

7. Basic Considerations on a Climate Regime Beyond 2012

This section summarizes basic considerations that should be reflected in a climate regime beyond 2012. It discusses matters from the institutional perspective, based on the “Approaches for Achieving the Ultimate Objective of the UNFCCC” described in Section 2.

7.1 Equity Issues

It is more realistic to ensure equity in a comprehensive way by structuring the overall future climate regime to consider various factors, such as fund for developing countries and special consideration to the circumstances of the countries with vulnerability, rather than by simply setting of emissions targets.

< Various Perspectives on Addressing Equity >

- As stated in Section 2.2 regarding the establishment of stabilization levels which are the ultimate objective of the UNFCCC, there is an issue of equity between countries that reduce emissions and those that will be affected by climate change. Also, there is an issue of equity between the generation that develops the policies and the generations that will be affected. In addition, developed countries account for the greater part of GHG gases that have been emitted historically, and even today the emissions per capita in developing countries is relatively low. These too are equity issues. Thus, equity is an essential concept when discussing a climate regime beyond 2012.
- A number of approaches to classify thinking about equity have been proposed. Thompson and Rayer (1998) and Rose et al. (1998) offer some noteworthy approaches to classify the equity principle in terms of allocating the burdens of addressing climate change. Their general categories are as follows (and these principles can be broken down into more detailed categories):
 - Equity based on allocation of global emissions
 - Equity based on the results of implementation of a climate regime
 - Equity in terms of the process to decide on allocation of global emissions
 - * Thompson M. and S. Rayner (1998) "Cultural discourses", in *Human Choice & Climate Change, The Societal Framework Vol.1*, S. Rayner, E. Malone eds. Battelle Press, Columbus OH, p.195-264
 - * Rose et al. (1998) Rose, A. B. Stevens, J. Edmonds and M. Wise (1998) "International Equity and Differentiation in Global Warming Policy", *Environment and Resources Economics*, 12, p.25-51

<Treatment of Equity Issues in the UNFCCC and Kyoto Protocol>

- Equity is clearly addressed as an essential concept in the UNFCCC. Equity was a topic of discussion during the drafting of the Kyoto Protocol as well, regarding the points shown below.
 - ① Emissions targets: Should there be just the uniformed rate of emissions reductions for developed countries, or should differentiated rates be applied?
 - ② Kyoto Mechanisms: Developing countries strongly opposed emissions trading, claiming that it was a system that would favor rich countries.
 - ③ Developing countries' issues: Developing countries asserted that new obligations for them should come only after developed countries had implemented measures to meet their own obligations. The United States, meanwhile, asserted that developing countries with high levels of emissions should have also emissions targets.
 - ④ The European Union asserted that implementation of the common policies and measures.
 - ⑤ Developing countries asserted that funding mechanisms should be established to assist them.
 - ⑥ Consideration should be given to countries that are likely to experience adverse effects (from implementation of adaptation and response measures). (Articles 4.8 and 4.9 of the UNFCCC.)
 - ⑦ Brazilian proposal that the reduction targets should be decided based on the historic responsibility for causing climate change (i.e., cumulative emissions).

- As a result of such discussions, the Kyoto Protocol addressed the equity issues in the following ways;
 - ① Emissions reduction obligations were applied only to Annex I Countries (developed countries), and no new obligations were applied to developing countries.
 - ② Annex I countries faced the differentiated reduction targets. Russia and other economies in transition within the Annex I countries were permitted to use years other than 1990 as the base year. Agreement was reached on various points that would enable each country to take the most efficient measures depending on its particular social, economic and natural characteristics. Examples include counting the total amount of carbon dioxide equivalent for six gases for counting reductions; counting the amount of CO₂ absorption by sinks; introducing a system allowing the European Union member countries to achieve emissions targets jointly; and introducing the Kyoto mechanisms, including emissions trading(ET) and joint implementation(JI) between Annex I countries, as well as the clean development mechanism (CDM) which controls emissions through cooperation between developed and developing countries.

- It can be recognized that no principle of equity has been applied across the border in any past negotiation process. By reflecting these past negotiations, it can be concluded that it is more practical and ensure equity in the overall future climate regime design by taking into account of various issues, such as funds for developing countries and special consideration to the circumstances of the countries with vulnerability, besides setting of the emissions target.
- In addition, there is discussion about equitable procedures. That is to say, how should equal opportunity be ensured for the parties to participate in the process until reaching agreements? There are a number of important points here. For example, how should equal access to information be ensured for all parties? How should the cost burden be shared relating to participation for developing country delegations to the COP meetings? How should final decisions be made relating to the conclusions of COP and other meetings (e.g., by consensus, or by majority vote)?

