANIA

DAY — 3 29TH, NOVEMBER, 2023 - (ROOM A)

08:30 - 09:00 Registration and Arrival Coffee

09:00 - 09:10 **Opening Address - Conference Chair**
Luigi Bonadio, Principal/Director, Luigi Bonadio & Associates

Session 14: Hydrogen Utilisation

09:10 - 09:35 **Title: Ammonia: The Future of Fuels?**
Prof. Douglas MacFarlane, Monash University, Australia

09:35 - 10:00 **Title: Pathways to Integrate Net-Zero Energy into High Temperature Industrial Processes**
Prof. Graham Nathan, University of Adelaide, Australia

10:00 - 10:25 **Title: Blue Hydrogen (with CCS) in the Context of the Australian Safeguard Mechanism (Crediting) Amendment Act**
Bernardene Smith, Deputy Principal Consultant - Finance and Policy - Global CCS Institute, Global CCS Institute, Australia

10:25 - 10:40 Q&A Session

10:40 - 11:00 Morning Coffee Break

Session 15: Hydrogen Projects 3

11:00 - 11:25 **Title: Emissions Reductions Model using Green Hydrogen**
Geoffrey Drucker, Managing Director, Countrywide Renewable Hydrogen Limited, Australia

11:25 - 11:50 **Title: Decarbonizing Energy Clusters and Island Operations**
Alberto Balbo, Co-CEO & Founder, Ianus Energy Transition, Australia & Singapore

11:50 - 12:15 **Title: Sustainable Energy System Consisting of Superconductor Wind Turbine Generator Energy Storage-Hydrogen Energy**
Prof. Shi Xue Dou, University of Wollongong, Australia

12:15 - 12:40 Q&A Session

12:40 - 13:30 Lunch Break

Session 16: Hydrogen Innovation and R&D 2

13:30 - 13:55 **Title: Interfacially Coupled Metal Oxyhydroxide/Polyaniline/Carbon as Bifunctional Electrocatalyst for Water Splitting**
Niranjnath Lingappan, Professor, Chonnam National University, South Korea

13:55 - 14:20 **Title: Ultra-High-Performance Solar Water Splitting with Earth-Abundant Cocatalyst Foils**
Joshua Buston, Research Fellow, University of Melbourne, Australia

14:20 - 14:45 **Title: Low Emission Hydrogen Production from Catalytic Methane Pyrolysis**
Alister Sheil, PhD Candidate, University of Queensland, Australia

14:45 - 15:10 **Title: CoP-based Nanocrystals as the Electrocatalytic Catalysts for Hydrogen Evolution Reaction in a Wide Range of pH**
Xinyao Guo, Doctoral Student, University of New South Wales, Australia

15:10 - 15:35 **Title: Understanding and Mitigating Hydrogen Embrittlement in Alloys**
Prof. Julie Cairney, University of Sydney, Australia

15:35 - 16:00 Afternoon Coffee Break

Session 17: Hydrogen Opportunities and Challenges

16:00 - 16:20 **Title: Hydrogen Safety and Blast Concerns: Supporting Infrastructure to Mitigate and Manage Risks**
Prof. Tuan Ngo, University of Melbourne, Australia

16:20 - 16:40 **Title: Safeguarding the Future: Advancements in Hydrogen Safety Standards 2023 - Hydrogen Leakage Safety Risks**
Satish Muniandy, Principal Risk Engineer, Draeger, Australia

16:40 - 17:00 **Title: The Opportunity for Hydrogen in Asia Pacific**
David Cavanagh, Managing Director, Integrated Energy Pty Ltd and Chief Hydrogen, Officer Hydrogen West, Australia

17:20 - 17:40 **Title: Regionally Produced Green Hydrogen- A Deciseve Contribution to a Full Supply with 100% Renewable Energy**
Hans-Josef Fell, President, Energy Watch Group, Germany

17:40 - 17:55 Q&A Session

17:55 - 18:00 **Closing Remarks**
TBA

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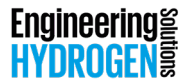
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Hydrogen**

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FOR A SUSTAINABLE FUTURE

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