



3RD GLOBAL HYDROGEN AND RENEWABLE ENERGY CONFERENCE AND EXHIBITION

November 27-29, 2023
Crowne Plaza Melbourne, Australia

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www.hydrogenconferenceaustralia.com
www.energyconferenceaustralia.com

CONFERENCE CHAIR



Luigi Bonadio

Principal
Luigi Bonadio & Associates
Australia

Luigi Bonadio is a Melbourne-based chemical engineer and hydrogen market specialist with over 30 years of R&D, business development, and engineering experience in various government, industry, and representative roles for Engineers Australia and the Australian Institute of Energy. His original hydrogen work in the early 1990s centered on materials development for electrolyser cathodes and metal hydrides, solar-hydrogen system integration, and simulation modeling, including designing, building, and testing a metal hydride storage system for the Collins submarine fleet and high-temperature solar thermochemical hydrogen production for the H-lon Solar Company in California, with academic posts held at the Universities of Melbourne, Florida, and Milan. Luigi worked for the Centre for Air Quality Studies, EPA Victoria, and as CEO, Carbonetix, Regional Manager for Energy Action in Canberra, General Manager, Empower, Senior Energy Specialist, Honeywell, and Principal Consultant, Hydrogen APAC, Jacobs.

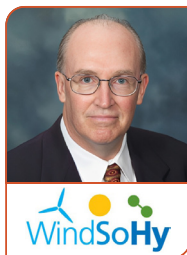
Luigi has played a key role in the establishment of a hydrogen industry in Australia, forming our first hydrogen association in 2003, serving as Secretary of the 17th World Hydrogen Energy Conference, establishing the Engineers Australia Area of Practice Hydrogen Engineering, and running many hydrogen events, including the National Hydrogen and Fuel Cells Education Program and International Forum for high school students in the mid-2000s and the highly successful National Hydrogen Industry Technical Series earlier this year.

He is currently working on the design and delivery of renewable energy and hydrogen projects around the world and is a regular contributor to many hydrogen industry and workforce capacity building initiatives, including hydrogen industry advocacy, formulation of local and international hydrogen policies, standards, and codes of best practice, mentorship, continuous professional development, a national competency framework for hydrogen engineers, and the delivery of local and international hydrogen industry training courses, workshops, and education programs.

Advisory Board Members



Andrew Dicks
AHRN Coordinator
Griffith University
Australia



Joe L Spease
CEO
WindSoHy, LLC
USA



Craig Ehrke
CEO
Skai Energies Pty Ltd.
Australia



TANAKA Precious Metals, by producing the catalysts necessary for a hydrogen powered society, contributes to a carbon neutral future.

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We provide catalyst customization, and are pushing the leading edge of catalyst durability and performance.

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- Reforming Catalysts and PROX Catalyst (Preferential Oxidation Catalyst)
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Water Electrolysis Catalysts for PEMFC



Fuel Cell Gas Treatment Catalysts

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Atlas Copco

Innovating for Green Energy

Hydrogen compression for applications in mobility, power to gas, grid injection, transport, storage, and many more.



POSITIONING HYDROGEN 2023 AND ENERGY OCEANIA 2023

DAY — 1 NOVEMBER 27, 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 - 09:25 **Sponsor Presentation:**
Tan Hong Wei, Senior Sales Executive, TANAKA Kikinzoku Pte Ltd, Singapore 

Session 1: Hydrogen Projects 1

09:25 - 09:50 **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 MW of Power Generation and Hydrogen Storage by the End of 2025**
Paul Radford, Project Manager, Office of Hydrogen Power South Australia, Australia

09:50 - 10:15 **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

10:15 - 10:40 **Title: Korea Green Energy Island Project with Near Shore Hydrogen Production & Liquefaction Platform; The Most Economical Solution for Hydrogen Production and Storage**
Prof. Jihyun Hwang, Managing Director, FIP-H2ENERGY@KENTECH, South Korea 

