INTERNATIONAL SYMPOSIUM ON THE KYOTO MECHANISMS
—MAKING THE EMISSIONS TRADING CREDIBLE AND WORKABLE—
EXECUTIVE SUMMARY

Global Industrial and Social Progress Research Institute (GISPRI)
and
Institute for Global Environmental Strategies (IGES) †

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CONTENTS

1. SCOPE OF THE SYMPOSIUM **2**

1.1. BACKGROUND AND OBJECTIVE **2**

2. OUTLINE OF DISCUSSIONS **3**

2.1. CURRENT INTERNATIONAL NEGOTIATIONS **3**

2.2. TOWARD A CREDIBLE AND WORKABLE SCHEME **4**

2.2.1 ISSUE MAPPING 4

2.2.2 BOTTOM-UP ACTIONS BY THE PRIVATE SECTOR 5

2.2.3 EMISSIONS TRADING AS THE NATIONAL FRAMEWORK 6

2.2.4 EXPECTATION FOR CDM AND ITS REALIZATION 7

2.2.5 ISSUES FOR DESIGN OF INTERNATIONAL EMISSIONS TRADING 9

2.3. DISCUSSIONS FROM PANELISTS **10**

3. MESSAGE OF THE SYMPOSIUM **12**

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1. Scope of the Symposium

1.1. Background and Objective

The Hague Conference (COP 6) held in November 2000 could not reach an agreement on the rule making in the Kyoto regime as the final stage of the process initiated in the Buenos Aires Plan of Action.

The Symposium intends to contribute to the process continuing the resumed session of the COP 6 in Bonn through thorough discussions on the Kyoto mechanisms, especially on emissions trading among stakeholders—negotiators, researchers, people in industry, and environmental NGOs. Market based instruments such as emissions trading are an innovative trial for us all. Those mechanisms are key to the realization of the Kyoto regime; however, we have not yet accumulated sufficient knowledge for making them workable and credible. The Symposium provides a forum on this aspect through the exchange of views with analyses of such rules, and introduction of forerunners utilizing the concepts.

The symposium was held on 12th and 13th of April, 2001 at the United Nations University in Tokyo, organized by Ministry of Foreign Affairs (MOFA), Ministry of Economy, Trade and Industry (METI), Ministry of the Environment (MoE), New Energy and Industrial Technology Development Organization (NEDO), Global Industrial and Social Progress Research Institute (GISPRI), and Institute for Global Environmental Strategies (IGES).

2. Outline of Discussions

2.1. Current International Negotiations

The Symposium was held just after the release of the new proposal by the COP 6 President Pronk (April 9). H.E. Yoriko Kawaguchi, the Minsiter of the Environment, Japan opened the Symposium to reemphasize the importance of the Kyoto Protocol and its rule making process.

Responding to the session the Chair Ambassador Kazuo Asakai (Ministry of Foreign Affairs, Japan), and Mr. Andrea Pinna of the UNFCCC Secretariat, announced the 34 Parties' ratification of the Protocol. He identified three key rules—liability and overselling, eligibility and fungibility—and two provisions—supplementarity and compliance. Some ideas proposed by the Parties were introduced regarding these issues. He emphasized the importance of balance and coordination between economic efficiency and environmental credibility.

While all negotiators admitted the importance of the Kyoto mechanisms, their views were slightly different. Mr. McDermott (Canada) addressed the issue of international competitiveness for convergence of abatement costs for each country with the importance of lower cost opportunities as well as environmental integrity. In this regard, Canada stressed the importance of full fungibility, no quantitative cap for supplementarity condition, and commitment period reserve to address overselling. Mr. Olle (Sweden) introduced the concession of the supplementarity issue in The Hague between the EU and the Umbrella Group. He agreed with the commitment period reserve idea with a conservative 98% for the appropriate reserve level in comparison to 70% suggested by Canada.

On the other hand, Mr. Sharma (India) expressed concerns regarding G77+China. He reiterated the spirit of the Berlin Mandate (common but differentiated responsibilities) and stressed the importance of environmental integrity through domestic actions in Annex I countries and real/verifiable reductions for project-based mechanisms. In particular, he iterated the importance of CDM, as a promising instrument for the sustainable development of the host country, to start promptly with keeping equitable geographical distribution, and sovereignty.

Every speaker agreed with Mr. Sharma's conclusion that Kyoto must succeed at Bonn and impetus to Rio + 10. Some of the speakers commented that the eligibility (*incl.* sink) and additionality issues (*incl*. baseline) need to be further discussed, although fungibility and liability issues are less controversial.

