

# 3rd RD20 Conference

## *Research and Development 20 for clean energy technologies*

**Technical Sessions, Taskforce Session: 28 September – 1 October, 2021**  
**Leaders Session: 8 October, 2021**

- In order to realize a zero-carbon society, RD20 aims to promote innovation and strengthen international R&D collaboration among the leading research institutes of G20 countries, developing the world's most advanced technologies.
- With the success of the 2<sup>nd</sup> RD20 under COVID-19, the 3<sup>rd</sup> RD20 is held online, comprised of Leaders Session, Taskforce Session and Technical Sessions.
  - **The Leaders Session** (registered participants only) is a principal part of the RD20 conference, and its outcome is expected to reinforce relationships among RD20 members. The 3<sup>rd</sup> RD20 focuses on conducting holistic discussions and reaching a consensus on long-term, cross-cutting issues hindering a carbon neutral society.
  - **The Taskforce Session** (invitation only) is where the Taskforce activities are introduced, and possible approaches to strengthen international collaboration are discussed.
  - **Technical Sessions** (registered participants only) are where technological challenges, i.e., hydrogen and EMS, are presented and discussed from multi-sectoral viewpoints.



2<sup>nd</sup> RD20 (Leaders Session)  
held on 9 October, 2020 in Tokyo



2<sup>nd</sup> RD20 (Technical Session: Battery, EMS)  
held on 30 September, 2020 in Tokyo

## Technical Session Program

29 September - 1 October 2021, online, Moderator: TBD

20:00-22:00 JST (11:00 -13:00 UTC)

### 29 Sept. Theme 1 Decarbonization by Sectors

In order to achieve carbon neutrality, it is necessary not only to discuss each technology, but also to identify issues and discuss solutions for each sector. Beginning with an overview lecture, this session will consist of lectures on the current status and subjects in the building, power and industry sectors, followed by a panel discussion on the future direction of decarbonization in each sector.

Speaker	Job Title, Affiliation	Presentation Title
<b>Mr. Kobad BHAVNAGRI</b>	Global Head of Industrial Decarbonization, Bloomberg NEF	Achieving a Green Industrial Renaissance
<b>Mr. SEGAWA Yuta</b>	Institute of Technology, Center for Energy Engineering, Shimizu Corporation	Development and initiatives of hydrogen utilization technology in the buildings to realize zero emission town with AIST
<b>Dr. Aqil JAMAL</b>	Chief Technologist, Carbon Management Division, Research and Development Center, Saudi Aramco	Technology Challenges and Opportunities in Direct Air Carbon Capture
<b>Mr. KAITA Keiji</b>	President, Carbon Neutral Advanced Engineering Development Center, Toyota Motor Corporation	Toyota's Research & Development toward Carbon Neutrality

### 30 Sept. Theme 2 Social Acceptance of Hydrogen (Commonality among all the sectors)

Hydrogen, especially green hydrogen, is a common foundation for decarbonization across all sectors. Social acceptance of hydrogen will be key to promote its implementation. This session will focus on the social acceptance of hydrogen utilization, with lectures on the current status and future issues regarding the public's acceptance of the entire energy system and the use of hydrogen therein, as well as the evaluation of such safety risks as explosions. The lectures will be followed by a panel discussion on the future issues pertaining to hydrogen, such as its safety and risks, and the roles that international collaboration should play.

Speaker	Job Title, Affiliation	Presentation Title
<b>Dr. Elisabeth DÜTSCHKE</b>	Coordinator of Business Unit Actors and Social Acceptance in the Transformation of the Energy System, Fraunhofer Institute for Systems and Innovation Research (Fh-ISI)	Social Acceptance for Hydrogen as an Option to Decarbonise the Energy Sector
<b>Dr. ONO Kyoko</b>	Senior Researcher, Research Institute of Science for Safety and Sustainability, National Institute of Advanced Industrial Science and Technology (AIST)	Quantification of public acceptance and identification of acceptance factors on hydrogen fueling stations in Japan
<b>Dr. François GIRARD</b>	Research Council Officer, Technical Leader Hydrogen and Fuel Cell Technologies, National Research Council Canada (NRC)	R&D for Safe Implementation of Canada's Hydrogen Strategy
<b>Dr. Laurent ANTONI</b>	Hydrogen Public Affairs Manager, Commissariat à l'énergie atomique et aux énergies alternatives, Laboratoire d'Innovation pour les Technologies des Energies Nouvelles (CEA-LITEN)	Harmonising standards, removing barriers