10:40 - 10:55 Q&A Session

10:55 - 11:30 Morning Coffee Break and Group Photo

Session 2: Low Carbon Projects and Investments

11:30 - 11:55 **Title: The CarbonNet Project – Actively Working Towards Decarbonisation**
Jane E. Burton, Project Director, CarbonNet, Australia

11:55 - 12:15 **Title: Investing in Clean Energy**
Sally Torgoman, Partner, Commercial Advisory & Transactions, KPMG, Australia

12:15 - 12:35 **Title: Australia's Role in Hydrogen Economy**
Dr. Jeremy Harris, CTO, Climate Impact Corporation, Australia

12:35 - 12:55 **Title: Acting Principal – Policy, Regulation and Commercial**
Bernardene Smith, Deputy Principal Consultant - Finance and Policy - Global CCS Institute, Global CCS Institute, Australia

12:55 - 13:10 Q&A Session

13:10 - 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. Gregory Metha, University of Adelaide, Australia


15:00 - 15:20 Q&A Session

15:20 - 15:40 Afternoon Coffee Break

Special Plenary Talk

15:40-16:10 **Title: Electrochemical Water Splitting Catalysis on 2D Nanomaterials**
Prof. Ziqi Sun, Queensland University of Technology, Australia

Session 4: Hydrogen Production A

16:10 - 16:30 **Title: TANAKA Kikinzoku's contribution to Hydrogen Economy through FC/Water Electrolysis Catalyst**
Yokoo Michihiro, TANAKA Kikinzoku Kogyo K.K., Japan 

16:30 - 16:50 **Title: Catalytic Conversion of Municipal Solid Waste for Clean Hydrogen Fuel Production Distinguished**
Prof. Jonathan WC Wong, Top Talent Professor, Dongguan University of Technology, China 

16:50 - 17:10 **Title: Advanced Catalyst for Direct Seawater Splitting to Hydrogen**
Dr. Nasir Mahmood, Vice-Chancellor Fellow, RMIT University, 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 - 18:40 Networking Drinks

POSITIONING HYDROGEN 2023

DAY — 2 NOVEMBER 28, 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, University of Queensland, Australia

10:25 - 10:35 Q&A Session

10:35 - 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**

Dr. 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 Group Photo and Lunch Break

Session 7: Hydrogen Storage and Utilisation

13:30 - 14:00 **Title: Hydrogen Storage: Innovations, Collaborations, and Regulations for Scaling H2 Supply Chains**

Joe L Spease, CEO, WindSoHy, LLC., USA

Dennis Weidemann, CAES and Steam Turbine Sales, Siemens Energy, Malaysia



14:00 - 14:20 **What's in Store for Hydrogen: Towards a Framework for Evaluating Hydrogen Storage Options**

Stuart Allinson, Energy Transition Partner, Startupbootcamp, Australia

14:20 - 14:40 **Title: Hydrogen Storage – Alternatives to C/C Storage Cylinders – New Solutions in Vessel Manufacturing**

Dr. K. Balasubramanian, Director, NFTDC, India



14:40 - 15:00 **Title: Solid H2 Logistics & The Emerging Ecosystem**

James Khong, COO, Galaxy FCT, Malaysia



15:00 - 15:30 Q&A Session

15:30 - 16:00 Afternoon Coffee Break

Session 8: Hydrogen Workforce Skills and Training

16:00 - 16:20 **Title: Hydrogen Skills Modules Project**

Kerrin Pryor, Project Manager, Swinburne University of Technology, Australia

16:20 - 16:40 **Title: RECLAIM-AI™: A Game Changing Growth Philosophy for the Green Hydrogen Revolution Integrating Design and Systems Thinking**

Dr. Orestis D. Valianatos, Global President and CEO, ATMOS Global Pty Ltd, Melbourne, Australia

16:40 - 17:00 **Title: Hydrogen: Revolutionizing Plumbing in Australia- Replacing Natural Gas with a Sustainable Future**

