

Global Climate Governance:

Inter-Linkages between the Kyoto Protocol and
other Multilateral Regimes



The United Nations
University

UNU/IAS



**Global Environment
Information Centre**

Global Climate Governance

A Report on the Inter-Linkages between the Kyoto Protocol and other Multilateral Regimes

*A Project of the United Nations University
the Global Environment Information Center and
the UNU Institute of Advanced Studies*

List of Abbreviations

AIJ	Activities Implemented Jointly
AIPN	Association of International Petroleum Negotiators
BOT	Build Operate and Transfer
CBD	Convention on Biodiversity
CDM	Clean Development Mechanism
CDMJV	Clean Development Mechanism Joint Venture
CDMJVA	Clean Development Mechanism Joint Venture Agreement
CER	Certified Emission Reductions
CO ₂	Carbon di-oxide
COP	Conference of the Parties
MOP	Meeting of the Parties
MMT	Methylcyclopentadienyl Manganese Tricarbonyl
ERT	Emission Reduction Targets
ERU	Emission Reduction Units
ETC	Emission Trading Contract
EU	European Union
GEIC	Global Environmental Information Centre
GHG	Greenhouse Gas
ICC	International Chamber of Commerce
IFF	Intergovernmental Forum on Forests
IPF	Intergovernmental Panel on Forests
KP	Kyoto Protocol
ISO	International Standards Agreement
ITTO	International Tropical Timber Organisation
JI	Joint Implementation
JOA	Joint Operating Agreement
JVA	Joint Venture Agreement
MAI	Multilateral Agreement on Investment
MEA	Multilateral Environmental Agreement
MFN	Most-Favoured-Nation Status
NAFTA	North American Free Trade Agreement
NT	National Treatment
PAMs	Policies and Measures
PPM	Production and Processing Methods
QELR	Quantified Emission Limitation Reduction
QELRO	Quantified Emission Limitation Reduction Objectives
SO ₂	Sulphur di-oxide
SPS	Sanitary and Phytosanitary (GATT,1994)
TBT	Technical Barriers to Trade Agreement (GATT, 1994)
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UNU	United Nations University
UNU/IAS	United Nations University Institute of Advanced Studies
WTO	World Trade Organization

Executive Summary

The United Nations University, Global Environment Information Centre (GEIC) and the UNU Institute of Advanced Studies (IAS) initiated this research in order to contribute to the effective implementation of the Kyoto Protocol. The research approaches the issue of implementation from a strategic perspective. By looking at the implementation trends and future direction of the Protocol, the research identifies clear implications with other multilateral regimes. Through the identification and explanation of the inter-linkages, potential incompatibilities, and synergies, the UNU/GEIC /IAS project aims at creating awareness of possible areas for policy consideration before key rules, guidelines and modalities are negotiated.

Based on nine commissioned papers by academics and experts in their relative areas, the advice and input from two working group meetings and a final assessment and review meeting held September 17-18, 1998 at the UNU Center in Tokyo, the main findings of the report are as follows:

1. Potential incompatibilities and implications between the Kyoto Protocol and the international trade regime exist and should be considered.
2. Although a multilateral investment regime has not been fully negotiated, namely the proposed MAI, the existing negotiating text and current trends in the regime negotiating process have clear implications to the Kyoto Protocol's CDM.
3. The private sector will play an increasingly significant role in the market mechanisms of the Protocol. The current compliance and dispute settlement system as envisioned under the Protocol may not be sufficient to create a stable and efficient environment in order to govern this sector's participation in the market mechanisms. Model contractual agreements or standardized provisions could be a useful means of ensuring compliance. They could also provide access to an existing dispute settlement system under international private contractual law for parties engaged in the CDM, joint implementation and emission trading transactions.
4. Further research in terms of the relationship of the Protocol to other MEAs is required. However, very preliminary and initial concerns of the maintenance of biodiversity and deforestation of tropical forests in light of the Protocol's mandate may exist.

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Introduction

The successful negotiation of the Kyoto Protocol to the United Nations Framework Convention on Climate Change Convention (“UNFCCC”), completed in December 1997, resulted in an historic agreement on climate change governance, with major impacts on environmental, trade and economic policies. In particular, the Kyoto Protocol contains several so-called “flexibility mechanisms,” providing for emissions trading, joint implementation and a Clean Development Mechanism—economic instruments designed to utilize market forces to aid in implementation of the Protocol’s environmental goals. A number of matters were unresolved in the Protocol, such as the specific means for implementing the flexibility mechanisms and issues concerning compliance and dispute settlement. The wide-ranging implications of the effects of the Protocol also raise issues about its relationship to other environmental agreements as well as with trade and investment regimes.

This research was initiated by UNU in order to examine the potential interfaces between the Kyoto Protocol and other multilateral regimes. The UNU believes that this is a strategic time to make such considerations before the completion of the “unfinished business” left after Kyoto. In so doing, it is the intent of this research to create awareness of the inter-linkages so that appropriate policies responses to avoid possible conflicts and to capitalize on the synergies with other regimes

can be considered.

The Report is divided into two distinct parts. Part I, as contained in this document, identifies and explains the relationship between the Protocol and other multilateral regimes. Four regimes in particular were addressed:

- (1) The interrelationship between the Kyoto Protocol and international trade namely the World Trade Organization (“WTO”) Agreements, and regional trade agreements (EU and NAFTA).
- (2) The interrelationship between the Kyoto Protocol and the international investment regime, namely the proposed Multilateral Agreement on Investment (“MAI”).
- (3) The interrelationship between the Kyoto Protocol and private international contractual regimes: The use of model contractual agreements for transactions carried out under the flexibility mechanisms, such as joint implementation and CDM projects and emissions trading, and the role of model contracts in ensuring compliance with the Protocol and providing access to alternative dispute settlement fora for disputes involving private parties.

- (4) The inter-relationship between the Kyoto Protocol and other Multilateral Environmental Agreements (“MEAs”).

Part II of the report, which will be released later, will create hypothetical but plausible scenarios concerning the different regimes’ inter-relationship with the Kyoto Protocol through descriptive illustrations and examples. It will also, to a limited extent, present policy recommendations based on the expert review meeting convened at the UNU Center in September 1998.

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Unfinished Business of the Kyoto Protocol

Before turning to the analysis of the inter-linkages with the other multilateral regimes, it is perhaps useful to outline what was agreed to at the Third Conference of the Parties to the Climate Change Convention (“COP 3”) and which issues were left unresolved.

When the Kyoto Protocol was adopted in the early morning after almost 72 hours of round-the-clock negotiations, most of those present were too exhausted to fully comprehend what had just been agreed to. Since that historic morning, much time and effort and been expended by all those involved in the process to try to make sense of what was agreed to in the Kyoto Protocol and understand its implications.

When the negotiators emerged from the exhaustion and excitement of Kyoto, they began to realize just how much had been left unresolved and how many decisions had been left for future meetings. In retrospect, this large burden of unfinished business was inevitable. The practical complexity of some of the issues at stake, such as emissions trading, and the last minute development of some provisions—most Parties did not even see the text on the CDM until 48 hours before it was adopted—meant that the details could not have been worked out in Kyoto. At the same time, the differences among the Parties meant that consensus could not have been achieved without leaving

many issues for future negotiations.

The centerpiece of the Protocol is, of course, its legally binding emission commitments for Annex I Parties. The Protocol also contains four mechanisms for implementation of these commitments—(1) domestic policies and measures (Article 2) and “offshore” activities under the so-called flexibility mechanisms, (2) joint implementation, (3) the Clean Development Mechanism and (4) emission trading.

The Protocol also contains a number of provisions related to compliance such as those related to measurement, reporting, monitoring and verification. Under Article 18, procedures and mechanisms to determine and address cases of noncompliance will be agreed to at the First Meeting of the Parties to the Protocol (“MOP 1”). Since Kyoto, attention has focused primarily on the flexibility mechanisms, largely overshadowing the domestic policies and measures and the mechanisms for ensuring compliance.

2.1. The Agenda for COP4

The main issues concerning implementation of the Kyoto Protocol to be addressed at COP 4 are:

- Matters related to the Clean Development Mechanism (Article 12),
- International emissions trading (Article 17),
- Joint implementation (Article 6),
- Land use change and forestry, and
- The impact of single projects on emissions in the commitment period.

A number of other issues are also on the agenda for COP 4, particularly the issue of voluntary commitments by non-Annex I Parties and review of the implementation of commitments and other provisions of the Climate Change Convention.

2.2. MOP 1 and Beyond

While the structure of the flexibility mechanisms will be elaborated at COP 4, the details concerning the so-called “credibility mechanisms”, provisions relating to measurement and reporting, monitoring and verification and noncompliance, will not be agreed to until MOP 1. These mechanisms are critical, however, in ensuring compliance with the commitments on emissions.

For example, Articles 7 and 8 establish that Annex I Parties must provide supplementary information on the actions they are taking to meet their commitments under the Protocol and that this information will be reviewed by expert review teams. Guidelines for the reporting of information and the expert reviews will be developed at MOP 1, after the Protocol has entered into force.

Under Article 18, procedures and mechanisms to determine and address cases of noncompliance are also to be agreed at MOP 1. The eventual shape of these noncompliance procedures will be important in determining whether or not the commitments of Kyoto are effectively implemented and enforced.

3

The Kyoto Protocol and the International Trade Regime

Neither the Climate Change Convention nor its Kyoto Protocol include specific trade provisions. However, given the purpose of these treaties to limit the emission of greenhouse gases, their potential impact has great economic and commercial significance and will certainly have important effects on international trade and investment. The need for policy coherence between the climate change and international trade regimes was recognized by both the Parties to the Climate Change Convention and the negotiators of the Kyoto Protocol. Both the convention and the Protocol emphasize the need for coherence between trade and environmental policy. (See Box 1)

The next step in the process of implementing the Kyoto Protocol is to define the detailed means to achieve the emission targets, both domestic policies and measures and international market based flexibility mechanisms, namely, joint implementation, the CDM and emissions trading. Depending on how these measures are defined, they could raise issues about compatibility with the WTO agreements, regional trade agreements and a multilateral investment regime.

3.1. Relationship between the Kyoto Pro-

Box 1

Article 3 of the Climate Change Convention states:

The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable

Article 2, paragraph 3 of the Kyoto Protocol states:

The Parties included in Annex I shall strive to implement policies and measures under this Article in such a way as to minimize adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties and in particular those identified in Article 4, paragraphs 8 and 9, of the Convention, taking into account Article 3 of the Convention. The Conference of the Parties serving as the meeting of the Parties to this Protocol may take further action, as appropriate, to promote the implementation of the provisions of this paragraph.

TOCOL and the World Trade Organization

In the WTO Committee on Trade and Environment (“CTE”), there has been considerable discussion on the current and potential relationship between multilateral environmental agreements (“MEAs”) and the WTO. As the WTO and MEAs represent two different bodies of international law, it is clear the relationship between them should be fully understood and coherent. In this context, the results of the discussions in the CTE are relevant for a full appreciation of the relationship between the WTO Agreements, the Climate Change Convention, the Kyoto Protocol and any subsequent legally binding instruments to address climate change.

What has clearly emerged is the acceptance by its Members that the WTO has no special expertise as to how to deal with environmental problems such as the heating of the upper atmosphere. Nor is it well placed to make judgements on the most appropriate means to achieve objectives or targets such as greenhouse gas emission reduction. A consensus has emerged that MEAs are the best way of coordinating policy action to tackle global and transboundary environmental problems. Members of the WTO are, however, concerned with trade measures applied pursuant to MEAs which can affect WTO Members’ rights and obligations. Of the many MEAs currently in effect, while only about 20 contain trade provisions, some - like the Climate Change Convention and the Kyoto Protocol - are potentially important in commercial and political terms.

Another view is that because of the increasing commercial and political importance of some MEAs that clearly deal with transboundary problems such as the effects of greenhouse gas emissions, it is perhaps important to adopt a preventive attitude and provide greater certainty as concern grows about the collective impact of individual countries on the global commons. As a result, various proposals have been advanced in the CTE with a view to establishing a framework for the relationship between MEAs and the WTO.