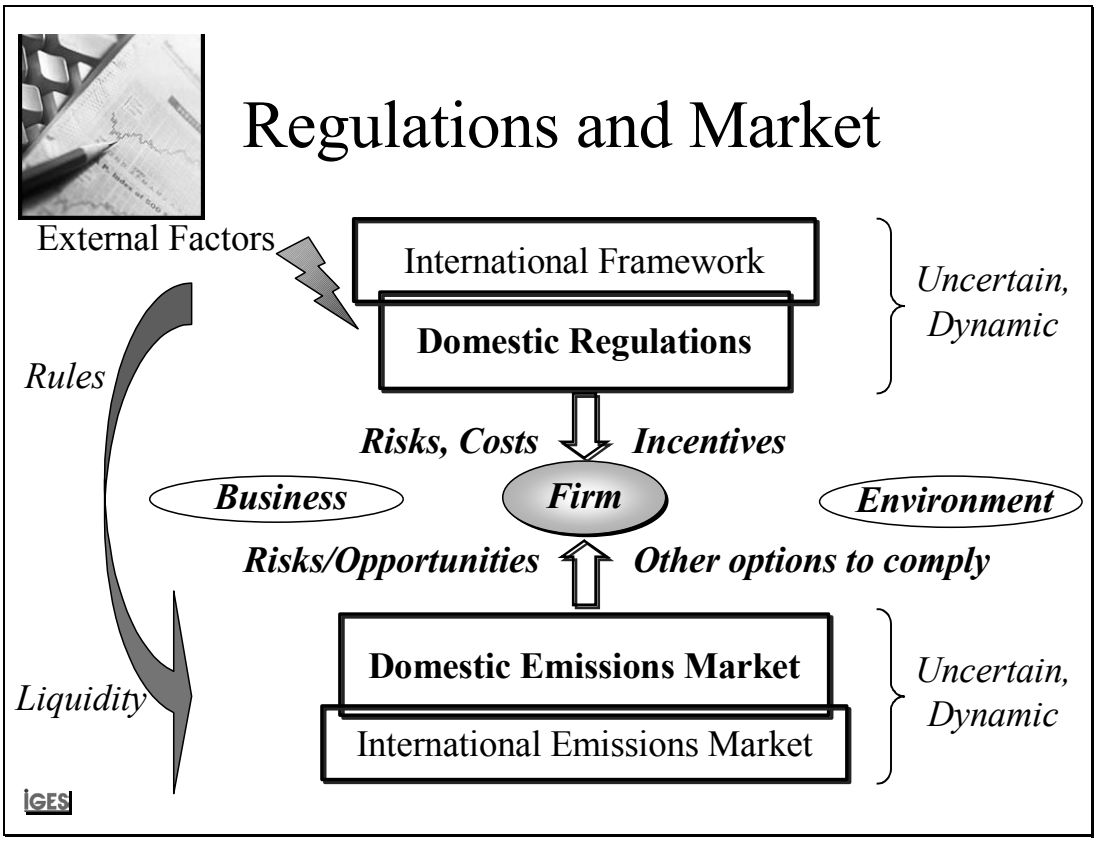
2.2. Toward a Credible and Workable Scheme

2.2.1 Issue mapping

The following sessions were assigned to discuss how the scheme can be credible and workable. The first part was bottom-up actions of the private sectors and the top-down actions of the European countries followed by CDM-related issues chaired by Mr. Yasuo Takahashi (Ministry of the Environment, Japan).

