ICEF 2019 Statement from the Steering Committee

October 10th, 2019

1. Preamble

The sixth annual meeting of the Innovation for Cool Earth Forum (ICEF 2019) was held in Tokyo on October 9 and 10, with more than 1,000 participants from government institutions, international organizations, industry, and academia, from approximately 70 countries and regions. The theme of this year's forum was "Bending down the emissions trajectory by Innovation and Green Finance."

Global CO2 emissions are increasing at about 2% per year, which is in line with the long-term historical trends since the beginning of the industrial revolution. We affirm our goal of achieving net-zero CO2 emissions, meaning that immediate peak and vigorous decline of CO2 emission is necessary. Since the gap between current trends and our goal is still getting worse, we have to re-emphasize the necessity of innovation in deployment as well as R&D, which are the key to narrow the gap. Additional policy measures such as fiscal incentives and new technologies that could reduce emissions at scale must be deployed on an urgent basis.

ICEF's mission is to facilitate discussion and encourage cooperation among participants with a view to promoting technological and social innovation in the field of energy and environment.

The following statement summarizes how the world will accelerate actions that should be taken with high priority.

2. Importance of ESG investing and a virtuous cycle of environment and growth

At the G20 Ministerial Meeting on Energy Transitions and Global Environment for Sustainable Growth held in June, ministers realize the importance of a virtuous cycle of environment and growth that is strongly supported by innovations, mobilization of finance including investment, and improvement of the business environment.

According to G20 Ministerial meeting's communiqué, the G20 Energy Ministers will step up existing international efforts to unlock the potential of hydrogen as a clean, reliable and secure source of energy including cooperation in research and development, evaluating hydrogen's technical and economic potential, cost reduction pathways and addressing the various challenges including regulations and standards.

Fundamental decarbonization of industrial activities is one of the major challenges to realize net-zero CO2 emissions. New approaches such as CCUS, hydrogen-based direct reduced iron, carbon recycling and zero-emission cement are inevitable.

While recognizing that public finance and gender lens investing plays an important role, we call upon all players to support efforts to mobilize private finance and increase transparency through more enhanced climate-related financial disclosure based on the TCFD's recommendation with effective communication between business and financial sectors, as well as to improve the market and investment environment.

During ICEF 2019, these topics were taken up in the three plenary sessions. In addition, twelve different approaches to accelerating innovation—six in the social context and six in the technological context—were chosen and discussed in depth in concurrent sessions. Conclusions are as follows:

3. Acceleration of activities toward realization of Social Innovation

- For promotion of larger scale deployment of carbon dioxide removal technologies, social understanding and awareness as well as the clarification of the magnitude of emission reduction are indispensable.
- Involvement of businesses as well as customers in accelerating technologies and innovation is of great importance. Enhancing the efficacy of climate communications could contribute widely.

- Electrification of the transport sector requires enhancement of electricity infrastructure, including massive expansion of EV charging systems.
- Scaling up renewable energy use and extensive introduction of Zero Energy Buildings could contribute to coping with growing energy demand and to easing environmental damages, such as air pollution resulting from rapid urbanization.
- Demand-side driven transformation has been happening; and digitalization utilizing AI and IT devices as core technology can contribute to the realization of a low energy demand scenario.
- Evaluation of benefits and impacts of plastics at each phase of use, such as value of plastics use for durable products and contribution to food preservation, is necessary to substantially protect the marine and land ecosystem, as well as could contribute to the development of alternatives for plastics.

4. Acceleration of activities toward the realization of Technology Innovation

< Innovations in deployment stage >

- Deployment of existing renewable technologies such as solar, wind and storage should be accelerated. Advancing grid technologies and acknowledging economic value of system stabilization can contribute to the efficient use of renewable energy. Microgrid technology utilizing renewable energy and network technologies can play an important role in improving grid resilience.
- Expanding the use of fuel cells, setting standards for element technologies, as well as the standardization and modularization of total systems are major concern.
- Wider application of digital technology on both the supply and demand side of electricity and heat such as remote control and unmanned operation, enables efficient use of distributed power sources.

< Innovations in R&D stage >

- Small modular and nuclear fusion reactors are currently under development by various actors, including venture businesses. Policy and R&D strategy from a longer-term perspective will effectively guide actors, especially venture businesses, in their endeavors.
- The rapid advancement of genome technologies shows huge potential in contributing to CO_2 emission reductions, but such technologies need to be treated carefully from an ethical perspective to avoid negative implications.
- In order to promote research and development in the field of CO2 utilization, comprehensive assessment of life-cycle CO_2 emission/absorption is recommended.

5. Strategies for bending down the emissions trajectory

Achieving and deploying innovation requires the engagement of all industrial sectors, academia, governmental institutes, financial institutions, and investors in promoting research, development, investment, and business creation. Although “Bending down the emissions trajectory” itself is difficult to realize at this immediate moment, the short-term target should be attained within a few years to pave the way towards the long-term goal of net-zero emissions. We call upon all players to join forces in further cooperation and collaboration, and to carry out with unprecedented urgency the “Three Key Actions” identified at ICEF 2018: 1) inspire investment in technology, products, and services for green growth; 2) involve industry and consumers in accelerating technologies and innovation for decarbonization; and 3) internationalize cooperative efforts for deploying innovation outcomes. In addition, we call for urgent policy support for accelerated emission reduction from carbon-intensive facilities.

ICEF 2019 Infographics