<Equity between Generations >

- Most proposals on the climate regime beyond 2012 consider equity within generations, but they seem to fail considering equity *between* generations.
- If the efforts of the current generation to reduce GHG are inadequate, future generations will be forced not only to make large reductions over a short period of time, but also to pay higher cost for adaptation to climate change.

<Equity in terms of the Impacts of Climate Change >

- The parties emitting GHG (i.e., the largest GHG emitters) and those affected are not necessarily the same. Also, geographically speaking, the impacts of climate change vary among the regions. Thus, equity in terms of the impacts of climate change is also an issue, in the sense that countries that experience severer damage will have to undertake more aggressive adaptation measures, regardless of the amount of their own GHG emissions. These situations make it clear that proper consideration on the adaptation issues is also important from the perspective of ensuring equity. In this regard, funds relate to adaptation are established.
- Since the adverse effects of climate change are caused by the GHG emissions, it is possible to

think one way of thinking that it is desirable that, from the perspective of equity, the countries or entities that emitted the GHG causing global warming should compensate for the damage in proportion to their contribution to global warming. At this moment, however, it is extremely difficult to prove a cause-effect relationship between the damage and climate change, and the conditions to include such an approach in the actual rule setting have not been established yet. Nonetheless, if it becomes possible to identify the cause-effect or establish the legal principle that admits the existence of such cause-effect relationship, there may be a possibility to apply such ideas into practice.

<Addressing Equity Issues in the Next Regime>

- An examination of proposals to date from governmental bodies, research institutes, NGOs, and others reveals that many of them express the view that the world should aim for uniformed amount of per-capita emissions (allowing for minor adjustments to reflect local climate conditions, etc.) in the medium to long term (e.g., by 2050), in order to put the principle of equity into practice. Many different opinions have been expressed their support on the idea of the differentiation of reduction targets depending on per capita income.
- However, as explained in details in Chapter 8 “Climate Change Regime Beyond 2012,” a wide range of perspectives may exist regarding the short-term commitments. Thus, in the next climate regime it is necessary to deal with the issue of equity by reflecting the diverse circumstances of each country. It is essential to decide on the final form of the future regime in combining various types of equity and other criteria such as efficiency.
- It may also be worthwhile considering other aspects of ensuring equity than simply dividing the world the two categories of developed and developing countries. These criteria, for example, might include total national emissions, per capita emissions, and per capita GDP. However, it is important to note that there are several issues to be considered such as, international comparisons of the GDP are strongly affected by currency exchange rates, and the per-capita indicators are also strongly affected by the level of energy consumption that vary depending on the cultural and climatic conditions among regions.

<Other Points Regarding Equity>

- Equity and environmental integrity (i.e., reducing GHG emissions) are not necessarily positively

correlated. That is to say, obligations solely considered the need to ensure equity may fail to produce the largest possible emissions reductions. For example, on one hand, there is climate regime that many countries recognize as equitable even though the expected amount of the national aggregated emissions reductions are relatively small. On the other hand, there is another regime that can achieve larger emissions reduction although not so many countries are willing to participate. Although many countries are likely to evaluate the former system as equitable, it is still probable that the latter system will be more effective in reducing total GHG emissions around the world,

7.2 Risk Management

- To promote risk management, a hedging strategy and an attitude that supports precautionary measures are needed.
- To judge the tolerable level of risk for society, decision-making is needed to be done through multi-stakeholder participation. It is also important to review that judgment to reflect accumulated scientific knowledge.

<The Need for Large Emissions Reductions at the Earliest Possible Time, Based on Solid Scientific Knowledge>

- When it comes to scientific knowledge on climate change, the IPCC has produced some robust predictions on the issue. It found that by reproducing temperature changes in the twentieth century using climate model simulations, the climate change observed in the past few decades cannot be explained without accounting for the effects of increased GHG emissions; and that rising atmospheric GHG concentrations will cause a range of temperature increases that could cause significant or irreversible adverse effects.
- The climate system contains many forms of inertia. For example, even if the atmospheric GHG concentrations stabilize at a certain level, it could still take several decades to several centuries to stabilize the climate. Even if the GHG emissions were reduced now, it would take decades for the effects to appear. Considering this kind of a lag, it is crucial to take actions at the earliest possible date, while taking the best possible scientific predictions into consideration at each point of time.