Glen Doorey, Manager, R & L Smith Plumbing, Australia

17:00 - 17:30 Q&A Session

17:30 - 17:40 **Closing Remarks: Conference Chair**

Luigi Bonadio, Principal/Director, Luigi Bonadio & Associates

17:40 - 18:00 Session 9: Poster Presentations

18:00 - 19:00 Networking Drinks

ENERGY OCEANIA 2023

DAY — 2 NOVEMBER 28, 2023 - (ROOM B)

08:30 - 09:00 Registration and Arrival Coffee

09:00 - 09:10 Opening Address:
Prof. Nicholas Ekins-Daukes, University of New South Wales, Australia

Special Plenary Talk

09:10 - 09:30 **Title: History and Future of the PV Industry**
Prof. Martin Green, University of New South Wales, Australia

Session 10: Harnessing Innovation: Sunrise to Sunset

Session Chair: Dr. Richard Corkish, University of New South Wales, Australia

09:30 - 09:55 **Title: Towards 26% Efficient Silicon Solar Cells in Mass Production**
Prof. Daniel Macdonald, Australian National University, Australia

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

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

10:35 - 11:00 Morning Coffee Break

Session 11: Solar Energy

Session Chair: Prof. Daniel Macdonald, Australian National University, Australia

11:00 - 11:25 **Title: Thermoradiative Power Conversion: Generating Solar Power at Night**
Prof. Nicholas Ekins-Daukes, University of New South Wales, Australia

11:25 - 11:50 **Title: Resource Demands for Glass for TW-scale PV**
Dr. Richard Corkish, University of New South Wales, Australia

11:50 - 12:10 **Title: Silicon Materials for Photovoltaic Applications**
Dr. Anyao Liu, Senior Research Fellow, Australian National University, Australia

12:10 - 12:30 **Title: Ultra-Efficient Coloured Photovoltaic Devices for Buildings and Vehicles**
Dr. Jessica Yajie Jiang, University of New South Wales, Australia

12:30 - 13:30 Group Photo and Lunch Break

Session 12: Renewable Energy

Session Chair: Prof. Volker Hessel, University of Adelaide, Australia

13:30 - 13:55 **Title: Large-Scale Electricity Storage in Australia**
Ass. Prof. Stefania Castelletto, RMIT University, Australia

13:55 - 14:20 **Title: Using Theory and Computation to Design New Materials for Sustainable Technologies**
Prof. Catherine Stampfl, University of Sydney, Australia

14:20 - 14:40 **Title: Utilising Environmental, Social, and Governance (ESG) Principles for Decentralising Energy-Intensive Mega Plants**
Dr. Nam Nghiep Tran, Senior Lecturer, University of Adelaide, Australia

14:40 - 15:00 **Title: Thermal Radiation Revisited: What Happens when Photons are Generated within Matter ?**
Prof. Geoff Smith, University of Technology, Australia


15:00 - 15:20 Afternoon Coffee Break

Session 13: Sustainable Energy

Session Chair: Prof. Nicholas Ekins-Daukes, University of New South Wales, Australia

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?**
Dr. 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**
Dr. Nguyen Van Duc Long, Senior Researcher, University of Adelaide, Australia

17:00 - 17:10 **Closing Remarks:**
Prof. Nicholas Ekins-Daukes, University of New South Wales, Australia

Session 9: Poster Presentations

PE - O1 **Title: FAPbI₃-based Perovskite Thin Film using all Vacuum Deposition Process**
Hyo Sik Chang, Researcher, Chungnam National University, South Korea 

PE - O2 **Title: Optimization of CCHP System Operation based on High-Temperature Polymer**
Seonghyeon Ham, PhD Student, Korea Institute of Energy Research, South Korea 

PE - O3 **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 

PE - O4 **Title: 3D-Nanostructured NiCo₂O₄ and CoNi₂O₄ Semiconducting Films for Supercapacitor's Electrode Material**
Suresh Kumar, Researcher, Al-Falah University, India 

PE - O5 **Title: Low-Temperature Hydrogen Production through Dual Catalytic Water Splitting**
Emma Holder, Experimental Scientist, CSIRO, Australia

