

To all members of the press

Ministry of Economy, Trade and Industry
New Energy and Industrial Technology Development Organisation

The international conference to discuss innovation, the key to solving global warming with experts from industry, academia, and government from the world

Announcement for “Innovation for Cool Earth Forum 9th Annual Meeting (ICEF2022)”

Date and Time: 8:30~18:35, Wednesday, October 5 / 9:00~17:00, Thursday, October 6
Venue: Hotel Chinzanso Tokyo, Online

Ministry of Economy, Trade and Industry (METI) and New Energy and Industrial Technology Development Organisation (NEDO) invite participants on hosting the international conference “Innovation for Cool Earth Forum 9th Annual Meeting (ICEF2022)” which brings experts of industry, academia and governments from the world together to discuss and promote “innovation” as the key to solving global warming, at Hotel Chinzanso Tokyo and On-line.



[Photo of the event held in 2021]

ICEF is an international conference for discussing among industry-academia-government leaders around the world to promote “INNOVATION”, the key to solving global warming. The conference will feature discussions among private sector, academic, and government officials with expertise, who will present and share their latest knowledge of social and technological innovation.

ICEF2022 will be held under the theme of "Low-Carbon Innovation in a Time of Crises," with speakers including TANAKA Nobuo, Chair of ICEF Steering Committee and Former Executive Director of International Energy Agency (IEA), Ahmad O. Al-Khowaiter, CTO (Chief Technology Officer) of Saudi Aramco, and other leading experts from various fields, as we need to move forward to a brighter future even in a time of crises. In addition, young researchers

of the front line will join the session to share the latest knowledge on climate change countermeasures and discuss about the innovation which is the key to solving global warming, including “CDR (Carbon Dioxide Removal technology)” mentioned at the G7 Climate, Energy, and Environment Ministerial Meeting, “critical metals and minerals” contributing to carbon neutrality which will be featured in ICEF for the first time, and discussions on decarbonization from a political perspective.

[About ICEF2022]

- Innovation for Cool Earth Forum 9th Annual Meeting (ICEF2022)
 - Host: Ministry of Economy, Trade and Industry/ New Energy and Industrial Technology Development Organisation
 - Co-hosts: Ministry of Foreign Affairs/ Ministry of Education, Culture, Sports, Science and Technology/ Ministry of Agriculture, Forestry and Fisheries/ Ministry of the Environment
 - Sponsors: International Energy Agency/ United Nations Industrial Development Organization
 - Dates: 8:30~18:35, Wednesday, October 5/ 9:00~17:00, Thursday, October 6 (JST)
 - Venue: Hotel Chinzanso Tokyo (Address: 2-10-8 Sekiguchi, Bunkyo-ku Tokyo) and On-line
- *Please check official website for more detail

https://www.icef.go.jp/?utm_source=media&utm_medium=cjfp&utm_campaign=tp

[Registration]

- Fee: Free of charge
- Registration: Pre-registration. Please register from https://www.icef.go.jp/register/?utm_source=media&utm_medium=cjfp&utm_campaign=rp
- Registration Deadline: (On-site Participation) 5:00 pm on Tuesday, September 27, 2022 (JST, UTC+9:00)
(On-line Participation) 6:00 pm on Thursday, October 6, 2022 (JST, UTC+9:00)

[Key points of ICEF2022]

New features

- New session on critical metals and minerals which contribute to carbon neutrality.
- The roadmap for “Low-carbon Ammonia” which is the practicable and short-term effective technology, and “Blue carbon” which has the long-term importance, will be made. A comprehensive roadmap along with the past nine roadmaps “ICEF Innovation Roadmap Booklet” will be distributed.
- “Business Pavilion” introducing Innovation cases for solving climate change is newly organised.

Sharing of latest knowledge

- Ahmad O. Al-Khowaiter, CTO of Saudi Aramco will be presenting on stage.
- Young speakers from the front line from London School of Economics and Political Science (LSE), International Institute for Applied Systems Analysis (IIASA), etc. will be presenting. Conversation between ICEF steering committees and Youth experts will be held.

The mission of ICEF is to bring the opportunity to share the knowledge with leading experts from around the world, promote discussion and cooperation among participants, and disseminate innovation in energy/environmental technology to a wider audience than just the participants. Also, ICEF promotes gender equality and youth engagement based on our awareness that diversification is the origin of innovation.

Participants will have a valuable opportunity to interact with leading experts in respective fields and be exposed to the forefront of technological innovation in Japan and around the world.