- Global warming is in fact already underway, and it is impossible to stop further warming. The task for humanity is to halt the warming at a level that will not cause irreversible damage, and to adapt to those impacts of warming that cannot be avoided. In order to do this, it is essential to strengthen actions towards large reductions in emissions at the earliest possible time.

<Precautionary Measures as a Form of Risk Management >

- Meanwhile, there is a still certain amount of scientific uncertainty in predictions. When discussing climate change and the risk of its adverse impacts, therefore, as stated in Section 2.3, it is necessary to promote environmental risk management with the understanding that uncertainty does exist in responding to the questions, such as : If GHG increase in the future?: what degree of climate change is likely to occur and with what probability? : and what kinds of impacts will occur?
- There is a growing international agreements that precautionary approaches are needed, facing the threat of serious or irreversible damage. This kind of approach is reflected in the UNFCCC stating, "Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such [precautionary] measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost" (Article 3.3).
- Precautionary action requires to be considered based on various conditions. For example, it should be based, as much as possible, on adequate scientific evaluation and risk assessment; the question of what measures are to be taken should be based on judgment on the acceptable level of the risk to setting; it is important for this judgment to be made in as transparent a manner as possible; decision making requires the participation of the stakeholders who are impacted by or have interests in the problems; and this judgment should be reviewed to reflect the body of scientific knowledge.
- The situation where uncertainty remains in predictions implies that a hedging strategy should be used in establishing a future climate regime. This means that the targets and timing of responses should be set by understanding the possible worst-case scenario and making the level of risk acceptable to society even in the worst case, rather than using the scenario with the smallest predicted impacts. Such a hedging strategy is particularly important for the issue of global warming because the worst-case scenario takes the potential for irreversible changes from which recovery is impossible into account.

- Moreover, even if a target of 550 ppm were set for the stabilization level of atmospheric GHG concentrations, it is conceivable that the body of scientific knowledge may later indicate that 450 ppm is actually the level needed to prevent dangerous anthropogenic interference with the climate system. Therefore, even if the stabilization target were set at 550 ppm, it would be important to select emissions paths with a certain amount of flexibility, so that technologies, institutions and society are not constrained by such specific concentration levels in future.

7.3 Climate Regime Beyond 2012 for Low Carbon Emitting Economy

In order to stabilize GHG concentrations, developed countries must continue making emissions reductions, and developing countries must slow their emissions growth as soon as possible, and reduce emissions thereafter.

Considering these and other factors, while keeping in mind the long term targets (the ultimate objective of the UNFCCC), future framework should take the following points into account:

1. It is essential to realize the participation of the United States.
2. Future developments in the European Union will attract special attention as it moves forward with various initiatives that go beyond the Kyoto Protocol.
3. Regarding developing countries, it is important to start by encouraging mitigation efforts through the CDM, and in the future climate regime, taking the principle of “common but differentiated responsibilities” into account, it will be important to establish a framework that ensures concrete mitigation efforts from the developing countries whose level of GHG emissions exceeds that of many developed countries, and is expected to increase rapidly in future, such as China and India.

The challenge to create a low carbon emitting economy should be regarded as an opportunity to create a mutually beneficial cycle between the environment and the economy that will contribute to sustainable development.

<The Emission Reduction Needs in Developed and Developing Countries >

- Regarding stabilization of the atmospheric GHG concentrations, various levels are possible, but whatever level is chosen as a target, in order to stabilize the atmospheric GHG concentrations,

developed countries must continue reducing their emissions, and developing countries must slow their emissions growth as soon as possible, and reduce emissions thereafter.

- Since the economic growth and increasing trend of the energy consumption are expected, it is crucial to realize the GHG emissions reductions without sacrificing the economic growth. In other words, it is essential to decouple the economic growth from rising CO₂ emissions. By considering other essential issues, including the principle of “common but differentiated responsibilities” and the precautionary measures as well, the future climate regime attain the following while reflecting their “respective capabilities” based on the concept of “common but differentiated responsibilities”:
 - * Certain achievement of adequate emissions reductions by developed countries, including the United States, and;
 - * Concrete mitigation efforts by developing countries, particularly those whose level of the GHG emissions is greater than that of many developed countries and is expected to grow rapidly in future.