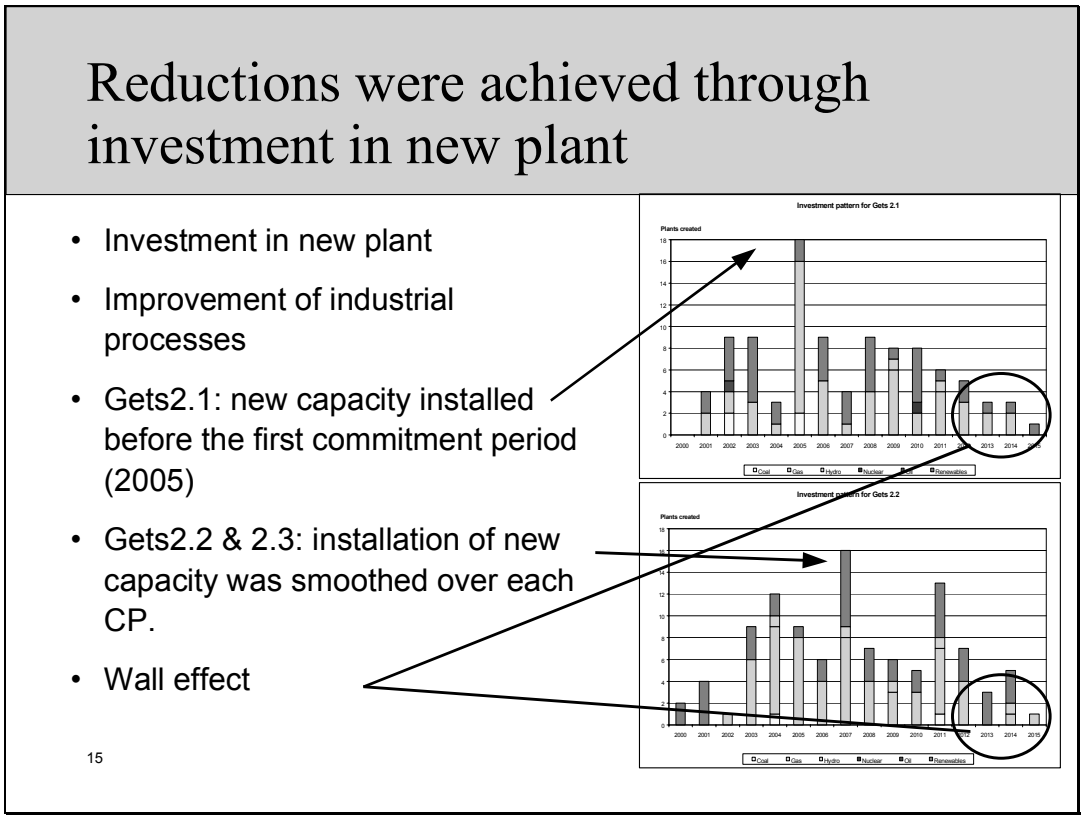
Issues related to emissions trading such as liability and supplementarity were analyzed by two distinguished researchers on the following day chaired by Mr. Soichiro Seki (Ministry of Economy, Trade and Industry, Japan).

To kick-off the presentation, Dr. Naoki Matsuo (IGES, Japan) outlined the whole sketch of the surrounding issues. For private sector firms, which are expected to play a key role in the mechanisms, four elements of a 2×2 matrix: [environment, business] × [regulatory framework, market] should be considered. The latter include domestic and international aspects as well. He stressed that market mechanism can be utilized for environmental integrity through the discovery and realization of low-cost emission reduction options, by differentiating cap-and-trade schemes from cap-without-trade schemes and pointed out the importance of pre-2008 transitional period.

