



ACCELERATING GREEN HYDROGEN ADOPTION: FROM BLUEPRINT TO SCALING UP IN ISA MEMBER COUNTRIES

Co-Host



In collaboration with



12 November 2024 | 3:45 PM - 5:00 PM AZT

<p>Objective</p>	<p>The session aims to explore key opportunities and challenges in building the Green Hydrogen (GH) value chain, with a focus on unique regional contexts and needs especially in ISA member countries.</p> <p>The session will present the key findings of deep dive analysis on the GH readiness assessment for shortlisted member countries across all ISA regions. The session also aims to engage with stakeholders to discuss strategies for scaling up GH production, utilization, and trade. The discussions will highlight the importance of promoting startups to facilitate incubation of GH businesses. This will help in promoting collaborative networks among various stakeholders, leading to increased innovation and sharing of best practices in the GH sector.</p> <p>The session will also share insights from the Clean Energy Ministerial (CEM)'s Hydrogen Initiative. Launched in 2019, the CEM Hydrogen Initiative is driving international collaboration on policies, programmes and projects to accelerate the commercial deployment of clean hydrogen globally. With 21 member countries from Asia, Europe, the Middle East, North America and South America the CEM Hydrogen Initiative is well-placed to provide insights on how to scale-up GH across a diverse range of countries and economic sectors.</p>
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	<p>The session will delve into the current global landscape of GH with focus on:</p> <ul style="list-style-type: none"> • Policy and regulatory frameworks and incentives that can accelerate GH ecosystem readiness. • Approach for market creation and harmonization of global standards for domestic consumption and export. • Analyse existing and emerging business models for off-take of GH. • Identify key economic factors and policy instruments that can drive down GH costs. • Understand the emerging demands of GH in various sectors. • Examine effective strategies to accelerate GH demand.
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<p>Background & Rationale</p>	<p>The transition to a low-carbon future necessitates the rapid development and deployment of clean and sustainable energy sources. GH, produced through the electrolysis of water using renewable electricity, emerges as a promising solution to decarbonize hard-to-abate sectors such as refinery, steel, cement, transportation, fertiliser, and power generation.</p> <p>Recognizing the pivotal role of GH in achieving global climate goals, ISA launched a new programme on ‘Solar for Green Hydrogen’ in its Fourth Assembly held in October 2021. The objective of this programme is to accelerate GH production, utilization, and trade in ISA Member Countries.</p> <p>Under Phase 1 of this programme, the ISA in partnership with Asian Development Bank (ADB), developed a report on GH ecosystem readiness assessment across a few shortlisted ISA member countries. In this report – ‘Blueprint for Ecosystem Readiness Assessment for Green Hydrogen’ [Link], a subset of ISA member countries was considered. The report was launched at COP27 in November 2022 in Egypt.</p> <p>Similarly, ISA-European Investment Bank-African Union published a report on ‘Africa Solar Hydrogen Project (ASHyP)’ [Link], which proposed harnessing Africa's solar energy to produce 50 MTPA of GH by 2035. This study, in partnership with the Government of Mauritania, HyDeal Espania, and UCLG Africa, was showcased at COP27.</p> <p>ISA, with ADB and New Energy and Industrial Technology Development Organization, Japan (NEDO), published ‘A Roadmap for Developing and Scaling the Green Hydrogen Ecosystem’ [Link] to facilitate building GH value-chain, especially for hard-to-abate sectors. The roadmap outlines technological advancements in electrolyzers; Regulations, Codes and Standards for GH Production and Use including country deep dive analysis for Brazil, Chile, and India.</p> <p>ISA in partnership with ADB, under the G20 2023 India Presidency has created a virtual ‘Green Hydrogen Innovation Centre’ [GHIC]. This Centre of Excellence will support the production, utilization, and trade of GH, besides providing a platform for knowledge sharing and building competency across the GH value chain. The GHIC will also provide opportunities to incubate Start-Ups, provide certified training, and host Expert Working Groups to support the scale-up of the GH ecosystem in member countries. The GHIC platform was launched at the Energy Transitions Ministerial Meeting (ETMM), and subsequently, was included in the G20 Leaders’ Summit Delhi Declaration in September 2023.</p>
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Background & Rationale	<p>Currently, under the ISA - Denmark Partnership, a green hydrogen readiness assessment study has been conducted for four African countries (Egypt, Morocco, Namibia, and Ethiopia) that have strong developing trends and significant potential to become major GH hubs (Link).</p> <p>The event is organized in collaboration with the Clean Energy Ministerial (CEM) that hosts the CEM Hydrogen Initiative, bringing together governments and industry to accelerate the deployment of clean hydrogen. Key activities under the initiative include the International Hydrogen Trade Forum, which is accelerating international hydrogen trade and investment across the value chain for clean hydrogen by promoting collaboration between importing and exporting countries.</p> <p>Building upon the insights gained from above engagements, ISA is now focusing on a deep dive analysis of several member countries to identify opportunities, challenges, and roadmaps for accelerating GH adoption.</p>
Session Lead	<p>Dr Mridula Bharadwaj, Capacity Building Specialist and Programme Lead – Green Hydrogen, (ISA – ADB TA)</p>

