



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

# Towards Hydrogen Societies: Expert Group Meeting

Current advancements in hydrogen  
technology and pathways to deep  
decarbonisation.

**12 December 2018**

**09:00 – 12:00**

Climate Action Room 3 – Lubelskie



Ministry  
of Foreign Affairs  
Republic of Poland



The Permanent Mission of Japan  
to the International Organisations in Vienna



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# PROGRAMME

- 09:00 **Welcome Remarks**  
Mr. Tareq Emtairah, Director,  
Department of Energy, UNIDO
- 09:05– 10:30 **Expert Perspectives**
- 10:30 – 10:45 **Coffee Break**
- 10:45 – 11:55 **Panel Discussion followed by Q&A Session**  
Moderated by Mr. Piotr Kociński,  
Vice-Chairman, LOTOS Lab Sp. z o.o.
- 11:55 **Closing Remarks**  
Mr. Szymon Byliński, Director, Department  
for Innovation and Technology, Ministry of Energy  
Mr. Kazimierz Karolczak, Chairman, GZM Metropolis



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# Towards Hydrogen Societies

Hydrogen has the potential to revolutionize current energy systems towards a cleaner, secure and sustainable pathway because of its versatile characteristics from production to utilisation. A hydrogen society entails the replacement of conventional fuel with hydrogen presenting a viable pathway towards decarbonising all sectors that are otherwise difficult to achieve through electrification alone.

Hydrogen facilitates the use of renewable energy sources such as solar and wind through its storage capabilities. Transitioning to such society aligns with SDG9 on industry, innovation and infrastructure by creating a new sector in the energy system. It entails new infrastructure and industry involvement through innovation along the hydrogen supply chain. To truly ensure a secure and sustainable hydrogen society, a vivid roadmap needs to be planned and supported by strong policy, technological development and adequate financing and moreover, ensuring an appropriate supply chain.

The Expert Group Meeting is organized by the United Nations Industrial Development Organization (UNIDO) together with the Government of Poland as well as the Permanent Mission of Japan to the International Organizations in Vienna. It aims to bring together leading experts from private and public sectors as well as academia. It will facilitate a discussion on the opportunities and challenges on a way to achieve hydrogen societies.



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## About the Speakers

### Daishu Hara

Director, Fuel Cell and Hydrogen Technology Group,  
Advanced Battery and Hydrogen Technology Department,  
New Energy and Industrial Technology Development  
(NEDO)

Daishu Hara joined the nanotechnology and materials Technology Development Department in NEDO in 2013. Since then he lectured at the New Industry Creation hatchery Center in Tohoku University, was a Chief Officer in the Fuel Cell and Hydrogen Technology Development Department and served as a Representative in the Bangkok Office of NEDO. He holds Ph.D. in Engineering from the Tokyo Institute of a Technology.

### Federico Villatico Campbell

Regional Manager for LAC, West and Central Africa at the  
Climate Technology Centre and Network (CTCN)

Federico Villatico Campbell is responsible for the portfolio of technical assistance (adaptation, mitigation), capacity building and networking in LAC, West and Central Africa. He is also the mitigation focal point at CTCN. Prior to joining CTCN he has worked several years on renewable energy, energy storage and sustainable transport sectors in academia, international organisations as well as business development in the private sector. His background is in mechanical engineering, complemented by a PhD in Sustainable Energy Technologies.



## Michael Losch

**Director General for Energy and Mining in the Austrian Federal Ministry for Sustainability and Tourism**

Michael Losch is Director General for Energy and Mining in the Austrian Federal Ministry for Sustainability and Tourism since September 2016.

From April 2004 to August 2016 he was the Director General for Economic Policy, Innovation and Technology in the Federal Ministry of Science, Research and Economy. From 1997 to 2004 he worked in the European Commission, two years in the context of liberalisation of energy markets and five years as Member of Cabinet of Agriculture Commissioner Franz Fischler. Michael Losch studied at the Wirtschaftsuniversität Wien and at HEC Paris.



## Jesper Thomsen

**CEO & President , Ballard Power Systems Europe**

Jesper Thomsen has been President and CEO at Ballard Power Systems Europe since 2011. Mr. Thomsen holds a M.Sc. degree in Mechanical Engineering and Thermal engineering from Aalborg University. He also holds a Graduate Diploma in Management from Aalborg University, and has completed an Executive Leadership Development program with the Confederation of Danish Industry.