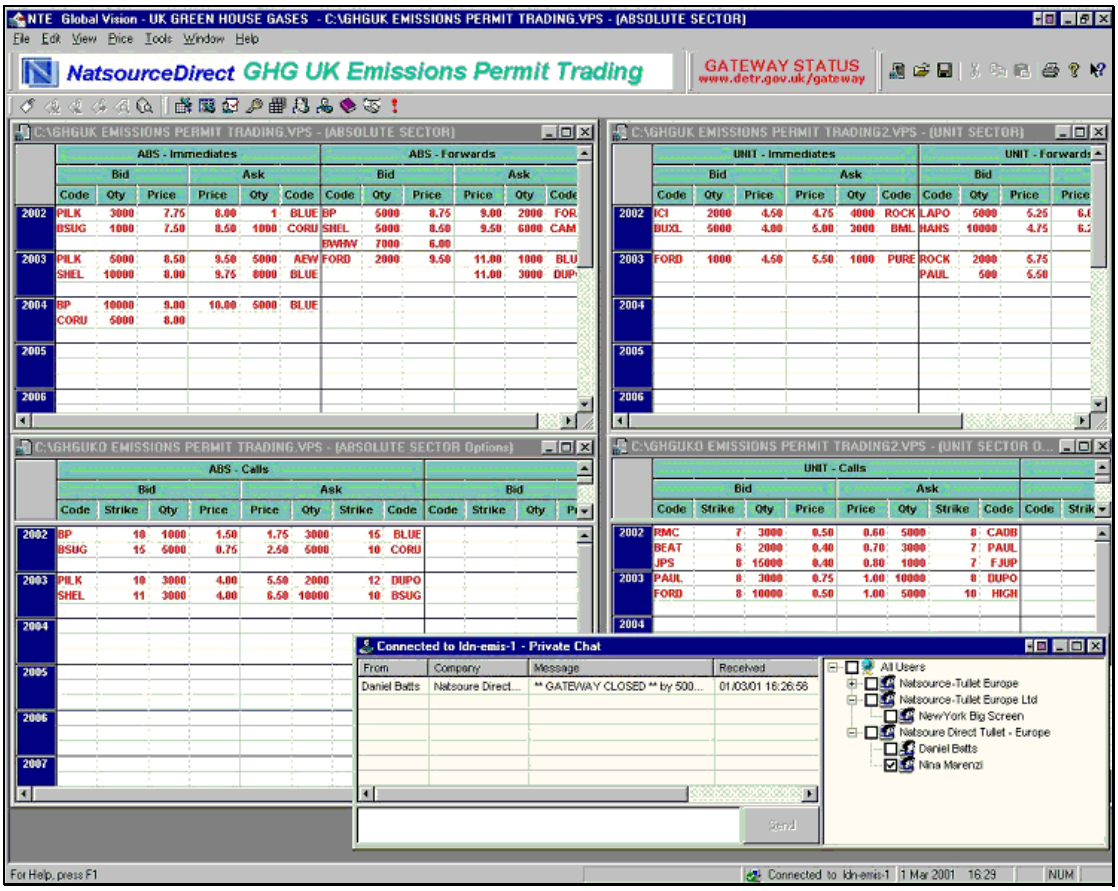


2.2.2 Bottom-up actions by the private sector

Electric utility companies in Europe initiated interesting experiments of emissions trading and power trading. Mr. John Scowcroft (Eurelectric) introduced how the participants—26 energy producers and 12 energy consumers—tried to be accustomed to such somewhat new mechanism and prepared for a new era. The experiment, called Gets 2, proved that the participating firms learned quickly as simulation went forward for the utilization of trading and investments, complied with their targets. The wall effect in investment was seen at the very end of the commitment period, so long-term horizon is needed in the real world target-setting. The energy mix shifted from coal to gas, but there were few incentives for renewable energies. The allocation methods need some equity considerations in order not to distort competition.



The emissions trading concept has been developed in the US. Even the regulatory framework for GHGs does not exist in the US, many transactions of CO_2 credit trading have been observed. Mr. Garth Edward (Natsource, US) presented the reason as to why and how the US companies have participated in the GHG emission reduction (credit) market from the aspect of risk management. The voluntary-based GHG reduction market is not liquid due to the high transaction costs caused by the lack of established regulatory frameworks. However, more than 100 transactions have been observed; most of them are optional trades of credits with vintage 2008–12 by US$ 1–3/ton-CO_2. He emphasized the importance of the establishment of the "rules of the game" by the Government for development of the GHG reduction market.

