6 February 2017

IPCC Symposium 2017 in Tokyo
"Measures for tackling Global Warming -IPCC Activities and Perspectives in AR6 Cycle-" Summary

An IPCC Symposium titled "Measures for tackling Global Warming -IPCC Activities and Perspectives in AR6 Cycle-", organized by Ministry of Economy, Trade and Industry (METI, Japan) and co-organized by Research Institute of Innovative Technology for the Earth (RITE) was held in Tokyo, Japan on 26 January 2017. After a video letter from IPCC WGIII Co-Chair Dr. Jim Skea, IPCC WGIII Co-Chair Dr. Priyadarshi R. Shukla delivered a keynote lecture on current IPCC activities and perspectives in the Sixth Assessment (AR6) cycle. Two lectures were presented by Dr. Yoichi Kaya, Chairman, Japanese Liaison Committee for IPCC, and Mr. Taishi Sugiyama, Central Research Institute of Electric Power Industry, on the future role of IPCC and innovation, respectively. The latter half of the symposium was devoted to a panel discussion, where the above speakers and experts from academia and industry actively discussed their expectations for and issues regarding IPCC, as well as means to counter global warming.

http://www.rite.or.jp/en/news/events/2017/02/ipcc2016.html

Summary

■ Opening remarks :

***Jun Takashina**, Ministry of Economy, Trade and Industry*

He gave an opening remark as the organizer of the symposium. He stated Japan's intention to play a central role in negotiations regarding rule-making of the Paris Agreement in order to enhance transparency of emission reductions, and spoke of Japan's expectations for the IPCC as provider of scientific knowledge in this process. He also pointed out that the AR6 cycle is now in full progress, and expressed hope that this symposium would thus provide a valuable opportunity to discuss important topics regarding the AR6 cycle.

■ Video letter :

***Dr. Jim Skea**, Co-chair of IPCC WGIII*

He explained IPCC's busy schedule in response to expectations from UNFCCC and governments around the world. He indicated that a "solutions-focused" approach will be taken in the AR6 cycle. He concluded his message by mentioning that further details on

IPCC activities and perspectives would be presented by Dr. Priyadarshi R. Shukla, and by expressing his best wishes for the success of the symposium.

- Keynote lecture：Current IPCC Activities and Perspectives in AR6 Products

  ***Dr. Priyadarshi R. Shukla**, Co-chair of IPCC WGIII*

Activities planned during the ongoing Sixth Assessment Cycle (AR6) of the IPCC, products including special reports, especially 1.5 degree report, their status and perspectives were presented. In the AR6 cycle, IPCC will move toward a "solutions-focused" approach and WGIII will aim at 1) achieving a better synthesis between "whole system" perspectives derived from IAMs etc. and grounded, bottom-up insights for reducing emissions, 2) making greater use of social science disciplines especially for gaining insights into issues related to lifestyle, behaviour and consumption, 3) linking climate change mitigation better to other agreed policy goals nationally and internationally.

- Lecture 1：Future Role of IPCC

  ***Dr. Yoichi Kaya**, Chairman, Japanese Liaison Committee for IPCC / President, Research Institute of Innovative Technology for the Earth (RITE)*

IPCC and its products have been playing a key role in informing decision makers in governments to shape climate policies related to COP. In this context, the following important points are expected to be considered for the future of IPCC. The first point is to show a clear objection against the skepticism about global warming. Secondly, IPCC should deliver utmost efforts for reducing uncertainties of important parameters of climate change such as climate sensitivity, and deliver as clear information as possible on climate change, including results of feasibility evaluation of major response measures. These efforts will greatly increase values of information provided by IPCC, but these are not contradictory to the IPCC spirit of "policy relevant but not prescriptive"

- Lecture 2： Long-term Strategy and Innovation for Mitigation of Global Warming

  ***Taishi Sugiyama**, Senior Researcher, Socio-Economic Research Center, Central Research Institute of Electric Power Industry (CRIEPI)*

Drastic innovation is necessary to achieve RCP 2.6 Scenario. The condition with which innovative climate technologies emerge is analyzed. At the space and time scale of global warming, i.e., global scale and up to 2050 and 2100, adjacent possibility, i.e. the enough accumulation of preceding technologies to enable the desired technology, is identified as the key. This highlights the importance of the progress of general science

and technology in order to deliver innovative global warming technologies. Policy intervention to mitigate global warming has to be designed in the way that it does not hinder the progress of general science and technology.