Agenda:	
Time 75 mins	Speakers
Welcome Address (3 mins)	Ramesh Kumar Kuruppath, Chief of Unit – PPIC, ISA
Special Address (5 mins)	Mr. P.K. Singh, Secretary, MNRE, Government of India
Keynote Address (5 mins)	Jean-François Gagné, Head of CEM Secretariat <i>'Lessons learned from the CEM's collaborative platforms on Hydrogen'</i>
ISA Solar for Green hydrogen Programme Updates (5 mins)	Dr Mridula Bharadwaj, Programme Lead – Green Hydrogen, ISA
Panel Discussion (45 mins) Moderator: Caroline Biotteau, Policy Manager, Green Hydrogen Organisation	Panellists: <ol style="list-style-type: none"> 1. James Walker, Team Lead for Renewable Gases, International Renewable Energy Agency (IRENA) 2. Andrew Swanson, Partnerships Manager, Clean Energy Ministerial 3. Julia Souder, CEO, Global Long Duration Energy Storage Council 4. Dr. Sam Bartlett, Director for Green Hydrogen Standard, Green Hydrogen Organisation 5. Prof. Prakash Chandra Ghosh, Indian Institute of Technology Bombay, India
Audience interaction and way forward (5 mins)	Moderator
Report Launch (2 mins)	Green Hydrogen Enabling Environment Handbook 2024 (Collaborator: Green Hydrogen Organisation, Geneva)
Closing Remarks (5 mins)	Andrew Jeffries, Director, Energy Transition Mechanism, JET-P, ADB

Speaker Bio

1. Jean-François Gagné, Head of CEM Secretariat



Jean-François Gagné has been appointed as the new Head of the Clean Energy Ministerial Secretariat, supporting international collaboration to promote policies and programmes that advance clean energy technology, to share lessons learned and best practices, and to encourage the transition to a global clean energy economy.

Upon his appointment, Jean-François said “I am greatly honoured to have the opportunity to contribute to the CEM’s mission, and look forward to working with CEM members and our international partners to accelerate the transition to a clean energy future”.

A Master of Mechanical and Aerospace Engineering graduate, Jean-François has over 20 years of experience in varying fields touching transportation, energy and environment protection.

He started his career in the aerospace industry, and then moved to the public sector to lead transportation, energy and environmental technology programmes. He provided technical and policy advice to the Canadian Armed Forces, the Canadian Coast Guard, the Department of Natural Resources, and managed multiple programmes supporting the sustainable development objectives of the Canadian Government. He then spent 5 years leading the International Energy Agency’s collaborative work programme on sustainable energy technologies, policies and strategies.

Before coming to the CEM Secretariat, JF was executive Director of International Affairs for Natural Resources Canada, developing and implementing Canada’s global energy engagement strategy, managing bilateral and multilateral collaboration mechanisms, and representing Canada as lead energy negotiator.

2. Jonas Moberg, CEO, Green Hydrogen Organisation



Jonas Moberg is the Chief Executive Officer of the Global Green Hydrogen Organisation since May 2021. Jonas is the vice-chair for Global Renewables Alliance and a steering committee member of the Green Hydrogen Innovation Centre (GHIC). From 2018 to May 2021, Jonas held several positions at Trafigura, including as the Global Head of Corporate Affairs and the Global Head of Government Affairs. Jonas was the Executive Director of the Extractive Industries Transparency Initiative (EITI) 2007-2018, the global transparency and anti-corruption standard implemented by 55 countries and supported by hundreds of large companies and organisation. Prior to building the EITI, Jonas was a Senior Advisor in the Executive Office of UN Secretary

General Kofi Annan, Director at the Prince of Wales International Business Leaders Forum, and member of the Swedish Foreign Service, posted to London and Maputo. Jonas holds law degrees from the London School of Economics and from the University of Stockholm.