## **Eric Sebellin**

**Vice President, Markets & Strategy H2, Air Liquide**

Between 2013 and 2017, Eric Sebellin was the Managing Director of ALIAD, Air Liquide Venture Capital Investor. Prior to ALIAD, Eric created and managed affiliates of Air Liquide dedicated to new technologies or new services, deployed e-business tools worldwide, and lead the European energy procurement and optimization team. He initiated and led the Greenhouse Gas management initiative - covering policies, tools and public affairs - and the redefinition of the Corporate Responsibility and sustainable development policy of the Group. Eric's first job was with the World Bank in the US. He holds a master of science in civil engineering from the Ecole des Ponts and as MBA from the Collège des Ingénieurs, both in Paris.



## **Geert Tjarks**

**Head of Division International Cooperation, NOW GmbH**

Geert Tjarks is Head of Division International Cooperation at the NOW GmbH National Organisation Hydrogen and Fuel Cell Technology since September 2018. He is responsible for the international activities of the NOW GmbH related to electric mobility and hydrogen as an energy career. Dr. Geert Tjarks joined the company in April 2017 as Programme Manager Power-based Fuels for the coordination of power-to-x projects within the National Innovation Program Hydrogen and Fuel Cell Technologies (NIP) and the Mobility and Fuels Strategy of the German Government (MKS). He finalized his PhD at the RWTH Aachen in January 2017. The thesis was prepared in the Institute of Electrochemical Process Engineering at Forschungszentrum Jülich GmbH and has a focus on water electrolysis for hydrogen production. Until 2013 he studied Mechanical Engineering at the Technical University Braunschweig. For his diploma he worked with TU Chemnitz on fuel cell vehicles at the Volkswagen AG.



## Karol Zarajczyk

Chairman of the Board, Ursus S.A

Karol Zarajczyk, graduated in Poland from the area of capital investment, he has, then, widened his education in the automotive industry. He has completed dedicated programmes from prestigious universities in various countries across the globe, learning how to manage the 21<sup>st</sup> century production. He has gathered the knowledge of different business cultures and the approach to the modern automotive production. In 2015 he decided to create a new company, URSUS BUS S.A., where he took the position of the Member of the Supervisory Board (2015-2016). In June 2018 he became the President of URSUS Bus S.A



## Tadeusz Uhl

Professor, AGH University of Science and Technology

Tadeusz Uhl's research focuses on mechatronics and robotics, structural health monitoring and diagnostics, artificial intelligence, mobile application of PEM fuel cells. He worked 8 years with many Universities worldwide (The Netherlands, Belgium, France, USA, Japan). He is a member of the Scientific Committee and participated in many international Conferences and Congresses such as ISMA, ICEDYN, EW SHM, IFToMM Congress, CMM, ROMOCO, ROMANSY, DPP, Dynamic Problems and Applications, International Conference on Mechatronics from idea to applications, etc. He is the Chairman of the IFToMM 2019. Professor Uhl is an author of teaching standards in mechatronics for Poland.



## David Turk

**Head of the Strategic Initiatives Office, International Energy Agency (IEA)**

Dave Turk joined the IEA in September 2016. He formerly served as Deputy Assistant Secretary for International Climate and Technology at the U.S. Department of Energy, where he coordinated the Department's international clean energy efforts. He also previously served as Deputy Special Envoy for Climate Change at the U.S. Department of State, Special Assistant to the President and Senior Director for Congressional Affairs at the U.S. National Security Council, and in various capacities in the U.S. Congress.



## Bartosz Brzozowski

**Associate Director of International Cooperation and Analysis, Breakthrough Technologies Division in Warsaw JSW Innowacje S.A.**

Bartosz Brzozowski is an expert in the field of dynamics and control systems of aircrafts, he developed optimal control algorithm for multirotor Unmanned Aerial Vehicles (UAVs). Between 2009 and 2018 he lectured and conducted R&D at the Mechatronics and Aeronautics Faculty of the Military University of Technology. Since January 2018, as an R&D specialist in the Breakthrough Technology Division in Warsaw, Bartosz runs a project of development of autonomous inventory UAV system. He also has extensive knowledge of hydrogen technology as well as electric mobility and explores the possibilities of using hydrogen technology as a source of energy for urban mobility and UAV.