- Panel Discussions : Expectations, issues regarding IPCC and how to tackle global warming

Moderator

Mitsutsune Yamaguchi, Special Advisor, Research Institute of Innovative Technology for the Earth (RITE)

Panelists

Dr. Priyadarshi R. Shukla, Co-chair of IPCC WGIII

Taishi Sugiyama, Senior Researcher, Socio-Economic Research Center, Central Research Institute of Electric Power Industry (CRIEPI)

Dr. Keigo Akimoto, Group Leader, Systems Analysis Group, Research Institute of Innovative Technology for the Earth（RITE）

Dr. Ayumi Onuma, Professor of Environmental Economics, Faculty of Economics, Keio University

Hiroyuki Tezuka, The Chairman of Working Group on International Environmental Strategy, KEIDANREN

Mayumi Matsumoto, Visiting Associate Professor, The Faculty of Arts and Science, Environment and Energy Department, University of Tokyo

Mitsutsune Yamaguchi, RITE pointed out five concerns on IPCC/AR5 that, he hopes to be described more in detail in AR6 and 1.5 degree special report. They are; 1) Uncertainties (especially on equilibrium climate sensitivity); 2) Evaluation of cost (must explain that assumption of global uniform carbon tax is, at least for coming decades, quite unrealistic and in that case cost would be several times higher than expected); 3) Political neutrality; 4) Trade-off with food security, biodiversity in relation to negative emissions. The descriptions of trade off are so few in comparison to co-benefit; 5) Make it clear that the purpose of responding climate change is to keep sustainable economic development. As to uncertainty issue, the moderator added that AR5, in calculating emission pathways to limit temperature increase to several levels, did not show what ECS was applied. This should be clearly described as was done in AR4. Also, effect of ECS to pathways and cost should be clearly mentioned so that policymakers understand the importance of ECS.

Priyadarshi R. Shukla, Co-chair of IPCC WGIII said IPCC intended to take a "solutions-focused" approach and incorporate more bottom-up insights from industries etc. He commented the following regarding concerns and expectations expressed in this symposium: 1) Regarding a response to the skepticism about global warming that Dr. Kaya presented, clearer descriptions may be necessary. 2) Science has not yet provided an answer on uncertainties in climate sensitivity, but deeper discussions on this issue would be useful. 3) Analysis of mitigation cost when assumptions of cost estimations (e.g. global uniform carbon tax) being not satisfied is also a useful suggestion; 4) Tradeoffs with SDGs would also be an important topic.

Taishi Sugiyama, CRIEPI explained that integrated assessment models have not dealt with innovations in details. He also mentioned that economic stagnation would undermine the innovation activities in general, including climate technology innovation. He also noted that innovation decreases the cost of technology and it would enable ambitious climate mitigation policy in the future.

Keigo Akimoto, RITE strengthened that integrating mitigation and adaptation strategies and impact analysis of adaptation on macroeconomics were important. He added that SSP scenario had been well-developed and would be available in AR6. As another required analysis, he mentioned synergy/tradeoff analysis with SDGs (Sustainable Development Goals) and risk management strategies under uncertainty (e.g.: Take mitigation policies with adaptations under an assumption of a medium climate sensitivity, but prepare geoengineering for the case that climate sensitivity is high and/or innovation wouldn't work well.). Finally, he hopes to consider the following points in AR6: 1) As simple papers that pass relatively easily through peer review tend to be cited in IPCC reports under a peer reviewed literature principle, opening some ways to take papers/literatures that analyze under more complex assumptions reflecting social/political restrictions in the real world is expected; 2) Detailed information written in full reports tends to fall out in the process to make a SPM. As this may lead to misleading, some improvements are necessary.

Ayumi Onuma, Keio University pointed out that afforestation and BECCS were expected to play important roles to achieve an ambitious goal like 1.5 degree but in these cases monoculture fast-grow plantations tended to be selected, which may lead to a remarkable loss of biodiversity in forest ecosystems. He also added concerns that living standard of poor people decreased through tradeoff with food production and/or price increase of fertilizer, and concluded that such tradeoff was necessary to be

analyzed in detail. Finally, he strengthened that differentiated credits along the purpose of sustainable developments would be effective.

Hiroyuki Tezuka, KEIDANREN pointed out that development of products such as Eco-Products played an important contribution to emission reduction in use phase as well as that through domestic business operations, and therefore, he strengthened that assessing the measures from the viewpoints of total lifecycle was necessary. In addition, he said, implicit carbon pricing schemes such as fuel taxes, FIT and energy saving standards should also be well analyzed and evaluated in the AR6 cycle in addition to explicit carbon pricing such as carbon tax and ETS which had been promoted. When taking carbon tax in reports, feasibility of global uniform carbon tax should be discussed. Discussions from Social science view would be necessary to solve how we should be coexistent with risks related to uncertainties in climate science. Finally, he hopes to examine emerging risks from border conflicts etc. rooted in large land-requirements of current possible mitigation options such as renewable energy or forest carbon uptake.

Mayumi Matsumoto, University of Tokyo surveyed innovation for a significant "efficiency improvement and low carbonization" in energy demand and supply sides, and showed latest information on an energy management with ICT including energy storages, especially on latest activities in the US. Regarding requests for IPCC, she mentioned that detailed information on what technologies would be promising and possible technology portfolios in 2030, 2040, and 2050 would be very welcomed.