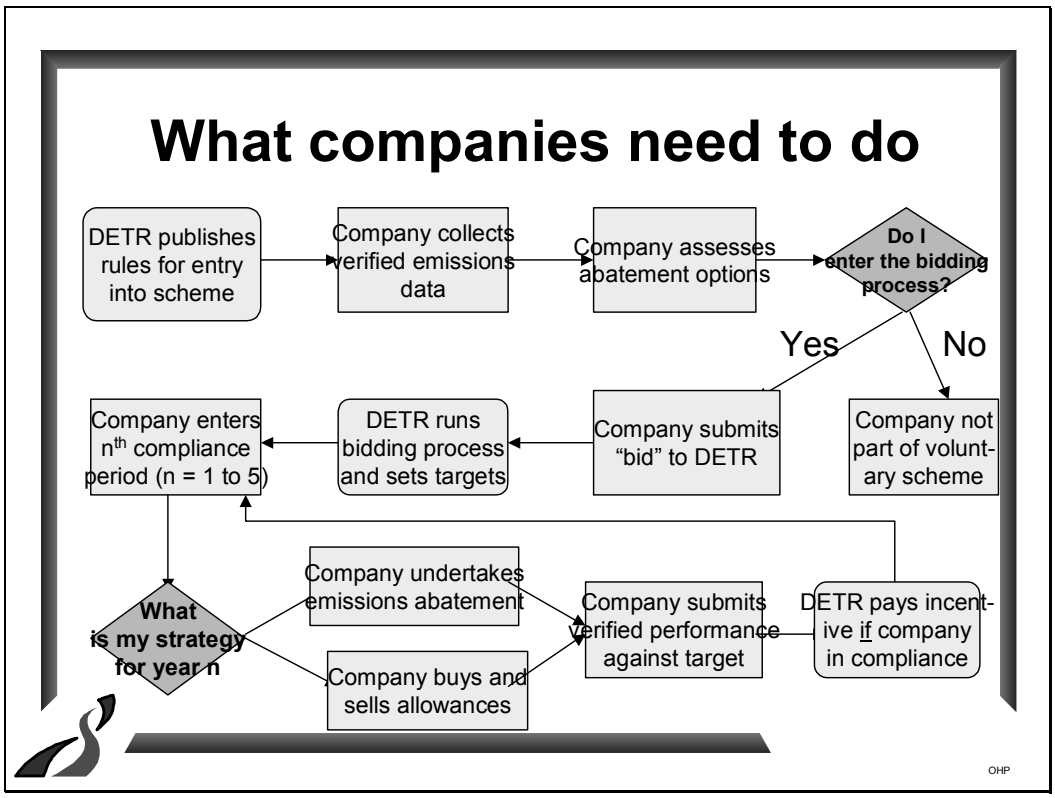


2.2.3 Emissions trading as the national framework

Recent trends for establishment of the regulatory framework indicate the positive participation of the private sectors in the scheme making process. Mr. Geir Høibye (NHO: Confederation of Norwegian Business and Industry, Norway) introduced the process in Norway whose marginal abatement cost is one of the highest in the world. Norway recognizes that emissions trading linked to the international framework is essential to comply with Kyoto Protocol. The domestic emissions trading proposal released by the governmental committee is open to most sectors, to the markets of other countries, to all GHGs, and to be fungible with Kyoto mechanisms credits, which are consistent with NHO's proposal in many points. The prominent aspect is its interaction between existing regulations, especially CO_2 tax. In the NHO's proposal, normal tax rate companies are allocated permits on the 1990–98 grandfathering basis, while high rate offshore companies must purchase the whole of their needs as relief for CO_2 tax burden.

The UK is going to introduce its voluntary-based domestic emissions trading scheme for the business sector from 2002. Mr. Henry Derwent (DETR, UK) showed how the process was initiated and how the scheme is expected to work. Like Norway, the private sector has played an important role in the rule-making process associated with the negotiated agreements as the tax (climate change levy) relief measure. The scheme is open to international mechanisms under Kyoto Protocol and intended to be a kind of standard domestic framework. The characteristic feature of the scheme is direct participation without negotiated agreements

entering the scheme by auctioning the subsidies from the Government. The present UK scheme is recognized as a transitional phase, which will last until the First Commitment Period of the Kyoto Protocol. The on-going intensity-based target through negotiated agreements and some other points are planned to be replaced by a cap-and-trade type trading scheme. The UK scheme ingeniously detours the initial allocation issue by other regulation (CCL) or financial incentives (subsidies).



The EU as a whole is going to choose the way forward towards the regional emissions trading scheme. Dr. Jos Delbeke (Environment DG, European Commission) presented how the European Commission intends to initiate the EU-wide scheme. Like the UK, some member states in the EU are expected to launch their domestic schemes. As linking these markets provides the participants with lower cost options, the European Commission plans to start the voluntary-based EU-wide scheme by 2005. The difficulties lie in how to harmonize the schemes of each member state. To date, the Commission categorized the design items into those required and desirable. The former includes currencies of transfer, methodology for monitoring and verification, compliance frameworks, *etc*. The allocation methods, stringency of the targets and sector coverage are categorized in the latter. Such harmonization should not distort the existing internal market.

2.2.4 Expectation for CDM and its Realization

The Kyoto Protocol provides a remarkable channel—CDM—for non-regulated countries to participate in the scheme. In addition to its role to contribute to the investing country's compliance to the quantified commitment, CDM has another important aspect to assist host

developing countries to develop in a sustainable manner. However, many problems need to be solved in order to produce a workable and credible framework for maintaining environmental effectiveness and sustainability.

Mr. Xuedu Lu (Ministry of Science and Technology, China) expressed China's wish for entry into force of the Protocol with the success of COP 6 *bis* negotiations. China expects the prompt start of the CDM followed by the establishment of the executive board at COP 7. The CDM projects should be consistent with the development plan of China and be financed in addition to existing ODA. Those include power generation, energy conservation, renewable energies, fuel substitution, and nuclear energy. He said the potential for CDM projects in China is much smaller than expected 0.15–0.3 Gt-C/yr, in reality. However, he mentioned two promising sectors—power generation and industrial boilers—with a potential of 70 Mt-C/yr and 40 Mt-C/yr or more by 2010, respectively.

