

STRUCTURING A NEW CLIMATE REGIME TOWARD THE TWO DEGREE TARGET

Objectives

While the international community agreed on the long-term target of holding the increase in global average temperature below two degrees Celsius, achieving such a goal will be tough. This session discussed the future climate change regime with its aim of achieving the two degree target. In current negotiations on the post-2020 regime, the idea of nationally-determined commitments has received a great deal of attention. However, it is critical to establish a mechanism to link nationally-determined commitments and emission reductions required to achieve the two degree target. In addition, since developing countries need to be effectively involved in the post-2020 regime, not only mitigation but also adaptation policies, as well as technological and financial support should be taken into account. Furthermore, it is also critical to have synergy with other international regimes which have significant impact on greenhouse gas emissions.

List of Speakers

[Moderator]

Hironori Hamanaka, Chair of the Board of Directors, IGES

[Speakers]

Toshihiko Masui, Chief, Integrated Assessment Modeling Section, National Institute for Environmental Studies

Kentaro Tamura, Leader / Principal Policy Researcher, Climate and Energy Area, IGES

Takahiro Ueno, Researcher, Socio-economic Research Center, Central Research Institute of Electric Power Industry / Visiting Researcher, Graduate School of Public Policy, The University of Tokyo

Yasuko Kameyama, Head of Section, Center for Social and Environmental Systems Research, National Institute for Environmental Studies

Yukari Takamura, Professor, Graduate School of Environmental Studies, Nagoya University

Key Messages

- The latest scientific research indicates that to achieve the target of two degrees Celsius, GHG emissions should be reduced to half the current level of GHG emissions by 2050. Moreover, those emissions have to be reduced to the minus level by 2080.
- There are many topics and agenda items to be discussed in international negotiations on climate change. To structure an international climate regime towards the two degree target, issues identified in the work stream under ADP should be addressed in consideration of the pre-2020 actions and post-2020 regime.
- The results of the questionnaire showed that emissions reduction/limitation target setting is an indispensable component of the new agreement. However, the determination of targets is likely to be made in a bottom-up process.
- For coordination with other regimes, there will need to be more aggressive approaches and further legal and institutional coordination at the international level.



Summary of the Session

Dr. Masui focused his presentation on how we could limit the global average temperature increases below two degrees Celsius from the pre-industrial period. To keep below two degrees, it is very important to consider when and how to start the implementation activities. According to IPCC 4th Assessment Report, the temperature will increase by more than 3-4 degrees Celsius if the concentration of GHG level is over 445-490 ppm. To achieve the two degree target, he strongly insisted that GHG emissions should be reduced to half the current level of GHG emissions by 2050. Moreover, those emissions have to be reduced to the minus level by 2080. According to his analysis, Japan will have to reduce GHG emissions per capita from 10 ton-CO₂e/person to 2 ton-CO₂e/person if all countries have the same GHG emissions per capita in 2050. Finally Dr. Masui raised the issues of changes to the development pathway in the future when we limit the global temperature by cutting GHG emissions. He also mentioned some measures to be considered: 1) leap frog development from high GHG society; 2) ambition level to achieve the commitment; 3) green growth, green development, and 4) technology innovation (renewable energy and CCS).

Dr. Tamura's presentation was on the "Overview of Future Climate Regime Negotiations". He explained how the international climate regime has developed since the Bali Action Plan in 2007 at COP13 which set out five building blocks for the post-2012 climate regime. They were: Shared Vision, Mitigation, Adaptation, Technology, and Finance. To structure an international climate regime toward a two degree target, he pointed out that both pre-2020 actions and post-2020 regime are critical. To build momentum, pre-2020 actions should show tangible progress, and also should be operationalised, taking in account its implications for the post-2020 regime. Post-2020 regime should be designed by reflecting pre-2020 institutional development.