3.2. Environmental Window and Waivers

The proponents of the environmental window approach develop the view that, subject to specific conditions being met, certain trade measures taken pursuant to MEAs should benefit from special treatment under the WTO provisions; this approach has been described as creating an “environmental window” in the WTO. In the case of the Kyoto Protocol, the issue is whether it is appropriate to provide for differentiated WTO treatment for trade measures applied pursuant to the environmental agreement, depending on whether they apply between Parties or against non-Parties and whether or not the measures are specifically mandated in the environment agreement itself.

Another way in which WTO Members could choose to derogate from their WTO obligations for environmental purposes is to invoke a waiver under Article IX of the GATT. In exceptional circumstances, a waiver to a WTO obligation can be granted, subject to approval at a minimum by threequarters of the WTO membership. A waived obligation is timelimited, it must be renewed periodically, and a trade measure applied pursuant to a waiver could still be challenged in WTO dispute settlement on the grounds of nonviolation, nullification and impairment of WTO rights.

3.3. Domestic Policies and Measures to Reduce Greenhouse Gas Emissions

An important challenge facing the World Trade Organization (WTO) is dealing satisfactorily with the increasingly complex interface between trade policy and considerations relating to the environment. Current or future measures taken as part of national programs to address greenhouse gas emissions and the associated climate change concerns provide good examples of the complexity of this interface.

First, it is important to note that a number of the specific policies and measures promoted by the Kyoto Protocol as means of achieving its environmental goals are not only consistent with measures promoted by the WTO Agreements, but are mutually supportive. Some of the ways in which the Kyoto Protocol aims to achieve its goal of reducing greenhouse gas emissions include

3. The Kyoto Protocol and the International Trade Regime

the promotion of the “progressive phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors that run contrary to the objective of the Convention and application of market instruments” (Article 1, subparagraph (a)(v)). This is very much in line with the WTO objective of the progressive removal trade restrictions and distortions.

There is not, however, a great deal of specificity in the Kyoto Protocol as to the measures that can be applied to meet its objectives. The Protocol specifies that Parties are bound to adopt policies or measures in a manner to promote sustainable development. Examples are policies or measures to enhance energy efficiency, protect and enhance sinks and reservoirs, promote research and development, increase the use of new and renewable forms of energy and environmentally sound technologies, phase out fiscal incentives and exemptions in greenhouse gas emitting sectors, promote the application of market instruments. Energy, carbon and other taxes, mandatory and voluntary standards, subsidies for environmentally friendly production processes, labelling and certification schemes and the sale and transfer of emission permits within or between groups of countries are also examples of PAMs which might be introduced on the national level. Such actions are to be taken in accordance with national circumstances.

The specific domestic policies and measures employed to reduce emissions will certainly have a bearing on world trade. They will affect the costs of production of traded goods and therefore the competitive position of producers in the world market. Offsetting measures will be called for by those whose competitive position is adversely affected by cheaper imports not subject to the same measures in the country of origin. Measures such as these may well raise complex questions with respect to WTO consistency and the conditions under which border taxes, for example, can be adjusted to accommodate a loss of international competitiveness.

Recent studies have specifically addressed the situation where national measures, such as

energy efficiency standards or carbon and energy taxes which are not applied to imports provide foreign competitors with an economic advantage. It has been argued that it is likely that as countries develop their national response strategies, trade measures will play an increasingly important role. Carbon and energy taxes have been introduced to date in five European countries and all include some form of compensatory measures ranging from total exemptions for certain sectors, reduced rates for most energyintensive processes, ceilings for total tax payments, subsidies for energy audits etc. Exemptions and other such features have also been introduced to accommodate competitiveness of concerns of energy-intensive industries which argued that they would greatly suffer from similar operation in countries without such taxation.

What is clear from WTO rules is that with respect to border tax adjustments, indirect taxes levied on products because of the energy consumed or the carbon dioxide emitted should not be used to provide a competitive advantage for domestic products. Thus, border taxes should not be in excess of taxes on like products manufactured and sold domestically. This is clear. However discriminatory taxes applied to products with the same physical characteristics (like products) according to the production processes employed (e.g. because of the energy consumed or carbon dioxide emitted) raises serious questions in the WTO. One of the major unresolved questions before the WTO Committee on Trade and Environment remains how to address the question of indirect taxes such as taxes on energy inputs applied on process and production methods.

To fulfil these commitments domestically, Parties are expected to translate the PAMs into laws, policies and binding regulatory regimes that will curb their use of GHG and meet their individual targets by the end of the first commitment period (2012). The potential domestic legal instruments that could be employed are infinite, but likely cases are taxes on fossil fuel intensive sectors, technical regulations such as pollution controls, or subsidies on sectors that are comparatively more environmentally sustainable or which have less of an effect on climate change. The economic impact could be far-reaching as the Climate Change

Convention pledges to reduce the use of fossil fuel, the most common energy form for both industrial sectors and everyday life-styles. At the very least, such domestic regimes are likely to affect the competitiveness of national industries and could be justifiably imposed on foreign imports. Once such measures are placed on imports to restore competitiveness, the potential for conflicts with WTO rules that regulate the flow of international trade could arise.

Similarly, enforcement mechanisms that could legitimize discrimination between products in international trade because of the manner in which they were produced in other countries touches on one of the fundamental principles of the WTO. Further, preferential trading of goods and services between countries - within “bubbles” or regional groupings - is only permitted within the WTO if certain strict conditions are met.

3.4. Regulations and Voluntary Standards

Another area of importance to the WTO is the role of voluntary standards, mandatory regulations and conformity assessment procedures when used for environmental purposes. Flexibility is also provided for here. The WTO Technical Barriers to Trade (TBT) Agreement establishes obligations to ensure that voluntary standards, mandatory regulations and conformity assessment procedures do not have as their objective the restriction of trade. However, the Agreement provides considerable flexibility to accommodate environmental concerns; while it encourages the adoption of international standards and technical regulations (which may well relate to reducing carbon emissions in the production of products) to encourage the harmonization of regulations and therefore to facilitate trade, it specifically recognizes that priorities with respect to the environment differ between countries.

The Agreement formally acknowledges that this can be fully reflected in domestic regulations, and therefore permits the adoption of different standards and regulations by any WTO Member. This could relate the amount of energy used in the production of a good or the level of carbon dioxide emission within its borders. The

principal obligation (apart from transparency etc.) is that standards and technical regulations should not be implemented in such a way that they restrict trade more than what is necessary to achieve the policy objective. This is the concept of proportionality.

Elsewhere under the WTO rules, the harmonization of international regulations and GATT provisions is more precisely balanced. The 1994 Technical Barriers to Trade Agreement negotiated in the Uruguay Round recognizes international standards as foundation for creating national technical regulations that would effect trade.

Article 2.4 of the TBT Agreement states:

Where technical regulations are required and relevant international standards exist or are imminent, Members shall use them, or relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be ineffective or inappropriate means of fulfillment of the legitimate objectives pursued.

Although the perimeters of the definition of what meets the criteria of an international standard is untested, the proviso does imply that standards ranging from those adopted by the International Standardization Organization (ISO) to eco-standards or even standards that are taken pursuant to an MEA such as air quality control standards could be an accepted basis for exceptions to the technical barriers regulations.

3.5. Subsidies

A further point of relevance is that a WTO Member may wish to subsidize a production process to facilitate the adoption of less carbon producing technology, or could be competing in the world market with another country which is doing so. The WTO Subsidies Agreement has as its main purpose the prohibition of governments providing direct assistance to their own industries to improve their competitive position. The Agreement, however, identifies certain nonactionable subsidies. Included in the list of nonactionable subsidies is assistance to promote the adaptation

of existing facilities to new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burdens on firms. These subsidies are, however, carefully circumscribed to avoid them constituting trade barriers to improve competitiveness.

3.6. Certification and Labelling

A further consideration is the use of labelling and certification to convey information to consumers, and made effective in conjunction with restrictions on domestic production or consumption (Article XX(g)). Interpretations of what is necessary and the geographical location of the resources being protected, for example, raises difficult questions. For example, labelling designed to inform consumers on product energy efficiency levels is already used in a number of countries, including Australia, the US and Sweden. However, what remains unanswered in the WTO is the use of ecolabelling and certification schemes such as product and performance standards - which are traditional areas of GATT/WTO jurisprudence but also labels which convey how much energy was used in making the product.

3.7. Emission Trading

When the WTO rules were created, it is perhaps safe to say that its drafters never envisioned the trading of air pollution among its parties. Nevertheless, stranger things have been traded on international markets, and in many ways trading emissions is not essentially different from trading other types of by-products such as hazardous waste or used oil. Notwithstanding the nature of the item being traded, if it is conceded that emissions are indeed a product or a service to be traded on international markets, then which parts, if any, of the Protocol enabling and regulating this trade, would be likely to come into conflict with WTO rules?

As it stands, the “relevant principles, rules, modalities, rules and guidelines” are still undefined. However, several possibilities are on the negotiating table. Among these are calls for the

tight regulation of the emissions trading system by means of a monitoring and verification process. For instance, if the selling party were in compliance with its emission requirements, the trade would be unrestricted. However, if monitoring showed a potential for noncompliance or a serious compliance problem, then the trade would be banned or the seller would be sanctioned for trading while out of compliance. Such a compliance system would of course have implications for WTO rules on ‘like-products’ and PPM. The Protocols provisions restricting the trading of emissions to Annex B Parties only could also be seen as barrier to trade particularly from the perspective of developing countries (Non-Annex B Parties) which have large inventories of emissions credits and might wish to trade on the emissions market, but could only do so by becoming Annex B members.

Such initial concerns over tradable emission permits, present a new area of international policy yet to be fully considered. Questions to be addressed include whether tradable emission schemes fall under the WTO General Agreement on Trade in Services, and whether other flexibility mechanism such joint implementation schemes would be considered an environmental subsidy under the WTO Agreement on Subsidies and Countervailing Measures and therefore exempt from WTO disciplines on subsidies.

3.8. Parties versus Non-parties

The decision taken by governments to agree to the Kyoto Protocol was done with an awareness of the implications with respect to their WTO commitments. As with any MEA, acceptance of a legal instrument relating to the reduction of emissions would mean that an individual government has agreed to be subjected to the obligations of that instrument. If trade measures not authorized by the WTO are provided for, then the WTO Member would have agreed to forgo its WTO rights. The fact that the legal rights and obligations are not consistent with the WTO is a problem only if WTO inconsistent measures are applied to WTO Members not Parties to the Agreement.

3.9. Dispute Settlement

Based on the experience of the discussion of MEA dispute settlement procedures in the CTE, it seems reasonable that eventually disputes concerning trade related measures in the Kyoto Protocol between WTO Members who are also Parties to the Protocol on the application of these measures should in the first instance be pursued under the dispute settlement procedures of the Protocol. It has also been suggested in the CTE that MEA Parties might stipulate *ex ante* that they intend trade disputes among them arising out of implementation of the obligations of the MEA to be settled under the MEA's provisions. It could be argued that this approach can help ensure the convergence of the objectives of MEAs and the WTO while safeguarding their respective spheres of competence, thus overcoming problems arising from overlapping jurisdictions.

If, however, the Convention, Protocol or any follow up Agreement does not provide for the trade measures under dispute, then what is permissible under the WTO is relevant. It will be reasoned below that the relationship between the measures that are candidates for implementation to reduce carbon emissions and WTO obligations is a complex one. For example, any measure taken under the General Exceptions provision of the WTO must be either necessary to protect human, animal or plant life or health (Article XX(b)), or related to the conservation of exhaustible natural resources.

3.10. The Kyoto Protocol and Regional Trade Agreements

3.10.1. NAFTA

The NAFTA is a relatively progressive trade agreement in terms of the environment. Its architects have had the foresight to draft its provisos to address many of the potential problems that could arise between it and multilateral environmental agreements. Perhaps the most innovative provision is Article 104 that expressly sets out the relationship of NAFTA rules with certain MEAs containing trade related measures.