In accomplishing this, regarding mitigation and other actions on GHG emissions, it would be good to consider various response strategies, depending on the circumstances and capabilities of each country. This approach also implies that the developed countries participating in the Kyoto regime need to strengthen their commitments in tackling climate change.

<The Importance of U.S. Participation>

- President Bush was re-elected in the US Presidential Election in the November 2004, and the Republican Party came to dominate both houses of Congress. Therefore, it is very likely that the United States will maintain its policies on climate change issues. However, it is obvious that the participation of the United States in any international framework is essential when considering various policy dimensions such as the effectiveness of the international responses to climate change, leadership role of the developed countries in responses under the principles of the UNFCCC; and application of the principle of equity in any international efforts
- To encourage the United States to participate in the international efforts on tackling climate change, it is important for Japan and the European Union to present the world that they are steadily moving forward with GHG policies to achieve the Kyoto target, and that these efforts will benefit the world both the environmentally and the economically..

<The Significance of Developments in the European Union>

- The European Union has been introducing a number of policies and measures to meet its targets under the Kyoto Protocol, and moving forward with various initiatives concerning the post-Kyoto framework at the same time. This was reaffirmed at the meeting of the Council of the European Union in October 2004 that “it is expected for the meeting of the Council of European Union in 2005 to consider the strategies for GHG emission reductions both in the medium and the long term that would contribute to attain the ultimate goal under the UNFCCC.” Since the EU will be like to make suggestions based on their considerations at international arena, it is important for Japan to pay careful attention to the efforts of the European Union.

<Developing Countries and the CDM>

- Although developing countries are not obliged under the Kyoto Protocol to make GHG emissions reductions under the Kyoto Protocol, they are expected to play important roles in the CDM. Therefore, it is crucial to encourage developing countries to promote mitigation efforts in their countries through forming and implementing CDM projects.

<The Role of Developing Countries based on the Principle of “Common but Differentiated Responsibilities”>

- Regarding developing countries, it is important to start by encouraging mitigation efforts through the CDM, and in the future climate regime, taking the principle of “common but differentiated responsibilities” into account, it will be important to establish a framework that ensures concrete mitigation efforts from the developing countries whose level of GHG emissions exceeds that of many developed countries, and is expected to increase rapidly in the future, such as China and India.
- While developing countries often have a common position in many international negotiations, there are wide range of differences regarding their actual socio-economic circumstances and perspectives. For example, the conditions of large countries such as India and

China are different from those of relatively developed economies such as Korea and Mexico, OPEC countries, least developed countries, and small island states. Moreover, regardless of what criteria and specific levels are chosen—whether they be total national GHG emissions, GDP, per capita GDP, or per capita emissions, it is not very likely to see the situations where none of the countries that are currently categorized as developing countries attain a specific level and only developed countries exceed such a level. Thus, in the next regime, there will be a possibility to seek for the need and approaches that do not necessarily identify developing countries as one simple category.

- Also, the greatest concern of developing countries in relation to the climate change policies is about adverse impacts on their economic development. Thus, it must be important to explain as concretely as possible that global warming measures and the economic development can complement each other.
- Equipment investments in the energy infrastructure in developing countries will have a great important on the amounts of their future GHG emissions. Therefore, in order to make these investments contribute both to reduce GHG emission and create other benefits such as the pollution control, it is necessary to make efforts with long-term and strategic perspectives through .through the systems for international cooperation such as, official development assistance (ODA).
- To promote effective climate change policies, the climate regime beyond 2012 will need to comprise of the system that ensures concrete mitigation efforts in key GHG-emitting countries whose level of the GHG emissions are already higher than many developed countries and is expected to grow rapidly in future, such as China and India.

<The Challenge to Become a Low Carbon Emitting Economy >

- The shared term of “sustainable development” at the Rio Summit and Johannesburg Summit is interpreted as a development that meets the present needs without compromising the ability of future generations to meet their own needs. The challenge to create a low carbon emitting economy should be regarded as an opportunity to create a mutually beneficial cycle between the environment and the economy that will contribute to sustainable development.

- Through that challenge, it is possible to decouple GHG emissions from economic growth. For Japan, the progress towards more climate-friendly society is also connected to energy security, and stronger international competitiveness through development of new technologies.

7.4 The Role of Governments and Agreements Among Them

Multilateral negotiations under the United Nations framework offer many advantages in addressing climate change issues now and the future. Thus, it is important to support establishment of the international framework with the UNFCCC as the core. It is also important that countries (i.e., national governments), which bear the responsibility for national commitments, play a central role in creating this framework.