[Program Overview]

Wednesday, October 5

9:30-10:15 Opening Session/Keynote 1

10:25-11:40 Plenary Session 1

Policy Innovation

In order to achieve carbon neutrality by the mid-21st century, accelerating actions by 2030 is strongly required. Due to the current state of global affairs and rapid shift to renewable energy resulting in high energy price, energy security in each nation is at risk of being jeopardized. While some nations have accelerated renewable energy use because of the high energy price, other nations with heavy reliance on fossil fuels will have to take necessary actions to balance its energy security and further decarbonization.

In this session, policy innovation surrounding broad issues such as global affairs and international energy trade will be discussed.

- Moderator:
 - TANAKA Nobuo
Chair, Innovation for Cool Earth Forum (ICEF) Steering Committee;
Former Executive Director, International, Energy Agency (IEA)
 - Adnan Z. Amin
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Director General Emeritus IRENA;
Senior Adviser to COP 28 President

13:50-15:00 Technology Session 1

Demand-driven Energy Transformation

This session discusses energy transformation of the demand-side by encouraging behavioral changes in energy consumers. The demand-driven energy transformation primarily involves energy efficiency improvement and renewable energy expansion. The discussion focuses specifically on technologies and policy frameworks to assist behavioral change in enhancing energy efficiency and utilizing renewable energy, and social innovation to help the energy demand to be controlled. The session also touches on how the energy consumers could affect the supply-side business. The panelists will share information and knowledge on technologies, innovations, and policies to nudge the consumers toward energy transformation.

- Moderator:
 - KURODA Reiko
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Designated Professor, Frontier Research Institute, Chubu University;
Professor Emeritus, The University of Tokyo
 - YAMAJI Kenji
Innovation for Cool Earth Forum (ICEF) Steering Committee;
President, Research Institute of Innovative Technology for the Earth (RITE);
Professor Emeritus, The University of Tokyo

15:15-16:15 Technology Session 2

Actions Needed for Realizing Carbon Neutrality in Heat and Transport Sectors with Hydrogen and E-fuel/E-methane

In hard-to-abate sectors, expectations for hydrogen and synthetic fuels (e-fuel and e-methane) have been growing. For instance, synthetic fuels made from CO₂ and hydrogen are expected to play an important role in various sectors such as transport, industry, and household. In particular, electrification on its own will not be enough for decarbonizing the transport sector.

The uptake of hydrogen and synthetic fuels remains limited and faces challenges, and especially so in the transport sector, where it has the highest dependency on fossil fuels than any other sectors.

This session will discuss the latest trends and challenges of hydrogen and synthetic fuels, and what can be achieved by 2030 in order to realize carbon neutrality, mainly focusing on the viewpoint of the supply side to the transport, industry, and household sectors.

- Moderator:
 - Georg Erdmann
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Retired Professor for Energy Systems, Berlin University of Technology;
President of the Board, KSB Energie AG, Berlin
 - Vikram Singh Mehta
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Chairman, Center for Social and Economic Progress (CSEP) Research Foundation

16:30-17:45 Plenary Session 2

Energy Transition Leaving Nobody Behind

More than 100 countries have pledged their own Carbon Neutrality (CN), however there are different approaches in each country for realizing the goal. A holistic approach to tackle both the climate change issue and economic development is required to achieve CN on the global scale. We should also consider if rapid mitigation measures such as the sudden mass installation of renewable energy could accelerate the deterioration of energy security, raise unemployment for fossil fuel industry workers, and so on. The pathway to CN in each country is not the same for all countries, but each needs a local, comprehensive transition approach which incorporates an effective fossil fuel policy,

industry policy, and environmental policy. This session discusses the compatibility of economic development and carbon neutrality, and the balance between climate change policy and other policies to minimize adverse economic and social impacts. Possible specific actions until 2030 will be explored.

- Moderator:
 - Jon Moore
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Chief Executive Officer, BloombergNEF
 - Hoesung Lee
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Chair of the Intergovernmental Panel on Climate Change (IPCC);
Endowed Chair Professor, Graduate School of Energy and Environment, Korea University
 - Vikram Singh Mehta
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Chairman, Center for Social and Economic Progress (CSEP) Research Foundation

Thursday, October 6

9:00-9:20 Keynote 2

9:40-10:40 Technology Session 3

Carbon Dioxide Removable Technologies

Commitment to achieving carbon neutrality in 2050 has accelerated development and investment in economically and technically available carbon dioxide removal technologies that utilize engineering-based technology and natural resources, such as forests, soil, and ocean.

The latest IPCC AR6 WG3 report published in April 2022 mentioned that carbon removal technologies would become essential in achieving net negative carbon emissions.

However, to promote the deployment of carbon dioxide removal technologies, we need to develop methodologies for quantifying and certifying carbon removal from the atmosphere using such technologies and for ecological impact assessment.

In this session, we will discuss good governance for avoiding conflict with food production and the challenges and possible solutions related to MRV (Monitoring, Reporting, and Verification) of carbon removal using carbon dioxide removal technologies.