The Article states "in the event of an inconsistency between specific trade related obligations set out in the international agreements contained in Annex 104.1 such obligations shall prevail..." Presently four agreements are contained in the Annex: (a) the Convention on International Trade in Endangered Species of Wild Fauna and Flora; (b) the Montreal Protocol Substances that Deplete the Ozone Layer (c) the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and (d) the Canada-United States and Mexico-United States agreements concerning the transboundary movement of hazardous waste.

In effect, Article 104 gives supremacy to the obligations contained in the MEAs. The only qualifier is that the Party, when it has a choice of equally effective means of achieving a given obligation that it choose a measure which is the least inconsistent with the NAFTA rules. The Article further elaborates that the Parties may agree in writing to add amendments to the names of the treaties contained in the Annex. Arguably, since the Kyoto Protocol does contain several trade-related provisos that it too should be added to the Annex's list. By doing so this would leave moot any debate over incompatibilities between the NAFTA and the Protocol's market mechanisms, such as emissions trading.

In terms of the Protocol's policies and measures that are to be implemented domestically these would be dealt with under NAFTA's rules concerning standards that are pursuant to legitimate objectives (Article 915.1). Similar to the EU mandatory requirements and the WTO's Article XX (b) and (g), the NAFTA permits its Parties to set different levels and types of standards to *inter alia* protect its environment. However, the standard must follow basic rules. It must be: (a) nondiscriminatory on imported and 'like-products'; (b) not be an unnecessary obstacle to trade; (c) use international standards as a foundation for national standards; and (d) apply the principle of equivalency when judging whether domestic and foreign standards are similar.

An interesting provision built into the NAFTA is that standards are also judged according to other factors such as climate, geography, and scientific justification. Whereas under the WTO the formulation of a standard is not provided, the NAFTA explicitly recognizes how standards and legitimate objectives are to be formulated. Paradoxically, this basis for standards may also provide an alternative argument for defending domestic measures enacted to protect the global commons but pursuant to an MEA. For example, if the Party can argue that the environment of the global commons is linked to the domestic environment, then the measure could be acceptable on the grounds of Article 915.2. Take for example climate change, since a domestic standard can use as a foundation factors such as climate and geography, a Party might justify a standard on fossil fuel citing the IPPC finding that GHG are having a discernable impact on climate and its further finding that this will impact low lying regions and areas more susceptible climatic change. Having argued the impact and the scientific evidence on climate change, it could rely on geographic or a climatic argument to justify the standards in order to protect its low lying areas.

Convention, the Member States gave the competence of the negotiations to the Community.

3.10.2. EU

Under EU law there exists few potential incompatibilities with the Kyoto Protocol. The EU has developed a relatively strong legal framework, which carefully defines the relationship of Member States and the EU vis-à-vis international agreements. On environmental matters the EU has nonexclusive powers to enter to international agreements on the environment, which means, depending on the competence, the Community and the Member States can participate together as a whole or separately. The competence depends on whether the Community has adopted internal rules on the environmental matter at hand. If it has, the Community alone has the competence to participate. In practice if there exist no internal rules or the rules are of a “minimal requirement”, meaning they are only loosely construed, then the Member States and the Community decide together, through the Council, how they will negotiate and sign the international agreement.¹ In the case of the Climate Change

4

The Inter-relationship Between the Kyoto Protocol and a Proposed International Investment Regime

4.1. The Clean Development Mechanism and the Proposed OECD Multilateral Agreement on Investment

Both the Kyoto Protocol and the draft Multilateral Agreement on Investment (MAI) attempt to influence the pattern of private sector investment from developed to developing countries. The Kyoto Protocol, when in force, will stimulate investments in the developing world in projects that reduce emissions of greenhouse gases through a Clean Development Mechanism. If adopted and ratified, the MAI will set high global standards for the protection of investors and investments against discrimination, and against illegal expropriation. Although negotiated under the auspices of the Organisation for Economic Cooperation and Development (OECD), the MAI will be open to membership of both developed and developing countries.

This discussion of scenarios concerning interaction between the CDM and the MAI is necessarily speculative, as the detailed investment rules of the Kyoto Protocol's CDM have yet to be agreed and the MAI remains in draft form, its adoption by no means assured. Nevertheless a study of the two instruments even in their present forms is of interest as it allows an exploration of the potential conflicts and synergies that may exist between efforts to use international law to both

promote and to channel international investment flows. Furthermore, the greater use of market mechanisms in multilateral environmental agreements, and the powerful trend towards strengthened investor protection, advises towards exploring these issues, even if neither the Kyoto Protocol nor the MAI take quite the final shapes that we presume. It is also highly likely that even if the MAI is not adopted, a multilateral investment regime will be negotiated, possibly within the WTO, prior to the completion of the first commitment period under the Kyoto Protocol in 2012.

4.2. Potential Interaction between the CDM and the MAI

By providing a stable regulatory environment for investment, the MAI would support the CDM's general objective of promoting flows of capital from developed to developing countries. However, depending on how the details of the CDM rules are designed, there is some potential for conflict between the two regimes. Reference will be made to an initial analysis of this potential undertaken by the OECD Secretariat.

4.2.1. The Broad Scope of the MAI

Both a project activity and any CER it might generate would fall within the broad scope of the MAI's definition of an investment. A CER has the characteristics of an investment, that is, the commitment of capital or other resources (i.e. technology transfer); the expectation of gain (i.e. an increase in domestic emissions allowances), and the assumption of risk (i.e. the risk that the project will not generate CERs). The CER may be a form of debt, such as a financial instrument; or a right conferred pursuant to law or contract, such as a government authorization or permit.

The MAI's broad definition of investor would extend rights to all private entities, or state owned enterprises involved in a CDM transaction. It would not, however, include investments made by states themselves. States are not considered to be in need of any additional protection as investors, and would avail themselves of the diplomatic channels or the State-to-State dispute settlement or noncompliance procedures under the Protocol to defend their rights.

4.2.2. Nondiscrimination—Most Favoured Nation and National Treatment Requirements of the MAI

The MAI prohibits both de facto and de jure discrimination by the host state between foreign and domestic investors (the National Treatment standard) and between two foreign investors from different states (the Most Favored Nation standard). This means that host country regulations that discriminate between these categories of investors either expressly, or in their effect would be open to challenge either by under the MAI by either States or investors.

A potential for conflict may arise if a Party hosting a CDM project is encouraged or required by the Protocol to expressly discriminate between investors on the basis of the status of their home country in at least three ways:

4.2.3. Annex I Versus Non-Annex I Parties

Although not expressly prohibited by Article 12, it is unclear whether investors from non-Annex I Parties would be entitled to participate in CDM activities. Under some conceptions of "additionality" project sponsors may be required to demonstrate North to South flows of financial resources before a project activity could be certified. In such a case investors from non-Annex I Parties might be denied access to either to eligible project activities, or to CERs. It may be argued that a non-Annex I investor, without emissions reduction commitments of its own would have no incentive to invest in CDM projects. If CERs are designed as a tradable commodity, it is entirely possible that an investor without commitments of its own would see the investment potential in buying and holding CERs to sell to the highest bidder should supplied become scarce.

4.2.4. Complying Versus Non-Complying Parties

The Protocol Parties may wish to condition an investor's eligibility to participate in CDM activities on the basis of whether its home country is currently in compliance with its commitments. Article 6 of the Protocol (joint implementation) sets a precedent by suspending a Party's right to add ERUs generated by an JI project to its assigned amount if issues are raised with regard to either the investor or the host states compliance.

It may be argued that a Party to the Protocol that has authorized the use of such sanctions in general would be unlikely to (or even legally estopped from) invoking the MAI to challenge such a sanction when it is applied against on of its own investors. However, the MAI's investor-state dispute settlement procedures may allow the investor, who may care less about the niceties of international legal obligations, to challenge a measure, even if its government feel otherwise.

4.2.5. Party Versus Nonparty

While this is not explicit in Article 12, most conceptions of the CDM would probably not allow investors from host countries not Parties to

4. The Inter-relationship Between the KP and the Proposed MAI

the Protocol, or at the very least, those not Party to the Convention to participate in the generation and sale of CERs. This would be justified both for enforcement reasons, as a non-Party host country could not be expected to hold its investor to comply with CDM rules, and to provide all potential host countries an incentive to join the Protocol. This distinction may well be necessary as Article 12 paragraph 10 appears to allow CDM project activities to be certifiable as early as 2000, most likely prior to the entry into force of the Protocol.

Indeed the OECD Secretariat own analysis of potential conflicts between the MAI and MEAs that used quotas and permits noted that:

If quotas or permits are earned by enterprises as a return on participation (investment) in a pollution reducing project in a developing country, the question would arise as to whether the ineligibility for such a quota or permit (return) of enterprises of countries not Party to the system constituted a discriminatory measure of the project host. If the eligibility requirement were established by an international regime, that might be interpreted for MAI purposes to be a measure of each Party to it.

The OECD Secretariat qualifies the risk by suggesting that the barring investors from non-Parties to the Protocol from eligibility may not be necessary, as a CER would have no value in the legal system of the investor's home country. This analysis is, however, based on the assumption that CERs would not have an inherent value as an investment that could be sold on to investors in home countries where they did have value.

4.2.6. Foreign Versus Domestic Investor

Under some conceptions of the CDM, a host country or its own domestic investors would be eligible to invest in CDM project activities without the involvement of any foreign investor. Foreign capital would be flow only at the point when the CERs were ready to be sold on. In order to promote an endogenous, climate friendly technology in a particular sector, a host country might

decide to bar foreign investors from CDM eligible project activities in the same sector, at least until the domestic producer was prepared to compete with foreign rivals. The MAI prohibition on pre-establishment discrimination would preclude such an approach which would discriminate against foreign investors.

4.2.7. Performance Requirements

Article 12 provides that CDM project activities should assist developing countries in achieving sustainable development, and should promote real, measurable and long-term benefits. By some analyses such criteria would lead a host country to require a CDM project activity to shorten the chain of production by using locally produced goods or services, to build domestic capacity by employing local citizens, or to transfer technology to local firm. These employment and performance requirements, even if imposed equally on domestic and foreign investors, would potentially violate the MAI.

The MAI's prohibition on performance requirements would be softened in two ways. Firstly, the enumerated requirements may be employed in circumstances where they are conditioned on the "receipt or continued receipt of an advantage". If CERs generated by project activities are seen as being within the control and largesse of the host state, then conditioning their transfer to an investor on the basis of performance requirements may be permissible.

Secondly, the MAI text has a specific environmental exception applicable to the provision on performance requirements. Modeled on Article XX of the GATT1994, the performance requirement exception would allow measures that might otherwise have violated the MAI if the host country can establish that they are "necessary for the conservation on of living or nonliving exhaustible natural resources."

4.2.8. Expropriation and Compensation

4.2.8.1. Direct Expropriation

The transaction at the core of the CDM

(Article 12(3)) is described so ambiguously as to leave unanswered a fundamental question: who has rights to the CER or the expectation of a CER at what stage in the CDM cycle? The issue is of great importance from the stand point of investor protection in that efforts by the host state to control or retain a CER for various reasons may be characterized as an “expropriation” of the investor’s property.

For example, as part of either a domestic or an international compliance regime, a host country acting of its own volition or on instruction from a Protocol body, might suspend the validity of CER. As has been indicated Article 6 of the Protocol (joint implementation) sets a precedent by suspending a Party’s right to add ERUs generated by an JI project to its assigned amount if issues are raised with regard to either the investor or the host states’ compliance.

Parties have, furthermore, yet to resolve whether host countries should be entitled to retain a share of any CERs generated within their territory. Some have argued that a host should be able to collect a “resource rent” for maintaining the regulatory framework necessary for hosting the project activity. If standard rules are not agreed among the Parties on this issue disputes might arise over the ad hoc expropriation of all or some of the CERs expected by an investor.