Mr. Ueno explained various approaches to set mitigation commitments or contributions, which have been discussed under the ADP. After reviewing the positions held by key negotiation groups on bottom-up (nationally determined) and top-down (internationally determined) approaches, he focused on the hybrid approach which has been proposed by various developed countries. Mr. Ueno explained the sequence of determining national targets; 1) how parties submit draft commitments; 2) international consultation and assessment of draft commitments; 3) national determination of commitments; 4) enhanced transparency for implementation, and 5) review of collective level efforts. He also raised the issue of post-2020 mitigation commitments and the difficulty in getting international agreement in the "G-zero" world.

Dr. Kameyama introduced the outcomes and implications of her research project "Possible Structure and Components of a Future Climate Regime: implications on debates on the long-term goal". The purpose of the research is to pursue what kind of future regime could be agreeable in 2015 under the ADP. For that purpose, Dr. Kameyama distributed a questionnaire on various mailing lists, eliciting 100 respondents: 64 from Annex I countries of UNFCCC and 34 from Non-Annex I countries. Many of the respondents were researchers and officials of international organisations. Based on the analysis of answers, she drew implications for achieving the two degree target. The long-term goal should be clearly indicated in the new agreement for a post 2020 regime. This is because emissions reduction/limitation target setting is an indispensable component of the new agreement. However determination of targets is likely to be made in a bottom-up process. In that case, a long-term goal is also indispensable to check the overall emissions gap at the global level, and to discuss how that gap could be closed. Additional measures should then be discussed: sectoral approaches such as bunker fuels and forestry, targeting types of GHGs such as HFCs, and the means to achieve more emissions reduction using finance and technology transfer.

Prof. Takamura argued the importance of enhancing collaboration between the UNFCCC and other international regimes to realise the mitigation potential and to fill the emissions gap. She focused on the discussion on hydrofluorocarbons (HFCs), which are not ozone depletion substances and have not been covered by the Montreal Protocol. HFCs, like greenhouse gases, fall within the UNFCCC and its protocol, but regulation of HFCs has been weak so far. For Annex I countries, HFCs are covered by the Kyoto target, but come under a basket approach. For non-Annex I countries, HFCs are covered by the UNFCCC, but relevant commitments are quite limited. She commented that the recent agreement between China and the United States to cooperate in eliminating HFCs was inspiring. She concluded that dealing with HFCs was not diverting from but adding to the implementation of the Cancun agreements and Kyoto target towards the 2 degree target, and called for more aggressive approaches and further legal and institutional coordination at the international level.

In the discussion section, there were two questions for Dr. Masui. One was about the rationale behind the two degree target, and the other is clarification of the term 'stabilisation of two degrees Celsius', since the term seems to be unclear. Dr. Masui answered that the two degree target was set in consideration of possible negative impacts of climate change. The term 'stabilisation' of a two degrees Celsius increase may be unclear, but due to the inertia in the climate system there is a risk of going beyond two degrees Celsius after achieving the target within a specific time period. Therefore, the term stabilisation is more appropriate.

One question was directed to Mr. Ueno regarding how the US would consider the indicators to measure the equity and comparability of self-determined commitments. Mr. Ueno responded that the US is not aiming to prohibit other countries from using it, but will allow other countries to use indicators if they wish.

Asked about the efficiency of negotiations among the top 20 GHG emitters, Dr. Tamura answered that because 20% of the countries emit 80% of the GHG, it would be more efficient and effective to have fewer countries discuss the issue, than trying to reach consensus among over 190 countries. On the other hand, small countries, LDCs, African groups, etc. have made significant contributions to progress and are more vulnerable to the climate change, so these countries should be included. The multilateral approach is important.

Asked about additional findings from the survey, Dr. Kameyama explained that the survey results indicated that the countries would be willing to set quantitative targets. The differentiation of countries may take place not with the number itself but with the conditions and the meaning of those targets, such as the inclusion of the use of overseas offset mechanisms, forest sink, or per GDP target.

Asked on the synergy among different regimes, Prof. Takamura outlined how each regime categorises Parties in a different way, and explained how each regime's financial mechanism works. She suggested that coordination rules among these regimes would be required to create synergy among them.

Prof. Hamanaka closed the session by summarising that further discussions should take place on how to strengthen the climate change regime by 2015 and beyond, how to coordinate with systems outside of the UNFCCC and how the governance structure should be developed.