Ministry of the Environment
Japan

Climate Regime Beyond 2012

Key Perspectives

Interim Report

December 2004

Sub- Committee for
International Climate Change Strategy
Global Environmental Committee
Central Environmental Council

Climate Regime Beyond 2012
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The Central Environmental Council is advisory body for the Minister of the Environment (MoE). The Minister asks the council for advice on the basic direction of environmental policy regarding various important issues.

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Purpose and the Scope of Discussions at Sub-Committee for International Climate Change Strategies

<Interim Report of the Global Environment Committee of Japan's Central Environment Council on International Climate Regime Beyond 2012>

○ In January 2004, the Global Environment Committee of Japan's Central Environment Council published an Interim Report, "Climate Regime Beyond 2012: Basic Considerations." In this paper, the Committee has spelled out the basic considerations that will guide the Government of Japan as negotiations are launched on the climate regime beyond 2012 (hereinafter referred to as "the next regime") that aims to build a common framework in which all countries of the world can join.

○ The Interim Report of the Committee spells out the following seven basic considerations in approaching the issue of the climate regime beyond 2012.

(1) Maintaining Progress towards Meeting the Ultimate Objective of the UNFCCC

With respect to the climate regime beyond 2012, it is vital to maintain progress in order to meet the ultimate objective of the UNFCCC, that is, to ensure the environmental integrity of the climate regime.

(2) Bringing the Kyoto Protocol into Effect and Fulfilling Commitment

The Kyoto Protocol has taken the first step towards achieving specific reductions of GHG emissions. In approaching the climate regime beyond 2012, Japan should first of all make efforts to bring the Protocol into effect and fulfill its commitment.

(3) Achieving Global Participation

Ensuring environmental integrity of the climate regime requires global participation. The climate regime beyond 2012 needs to be built so as to achieve the participation of all countries, including the USA and developing countries.

(4) Ensuring Equity Based on the Principle of Common but Differentiated Responsibilities

In accordance with the principle of "common but differentiated responsibilities" in Article 3.1 of the UNFCCC, equity needs to be ensured between developed and developing countries, among developed countries and among developing countries. Differentiated commitments need to be developed that accord with diverse national circumstances.

(5) Negotiations Building on Existing International Agreements

International negotiations on climate change resulted in the adoption and entry into force of the UNFCCC, and culminated in the adoption of the landmark Kyoto Protocol; negotiations have continued subsequent to the adoption of the Protocol. Through such invaluable efforts and agreements, a common ground is being built for countries to take measures to address climate change. Building on these international agreements that serve as the basis for negotiating the climate regime beyond 2012, further discussions are necessary on how to develop and improve the architecture of the Convention and the Protocol, bearing in mind such considerations as the need for maintaining progress towards meeting the ultimate objective of the UNFCCC and for achieving global participation.

(6) International Consensus-Building by National Governments with the Participation of Various Actors

National governments are held responsible for the international regime, and it is important that they achieve a consensus in the process of international negotiations, while disclosing relevant information and ensuring the participation of various actors, such as businesses and non-governmental organizations.

(7) Making the Environment and Economy Mutually Reinforcing

In order to sustain efforts over a long period of time, we need structural reforms of the economy that aim to build a mutually reinforcing relationship between the environment and economy. This relationship is like a 'virtuous circle,' in which each component enhances the other's quality, so that combating climate change contributes positively to economic development, and vice versa. Technology will play one of the most important roles in promoting such reforms.

<Establishment of the Sub-Committee and Its Approach>

○ In the process of compiling the Interim Report, the Global Environment Committee invited public comment. As a result, 50 comments were submitted from inside Japan and 12 from overseas, and many of these called for studies on specific details of the next regime. In order to collect and organize the materials needed to put the considerations in the Interim Report into more concrete terms, in January 2004 the Committee set up an sub-committee to consider Japan’s international climate change strategy.