4.2.8.2. Indirect Expropriation

The scope of expropriation in the draft MAI sets a new global standard. Regulatory takings, or state measures such as taxation and licensing, which may affect foreign investments do not traditionally amount to expropriation unless they are discriminatory or have the precise intent and effect of confiscation. The MAI, like NAFTA upon which it is modeled, expands the international standard for expropriation to cover “regulatory” taking. The MAI prohibits the taking of any state action or measure that has the equivalent effect of direct or indirect nationalization or ‘creeping’ expropriation. There is standing available to an investor concerning an alleged breach of an obligation which “causes loss or damage to the investor or its investment”.

Whether the MAI would require compensation for the passage of regulations that reduce the potential for generating profits, or otherwise cause loss or damage to the investment, is a matter of current debate. The experience with NAFTA to date demonstrates that the current wording of the expropriation provision would support these claims. The liberalized MAI imposes broad obligations on states and new rights for investors. Together, this increases the possibility that any state regulation will directly or indirectly discriminate against one or more investors/investments. With broader grounds for discrimination, and a high standard of compensation, investor’s rights to dispute resolution mechanisms against states will undoubtedly influence domestic policy development under an MAI regime.

This section of the report will now turn to two scenarios that will test at a deeper level the potential relationship between the CDM and the MAI from the perspectives of a non-CDM investor and a CDM investor.

4.3. Party or Nonparty Investors

4.3.1. The MAI and the Non-CDM Investor

The CDM, as with all environmental regulatory instruments, may be vulnerable to attack under the MAI if it provides the basis for any facially neutral regulation that has a disproportionate impact on a foreign investor. For example, every CDM project activity must achieve both environmental and financial additionality in order to be certified. This means that the project activity must bring about overall benefits that would not have occurred in the host country in the absence of the project. A counterfactual baseline, or reference case, must therefore be constructed (either on a multilateral or bilateral basis) to describe what the host country would have done in the absence of the project activity. The counterfactual baseline must be reliable and verifiable, in order to achieve the global reduction of GHG emissions. If CDM emissions reductions that are not additional are allowed to be certified and are offset against Annex B commitments, overall global emissions will increase against a business as usual baseline.

The COP/MOP will likely devise a common framework for a counterfactual baseline that is susceptible to third party scrutiny. The framework may be extremely prescriptive (such as the existing framework for GEF product activities, which requires that a project baseline must reflect a minimal standard of ‘environmental reasonableness’) or it may give the parties involved in the project activity more latitude when defining the baseline on a project by project basis. We will assume the latter for this analysis.

Once a baseline is established between the host country and the Annex I investor, and a project activity has been certified, the host country may choose to adopt regulations which support the baseline so that the project activity will be verified and produce CERs. For example, a host country may enter into an agreement with an Annex I investor for the establishment and operation of a solar energy facility. Further to the CDM requirement of environmental additionality from this project, a regulation is passed to prohibit the establishment, (use, or operation) of coal fired facilities in the country.

Of course, this regulation is passed for a valid environmental purpose related to air quality and further to the ultimate CDM objective of reducing overall GHG emissions. In this scenario, if a foreign investor is operating a coal fired plant in the host country and is the only such investor in the country, that investor may claim that it has suffered de facto discrimination and initiate an action for expropriation against the host under the MAI.

Analogies can be drawn from the NAFTA challenge of a Virginia based company, Ethyl Corp. (Ethyl), against the Canadian government for enacting legislation to ban the import and interprovincial transport of the gasoline additive MMT on the grounds that it is a dangerous toxin. MMT is a manganese-based compound that is added to gasoline to enhance octane and to reduce engine “knocking”. Ethyl is the only North American producer of MMT and a Canadian company directly benefited from the ban on MMT. Ethyl sued the Canadian government for approximately

\$250 million (U.S.), arguing that MMT is safe and that Canada’s ban on the additive constitutes an illegitimate expropriation of Ethyl’s assets, namely its Ontario plant which did the final mixing of MMT. The Canadian government challenged the jurisdiction of the panel to hear the case on the grounds that Ethyl followed improper procedure in bypassing their state government in initiating the claim. The panel ruled against them, finding that Ethyl had standing under NAFTA provisions which are almost identical to those in the MAI. Shortly thereafter, the claim was settled for approximately \$13 million (U.S.) and an apology by the Canadian government.

4.3.2. The MAI and the CDM Investor

In another scenario, the CDM project activity may itself be expropriated by a host state. A host state may decide to nationalize a major industry or natural resource for purposes of social and economic development. For example, CDM project activities may include land use change and forestry activities undertaken to reduce carbon emissions or increase carbon sequestration. Deforestation activities lead to combustion and decomposition of woody material and release carbon. Where land is purchased through a CDM project activity for the promotion of growth and regeneration in secondary forests and on pasture lands, and deforestation is prevented, the additional carbon which is sequestered may generate CERs.

A change of government and/or change in priorities or circumstance may cause a host state, after agreeing to participate in a carbon sequestration project to nationalize the land for other purposes. In addition to claiming expropriation of the land, the investor of the forestry CDM project (above) will likely allege the expropriation of the CER certification. For the expropriation of the CER, the investor is likely to claim compensation both for the value of the land and the anticipated value of the offsets.

4.4. MAI Investor-State Dispute

The investor-state dispute settlement

procedures in the MAI would fill a significant gap in the Protocol's institutional structure. At present it is anticipated that only states Parties to the Protocol would have the power to invoke any of the Protocol's non-compliance or dispute settlement procedures. The MAI would be the first international agreement, open for accession to the global community, which gives investors new rights and states additional obligations and provides a mechanism for investors to enforce these rights through international arbitration.

Each contracting Party to the MAI gives its unconditional consent to international arbitration in accordance with Article 4 upon signing the agreement. Any issue in dispute with respect to an alleged breach of an obligation (i.e. unlawful expropriation of a CER or CDM project activity) under the MAI which causes loss or damage to the investor or its investment, shall be decided in accordance with the MAI, interpreted and applied in accordance with applicable rules of international law. A party to the MAI would further have to agree to submit any other investment dispute concerning any obligation which the host state has assumed pursuant to the agreement to enter into a CDM project activity or transfer a CER (which can be considered an investment authorization) to arbitration under Article 4. In this case, the rules of law agreed to by the parties under the agreement would prevail.

Where the agreement is silent, the law of the Contracting Party and applicable rules of international law prevail [Article 4, para.14b)]. The investor may choose to submit any dispute which cannot be settled through negotiation or consultation to a number of specified fora under Article 14, para. 2. Only the investor has a right to withdraw a dispute once it has been initiated, pursuant to paragraph 9e of Article 4. Without a BIT to provide similar rights between parties, the common practice would be for a consortia of domestic industries or multinationals to pressure their home governments to bring actions to protect their commercial interests. Specious claims which may not be in the bilateral or global interest are usually filtered out by the home government. Absent this government filter, and based on the experience of NAFTA, the MAI will likely increase

international arbitration.

4.5. Regulating Free Markets

The agreement on Article 12 resolved a number of critical aspects of how the CDM will manage project-based joint implementation between Annex I and non-Annex I Parties to the Protocol. However many gaps remain to be filled, and the negotiating dynamic for the next stage of the development of the CDM remains fundamentally unchanged. This dynamic can now be characterised as pitting a market-based approach, against an "interventionist approach" based on traditional public sector development assistance. Both approaches stress the need for a system capable of generating credible certified emissions reductions (CERs), but differ on the best means of achieving this. The extent to which the CDM might run afoul of the MAI will depend on the level of state intervention Parties feel will be necessary to achieve

5

Private Sector, Compliance and Standard Forms: Inter-linkages with Private Contractual Regimes

5.1. Introduction

In thought by many observers that the role of the private sector will become increasingly significant to the successful implementation and operation of the flexibility mechanisms as set out in the Kyoto Protocol. The question that this section raises is whether the compliance and dispute settlement system envisioned thus far is adequate to manage the market mechanisms such as emissions trading, Clean Development, and joint implementation where large amounts of money will inevitably change hands *visa a vie* states, states and private legal entities, and between private entities and other private entities.

To answer these questions this section first establishes just which private sector or non-state actors could become involved in the flexibility mechanisms. The section then turns to discussing the current compliance and dispute settlement system. Finally having analyzed the system it is argued that although the compliance system is progressive and is likely to achieve overall compliance it requires a subsystem at the market mechanism level with binding power which can effectively enforce the transactions and efficiently solve disputes between the parties. Therefore it is argued, that the use of a model contractual forms which could be based on the existing private international contractual regimes, and which have built-in arbitration and

conflict resolution mechanisms could be one way of ensuring the stability and compliance within the flexibility mechanisms.

5.1.1. The Role of the Private Sector, NGO's and other "legal entities" in the implementation of the Kyoto Protocol

In exploring the role to be played by non-State actors in implementation of the flexibility mechanisms, this paper discusses: 1) key provisions of the Kyoto Protocol concerning joint implementation, emissions trading and the Clean Development Mechanism, 2) some of the international organizations involved in activities related to implementation of the flexibility mechanisms, and 3) ways in which private sector entities and non-governmental organizations (NGOs) might participate in activities concerning joint implementation, emissions trading and the Clean Development Mechanism.

5.1.2. Key Provisions of the Kyoto Protocol concerning Joint implementation, Emission Trading and the Clean Development Mechanism

The Climate Change Convention established a pilot phase for Activities Implemented Jointly (AIJ). The term AIJ implies that governments or companies will contract with parties in

another country to implement an activity that reduces greenhouse gas (GHG) emissions in that country. During the years following its entry into force of the UNFCCC, a limited number of AIJ projects were carried out, primarily on a bilateral basis but also under the auspices of intergovernmental organizations such as the World Bank.

AIJ related activities were the precursor for the provisions on joint implementation among Annex I countries, emissions trading and the Clean Development Mechanism included in the Kyoto Protocol. The relationship among the provisions on joint implementation, CDM and emissions trading are rather complex, but in general Annex I countries can receive credit for reducing greenhouse gas emissions for carrying out either joint implementation or CDM projects and such credits can be used to meet the Annex I countries' commitments to reduce emissions under Article 3.

The Kyoto Protocol to the UNFCCC includes provisions authorizing joint implementation of Annex I country commitments in Article 3 and provides a mechanism for calculating the Parties emission limitation and reduction obligations under a joint implementation scenario by the transfer of "emission reduction units." Article 6 of the Kyoto Protocol authorizes emissions trading among Annex I countries and Article 12 establishes the Clean Development Mechanism, a scheme for encouraging Annex I countries to carry out emission reduction projects in developing countries by providing credit for "certified emission reductions" which can be used to meet the Annex I countries' commitments under Article 3.

As noted above and stated in Article 17, COP 4 is expected to define "the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emissions trading." In other words, while the Kyoto Protocol authorized emissions trading as a mechanism under which Annex I countries can receive credit for emission reductions for both joint implementation and CDM activities, the specifics of how these interrelated programs will function remains to be elaborated.

5.1.3. International Organization's Role in Joint Implementation, Emissions Trading and the Clean Development Mechanism

International organizations authority for involvement in flexibility mechanisms discussed in this paper arises primarily from language in Article 12 of the Kyoto Protocol. Paragraph 5 of Article 12 states that "Emissions reductions resulting from each project activity shall be certified by operational entities to be designated by the Conference of the Parties serving as the meeting of the Parties to this Protocol..." and also refers to the participation of "public entities" in CDM activities more generally in paragraph 9.

5.1.3.1. The World Bank

The World Bank has been involved from the early 1990's in carrying out AIJ activities and has proposed a Global Carbon Initiative. Under the Global Carbon Initiative, the Bank would serve as a broker between buyers and sellers of certified emission reductions, assist developing countries in CDM project development and aid potential buyers in identifying projects and groups of projects of interest to them.

5.1.3.2. United Nations Conference on Trade and Development

UNCTAD has proposed playing a role as an intermediary in trading certified emission reduction credits.

5.1.3.3. Regional Development Banks

While no clear role has been articulated for regional development banks, they are well suited to assist developing countries in identifying CDM projects that meet their goals for sustainable development and achieve emission reductions. The regional development banks could also serve as regional commodity exchanges emissions trading and monitor and enforce CDM contracts.