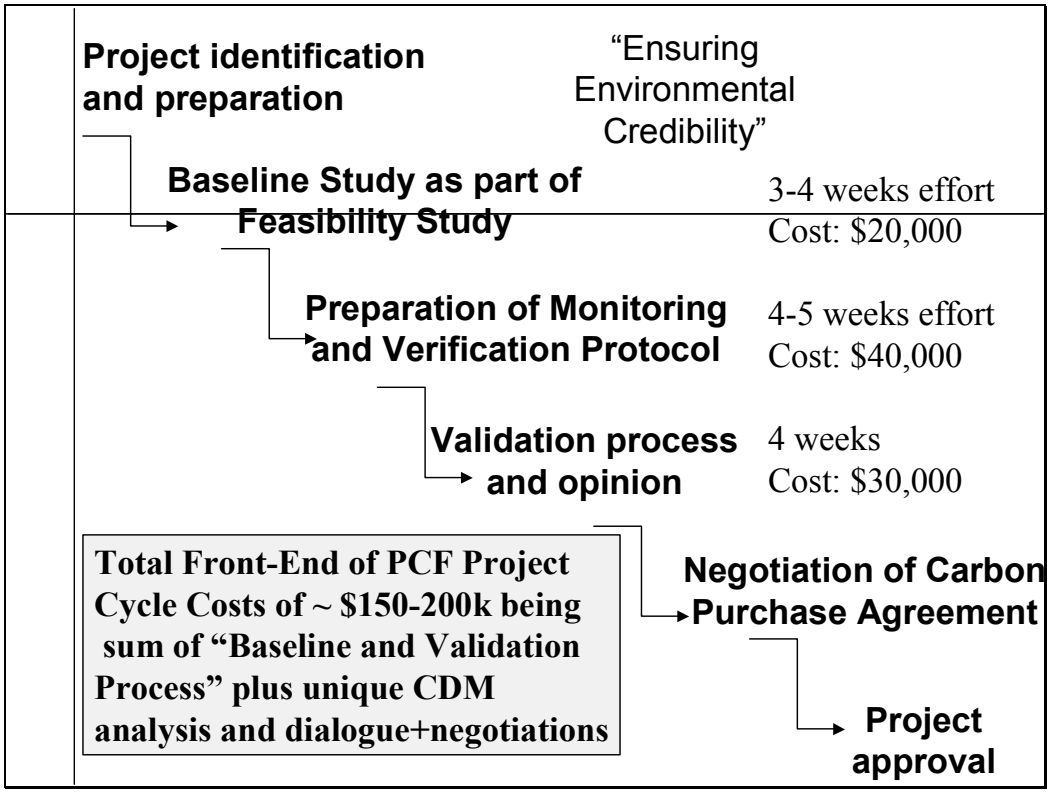
In the case of Latin American countries, Dr. Thomas Black-Arbeláez (Andean Center for Economics in the Environment, Colombia) expressed his high expectations for CDM. The National Strategy Study collaborating with the World Bank shows that the potential of CDM is as large as 23 Mt-CO_2/yr for 2008–12 in Colombia. The study also shows the positive impact for employment and in-flow money in addition to local environmental conservation and technology transfer. However, as the design of the scheme has much influence on such positive impacts, inefficiencies derived from the ceiling such as supplementarity, high transaction costs, restriction on financial structure, and the exclusion of sink projects should be avoided in the process of scheme design. He also stressed the importance of capacity building of government and the private sector.

Dr. John S. Kilani (Chamber of Mines of South Africa) emphasized the importance of equitable regional distribution of the CDM projects in order to realize the potentials of sectors such as energy, transport, and coal mining in Africa. In addition, He mentioned the important basic underlying concepts of efficiency of the system, capacity building, and North/South intergovernmental agreements. The private sector North/South partnership is essential for effective implementation of the projects, and those are influenced by the key design issues to be negotiated at COP 6 *bis*.

From the investors' side, Dr. Mark Trexler (Trexler and Associates, Inc., USA) analyzed the reality of CDM from the aspect of the market. He pointed out that identification of good buyers is a major challenge for sellers in the real on-going market. As there is no uniform commodity based on the established regulatory framework, we must take into account the various risks, especially when seeking the cost-effective acquirement of "credible" projects. On the other hand, he also mentioned that the market provides various opportunities. From the aspect of scheme design, the "additionality issue" is the crucial for credible market development. Many concepts of additionality have been mentioned without clear definitions or guidelines. This makes it difficult for investors to assess the economic aspects of the CDM project. He stressed that the policy-makers should further negotiations with sufficient understanding of this working-level reality.