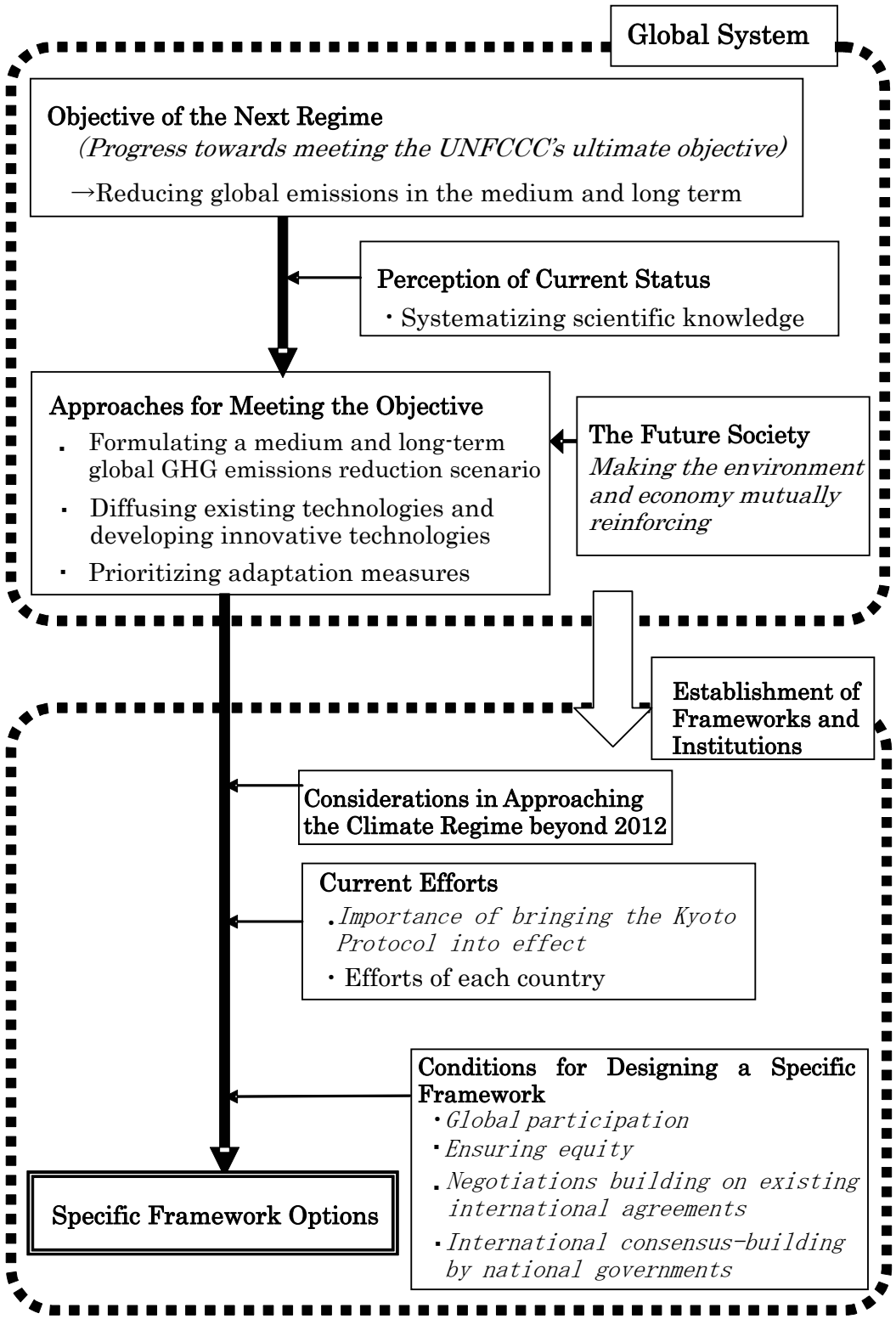
○ The sub-committee began its discussions in April 2004, roughly dividing the relevant issues into two categories (see Figure 0.1).The first category addresses what a global system should be like. Legally, the goal of coping with climate change is supposed to aim at achievement of the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC). Because this objective is qualitative in nature, the issue at hand is how to set specific goals for the world as a whole. Such goals need to be established on the basis of scientific knowledge about climate change and on international agreements that function as policy judgments. Next, it is necessary to clarify the basic concepts of measures designed to meet the ultimate objective of the UNFCCC. Based on an understanding of these concepts, discussions on what approaches should be adopted are then needed in order to give shape to what is meant by "maintaining progress towards meeting the ultimate objective of the UNFCCC," one of the basic considerations recommended by the January 2004 Interim Report. Such discussions would also include "making the environment and economy mutually reinforcing" as the basis for an approach for meeting the ultimate objective in the next regime.