5.1.3.4. United Nations Commission on International Trade Law

For both government sponsored and

private sector activities carried out under both the joint implementation and CDM schemes, there will be a compelling need for consistency in contractual arrangements. Among other things, such consistency would facilitate monitoring and enforcement of the agreements. UNCITRAL could play an important role in drafting model agreements for this purpose.

5.2. The Role of the Private Sector Entities and NGO's

There are two basic reasons that the private sector will be motivated to participate in activities related to joint implementation, emissions trading and the clean development mechanism. First, in order to achieve their emission reduction commitments under the Kyoto Protocol, national governments will need to allocate rights to emit greenhouse gases among the current and/or future sources of emissions in their own countries, most of which will be in the private sector. As a consequence, the private sector will be required to achieve reductions and, if allowed to do so, may choose to meet some of its obligations by carrying out joint implementation or clean development projects or through trading emission rights.

Second, private sector entities may be motivated to participate in project activities or emission trading in order to make a profit, if they are engaged in lines of business which are related to these emission reduction activities such as technology development, power generation, contract negotiation and monitoring and commodities trading.

5.2.1. Multinational and Domestic Corporations

To the extent that corporations in Annex I countries operate plants which are subject to national emission limitations, they may have an interest in achieving their emission reduction obligations by carrying out projects in other Annex I countries or developing countries. Multinational corporations in particular may be interested in trading emissions among subsidiaries located in different countries.

5.2.2. Commodity Exchanges

levels, private commodity exchanges can help to create a market for the sale of greenhouse gas emission rights, provide a forum for emissions trading and monitor the quality of the transactions. While it is possible that international organizations such as the World Bank or UNCTAD will play a role in emissions trading related to CDM projects, private sector commodity exchanges may be more qualified to handle private sector emission trading transactions.

5.2.3. International Power Industry

The international power industry may play a role both in emissions trading to meet its own emissions reductions obligations and as an executor of projects aimed at generating power in a manner which reduces GHG emissions. Power generators are also involved in cross border sales of energy, which impact on both national and private sector emission limitations.

5.2.4. Technology Developers and Manufacturers

The private sector has a critical role to play in the development and diffusion of technology that results in lowering emissions of greenhouse gases. Developers of energy efficient technologies and processes may seek market opportunities created by joint implementation and CDM activities.

5.2.5. Non-Governmental Organizations

NGOs have an important role to play in the implementation of the flexibility mechanisms. In particular, they may be critical in helping to ensure that: 1) real reductions in emissions take place as a result of joint implementation and emissions trading by monitoring the joint implementation arrangements and emission trading transactions which take place among Annex I countries, 2) the dual objectives of sustainable development in non-Annex I countries and emission reductions are achieved under the Clean Development Mechanism, 3) non-Annex I countries have the capacity to request technology and projects which help them to achieve their

sustainable development goals.

The participation of non-State actors, authorized by the Kyoto Protocol, will be critical in achieving the treaty's environmental objectives. The roles of international organizations, private sector entities and NGOs in implementation of the Protocol's provisions on joint implementation, emissions trading and the Clean Development Mechanism should be discussed as an integral aspect of the negotiations on elaboration of these flexibility mechanisms leading to COP 4 in Buenos Aires

5.3. Review of the Existing and Proposed Compliance and Dispute Settlement System under the Kyoto Protocol

Without concrete obligations, and the monitoring of implementation/compliance with those obligations, it is not practicable to speak of noncompliance mechanisms. This is seen clearly in the climate change context, which has proceeded from general commitments without specific timetables and targets, to agreement upon such specific commitments with attention turned to implementation thereof and to compliance control. The 1987 Montreal Protocol, the 1994 Second Sulphur Protocol, and the 1997 Kyoto Protocol suggest a new cycle of strengthening compliance systems gradually, and in step with the strengthening of commitments.

5.3.1. The Climate Change Convention

The traditional dispute settlement approach is present in Article 14, which adopts an approach which conceptualises disputes as arising between two or more Contracting Parties in connection with the interpretation or application of the Convention. If ever activated, the traditional hierarchy of peaceful dispute settlement mechanisms would apply, ranging from negotiation and third party mediation or good offices, through to arbitration or submission of the dispute to the International Court of Justice. Under Article 14, recourse to negotiation or other means of peaceful settlement is obligatory, with either Party able to request creation of a conciliation commission in the event that negotiation is unsuccessful; however, the awards of the commission are recommendatory only. This bilateral dispute

settlement route is considered to be complementary to the Article 13 process.

Article 13, on the other hand, is a good example of the trend away from total reliance on traditional dispute settlement methods in recent multilateral environmental agreements noted above. It establishes a multilateral consultative process ("MCP") for resolution of questions concerning the implementation of the Convention. Little detail is contained in Article 13, thus the first meeting of the COP established an Ad Hoc Group on Article 13 to operationalise the MCP. The sixth and final session of this Group was held in Bonn in June 1998 where its work was completed in anticipation of COP 4. It has adopted the framework for a MCP which must now be considered at COP4, including the resolution of the matters left unresolved in the Committee.

In earlier sessions the Group has emphasised the advisory rather than supervisory nature of the MCP, further distancing the process from a more rigorous form of NCP. The MCP is without prejudice to the dispute settlement provisions of Article 14, the latter applying, *mutatis mutandis*, to the Protocol. There is no internal "exhaustion of local remedies rule" in operation. But there is some doubt whether Article 14 will ever be invoked in a traditional dispute settlement; indeed, one of the reasons for including Article 13 was the perception that traditional dispute settlement would have a very limited role to play under the Convention where the likely nature of disputes would not be amenable to such procedure.

5.3.2. Noncompliance Under the Kyoto Protocol

The application of the Article 13 MCP to the Protocol is an issue left undetermined by the Protocol itself. Article 16 of the latter provides that the Conference of the Parties serving as a meeting of the Parties to the Protocol shall "as soon as practicable" consider such application, with or without modification. If the Article 13 MCP were so extended, the Protocol expressly provides that such procedure would operate without prejudice to the NCP under the Protocol (which in turn is without prejudice to the dispute settlement provi-

sions of Article 14 FCCC). What is clear is the determination to distinguish a specific noncompliance procedure under the Protocol from both the dispute settlement provisions of Article 14 of the Convention /Protocol and the MCP of Article 13 (if extended to the Protocol).

It is Article 18 of the Protocol which expressly refers to noncompliance in the following terms:

The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, approve appropriate and effective procedures and mechanisms to determine and to address cases of noncompliance with the provisions of this Protocol, including through the development of an indicative list of consequences, taking into account the cause, type, degree and frequency of noncompliance. Any procedures and mechanisms under the Article entailing binding consequences shall be adopted by means of an amendment to this Protocol.

Due to the politically sensitive nature of noncompliance procedures, in particular binding consequences flowing from a determination of noncompliance, it is not surprising that decision on any such characteristics will require the stringent treaty amendment procedures of the Protocol to be followed. Establishing this significant procedural hurdle to the adoption of binding consequences for noncompliance is in part a reaction against the dynamic development of the Montreal Protocol NCP unfettered by such further requirement of treaty amendment but subject rather to the decision-making rules of the COP. There is a clear reluctance to provide a “blank cheque” for binding noncompliance consequences to the COP.

The design of a future NCP under the Protocol will entail both institutional and functional aspects: what is the procedure designed to achieve, and which organ(s) will be responsible for it? A special body will need to be established, most likely a standing committee of legal, economic and technical experts (or generalists with access to a roster of experts). Moreover, the relationship between this body and the existing Convention bodies will require careful definition. Experience has shown that the development of a NCP can take some

time. How then will the NCP be operationalised pending the entry into force of the Protocol? This is particularly problematic given that the key features of the flexibility mechanisms under the Protocol have also yet to be determined.

In fact, these matters have already been raised in the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI) which have met since the adoption of the Kyoto Protocol (Bonn, June 1998). Included on the agenda of each body was consideration of suggested elements for a work programme to operationalise the mechanisms under the Kyoto Protocol, in particular joint implementation, the clean development mechanism, and emissions trading. Compliance is identified as one of the outstanding issues under each of these mechanisms, which will be addressed in turn.

5.4. Flexibility Mechanisms

5.4.1. Joint Implementation

Where joint implementation is pursued, Article 4 provides that a failure to achieve joint emission reduction targets does not absolve Parties from the obligation to meet their own emission reduction targets, which are obliged to be set forth in the agreement. This simplifies the application of a NCP to the joint implementation process where there has been a failure to achieve targets, and provides additional incentive for reaching the targets set forth in the joint implementation agreement. Whilst implementation may be joint, responsibility for noncompliance with targets is still that of the individual State.

The verification and reporting criteria which are to be established at MOP1 (or as soon as practicable thereafter) could give rise to noncompliance thresholds, as could the extent to which JI is supplemental to domestic implementation measures. The additionality requirement of Article 6(1)(b) provides a further benchmark for the application of NCP.

5.4.2. The CDM

Article 12 of the Protocol establishes

the clean development mechanism (CDM), the purpose of which is “to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3. The executive board and “operating entities” under Article 6 could perform a compliance function in respect of the CDM, in which case the issue of whether multiple compliance mechanisms will evolve under the Protocol, perhaps linked with specific flexibility mechanisms, will need to be addressed by the COP/MOP. As under Article 6, the establishment of auditing and verification criteria will also give rise to the need also to establish noncompliance parameters.

As with JI between Annex I Parties, concerns that Article 3 commitments would be met wholly through the CDM are addressed in Article 12(3)(b) which explicitly provides that certified emission reductions from such project activities may contribute to compliance with part of their Article 3 commitments (as determined by the COP). A key concern for all three of the Kyoto mechanisms is to establish an appropriate level of reliance on these mechanisms, jointly and severally, in addition to domestic implementation. The setting of a precise level would constitute a yardstick against which compliance with the supplementarity requirement could be measured. Finally, as with JI, emission reductions deriving from CDM project activities must demonstrate that such reductions are additional to any that would occur in the absence of the certified project activity (Article 12(5)(c)), thus providing a further benchmark for the application of a NCP.

5.4.3. Emissions Trading

Article 3 of the Protocol envisages an emissions trading system which will establish a market amongst Annex I Parties in emission credits. There is no time scale for operationalising emissions trading stated in the Protocol, though it is certainly expected to be operational during the first commitment period (2008-2012). Any trading is to be supplemental to domestic actions to meet reduction commitments; limiting the operation of the trading to developed States further meets the

concern expressed by developing States that such States would meet their quotas without implementing necessary domestic measures to reduce emissions simply through purchasing quota.

5.5. Many Outstanding Compliance Issues Remain Unresolved

There are thus a large number of design issues to be addressed in implementing Article 18 of the Protocol, many of which are linked to the details of the flexibility mechanisms yet to be established. A key concern in the forthcoming negotiations, as the flexibility mechanisms are fleshed out, will be to ensure that the substantive commitments under the Protocol do not lead to irresistible pressures to weaken the noncompliance mechanism under Article 18. Absent such a mechanism there is no realistic alternative for ensuring the effective implementation of the Protocol.

5.6. Interrelationship between the Kyoto Protocol and Private International Contractual Regimes: The Development of Model Contractual Agreements for the Flexibility Mechanism

Having reviewed the existing and proposed compliance and dispute settlement provisions of the Kyoto Protocol, it is clear that an overall compliance system is envisioned. However, there still remains no defined dispute settlement or compliance system at the market mechanism level. Given the inherent relationship of the flexible mechanisms to the achievement of the emission targets and therefore the overall objective of the Protocol such a system will undoubtedly need to be considered.

One method of achieving compliance at the flexible mechanism level without having to create a completely new system is for the Parties to agree on standardized contractual arrangements that have built in dispute settlement and arbitration clauses. This section examines the opportunity of employing these types of contracts that could be used between public and private legal entities participating in the Clean Development Mechanism, joint implementation projects and emission

trading transaction as envisioned under the Kyoto Protocol. The section also distinguishes potential standard forms that could be used to govern the transactions, particularly with reference to United Nations Commission on International Trade Law (“UNCITRAL”) rules or forms.