### 1 Oct. Theme 3 Next Generation Energy Management System

Mass introduction of renewable energy is required to achieve carbon neutrality. However, there is a trade-off between increasing the introduction of Variable Renewable Energy (VRE) and stabilization of power systems, and a new Energy Management System (EMS) is needed. This session will focus on EMS, with lectures on related topics such as simulation studies, power electronics, EMS for zero-emission, and regional efforts. Finally, a discussion will be held concerning future issues pertaining to EMS, and the role international collaboration should play.

Speaker	Job Title, Affiliation	Presentation Title
<b>Mr. Stefan P.M. CHANTREL</b>	Research Fellow, Department Smart Grid ICT, Fraunhofer Institute for Solar Energy Systems (Fh-ISE)	Variable Renewable Energy in Germany and Energy Management
<b>Dr. YAMAGUCHI Hiroshi</b>	Director, Advanced Power Electronics Research Center AIST	Role of Power Electronics in Energy Management System
<b>Dr. John WARD</b>	Research Director of the Energy Systems Research Program, Commonwealth Scientific and Industrial Research Organisation (CSIRO)	Getting to 100% - reliable operation of the Australian electricity grid with high variable renewable energy
<b>Dr. Cherif ASSAF</b>	Programme Director, Multi Energy Systems and Grids, Energy Research Institute, Nanyang Technological University (NTU)	Distributed Energy Resource Management Systems for the Next Generation Energy Grid

※ Sessions are held in English. Simultaneous interpretation service (English to Japanese) is available.

## Leaders Session Program

**8 October 2021, online**

Time (JST, UTC+9)		
14:00-14:10	<b>Opening remarks</b>	Minister and Vice Minister for International Affairs of Economy, Trade and Industry
14:10-14:22	<b>Opening address and scope of the 3rd RD20</b>	Mr. ISHIMURA Kazuhiko, AIIST President & CEO, RD20 Chair
14:22-14:35	<b>Reports of Taskforce and Technical Sessions</b>	Dr. OBARA Haruhiko, Executive Officer, AIIST
14:35-15:55	<b>Round table discussion</b>	
	Keynote speech	Prof. Reimund Neugebauer, President, Fh-G
	Report of Preparatory Leaders Meeting (PM)	Dr. Martin Keller, Director, National Renewable Energy Laboratory (NREL) PM Chair
	Presentation of Leaders Statement	Dr. Martin Keller, Director, National Renewable Energy Laboratory (NREL) PM Chair
	Comments	RD20 institutes' representatives
	Adoption of Leaders Statement	RD20 Chair
16:00-16:10	<b>Closing Remarks</b>	Mr. OIKAWA Hiroshi, President, NEDO

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**Details and updated information at : <https://rd20.aist.go.jp>**

Hosted by

National Institute of Advanced Industrial Science and Technology (AIIST)

Co-hosted by

Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Ministry of Economy, Trade and Industry (METI)

Ministry of the Environment (MOE)

New Energy and Industrial Technology Development Organization (NEDO)

**Tokyo Beyond Zero Week** (URL:to be updated)

Asia Green Growth Partnership Ministerial Meeting, 4 Oct. 2021

International Conference on Carbon Recycling, 4 Oct. 2021, <https://carbon-recycling2020.go.jp/>

Hydrogen Energy Ministerial Meeting, 4 Oct. 2021, <https://hem-2020.nedo.go.jp/>

LNG Producer-Consumer Conference, 5 Oct. 2021, <https://www.lng-conference.org/>

TCFD Summit, 5 Oct. 2021, <https://tcf-summit.go.jp/index.html>

International Conference on Fuel Ammonia, 2021, 6 Oct. 2021

Innovation for Cool Earth Forum (ICEF) , 6-7 Oct. 2021 <https://www.icef-forum.org/jp/>

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