The second category of issues addresses the establishment of the next regime, that is, how to establish a global framework to tackle climate change in the years beyond 2012 that can realize the creation of the global system discussed in the first category. In accordance with the other considerations identified in the Interim Report, the aim of these discussions would be based on the principle of “ensuring equity based on the principle of common but differentiated responsibilities”, and on “negotiations building on existing international agreements” through “international consensus-building by national governments with the participation of various actors”, as well as to evolve global participation in order to prevent further climate change.

Also, the Government of Japan is promoting efforts to bring the Kyoto Protocol into effect and fulfill its commitments, and Government Councils such as the Central Environment Council are now going through a process of discussion regarding the review and assessment of Japan’s Climate Change Policy Program.

○ This interim report was compiled to present the outcome of discussions in the Sub-Committee’s 7 meetings to date. At present, the Sub-Committee has not proceeded so far as to summarize all the concrete options found in the Framework, but will continue its deliberations while remaining cognizant of future international trends.

Figure 0.1 Outline of Discussions regarding the Next Framework



Terms in italics refer to basic considerations in the Interim Report, "Climate Change Beyond 2012 basic considerations"

Attachment 1

Members of the Sub-Committee for International Climate Change Strategy

	〈 N A M E 〉	〈 T I T L E〉
○	**Shuzo NISHIOKA**	Executive Director (Research) National Institute for Environmental Studies
	ASUKA-ZHANG Shouchuan (Jusen)	Professor, Center for Northeast Asian Studies Tohoku University
	Mikiko KAINUMA	Chief Integrated Assessment Modeling Section National Institute for Environmental Studies
	Yasuko KAMEYAMA	Senior Researcher Social and Environmental Systems Division National Institute for Environmental Studies
	Hiroki KUDO	Group Manager, Environment/Energy Conservation Group The Institute of Energy Economics, Japan
	Akimasa SUMI	Professor Center for Climate System Research University of Tokyo
	Kazuo TAKAHASHI	Professor, Division of International Studies International Christian University
	Yukari TAKAMURA	Associate Professor (International Law) Ryukoku University
	Hidenori NIIZAWA	Professor, School of Economics University of Hyogo
	Hideo HARASAWA	Deputy Director Social and Environmental Systems Division National Institute for Environmental Studies
	Ryuji MATSUHASHI	Professor, Institute of Environmental Studies Graduate School of Frontier Sciences University of Tokyo
	Nobuo MIMURA	Professor Center for Water Environment Studies Ibaraki University
	Yozo YOKOTA	Professor, Chuo Law School

○ Chairperson

Attachment 2

Schedule of Discussions (2004)

The 1st Meeting

Date: April 8th , Thursday

Time: 10:00-12:00

Place: Tojo Imperial Palace Hotel

Topics: 1. Establishment of the Sub-committee

2. Scientific Knowledge on Climate Change

3. Issues to be Discussed by the Sub-committee

The 2nd Meeting

Date: May 31st, Monday

Time: 13:00-16:30

Place: Ministry of the Environment

Topics: 1. Impacts of and Adaptation to Climate Change

2. Setting Medium to Long Term Targets

3. Presentation by Dr. Lester Brown

The 3rd Meeting

Date: July 2rdt, Friday

Time: 10:00-13:00

Place: Toranomon Pastoral Hotel

Topics: 1. Climate Change and Socio-Economic Development Scenarios

2. Climate Change and the Role of Technology

3. Summary of Discussions (1)

The 4th Meeting

Date: September 3rdt, Friday

Time: 10:00-13:00

Place: Ministry of the Environment

Topics: 1. Summary of Discussions (2)

2. View on Climate Regime Beyond 2012

3. Risk-management thoughts on setting Climate Regime Beyond 2012

4. Equity issues in Climate Regime Beyond 2012

5. Role of developing countries, Russia, and Central and Eastern

Europe in Climate Regime Beyond 2012

The5th Meeting

Date: October 5th, 2004 (Tuesday)