5.6.1. Standardisation and the Flexible Mechanisms

Is it possible to have a standardised agreement for the international governance of the flexible mechanisms? The question of standardisation has elicited much controversy in contract law. In relation to a CDM or JI project, the main argument against a standardised agreement would be that not all CDM or JI projects will be exactly alike and thus standardisation could undermine the potential for flexibility and dynamism in achieving contract objectives. Given widely varying cultural and commercial circumstances in different countries, a case-by-case approach seems legitimate.

Nonetheless, it is likely that a series of contract guidelines will need to be met in order to secure the achievement of the goals of the Protocol. Some of the advantages of standardisation include the following:

- Standardisation facilitates the conduct of commercial/investment transactions thus saving costs and time;
- It facilitates the comparison and evaluation of contractual responsibilities and associated risks, if these are based on the same well-known contractual terms;
- It makes financing easier, since financiers would be familiar with contractual terms;
- It enables the parties to plan ahead and to have effective control, monitoring and supervision of projects;
- It reduces the tendency for the private sector to exploit its financial and technical advantage in the course of negotiations with national or local authorities;
- It may facilitate subcontracting and negotiating of other project-related contracts;
- Standardised project agreements are more carefully drafted and as such are usually of a higher quality;

- Standardisation does not necessarily preclude introducing special conditions if needed, thus ensuring flexibility and dynamism.

It could be contended, however, that standardisation is not very common or appropriate in long-term contracts but rather, as an instrument for short-term, immediately consumable transactions. There is, however, a growing trend in standardising long-term agreements even in the natural resources sector as evidenced by the tendency of host countries to draw up similar model contracts to govern such transactions. This is equally true at the international level, where the United Nations Industrial Development Organisation (UNIDO), the International Chamber of Commerce (ICC), the Association of International Petroleum Negotiators (AIPN) as well as the World Bank have been working on and even published some standard terms.

Even if standardisation of CDM or JI project contracts were preferable, the issue arises as to the type of contract to be adopted. Does the UNCITRAL practice or laws provide any guidance?

UNCITRAL was created in 1966 in order to enable the UN to play a more active role in reducing or removing legal complications in the free flow of international trade. It has accordingly produced a continuous flow of studies, standard terms (for documentary credit) and model rules or laws (for arbitration and procurement) in areas of international trade law for national enactment.

So far, however, there are no particular UNCITRAL rules or forms for CDM or JI project contracts. This is understandable, as these mechanism was invented post UNCITRAL, and could not have been contemplated by UNCITRAL rules or forms. It is pertinent to stress though, that whichever type of contract is eventually adopted, a conciliation, mediation and, or arbitration clause should be a must for every such contract. This ensures that compliance and dispute settlement problems at the flexible mechanism level will not jeopardize or impact the overall compliance and achievement of the Protocol’s objectives.

5.6.2. The CDM

The Kyoto Protocol agreed upon in December 1997 will, if implemented, transform the way energy is produced and used. The agreement may well turn out to be one of the most significant, in terms of the impact on lifestyles, of the 20th century. If the targets agreed upon in Kyoto are to be achieved, it is now virtually certain that the so-called flexibility mechanisms endorsed in Kyoto - emissions trading, Joint Implementation (JI) and the Clean Development Mechanism (CDM) - will be utilised on a large and international scale involving both public and private sectors. It is conceivable, even likely, that the nature and scale of foreign energy investment will change radically.

The basis of all three flexibility mechanisms is trading. Such trading will represent transfers of credits, allowances, permits and quotas, all of which will be linked directly to the reduction of emissions of the greenhouse gases (GHGs) stipulated in the Protocol.

In the case of JI and the CDM, the legal and contractual implications are great. Not only will it be important for contracts to protect the interests of both sides of a project or crediting deal, but it will also be a requirement that the GHG credits which result from it are, as the Protocol puts it, “real, measurable and long-term” and “additional to any that would occur in the absence of the certified project activity.”

This will be of added importance for the CDM since the credits which arise from such projects will, in total, permit Annex I countries, i.e., the industrialised OECD countries that have emissions reduction targets under the Protocol, to exceed their combined limits for the 2008-2012 budget period. If the CDM is abused, inaccurate or badly designed, credits will not correspond to genuine reductions and the Annex I target will not be met. CDM contracts must therefore be watertight from both a commercial and an environmental standpoint. Indeed, the two perspectives are inextricably linked.

While it is evident that CDM contracts

cannot be devised until the UN process provides a more detailed design framework, this section of the report seeks to propose a standard form for the future. It is based on an analysis of the Protocol, a review of selected proposals made to the UNFCCC for AIJ project support (Activities Implemented Jointly), analysis of UNICITRAL rules - and some new thinking.

5.6.2.1. The CDM contract - Issues to be Covered

The fundamental features of a standard form contract for the CDM should consider the following:

- A definition of the project;
- Commitments by the donor in relation to financial investment, GHG reductions (see below), project performance, technology co-operation and sustainable development;
- Commitments, if appropriate, from the host in relation to site and/or project ownership, provision of goods and services in relation to effective operation of project and sustainable development;

Specific aspects to be covered would include the following:

- Arrangements for the ownership of the project site, project and CERs arising from project;
- Detailed identification and quantification (over the full life cycle of the project) of greenhouse gas sources and sinks at the site and which are included in emissions baseline, together with assumptions and uncertainties;
- A project schedule and timetable, including the period during which emission reductions will take place with year-by-year forecasts of reductions;
- Estimated total CO₂-equivalent emissions reduction accruing to the donor investor (and host if credits are to be shared) over a specified period. Note that Art. 12 (5) states that emission reductions should be real, measurable, long-term and additional;
- Emissions monitoring process and data collection procedures;
- Procedures for updating estimates of emission

reductions;

- Arrangements for independent auditing, external verification and certification;
- Assuming that certification takes place before the transfer of credits, enforcement mechanisms will need to be laid down in the event of non-compliance;
- Penalty arrangements in the event of non-compliance by either party, in particular in the event of emission reductions being lower than estimated;
- Commitments relating to Article 12(2) that the CDM should help developing countries achieve sustainable development. All non-GHG environmental impacts of the project should therefore be detailed;
- Commitments relating to Article 12(8). The contract should determine what share of the proceeds are allocated to cover administrative expenses and/or assistance to Parties for adaptation to climate change.

5.6.3. Possible Contract Types for CDM Projects

Generally speaking, there are already a number of example contracts which have been negotiated since the Kyoto Protocol was agreed upon, most of which would not squarely fit into the CDM Project framework because these later projects were obviously not originally contemplated by such contractual arrangements. But, considering the substance of CDM Projects, other examples of inter-governmental agreements such as Intergovernmental Co-operation Agreements, Concession Contracts, BOT (Build, Operate and Transfer) Project Contracts, and Joint Venture and Service Contracts deserve closer analysis because they have certain features which make them more easily amenable to the kinds of agreements envisioned under the CDM.

5.6.3.1. Intergovernmental Co-operation Agreements

These are agreements entered into by governments for and on behalf of their respective sovereign states and can be of a general, framework nature or relate to a specific CDM Project. They usually provide, among other things,

procedures and joint institutions for co-operation programming, for project preparation and evaluation as well as for implementing projects and monitoring their performance. These ongoing efforts to develop suitable intergovernmental co-operation contracts can be complemented by the further deliberations of the COP under the Kyoto Protocol. Intergovernmental agreements relating to specific CDM Project(s) could contain provisions relating to:

- The partial, or full assumption of risk of non-performance of such projects by their respective home countries. Where projects are initiated by private legal entities, the home states should bear partial assumption of risk. But, full assumption of risks should be borne by home states if projects are initiated by their respective public sectors;
- Provisions regarding financing and market access conditions to enable the proper and effective implementation of the CDM;
- Host state guarantees regarding stability of the enabling regulatory regime, including the terms of the CDM agreement; and
- Host state guarantees relating to the uninterrupted supply of energy and natural resources, where these are applicable to the CDM Project.

Some of the advantages of intergovernmental co-operation agreements include the following:

- This type of agreement seeks to link project contracts with international law through home state commitments to assume performance responsibility;
- It provides a convenient framework for project agreements on the enterprise level by shielding such enterprises from the vagaries of host country regulatory regimes;
- The reduced number of participants allows commitments to be more concrete and precise in terms of specific sustainable development goals and strategies or quantified emission limitation and reduction objectives (QUELROs);
- Since this type of agreement can take a variety of forms, it is flexible enough to correctly reflect the degree of state intervention in concrete cases

of co-operation at the project level;

- The rules or terms of the agreement may be bilaterally negotiated, thus allowing innovative solutions and a gradual evolution of the entire process.

The main disadvantage of these types of agreements stems from the assumption of the equal bargaining power of the respective parties, which is not usually the case. Indeed, it is not unlikely that the unequal bargaining power and the inadequacy or absence of experience on the part of developing countries will result in an agreement that reflects this lopsided relationship in favour of the industrialised country. The solution lies in drafting such agreements to meet the differing, legitimate expectations of the parties. This would imply, *inter alia*, that:

- The agreements should not be exclusively reflective of the defensive interest of the investing or exporting countries;
- They should equally reflect elements of the collective interests of developing countries and actions in keeping with those interests such as technology co-operation, financial resources and respect for sovereignty over natural wealth and resources;
- They should contain concrete commitments from the parties aimed at creating a package of mutually beneficial interdependence.

5.6.3.2. *Concession Contract*

The term “concession” connotes “ownership” or, what in common-law systems is described as a “free-hold interest”. It is an arrangement whereby the private sector is granted the right to develop a public infrastructure project. The concession system has become transformed in the light of the exigencies of modern international commercial transactions. The following are some of the features of the modern concession contract:

- It gives exclusive right to the concessionaire to undertake its operations in a given area, including other ancillary operations within a certain duration with the possibility of renewal;
- The concessionaire has exclusive rights to man-

age its operations without undue interference from the host government;

- It sets out clear commencement, work, and other obligations, which may include the filing of work reports;
- It involves a simplified tax system that enables the concessionaire to effectively amortise its investments within a reasonable period of time;
- Pricing is always set by the concessionaire but, with government supervision;
- Dispute settlement is usually by ad hoc arbitration with the laws of the host country and international law as the choice of law clause;
- There is a possibility for revocation in exceptional circumstances.

The concession system has been modified in recent times to accommodate various other types of projects, with a considerable reduction in host government participation and control. It is possibly one of the most attractive options for CDM Projects, since it enables the private sector to exercise a free hand in developing and managing the project, with minimal host government interference. Innovative contractual clauses can be drafted to synchronise with the objectives of the CDM.

It is important to note that, in all contract types, the problematic issues are always in investment guarantees: non-expropriation, repatriation of investment/revenues, stabilisation clauses and duty free imports, just to mention a few. These issues deserve much more than a mere mention here. While in theory, the foreign private investor can obtain maximum government guarantees for the security of his/her/its investments by very clear contractual provisions, in practice, the government has some shrewd ways of bringing about tangible changes or the termination of an agreement.

Non-consensual modifications of economic development agreements may arise outside the realms of clear cases of breach of contract or force majeure from:

- (a) government’s unilateral action taken on the ground of public purpose;
- (b) a fundamental change of circumstances

rendering the performance of the agreement unduly onerous or wholly or partially fruitless

Traditionally, foreign private investors have tended to protect themselves by contractual devices such as inserting stabilising clauses, choice of law clauses and arbitration clauses. The stabilisation clause aims to protect the original contractual terms from future legislative changes of the host state, which may have negative repercussions in terms of taxation, environmental controls and other regulatory matters. The choice of law clause is usually aimed at subjecting the agreement to some other law (usually international law or general principles of law) besides the laws of the host state, which could be changed at will. The arbitration clause is usually aimed at choosing a neutral forum for settling disputes that may arise from the agreement. The combined effect of these clauses is to internationalise the contract.