PE - O6 **Title: Catalytic Innovation for Sustainable Hydrogen Economy: Low-Temperature Doubly Catalysed Water Splitting**
Anuradha Meena, Masters Student, CSIRO, Australia

PE - O7 **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

PE - O8 **Title: Novel Approaches to Investigate Electrolyte-Electrode Interface and Interphase in Advanced Na-ion Batteries**
Mahin Maleki, PhD Student, Deakin University, Australia

PE - O9 **Title: Investigation on the Influence of Mixed-Cation Ionic Liquid on SEI Formation on Na Metal Anodes**
Lixu Huang, PhD Student, Deakin University, Australia

PE - 10 **Title: Carrageenans as Water-Soluble Binders for High-Energy Cathodes**
Ana Clara Rolandi, PhD Student, Deakin University, Australia

18:00 - 19:00 Networking Drinks

POSITIONING HYDROGEN AND ENERGY OCEANIA

DAY — 3 NOVEMBER 29, 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

Exhibitors Address

9:10 - 09:15 **Sonik Barot**, Product Manager, Atlas Copco Compressors, Australia

Session 14: Hydrogen Utilisation

09:15 - 09:40 **Title: Ammonia: The Future of Fuels?**
Prof. Douglas MacFarlane, Monash University, Australia

09:40 - 10:05 **Title: Pathways to Integrate Net-Zero Energy into High Temperature Industrial Processes**
Prof. Graham Nathan, University of Adelaide, Australia

10:05 - 10:30 **Title: Hydrogen Compression Technologies, Innovating for Green Energy**
Sonik Barot, Product Manager, Atlas Copco Compressors, Australia

10:30 - 10:45 Q&A Session

10:45 - 11:00 Morning Coffee Break

Session 15: Hydrogen Projects 2

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 - 13:50 **Title: Interfacially Coupled Metal Oxyhydroxide/Polyaniline/Carbon as Bifunctional Electrocatalyst for Water Splitting**
Prof. Niranjanmurthi Lingappan, Chonnam National University, South Korea

13:50 - 14:10 **Title: Ultra-High-Performance Solar Water Splitting with Earth-Abundant Cocatalyst Foils**
Joshua Buston, Research Fellow, University of Melbourne, Australia

14:10 - 14:30 **Title: Low Emission Hydrogen Production from Catalytic Methane Pyrolysis**
Alister Sheil, PhD Candidate, University of Queensland, Australia

14:30 - 14:50 **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

14:50 - 15:10 **Title: Hydrogen Storage Challenges and Sustainable Solutions**
Dr. Srikanth Mateti, Research Fellow, Deakin University, Australia

15:10 - 15:30 **Title: Understanding and Mitigating Hydrogen Embrittlement in Alloys**
Prof. Julie Cairney, University of Sydney, Australia

15:30 - 15:50 Afternoon Coffee Break

Session 17: Hydrogen Opportunities and Challenges

15:50 - 16:10 **Title: Hydrogen Safety and Blast Concerns: Supporting Infrastructure to Mitigate and Manage Risks**
Prof. Tuan Ngo, University of Melbourne, Australia

16:10 - 16:30 **Title: Safeguarding the Future: Advancements in Hydrogen Safety Standards 2023 - Hydrogen Leakage Safety Risks**
Satiesh Muniandy, Principal Risk Engineer, Draeger, Australia

16:30 - 16:50 **Title: The Opportunity for Hydrogen in Asia Pacific**
David Cavanagh, Managing Director, Integrated Energy Pty Ltd., and Chief Hydrogen, Officer Hydrogen West, Australia