One striking framework to reduce risks for the project is the so-called "carbon fund". Mr.

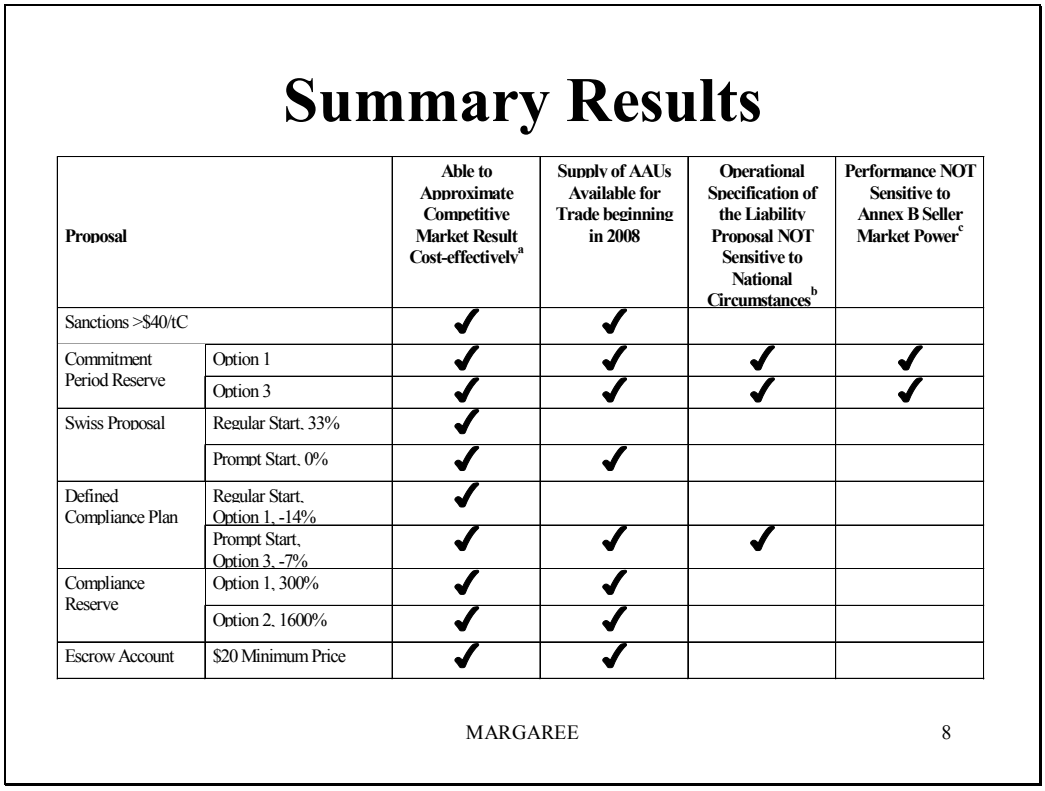
Ken Newcomb (World Bank) introduced the Prototype Carbon Fund (PCF) launched by the World Bank, which is intended to be consistent with the forthcoming CDM and/or JI scheme. The fund finances the "emission reduction parts" (carbon finance; around 5–15% of total finance) among the portfolio of projects. He mentioned that the improvement of profitability through CERs is limited (around 0.5 to 3.0% improvement in IRR at CER price US$ 3–5/t-CO_2) and the transaction (procedural) costs are high around 200 to 400 thousands US dollars throughout the project cycle. This implies that the small-scale projects must reduce their transaction costs by making a portfolio with a standardized baseline through financial institutions such as the PCF. He also mentioned the importance of capacity building and reported the related PCFplus Program.



2.2.5 Issues for design of international emissions trading

Some of the issues related to the rule design are important for a credible and workable scheme for emissions trading and the Kyoto regime as a whole. Dr. Erik Haites (Margaree Consultants Inc., Canada) analyzed the so-called "liability issue" for prevention of overselling. Compliance enforcement is one of the most important in the regulatory framework, while no regulator exists for international emissions trading. Some penalty proposals are on the table, however, if penalty is too onerous, the Party can withdraw from the Protocol framework. Dealing with the non-compliance by overselling, he concluded that the "commitment period reserve" is the best approach, by assessing the compliance costs and so on. Under this framework, an Annex B Party must maintain some portion (over threshold) of its assigned amount in its registry, which is defined differently for buyers and sellers, although details are

under negotiation. The merits of liability proposals are that they do not involve penalties, simply try to limit overselling. On the other hand, the compliance regime itself is still needed to provide incentives for Parties to meet their quantified commitments.