While there have been a number of very persuasive objections to the theory of internationalisation, current trends appear to favour a delicate balancing of the often conflicting interests of foreign private investors on the one hand and host governments on the other. This approach involves the recognition that no sovereign state can divest itself of its primary responsibilities of protecting public interests and promoting sustainable economic development on the one hand, and ensuring some adequate guarantees against the consequences of unilateral government action on the other. These responsibilities may involve an obligation to renegotiate contracts if and when the original contractual equilibrium has been modified by a fundamental change of circumstance. Such a clause affords the possibility for the “dynamic stability” of the original contractual terms.

5.6.3.3. BOT (Build, Operate and Transfer) Project Contracts

BOT Project Agreements may be said to be modified versions of the concession contract. There can be considerable diversity in their form and content, ranging from “huge, complex contracts, tailor-made for a particular infrastructure project to straightforward and to some extent standardised

contracts for each infrastructure sector, as in China’s BOT programme.” To this extent, they can be said to be as flexible and dynamic as compared to concession contracts. Again, in view of the fact that in the construction, implementation and maintenance of some CDM Projects, like their AIJ counterparts, science, engineering and construction works would play a considerable role, the attractiveness of BOT Project Agreements can not be over-emphasised.

However, they have to be specially and carefully drafted to fit into the legal systems within which they are to operate. Legal systems that are less supportive of, or less transparent to, the BOT approach may require far more comprehensive provisions in BOT Agreements than those that are more supportive or transparent.

The potential advantages of using the BOT Project contractual approach to both the private and public sector are illustrated in Table 1.

5.6.3.4. Joint Venture Agreements (JVA)

The “joint venture” is “a business arrangement in which two or more parties undertake a specific economic activity together”. Although there are different variants of joint ventures (JVs), they are generally a popular way of pooling together scarce financial and technical resources for the purpose of carrying out a commercial undertaking. The JV contract spells out the terms of the joint venture, especially the financial commitments of each partner and the modalities for sharing of profit, which need not necessarily be in equal proportion. In the energy sector, host governments see JVs as an effective way of participating in the development of their natural resources, with the concomitant prospect of technology transfer.

The CDM will involve an arrangement between non-Annex 1 and Annex 1 Parties, by which the former benefits from project activities resulting in certified emission reductions and the latter may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitment. In practice, though, both industrialised and developing countries could

Table 1: Potential advantages to both private and public sector of using BOT approach for infrastructure development

Private Sector	Public Sector
<ul style="list-style-type: none"> • Gives private sector a free hand to finance the project, rather than depend on contribution from host government, which may cripple project because of government's other commitments. 	<ul style="list-style-type: none"> • Use of private sector financing to provide new sources of capital, which reduces public borrowing and direct spending and which may improve host government's credit rating.
<ul style="list-style-type: none"> • Ability to accelerate the development of projects that would otherwise have to wait for, and compete for, scarce sovereign resources. 	<ul style="list-style-type: none"> • Ability to accelerate the development of projects that would otherwise have to wait for, and compete for, scarce sovereign resources.
<ul style="list-style-type: none"> • Use of private sector initiative and know-how to reduce project construction costs, shorten schedules and improve operating efficiency. 	<ul style="list-style-type: none"> • Use of private sector initiative and know-how to reduce project construction costs, shorten schedules and improve operating efficiency.
<ul style="list-style-type: none"> • Private sector is responsible for the operation, maintenance and output of the project for an extended period (normally the government would receive protection only for the normal construction and equipment warranty period). 	<ul style="list-style-type: none"> • Allocation to the private sector of project risk and burden that would otherwise have been borne by an already encumbered public sector.
<ul style="list-style-type: none"> • Involvement of private sponsors and experienced commercial lenders, which ensures an in-depth review and is an additional sign of project feasibility. 	<ul style="list-style-type: none"> • Gives government a breathing space to source indigenous and skilled manpower comparable to the private sector.
<ul style="list-style-type: none"> • Able to recoup the costs of technology transfer, training of local personnel and the development of national capital markets towards the transfer of the project. 	<ul style="list-style-type: none"> • Public gains from technology transfer, the training of local personnel and the development of a rational capital market.
<ul style="list-style-type: none"> • Private sector establishes a benchmark against which the efficiency of similar public sector projects can be measured and the associated opportunity to enhance management of infrastructure facilities. 	<ul style="list-style-type: none"> • Public sector can measure its efficiency against the benchmark established by the private sector in respect of similar projects and associated opportunities to enhance management of infrastructure

Source: Adapted by authors from UNIDO BOT Guidelines (Vienna: UNIDO, 1996), p. 7.

use private and public entities to undertake CDM joint ventures (CDMJV). Clearly, a CDM joint venture agreement (CDMJVA) would be the most appropriate framework to guide the commercial and legal relationship between such entities. A standardised CDMJVA can be adapted to take care of the special requirements or substance of the clean development mechanism. Table II is an attempt to summarise some common advantages and disadvantages of the JVA.

Two observations should be made here. The first relates to the varying objectives of the joint venture partners (investor on the one hand and host government on the other). Whereas the host government would be more interested in attaining sustainable development, including technology transfer for the benefit of the national economy, the investor would be more interested in making a profitable return on its investment. The second relates to the host government's ability to meet its cash-call obligations (in practice, usually the responsibility of the appointed government agency, or public enterprise). Many feel that cash-strapped non-Annex I countries can hardly be expected to meet their financial commitments under the JVA.

However, in no contractual arrangement is an investor's objective identical with that of the host government. Furthermore, fears about the host government's inability to meet its cash call obligations under the CDMJVA would be arrested by Article 12(6) of the Protocol. And, even if the CDMJVA is not a favoured option because of host government involvement, it is, nonetheless, an attractive option for several companies willing and able to pool their resources to undertake a CDM Project in a non-Annex I country.

5.6.3.5. Risk Service Contracts

This is usually a camouflaged concession, BOT or joint venture arrangement. In risk service contracts, the services of an investor, who assumes the legal status of "contractor", are hired by the sponsoring (hiring) state. In the case of a CDM arrangement, the task of the contractor would be the construction, maintenance and implementation of the CDM Project, or the training of personnel for

the purposes of managing any such project. After successful execution of the contract, the contractor is reimbursed for its costs and investments and paid for its services by the sponsoring state. The contractor bears the entire financial risks of the undertaking and is reimbursed after its successful execution. This explains why it is sometimes referred to as the "Risk Service Contract".

The main distinction between risk service contract and the joint venture or sole-investor arrangement is that in the former, the contractor provides a service, and gets its payment from the sponsor, while in the latter, the investor puts up risk capital and gets its return from an expected flow of profits from the venture (usually shared in the case of a joint venture).

A further distinction should be made between a risk service contract and a real service contract. Whereas in the former, the host or sponsoring state pays for the services of the risk service contractor, in the latter, someone else pays. The latter situation may arise where, for example, a home country, or international agency hires the services of an independent contractor (service contractor) to undertake certain services for the benefit of a third party beneficiary which is also a host country. In this situation, there is no contractual relationship in the legal sense of the term (privity of contract) between the host country and the service contractor as such, since the service contractor receives payment from the sponsoring home state or international agency.

Exceptionally, there could be a sub-contract between the service contractor and the host country for the rendering of the particular service it has been hired to perform, even when the sponsor is not the host country. Even in this latter situation, the service contractor gets paid by the sponsoring agency rather than the host country.

An example of the real service contract is the Phare/Tacis Multi-country Project. In that project, for instance, the contracting authority, the European Community (EC) hires a consortia (service contractor), comprised of two or more partners with a view to provide, among other things, training and a good level of understanding

Table II: Some Common Advantages and Disadvantages of the JVA

PROJECT DEVELOPERS VIEW POINT	HOST GOVERNMENT'S VIEW POINT
Advantages	
<ul style="list-style-type: none"> • Moulding a project in a form which is compatible with government policies • Minimising political risk • Improving predictability and stability of operational conditions • Providing a communication channel to the government • Availability of tax or other investment incentives 	<ul style="list-style-type: none"> • Maximising national sovereignty • Receiving subsidised or risk-free participation • Sharing in the rewards of value added • Influencing training, education labour recruitment and labour policies • Influencing decisions on sourcing and pricing of plant equipment, production inputs and services • Influencing destination and pricing of products • Minimising any perceived adverse effects of FDI
Disadvantages	
<ul style="list-style-type: none"> • "Soft" value of host country's capital contributions • Less efficient decision-making and financing structures • Exposure to risk of loss of confidential commercial information and know how • Exposure to risk of incompatibility with government bureaucrats 	<ul style="list-style-type: none"> • Need to contribute capital or other assets • Need to offer tax incentives • Exposure to business risks • Exposure to risk of incompatibility with foreign partner.

Source: Adapted from R. Pritchard et al., "The Use of Joint Ventures in FDI", in R. Pritchard ed., Economic Development, Foreign Investment and the Law: Issues in Private Sector Involvement and the Rule of Law in a New Era (London: Kluwer Academic Publishers, 1996), p. 178.

of the Energy Charter Treaty and the Protocol on the part of selected key personnel of each of the Phare partner countries. This is done with a view to bringing their legislation in line with ECT requirements and harmonising their legal, policy and institutional framework with the EC. The consortia (Service Contractor) does not get paid by the beneficiary countries, Central and Eastern European Countries (CEEC), but by the sponsor or contracting authority, the EC. Similarly, the COP could, in addition to arranging for funding for CDM Projects, hire a Private or Public entity as service contractor to construct and implement a CDM mechanism in a non-Annex I country. While this would be with the consent of the parties, the service contractor would not get payment from the host country, but instead from the COP. Details regarding quantification and allocation of credits can be worked out within the framework of the service contract.

As in every other contractual arrangement, the potential for conflicts always exists in the real service contract because of its peculiar arrangement. The real service contractor may be bound under the real service agreement not to indulge corrupt officials of, for example, the host country or to abide by certain standards. This may however pose practical difficulties, as the host country may set its own agenda in the “national interest”, including the imposition of import duties and levying of taxes. These are no doubt very thorny issues in practice since poor governments can not easily refrain from either levying taxes or imposing duties on imports. If these difficulties are not anticipated and an amicable resolution properly provided for, the effective execution of the real service contract is bound to be prejudiced.

5.6.4. Possible Contract Types for Other Flexibility Mechanisms

The contract forms for ET and JI are simpler than those for the CDM in the sense that there are already a number of pilot projects implementing the former mechanisms. Since emissions, or emissions reductions, amount to tradable commodities in the ET mechanism, a simple standardised contract for the buying and selling of ‘permits’, ‘allowances’ or ‘emissions

reductions’ by which one Party agrees to sell and the other agrees to buy such tradable commodities could be drafted. Besides, precedents already exist in the United States, where ET has been successfully employed in limiting emissions of sulphur dioxide (SO₂). However, considering that assigned amounts, defined by article 3 of the Protocol, may be traded, an emissions trading contract (ETC) within an umbrella or framework intergovernmental agreement is possible.

Also, since JI envisages Annex I countries undertaking GHG reduction projects within other Annex I countries, by means of which reductions are credited to the country financing the project, while debiting the excess reductions of the host country, an intergovernmental agreement that defines the framework for this joint venture relationship between the home country and host country is appropriate as a necessary starting point. However, considering that countries can authorise private companies to develop JI projects, while reserving the powers of approval, certification of emissions reductions, and or monitoring and verification, for themselves, the option of using either an intergovernmental framework agreement or an intergovernmental agreement relating to a specific JI Project is not a *sine qua non*. On the contrary, the JV, BOT or even Service Contract are equally feasible and viable options. Whatever contract form is employed for JI, it is the substance of the contract that really matters. Such a contract has to state very clearly, *inter alia*:

- How to establish a baseline for the calculation of real emissions reductions of projects;
- How to monitor, verify and certify real emissions reductions;
- How to scale down the administrative and transaction costs of projects.