- Moderator:
 - David Sandalow
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Inaugural Fellow, Center on Global Energy Policy, Columbia University;
Co-Director, Energy and Environment Concentration, School of International and Public Affairs, Columbia University
 - Ismail Serageldin
Innovation for Cool Earth Forum (ICEF) Steering Committee;

Emeritus Librarian of Alexandria;
Founding Director of the Library of Alexandria

- Sally M. Benson
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Professor, Department of Energy Resources Engineering, School of Earth, Energy & Environmental Sciences, Stanford University;
Former Co-Director, Precourt Institute for Energy, Stanford University

11:00-12:00 Technology Session 4

Sustainable Nuclear Systems

The amount of greenhouse gas tentatively reduced by COVID19 turned to increase again. Giving such a situation, a lot of measures are required to realize carbon neutral in the world. Importance of energy security increased along with the changing international situation. In such a situation, discussion of the importance of nuclear energy increased again. On the other hand, sustainable conditions of radioactive waste such as sustainability requirements and design along with local communities are required for propelling nuclear energy.

In this session, we will summarize the research and development of nuclear energy and discuss sustainable nuclear system in the context of the timeframe aimed at carbon neutrality by 2050.

- Moderator:
 - Richard K. Lester
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Associate Provost, Massachusetts Institute of Technology
 - TANAKA Nobuo
Chair, Innovation for Cool Earth Forum (ICEF) Steering Committee;
Former Executive Director, International, Energy Agency (IEA)
 - Eija-Riitta Korhola
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Delegate of the Consultative Commission on Industrial Change;
Advisor in the EU Affairs

13:30-13:45 Keynote 3

14:00-15:15 Technology Session 5

How to Secure a Sustainable Value Chain in the Age of Resilience: Critical Metals and Minerals?

We have witnessed successes and innovations in diversifying suppliers, sourcing/resourcing alternative materials, realizing a circular economy and design and redesign with alternatives. Yet, at the same time, our commitment and plans to achieve net zero carbon emissions are being challenged by increasing geopolitical complexity and perplexities, intensified climate change, pollution and loss of nature, long-standing justice and equality questions, in particular around land use and land rights of indigenous communities. Therefore, more urgently than ever, we need to gather collective wisdom and partnerships not only across the supply chain but also beyond it to rethink, redesign

and reshape the value chain, and thus meet the challenges and demand of the marketplace and the clean energy and industrial revolution.

In light of the situation, this session will focus on innovations for securing a stable supply of critical metals and minerals in the context of achieving carbon neutrality, while considering the value chain from the production phase, impacts of international trends, alternative materials, and the circular economy.

- Moderator:
 - Changhua Wu
Innovation for Cool Earth Forum (ICEF) Steering Committee;
China Director, Office of Jeremy Rifkin;
Executive Director, Professional Association for China's Environment;
Chief Strategist, CN Innovation;
Vice Chair, Governing Council, Asia Pacific Water Forum
 - David Sandalow
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Inaugural Fellow, Center on Global Energy Policy, Columbia University;
Co-Director, Energy and Environment Concentration, School of International and Public Affairs, Columbia University
 - Valli Moosa
Innovation for Cool Earth Forum (ICEF) Steering Committee;
Head of the South African Presidential Climate Commission;
Former President of the International Union for Conservation of Nature and Natural Resources (IUCN) Chairman, Center for Social and Economic Progress (CSEP) Research Foundation

15:30-16:30 Summarising Session

16:30-17:00 Closing Session

[Side Events]

Wednesday, October 5

8:30-10:30 Moonshot R&D Program (NEDO Project-related Event) “CO₂ balance and outlook of the Moonshot DAC-U projects”

11:50-13:20 Roadmap Project 1 (Low-Carbon Ammonia)

13:30-14:15 Non-CO₂ GHG Reduction

14:30-16:30 The Co-hosted Event by UNIDO “Facilitative decade of action towards just industrial decarbonization responding to growing demands in developing/emerging countries”

Thursday, October 6

11:40-13:10 Roadmap Project 2 (Blue Carbon)

13:30-15:30 NEDO Green Innovation Fund Projects Symposium “A Challenge toward Global Supply Chain Carbon Neutrality”

[Special Events]

Wednesday, October 5

17:50-18:35 Conversation between ICEF steering committees and Youth experts

*Sessions and Events will be held during daytime in Japan with simultaneous online streaming and time staggered on-demand streaming.

*Program is subject to change.

*The information of speakers will be updated accordingly. Please check the latest information on the ICEF2022 official Website.

<https://www.icef.go.jp/program/>

[For inquiries from attendees]

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[For inquiries from media members]

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Please check the link below and register for press coverage.

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