Time: 10:00-13:00

Place: Ministry of the Environment

Topics: 1. Overview of UNFCCC and Kyoto Protocol

2. Climate Change Policies of the United States

3. Climate Change Policies of the European Union

4. The Roles of Governments and Consensus Between Governments in International Society

5. Report on Informal Meeting on Further Actions against Climate Change

6. Report on 14th Asia-Pacific Seminar on Climate Change

The6th Meeting

Date: October 26th, 2004 (Tuesday)

Time: 13:00-16:00

Place: Mita Conference Hall

Topics: 1. Proposal for Commitment during Second Commitment Period

2. Adaptation to Climate Change

3. Outline of Draft Interim Report

The7th Meeting

Date: November 26th, 2004 (Friday)

Time: 10:00 -12:00

Place: Ministry of the Environment

Topic: Draft Interim Report

These discussions are planned to continue after this Interim Report.

(Summary)

1. The Goal of the Climate Change Measures

1.1 Meeting the Ultimate Objective of the UNFCCC

The goal for the international community in addressing climate change is to meet the UNFCCC's ultimate objective: "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."

1.2 Stabilization of GHG Concentrations

Atmospheric concentrations of greenhouse gases (GHG) become stable when GHG emissions in the atmosphere reach equilibrium with the capacity of sinks in marine and terrestrial ecosystems. However, atmospheric GHG concentrations continue to rise because GHG emissions are exceeding the capacity of sinks.

1.3 Stabilization Levels of GHG Concentrations

Various emission paths that lead to various stabilization levels of GHG concentrations can be described. It should be noted, however, that even after emissions have been reduced, CO_2 concentrations will not stabilize until 100 to 300 years later, and temperatures after several hundred years.

1.4 Impacts of Climate Change

- The IPCC Third Assessment Report concludes that most of the warming observed over the last 50 years is attributable to human activities.
- The impacts of climate change have already begun to appear around the world, including Japan. The IPCC Report shows that the risks associated with climate change will increase with higher temperatures and that if temperatures rise about two degrees Celsius over the next 100 years, the distribution of negative impacts will begin to extend to most regions of the world.
- The level of impacts will vary depending on the country or region. The risk of adverse effects will increase as the rate and scale of temperature changes increase.
- In recent years, extreme weather events are occurring frequently around the world. There is a concern that climate change could result in more frequent and more severe extreme weather events, with increasing damage.

2. Approaches for Achieving the Ultimate Objective of the UNFCCC

2.1 International Agreements on Stabilization Levels of GHG Concentrations

- In setting specific numerical targets to achieve the ultimate objective of the UNFCCC to avoid dangerous levels, the time lags between the stabilization of GHG concentrations, temperature increases, etc. and the occurrence of impacts should be fully taken into account.
- Even when progress is made in reducing emissions, some impacts are inevitable, especially on highly vulnerable natural ecosystems. For this reason, consideration should be given not only to emission reduction but also to the inevitable impacts of climate change.

2.2 Equity Issues to Consider in Examining the Establishment of a Stabilization Level

One characteristic of the climate change issue is that it involves two types of equity issues. One involves equity between GHG emitting countries and countries vulnerable to the adverse effects of climate change (mainly developing countries). For example, 84 percent of global emissions are attributable to 40 countries, while 71 countries that are highly vulnerable to impacts of climate change account for about one percent of global emissions. The other involves equity between present and future generations; GHG emissions from the current generation will affect human health and welfare in the future. In addition, it should be noted that per capita emissions in developing countries are still relatively low compared to those of the developed countries.

2.3 Environmental Risk Management on a Global Scale

- Global risk management is needed to address climate change.
- Although some scientific uncertainty still remains, there is little room for doubt that climate change is in progress and will proceed further, and that unless prompt, far-reaching and powerful measures to reduce emissions are taken, there is the danger that substantial adverse impacts will occur in future.

2.4 A Global System to Initiate an Emission Reduction Trend Needs to be Built Between 2020 and 2030

- Various CO_2 stabilization levels can be assumed, but in order to achieve a stabilization level of 550ppm, which is approximately twice what it was before the Industrial Revolution, global CO_2

emissions must enter a downward trend between 2020 and 2030.

- We should consider what kind of global system should be established over the next 10 to 20 years. The scientific background needed for the relevant decision-making is already available. Its application now depends on political decision-making. An awareness of this and an awareness of time constraints will be called for in designing the next framework.

