JAPAN AND AUSTRALIA: OPPORTUNITIES IN HYDROGEN AND LOW-CARBON STEEL

Tue. March 1, 2022
13:30-15:00 AEDT
11:30-13:00 Japan
With E/J simultaneous interpretation

Register in advance: https://u-tokyo-ac-jp.zoom.us/webinar/register/WN_r_5VVxQRO9ncCYr3P7A
JAPAN AND AUSTRALIA: OPPORTUNITIES IN HYDROGEN AND LOW-CARBON STEEL

Program

1:30 pm AEDT 11:30 am JST

Introduction:
Brian Schmidt AC FAA FRS, Vice-Chancellor & President, Australian National University

Professor Schmidt is one of Australia's most eminent scientists. Winner of the 2011 Nobel Prize in Physics, alongside many other academic awards and distinctions, Professor Schmidt spent most of his academic career as an astrophysicist at the ANU Mount Stromlo Observatory and Research School of Astronomy and Astrophysics before becoming Vice-Chancellor.

Session 1: Hydrogen & low-carbon steel: Japan and Australia perspectives

Ryoichi Komiyama, Department of Nuclear Engineering and Management, The University of Tokyo

Emma Aisbett, Research Director for Australian National University Grand Challenge - Zero Carbon Energy for the Asia Pacific.

Session 2: Opportunities for industry collaboration

Hiroyuki Tezuka, JFE & Chairman, Energy Technology Committee, Japan Iron and Steel Federation

Assoc Prof John Pye, Convener of Renewably Refined Metals program in the ANU Grand Challenge - Zero Carbon Energy for the Asia Pacific.

Chris McMahon, Senior Manager of Technical Marketing, Fortescue Metals Group

2:45 pm AEDT 12:45 pm JST

Q&As

Session 1

Ryoichi Komiyama. Ryoichi Komiyama is an Associate Professor, Department of Nuclear Engineering and Management at the University of Tokyo. He obtained a Ph.D. degree of electrical engineering from the University of Tokyo in 2003. In the past, he studied as a visiting researcher in Lawrence Berkeley National Laboratory (LBNL) from 2007 to 2008 and University of California at Berkeley from 2011 to 2012. His fields of research are energy modeling and energy & electric power system analysis.

Emma Aisbett. Emma Aisbett is a Fellow at the School of Regulation and Global Governance (RegNet) and Associate Director, Research for ANU Grand Challenge - Zero Carbon Energy for the Asia Pacific. As a researcher, Emma contributes to the Zero-Carbon Energy Grand Challenge focused on trade and investment aspects of the energy transition, and their interaction with Green Industrial Policy. She holds a Bachelor of Engineering (Chemical), a Masters of Science (Env,Mgmt.), and a PhD (Economics), the latter from the University of California (Berkeley).

Session 2

Hiroyuki Tezuka. Chairman, Energy Technology Committee, Japan Iron & Steel Federation and Fellow & General Manager, Climate Change Policy Group, Technology Planning Dept. JFE Steel Corp. Since 2007, Mr. Tezuka has been in charge of Climate Change issues and involved in environmental and energy policy issues in steel industry. From March 2021, he started serving as the Vice Chair at Environment & Energy Committee at OECD-BIAC (Business & Industry Advisory Committee). Mr. Tezuka received an MBA from Massachusetts Institute of Technology and BE on Applied Physics from The University of Tokyo.

John Pye. Associate Professor John Pye is Convener of the Renewably Refined Metals program in the Australian National University's Grand Challenge: Zero Carbon Energy for the Asia Pacific. John is also engaged in the Heavy Industry Low Carbon Transition Cooperative Research Center, Australia's leading collaboration transforming heavy industry for the low-carbon economy, where he focuses on opportunities for hydrogen ironmaking in Australia. John holds a Bachelor of Engineering and Bachelor of Science from the University of Melbourne, and a PhD in solar thermal energy from the University of New South Wales.

Christopher Stanley McMahen. Group Manager Technical Marketing for Fortescue Metals Group. Fortescue Metals Group also operates Fortescue Future Industries, which is progressing major investments in the production and supply of green hydrogen and green ammonia for industrial decarbonisation. The Technical Marketing team which Chris leads is responsible for the evaluation of alternative green iron and steel making technologies, positioning the Fortescue businesses to supply the raw materials required by a future decarbonised iron and steel making industry.

Introduction

Professor Brian P. Schmidt AC FAA FRS
Vice-Chancellor & President, Australian National University

Steel is a critically important structural material in the global economy. Steel-related emissions must also fall rapidly to meet global climate goals. Japan and Australia have a historical and important partnership in trade and investment in the steel industry. Australia is the world largest producer and exporter of iron ore, and producer of 19% of the world’s metallurgical coal, while Japan is the third largest producer of steel globally. The seminar offers industry and research perspectives from Japan and Australia on opportunities for collaboration in hydrogen and low-carbon steel.

Q&A

Discussion:

- Q: How do you see the future of steel production in Japan and Australia?
- A: Steel producers in Japan and Australia are faced with the challenge of reducing their emissions while maintaining competitiveness. Short-term strategies include improving energy efficiency and investing in new technologies such as direct reduction ironmaking. Longer-term strategies may include switching to alternative fuels and raw materials.

- Q: What are the key drivers for the transition to low-carbon steel in these regions?
- A: Key drivers include government policies to reduce greenhouse gas emissions, increasing consumer demand for green products, and the need to meet international climate commitments. Technological advancements also play a role in driving the transition.

- Q: How are universities and research institutions contributing to the transition to low-carbon steel?
- A: Universities and research institutions are playing a key role in developing new technologies and strategies for low-carbon steel production. They are also supporting industry through research and development, training, and technology transfer.

- Q: What role can governments play in supporting the transition to low-carbon steel?
- A: Governments can play a significant role in supporting the transition to low-carbon steel by providing financial incentives, setting emissions targets, and investing in research and development. They can also support the development of new technologies through partnerships with industry and universities.

Conclusion:

The seminar concluded with a discussion on the next steps for the collaboration between Japan and Australia in the area of hydrogen and low-carbon steel. It was agreed that further research and development, as well as increased trade and investment, are needed to support the transition to low-carbon steel in these regions.