3. James Walker, Team Lead for Renewable Gases, International Renewable Energy Agency



Dr James Walker is Team Lead for Renewable Gases at the International Renewable Energy Agency (IRENA) Innovation and Technology Centre in Bonn, Germany. He is responsible for co-ordinating IRENA activities concerned with the measures required to enable the scale up of green hydrogen and derivative value chains, and works with stakeholders in member countries to support their efforts. James has previously worked in a range of roles across academic research, consultancy, and in the civil service, always with a focus on the emerging hydrogen economy. Before joining IRENA he managed hydrogen strategy for Ofgem, the energy regulator in Great Britain.

4. Andrew Swanson, Partnerships Manager, Clean Energy Ministerial



As Partnerships Manager, Mr. Swanson lead the CEM Secretariat's work on 'Future Fuels'. Based on six workstreams that bring together governments, industry and partner organizations, the CEM's work on Future Fuels is accelerating the production and use of sustainable fuels in high-emitting sectors such as aviation, shipping, road transport, steel and cement production.

He is the CEM Secretariat's lead contact for the Biofuture Platform, the Carbon Capture, Utilization and Storage Initiative, Clean Energy Marine Hubs, the 'Gt by 30' carbon management campaign, the Hydrogen Initiative (including the International Hydrogen Trade Forum), and the Industrial Deep Decarbonization Initiative. He is also the CEM's desk officer for Australia, Canada, the Netherlands, New Zealand, Norway and Sweden.

In his previous roles, he had advised governments, utilities and investors on how to integrate renewable generation into power grids in Australia, New Zealand, Indonesia, the Federated States of Micronesia, Myanmar, the United Arab Emirates and across the 12 countries of the Southern African Power Pool for almost a decade.

A founding member and president of the Australian National University International Law Society, he has a background in law, economics and history.

5. Julia Souder, CEO, Global Long Duration Energy Storage Council



Julia Souder is a strategic executive with over 20 years of expertise in the energy and environmental sectors as a coalition builder, change maker, and motivator for inclusive implementation. She is a long-time advocate of clean energy technologies and equitable transitions. Souder is the Chief Executive Officer (CEO) of the LDES Council, a global non-profit working to accelerate decarbonization through the acceleration of long-duration energy storage (LDES). As CEO, she leads strategy and vision to enable the advancement and scale of LDES deployment in the energy transition worldwide. In addition, she serves as the Chair of the Global Renewables Alliance, of which the LDES Council is a founding member, and sits on the Board of the Keystone Policy Center.

Previously, Souder was the President and Founder of JAS Energies, a clean energy and grid planning consultancy. She was also a director at the Natural Resources Defense Council, where she oversaw energy policy creation and implementation with a focus on grid operations and transmission planning. She has also worked in multiple roles at the U.S. Department of Energy and served as Director of Intergovernmental Relations for the North American Electric Reliability Corporation and as a Project Developer for Clean Line Energy Partners.

Souder earned a Masters of Public Administration from the University of Southern California and a Bachelor's in Political Science and International Relations from Oregon State University.

6. Prof. Prakash Chandra Ghosh, Indian Institute of Technology Bombay, India



Dr.-Ing Prakash C Ghosh is a Professor in the Department of Energy Science and Engineering, Indian Institute of Technology Bombay, Mumbai, India. Dr. Ghosh received his doctoral degree in Mechanical Engineering from RWTH Aachen, Germany. He is the recipient of BOYSCAST fellowship from DST, Govt. of India and ERASMUS MUNDUS fellowship from European Union. Dr. Ghosh has worked as a guest scientist in Forschungszentrum Juelich, Germany from 2002 to 2004. He worked in National Chemical Laboratory, Pune, India as a scientist from 2004 to 2006. Dr. Ghosh's research interests include low temperature fuel cells which include designing, modelling, fabrication and characterization of PEFC and HT-PEFC stacks.

In addition to these he is also involved in solar hydrogen research and energy storage. Dr. Ghosh has more than fifty International Journal papers in the field of solar energy, fuel cells and hydrogen energy. He has also five awarded international patent and four filed patents in his name. He has participated in several National as well as International projects with several countries such as the United Kingdom, Canada, Australia and USA in the capacity of Principal Investigator and Co-Principal Investigator.