2.5 Adaptation as Complementary Measures to Mitigation

- Mitigation measures –reducing GHG emissions and enhancing CO_2 sinks- are the fundamental measures for addressing climate change. At the same time, the inevitable impacts of climate change should also be taken into consideration. Thus, adaptation measures are required to moderate and prevent damage as a complement to mitigation measures.
- With respect to the cost of climate change related measures, the costs of adaptation and those of damage from climate change from insufficient adaptation should be taken into account as well as the costs of emission reduction measures.

3. Setting Targets in the Short, Medium, and Long Term
－Necessity of the Perspective Regarding the Timeframe－

In order to meet the ultimate objective of the UNFCCC, setting targets in the medium term (2030-2050) and long term (after 2100), in addition to short term (until around 2020), will promote effective global risk management.

4. Socio-Economic Development Scenarios and Climate Change Initiatives

- The future paths and volumes of GHG emissions will greatly differ depending on what kind of socio-economic development takes place. Thus, socio-economic development processes that internalize GHG emission regulation need to be sought as soon as possible.
- The kind of socio-economic development processes each country or region needs to follow should be considered as well, with reference also to the unique circumstances of each country or region.

5. The Role of Technology

5.1 Technology Needed to Create a Low Carbon Emitting Economy

In order to reduce greenhouse gas emissions, the ratio of carbon intensity in energy needs to be lowered more quickly than has been seen in historical precedent, so the development and broad-scale diffusion of technology in the field of low-carbon emission will be important.

5.2 Time and Pre-conditions Necessary for Technology Development & Diffusion

The development and diffusion of technology is concerned not only with single, self-contained technologies, rather, technology must be viewed in the context of the entire systems that support it. Also, in diffusing technology across international borders as opposed to within a single country, various types of difficulties arise at every level, resulting in the likelihood that global-scale diffusion may require several decades.

5.3 Approaches for Promoting Technology Development & Diffusion and the Role of Government

To promote technology development & diffusion, a balance is needed between demand-side technology, which is developed and diffused mainly through the establishment of goals and standards, and supply-side technology, which is promoted mainly through the provision of subsidies for research, development and diffusion. Government also has a major role to play in technology development and diffusion.

5.4 Strategy for Future Development & Diffusion of Technology on a Global Scale

In view of the inertia inherent in climate system, characteristics of energy systems and the time needed for the development & diffusion of technology, measures need to be taken as soon as possible in order to avoid the risks posed by global warming. Thus, while taking a long-range view in promoting the development of innovative technology that can potentially achieve substantial emission reductions, during the next few decades existing technologies need to be applied to the maximum extent possible.

6. Institutional Framework of the UNFCCC and Kyoto Protocol Regime

It is important and practical to build the future regime to address climate change upon the foundation of international agreement that has been achieved thus far. In this respect, the framework of the UNFCCC and the Kyoto Protocol offer a solid foundation on for the next regime.

7. Basic Considerations on a Climate Regime Beyond 2012

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.

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.

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.

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 establishing 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.

8. A Climate Regime Beyond 2012

8.1 Proposals Regarding Commitments

A variety of proposals have been made relating to commitments under the next climate regime, and it is important to scientifically analyze their advantages and disadvantages from a broad perspective. In regards to the targets, it is possible to set long-term, medium-term, and short-term targets. By setting these targets, it is expected that they will help countries achieve their concrete emissions reductions, the diffusions and development of technology in the medium-term, and achievement of the ultimate objective of the UNFCCC.

When deciding on commitments, it is important to have criteria in order to evaluate the proposals. There are a number of criteria for evaluation, and one of the major topics in future will be on how to conceptually organize the tradeoffs and prioritization of these criteria in order to assist the evaluation.

8.2 Adaptation: Key Points and Issues

A number of issues arise regarding adaptation to climate change. Some of these include the role of adaptation as complementary measures to mitigation; how to distinguish between the projects on adaptation to climate change and those on infrastructure management; and how to incorporate climate change adaptation into other policies and development plans.