At the same time, a relevant framework with multi-stakeholder participation that complement multilateral discussions under the United Nations framework will surely enhance the effectiveness of the agreements among countries.

<Decision-Making at the International, National, and Sub-National Levels>

- Decisions to address international issues could be described at three levels: international, national (i.e., national governments), and sub-national (i.e., private sector and local governments). What should be decided at which level depends on the nature of the decision.
- For the climate change issue, it is necessary to make decisions at all levels. Discussions at the international level are necessary because all countries emit GHG and the impacts of the climate change affect all countries of the world. The governments (national level) then become responsible for making decisions on the matters decided at the international level in order to implement the necessary domestic measures, as GHG emissions are associated with activities in all sectors, including domestic industry, transportation and households. Moreover, domestic entities such as corporations, individuals, and local governments are the actors that actually limit the GHG emissions. Thus, it is necessary to have discussions at the sub-national level about the most efficient methods for them.
- In recent years, the structure of international politics has become more complex. However, there has been no change in the fact that national governments are the most important actors in

decision-making. Sub-national actors (corporations, environmental groups, researchers, etc.) have increasingly built direct links with various actors domestically and internationally (i.e., becoming trans-national actors) without going through governments. However, this trend does not necessarily diminish the roles of governments, rather, actually increases the effectiveness of agreements among governments all the more.

< Climate Change Negotiations Under the UN Framework are Essential >

- The UNFCCC, as a multilateral agreement under the auspices of the United Nations, has the following advantages:
 - ① Understanding climate change issue: Since GHG emissions reductions and climate change adaptation measures are relevant for the activities of all countries, the development of the climate regime requires the involvement of all countries for the efforts to understand the problem through the measures like, data collection on GHG emissions, monitoring of temperature increases, rainfall, and extreme weather events, emissions trading measures and other matters.
 - ② Utilization of existing United Nations Framework: Since institutional arrangements, such as for the procedural rules and scope of work of secretariats, already exist, it would be efficient to use existing institutions. Climate change problem is also related to other global environmental problems, such as biodiversity and desertification, and synergies among them are likely to emerge when working under the UN system, which allows the mutual arrangements among other international frameworks working on similar issues. The same could be said regarding the funding mechanisms.
 - ③ Dignity of multilateral agreement: Regardless of whether or not they are within the United Nations framework, the agreements in which many countries have participated are more likely to be accepted by countries than those in which only a few countries have participated. This leads to greater stability, potential for future development, and continuity of the policy framework.
 - ④ Legitimacy of procedure: The participation of all parties is essential to ensure equity, and to make decisions on the issues dealing with uncertainties. It can be said that agreement reached through legitimate procedures is the only genuine agreement.
 - ⑤ Maximization of the diplomatic powers by using the United Nations: For Japan, its diplomatic power could generate positive outcomes more efficiently through negotiations under the United Nations framework than bilateral negotiations. In particular, Japan can contribute positively and actively in addressing global environmental issues with its response

technologies and human and financial resources.

- Multilateral negotiations under the United Nations framework offer many advantages in addressing climate change issues now and the future. Thus, it is important to support establishment of the international framework with the UNFCCC as the core. It is also important that countries (i.e., national governments), which bear the responsibility for national emissions reductions commitments, play a central role in creating this framework. At the same time, multi-stakeholder participation in the process will surely enhance the effectiveness of agreements among countries by complementing multilateral discussions under the United Nations framework.

<The Usefulness of Other Frameworks to Complement Climate Change Negotiations Under the UN>

- Meanwhile, various challenges arise in multilateral discussions under the United Nations framework in which more than 180 countries participate, such as:
 - ① Negotiation process is likely to be very complex since it is necessary to take many different opinions into account
 - ② While dealing with various views, multilateral negotiation is likely to result in the form of compromises, which may miss the ideal targets.
 - ③ Other issues, such as poverty alleviation, will be brought into the negotiations focusing on climate change issues.
 - ④ It takes enormous time to reach an agreement.
- Taking into account these perspectives, the effectiveness of agreements among countries could be enhanced by complementing multilateral discussions under the United Nations framework in other ways. Some of the suggestions are as follows:
 - Discussions among the selected countries (bilateral, several countries, regional, etc.)
 - Discussions on specific topics (technology, emissions trading, etc.)
 - Discussions with the participation of various domestic actors (e.g., exchanges of opinion with members of same industry in different countries, exchanges of opinion with environmental groups and researchers, etc.)