Dr Ghosh has secured funding (>35 crore) as PI and Co-PI from DST: (i) relating to microgrid and energy storage (DST/RCUK/SEGES/2012/13); (ii) relating to modelling of Bio-CPV system (DST/SEED /INDO-UK/002/2011/IITB); and (iii) Indo-US Joint project on solar energy. At present he is leading two Indo-UK projects (IMASE and IUCERCE) in the field of micro-grid and energy storage in the capacity of PI, funded by Department of Science and Technology, Ministry of Science and Technology, Govt. of India. Dr. Ghosh has organised an International conference in the field of Energy and Indo-Canada workshop related to energy.

7. Dr Mridula Bharadwaj, Programme Lead – Green Hydrogen, ISA



Dr. Mridula Dixit Bharadwaj is a Capacity Building Specialist at the International Solar Alliance under the ISA-ADB Technical Assistance Program. She is currently leading ISA Programs related to Green Hydrogen, Solar Electric Mobility, and Storage. Dr. Bharadwaj holds a Post Doctorate in Materials Science and Engineering from the University of Pittsburgh, USA, and a doctorate in rechargeable battery systems from Bangalore University. She has more than 28 years of research experience in batteries, EV, and materials science domains. Some of the academic recognitions include the Best Research Paper Award in the Material Science Category by the Microscopy Society of America. Prior to ISA, she worked with the United States Steel Corporation, General Motors (R&D), and a technology-policy think tank as lead researcher and Section Head. She has participated in several government committees on EV and storage including the National Rare Earth Expert Committee of NITI Aayog, India. Dr. Bharadwaj has several research publications in international journals including a US patent related to automotive corrosion prevention.

8. Andrew Jeffries, Director, Energy Transition Mechanism, JET-P, ADB



Andrew has 32 years of professional experience including over 17 years with ADB, and 27 years in the energy sector. He currently oversees ADB's Energy Transition Mechanism team and Just Energy Transition Partnership related activities region wide. He was ADB's Country Director for Viet Nam from 2020 to April 2023. From 2016 to 2020, he was the Director of the Southeast Asia Energy Division, with operations including investments in energy infrastructure, policy advice, sector reform assistance, and promoting regional energy cooperation in the Southeast Asia region. He headed ADB's energy sector operations in India from 2013 to 2016 based in New Delhi, and prior to that, led energy sector infrastructure projects in the South Asia region. Prior to joining ADB in 2007, Andrew was a Senior Vice President in the New York office of Fortis Capital's Global Energy & Utilities Group, providing project finance for various energy infrastructure, and tax equity investments for renewable energy project developers. Andrew holds a master's degree in international affairs from Columbia University, and a bachelor's degree in economics from Bucknell University in the USA.

9. Caroline Biotteau, Policy Manager, Green Hydrogen Organisation



Caroline Biotteau is a Policy Manager at the Green Hydrogen Organisation (GH2) exploring issues around the financing and legislation of the hydrogen economy. Caroline began her foray into hydrogen at the UK Department of Energy Security and Net Zero where she led engagements with investors, advised on hydrogen to power policy and led the review of the Low Carbon Hydrogen Standard. She also has a background in international affair having started her career at Global Affairs Canada as a policy analyst in the team setting up Canada's development finance institution, FinDev. She has a bachelor's in international affairs from the Université de Montréal, a master's in international Economic Policy from NPSIA and a master's in Environmental Governance from the University of Manchester.

10. Dr. Sam Bartlett, Director for Green Hydrogen Standard, Green Hydrogen Organisation



Sam Bartlett is the Director of the Green Hydrogen Standard at the Green Hydrogen Organisation (GH2). The Green Hydrogen Standard provides certainty and transparency that green hydrogen production conforms to the highest standards on emissions, ESG performance and the sustainable development goals. Sam has 20 years' of experience in energy, environment and climate change policy, with a focus on developing and emerging economies. He has degrees in ecology, demography, and environmental law. He wrote his PhD dissertation on incorporating environmental economics and multi-stakeholder consultation into strategic environmental assessments.

Address: Location of the session

The Solar Hub - ISA Pavilion

H7, Blue Zone

Baku Stadium

The Blue Zone is within the Baku Stadium. You can find Baku Stadium on the map.

Within the Blue Zone, our pavilion is in the H Aisle – H7.