9. Further Points to Consider in Realizing a Low Carbon Emitting Economy

9.1 Additional Viewpoints for Consideration

The issue of climate change is the problem that humans will unavoidably have to deal with over the next 100 or more years. Reducing GHG emissions is the most fundamental measure for dealing with climate change, but it is desirable to deal with climate change in a more forward-looking manner, and a more positive attitude adopted in seeking to create a low carbon emitting economy. Also, Japan is expected to take on this issue using a well-defined strategy.

9.2 Topics for Further Deliberation

The Sub-Committee for International Climate Change Strategy has identified the following as the points for future deliberation, while continuing to address the points elaborated above.

[Basic Elements for Future Regime]

- Methods for setting specific short, medium and long term targets
- Further analysis of the various international policy options to address climate change.
- Concrete methods for canceling the factors obstructing the development and diffusion of relevant technology
- Treatment of the Kyoto mechanisms, and identification of the possibilities for further development of these mechanisms
- Ways to deal with the carbon sinks
- Approaches to the financial mechanisms
- Prospects for systematically internalizing the linking of measures to the combat warming with the economy in a mutually beneficial cycle

[Concerns for Japan]

- Scenarios for realizing a low carbon emitting economy in Japan
- The impacts of various international policy options on Japan and the Japanese Strategies

[Cooperation with Various Stakeholders]

- Roles of local governments, industry, NGOs, etc.
- Possibilities for the cooperation both inside and outside (i.e., countries with reduction obligations and those without them; the parties and the non-parties)
- Prospects for roles of the regional cooperation and other informal processes, and the development of these prospects
- Coordination with official development assistance (ODA) and other forms of the international assistance
- Interlinkage with other major international concerns, such as international peace and security.

etc.

Glossary:

This is a list of terms and definitions that are employed throughout this Interim Report.

- **Mitigation**

  Methods to reduce the anthropogenic GHG emissions that cause climate change or enhance the amount of sinks. For example, options such as the control of the fossil fuels use, introduction of the energy-saving facility, forest management, carbon sequestration and storage are categorized as mitigation measures.

- **Adaptation**

  Methods to deal with the adverse impacts caused by climate change. As the examples of the adverse effects, it is possible to list the situations, including temperature rise, sea level rise, intense typhoon, drought, and extension of the malaria-affected areas.

- **Commitment**

  National responsibilities under the UNFCCC and the Kyoto Protocol. For example, under the Kyoto Protocol, developed countries face the obligations to reduce their GHG emissions.

- **COP (Conference of the Parties)**

  Conference of the Parties to United Nations Framework Convention on Climate Change. The process started in 1995 (COP1) and this year (2004), COP10 will be held. The equivalent conference for the Kyoto Protocol is called COP/MOP (Conference of the Parties serving as the meeting of the Parties).

- **IPCC (Intergovernmental Panel on Climate Change)**

  Organization established by United Nations Environment Programme (UNEP) and World Meteorological Organization (WMO) in 1998 as the international expert group that collects and analyzes scientific knowledge on climate change. There are 3 working group, assessing scientific aspects of the climate system and climate change (Working Group 1), vulnerability of socio-economic and natural systems to climate change, negative and positive consequences of climate change and options for adapting to it (Working Group 2) and options for limiting GHG emissions and otherwise mitigating climate change (Working Group 3). Other than these working groups, there is the Task Force on National GHG Inventories (TSU) that is responsible for the IPCC National GHG Inventories Programme. As of November 2004, IPCC has published 3 reports.

- **AIM (Asia-Pacific Integrated Model)**

  The Asian Pacific Integrated Model (AIM) is a large-scale computer simulation model developed by the National Institute for Environmental Studies in collaboration with Kyoto University and several research institutes in the Asian-Pacific region. The AIM assesses policy options for stabilizing the global climate, particularly in the Asian-Pacific region, with the objectives of reducing greenhouse gas emissions and avoiding the impacts of climate change.

- **AOSIS (Alliance of Small Island States)**

  AOSIS is a group of countries formed during the Second World Climate Conference in 1990 that includes 35 states from the Atlantic, Caribbean, Indian Ocean, Mediterranean and the Pacific. AOSIS countries are small islands and low-lying coastal developing countries that are particularly vulnerable to the effects of climate change, such as sea level rise, coral bleaching and the increased frequency and intensity of tropical storms. These countries share a common objective on environmental and sustainable development matters.