Summary Results

Proposal		Able to Approximate Competitive Market Result Cost-effectively[a]	Supply of AAUs Available for Trade beginning in 2008	Operational Specification of the Liability Proposal NOT Sensitive to National Circumstances[b]	Performance NOT Sensitive to Annex B Seller Market Power[c]
Sanctions >$40/tC		✓	✓		
Commitment Period Reserve	Option 1	✓	✓	✓	✓
	Option 3	✓	✓	✓	✓
Swiss Proposal	Regular Start, 33%	✓			
	Prompt Start, 0%	✓	✓		
Defined Compliance Plan	Regular Start, Option 1, -14%	✓			
	Prompt Start, Option 3, -7%	✓	✓	✓	
Compliance Reserve	Option 1, 300%	✓	✓		
	Option 2, 1600%	✓	✓		
Escrow Account	$20 Minimum Price	✓	✓		

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Prof. Michael Grubb (Imperial College, London, UK) also talked about the liability issue, focusing on the characteristics of "buyer liability" or "shared liability", which play the role of a "traffic signal" for buyers. Several options are possible, *e.g.*, proportionate or first-in-last-out and/or mixture with the commitment period reserve. Another important issue includes so-called "supplementarity" which tries to secure domestic reductions chiefly. The EU's proposal to limit the tradeable amount quantitatively has the problems of raising compliance costs and making the system complex, while it maintains the leadership of developed countries, promotes domestic efforts, and may stimulate technology innovation. The balanced approach would be to mention the "spirit" qualitatively in the decision text. In addition, the "hot air trading issue", which has some linkages with the liability issue and supplementarity issue, can be treated, for example, by setting the reviewing process on the excess amount or using such revenue for environmental use.

2.3. Discussions from Panelists

From the transitional economy countries, Mr. Valeri Sediakine (Institute of Global Climate and Ecology of Roshydromet, Russia) commented on the Symposium discussions and introduced Russian activities to mitigate climate change. He emphasized the difference between emissions trading/JI among capped countries and CDM outside of them and importance of

national system such as monitoring, verification and certification. He showed various Russian action and forecasts of its GHGs emissions toward the First Commitment Period. He stated that Russian GHGs emissions will recover to the 1990 level in 2012 in the most probable scenario (with a range of ±10% among scenarios), which shows that little hot air will be left. Regarding issues in the near future, he concluded that the international emissions trading should be simple and transparent starting from CO_2 only, and that it would be necessity to develop a national emissions reductions market.

Mr. Olle Björk (Sweden) stressed the value of real participants in the market and G77 views on CDM. He stated that Sweden would start a simple and operational system and develop it step by step with consideration to the importance of entry into force of the Protocol to develop an on-going voluntary emissions reduction market. On the other hand, credibility of the system, especially for CDM, is also needed in addition to overall framework such as compliance to the quantified targets. The scheme should be designed to strike a balance between the credibility of emission reductions and the economic efficiency that is related to the characteristics of the credits as the commodity.

Ms. Kimiko Hirata (Kiko network, Japan) expressed the view of environmental NGOs and introduced their actions for the prompt ratification of the Kyoto Protocol by Japan. She mentioned her great concern that Japan had not yet expressed its stance to ratify the Protocol in case that the US would leave the Protocol regime.

3. Message of the Symposium

In line with the theme of the Symposium "Toward a Credible and Workable Scheme", the participants expressed their views from various aspects. As the Kyoto mechanisms are market-based instruments, the role of the private sectors is crucial to make the scheme workable. Some participants stressed the importance of striking a balance between environmental stringency and economic efficiency; they are sometimes consistent with each other concerning the effective regulatory framework.

The status quo of the emission reductions market shows that the negotiators should listen to the bottom-up opinions in the real world in the international scheme making process followed by COP 6 *bis* and that of domestic frameworks.

As Environment Minister HE Kawaguchi stated in the opening, the Kyoto mechanisms can reduce the compliance costs and adverse impacts on economy which the US expressed its big concern. In this respect, the Symposium provided an opportunity where not only negotiators but also private sector people shared their experiences regarding a workable and credible framework of the Kyoto mechanisms.

[Note] This was summarized by IGES and GISPRI and does not represent official views of the participants or those of the Government of Japan.