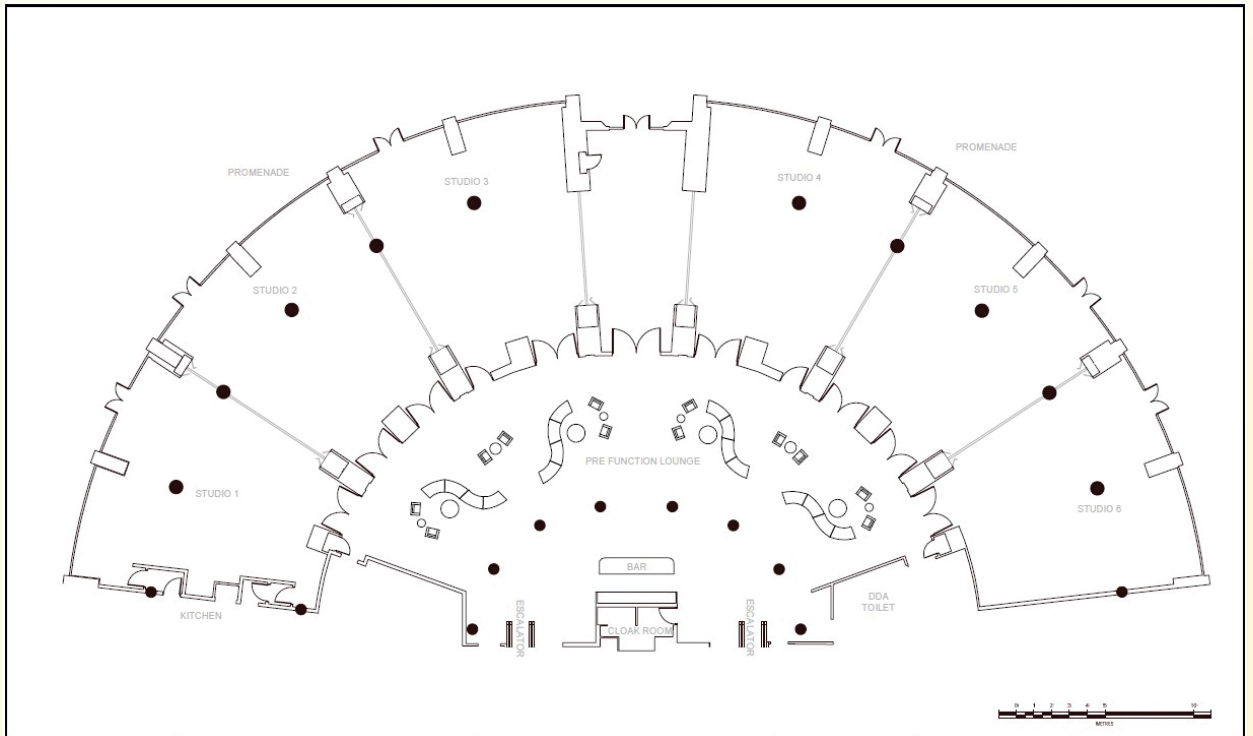
16:50 - 17:10 **Title: Regionally Produced Green Hydrogen- A Decisive Contribution to a Full Supply with 100% Renewable Energy**
Hans-Josef Fell, President, Energy Watch Group, Germany 

17:10 - 17:30 Q&A Session

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

17:40 - 18:40 Networking Drinks

FLOOR PLAN



Day 1 - Room A, Studio 5-6

Day 2 - Room A, Studio 5

Day 2 - Room B, Studio 6

Day 4 - Room A, Studio 5

Event Venue:
Crowne Plaza Melbourne, Australia



Prism Scientific Services Pty Ltd., a premier conference organizer, envisions a sustainable future for the energy industry. Our goal is to unite experts and stakeholders through conferences, fostering collaboration and advancing sustainable practices. Committed to curating conferences on renewable energy and eco-friendly technologies, we catalyze the industry's development. Emphasizing interdisciplinary collaboration, our events address complex challenges. Dedicated to sustainability, we minimize footprints and promote eco-friendly venues, inspiring environmental responsibility. As catalysts for positive change, guiding the energy industry toward an innovative, environmentally responsible future in conferences that prioritize sustainable development.

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**Positioning
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ENERGY  **CEANIA**
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Chandrakantha K S

Conference Producer

chandu.kmp@hydrogenconferenceaustralia.com

committee@energyconferenceaustralia.com

Australia: +61 390163202

Prism Scientific Services Pty Ltd

302/480 Collins Street, Melbourne, VIC 3000, Australia

www.scientificprism.com