At the risk of sounding repetitive, it must be reiterated that a contentious issue will be investment guarantees, in particular tax and import duty issues. A review of intergovernmental and inter-organisational/government agreements such as Tacis EC and UNDP agreements indicates that there is always a promise by the beneficiary host government to provide import duty exemptions and impose no taxes. But, these promises would

be difficult, if not impossible, to adhere to in practice, since developing country governments are urgently in need of revenue for the development of their national economies. The prudent approach seems to be to anticipate these potential disruptive tendencies in an investment regime and to provide adequate safeguards that would not only minimise the damage to investment, but also enable both parties to renegotiate the original terms of the contract where a fundamental change of circumstance so dictates.

5.6.5. Conclusions and Recommendations

This section of the papers examined the use of contracts for achieving the Clean Development Mechanism (CDM) and other flexibility mechanisms envisioned under the Kyoto Protocol. It can be concluded that, while Intergovernmental Co-operation, the Concession Contract, the BOT Project Contracts, Joint Venture Agreement (JVA) and the Service Contract are preferable because of their inherent flexibility and adaptability in advancing the objectives of these flexibility mechanisms; in practice, it is the substance of the agreements in question rather than the form that matters most in terms of effectiveness. It is also necessary to add that these distinct forms can be used for perhaps 3 broad scenarios:

- An intergovernmental agreement (either a framework agreement or one relating to a specific project) between two or more Annex I countries for emissions trading, which may be accompanied by a specific standardised emissions trading agreement;
- An intergovernmental agreement between two or more Annex I countries, which may be followed by a specific Concession, BOT, JVA or Service Contract in respect of a JI Project;
- An intergovernmental agreement between Annex I and non-Annex I country, followed by a specific Concession, BOT, JVA, or Service Contract in respect of a CDM project in a non-Annex I country.

However, certain general principles are fundamental for any contract to be effective both in terms of the relationship between the parties to the agreement and in terms of achieving general

contract objectives. These include but are not limited to the following principles:

- Full conformity with the requirements of the UNFCCC, the Kyoto Protocol and any subsequent agreement relating to the CDM. In particular, the contract should define the emissions reduced (CERs); how they should be measured, verified, certified and shared between the contract parties; how the project stimulates sustainable development; liability arrangements in the event that the project fails to deliver the contracted CERs.
- Strong arbitration, dispute settlement provisions and clear procedures for choice of forum must be included in any standard agreement.
- Equity or fairness and transparency in apportioning rights and obligations between the parties. This may involve “affirmative action” to counteract unequal development and compensate for the structural weaknesses of developing country party;
- Cost effectiveness in the pursuit of contract objectives;
- Unambiguous stating of terms, which should include modus operandi for implementation and enforcement, financial mechanism, dispute settlement, liability and compensation for damages or failure of the undertaking;

6

Inter-relationship Between the Kyoto Protocol and Other MEAs

With respect to the relationship between the Kyoto Protocol and other MEAs, the project examined the inter-linkages between the Protocol and forestry and biodiversity related issues. However, the results presented in this section are only preliminary and admittedly did not comprehensively examine important relationships between the Protocol and all other MEAs. The intent of the project however, is to continue carrying out further research particularly concerning institutional cross-linkages and governance issues between other multilateral environmental treaties.

6.1. The Framework Convention on Climate Change/Kyoto Protocol, the Biodiversity Convention and other UNCED Instruments

Ecologically, climate, forests and biodiversity are all deeply interconnected. Institutionally, the international instruments that deal with these areas are slowly coming to terms with this, and the overlaps between the areas are becoming increasingly recognized. The use of terrestrial sinks, as mandated within the Kyoto Protocol, as a mechanism to help in mitigating climatic change may become the epi-center of this relationship. Unfortunately, it is possible that this new approach will not necessarily complement the other UNCED documents. A conflict with the other UNCED documents may develop because, irrespective of the questions pertaining to uncertainties of this method of mitigation and its possible inequities,

carbon sinks in an international context may introduce an incentive to increase carbon-fixing plantations.

With the assistance of international trading mechanisms, it will be possible for the developed countries to claim credit for reductions made in developing countries. The financial benefits that non-Annex I countries may get from this are substantially more desirable and attractive than the failure to receive any compensation at all for the same service provided by their natural forests. Moreover, ultimately, there is no international dictate that prevents such countries from choosing a path that destroys their natural forests, and replaces them with plantations. Such actions, stemming from the catalytic effects of the Kyoto Protocol, although not contra to specific international mandates, may certainly be against the spirit of Convention on Bio-diversity and the Forest Principles.

6.1.1. The Climate Change Convention

The indirect relationship between the FCCC and the other UNCED documents can be readily inferred from the FCCC's emphasis upon an ecosystem approach. This approach is made apparent in the objective of the FCCC, which is to achieve the stabilization of greenhouse gas concentrations in the atmosphere at such a level

that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change.¹ By inference, such ecosystems include forests and biodiversity.

The direct relationship between the FCCC and the other UNCED documents can be seen in its consideration of sinks, reservoirs and the net approach² for greenhouse gases. This relationship can be traced back to provisions within the 1992 FCCC. The “role and importance in terrestrial ... sinks and reservoirs of greenhouse gases” was noted in the preamble, and the use of sinks as a method to slow climatic change was used repeatedly in the section on commitments within the FCCC.³ This approach was reiterated in the 1995 Berlin Mandate⁴ and the 1996 Geneva Declaration.⁵ Finally, the Kyoto Protocol, with its mandate to reduce greenhouse gases to 5% below 1990 levels by the year 2012, calls upon parties to make:

*Net changes in greenhouse gas emissions by sources and removals by sinks resulting from direct human-induced land-use change and forestry activities, limited to afforestation, reforestation and deforestation since 1990.*⁶

In opening the door for the use of sinks, the Protocol also put into place an important caveat with regard to the protection and enhancement of sinks and reservoirs for greenhouse gases. That is the requirement for each signatory to:

*take into account its commitments under relevant international environmental agreements; promotion of sustainable forest management practices, afforestation and reforestation.*⁷

6.1.2. The Convention on Biological Diversity and its Conference of the Parties.

The direct connections between the Convention on Biological Diversity (CBD) and other international instruments is seen initially in the preamble which suggests that it is “desirable to enhance and complement existing international arrangements.” Elsewhere, the Convention calls for the establishment of appropriate forms of

co-operation with the executive bodies of such conventions⁸ and instructs the Secretariat to coordinate with other relevant international bodies.⁹ Such co-operation with other bio-diversity-related conventions has been a standing item included in the agenda of all of the Conferences of the Parties (COP) to the CBD.¹⁰

Indirectly, the preamble suggests that: “It is vital to anticipate, prevent and attack the causes of significant reduction or loss of biological diversity at source.” Elsewhere, the signatories are required to identify and monitor processes and categories of activities likely to have significant adverse impacts on the conservation and sustainable use of biodiversity.¹¹ Where these “significant effects” are recognised, it is necessary to: “regulate or manage the relevant processes and categories of activities.”¹²

Climate change and deforestation (among other problems) were noted as causes of concern within this ambit.¹³ However, the FCCC is not a treaty that relates to the conservation of bio-diversity in an obvious manner.¹⁴ Nevertheless, prior to the CBD, the Global Bio-diversity Strategy¹⁵ suggested that it was important that the other UNCED agreements on climate and forests be made mutually compatible with the CBD.¹⁶ Specifically, it warned:

*Bio-diversity could be destroyed by some of the strategies proposed for mitigating atmospheric carbon-dioxide build-up - among them, proposals to replace mature forests with younger, more rapidly growing ones. The provisions of both the conventions on climate and biological diversity should therefore prohibit global-warming prevention or adaptation strategies that involve the degradation or conversion of diverse natural ecosystems... By the same token... to the extent that a forest agreement slows the loss of natural forests, it supports the objectives of the CBD... But if the agreement uncritically mandates ‘net afforestation’ strategies without a strong commitment to both conserving natural forests and fostering bio-diversity in planted forests, it may contravene the spirit and provisions of the CBD.*¹⁷

The direct linkage between the CBD and the FCCC was confirmed in May 1988, at the fourth Conference of the Parties to the CBD. Here, the Executive Secretary was requested to “strengthen relationships with, in particular, the United Nations Framework Convention on Climate Change and its Kyoto Protocol.”¹⁸

6.1.3. The Possibility of Forests as Terrestrial Sinks

The promotion of the role of forests as an important concern within the regime for control of climatic change has been long realized. A typical position advocating the management of forests with attention to their important value as carbon sinks is that of the IPCC's 1996 Technical Paper on Technologies, Policies and Measures for Mitigating Climate Change. This paper suggested that:

*Managing forests in order to retain and increase their stored carbon will help to reduce the rate of increase in atmospheric carbon dioxide and stabilise atmospheric concentrations... there is considerable potential for mitigation through improved management of forest lands for carbon conservation, storage and substitution, in balance with other objectives.*¹⁹

This type of statement is useful in establishing the ambit of the role of forest concerns within the climatic change debate. As it stands, there are three categories of promising forestry practices that may promote the sustainable management of forests and at the same time conserve and sequester carbon.²⁰

The first of these pertains to practices for the conservation of existing pools of carbon. This category includes such options as controlling deforestation, (probably the most cost-efficient way of reducing current levels of carbon dioxide emissions); improving forest harvesting regimes and protecting forests from other anthropogenic disturbances such as fire and pest outbreaks.

The second concerns practices for the enhancement of carbon sequestration and storage. This includes expanding forest ecosystems

by increasing the area or density of natural and plantation forests.

The final option involves substitution practices that aim at increasing the transfer of the carbon in forest biomass into energy or products, i.e., the use of forest biomass rather than fossil fuel for both energy and products, and also in place of cement-based products and other non-wood building materials. Substitution management has the greatest potential for removing carbon in the long term. It views forests as renewable resources, and focuses on the transfer of biomass carbon into products that are substitutes for fossil fuels, rather than on increasing the carbon pool itself. For example, substitution of plantation wood for coal in the generation of electricity can reduce carbon emissions by an amount of up to four times the carbon sequestered in the plantation.

The literature on this subject commonly bypasses the third option and concentrates upon slowing down deforestation, afforestation and reforestation.²¹ It has been suggested that 700 million hectares (Mha) of land might be available for carbon conservation and sequestration.²² Under baseline conditions²³ this would involve slowing deforestation (138 Mha) and promoting natural forest regeneration (217 Mha) in the tropics, combined with the implementation of a global reforestation program (345 Mha of agro-forestry and plantations). Such figures could possibly offset cumulative fossil fuel emissions by 12-15% over the same time.²⁴ In total, it is the tropics which have the greatest potential to conserve and sequester the largest quantity of carbon (80% of the total potential). The tropics are followed by the temperate (17%) and the boreal zones (3%) in descending order of carbon-sequestering potential.²⁵ More than half of what the tropics could conserve and sequester would be due to promoting natural regeneration and slowing deforestation in tropical forests.²⁶

Finally, it is important to note that the literature has been forthright in assuming that sinks remain distinctly secondary in response strategies to climate change.²⁷ As such “while forests can help moderate net carbon emissions, increasing tree plantations cannot compensate

for the lack of a comprehensive and enlightened energy policy.”²⁸ That is, “forest management... needs to be balanced with other objectives.”²⁹

6.1.4. Influences On Other UNCED Concerns.

It was asserted in the Kyoto debates that the inclusion of sinks in the emission reduction objectives might actually end up running counter to the objectives of other international treaties. It was further suggested that measures designed to benefit the climate might “do greater harm to the environment at large.”³⁰ This contention may be well-founded in that the potential economic advantages of carbon sequestration created by the Kyoto protocol mechanisms could conceivably result in the creation of powerful incentives to begin or to accelerate environmentally destructive or devastating practices, such as the felling of old growth forests, the destruction of biodiversity, and/or the movement of indigenous peoples. This kind of inadvertent side-effect could occur as a consequence of efforts to secure geographical space for quick conversion to carbon sinks. For example, planting fast-growing mono-culture forests to fix carbon, with the sole motive of getting emissions credits, whether for one’s own country or for its financially poorer partners.

6.1.5. Plantations: Promotions and Limitations

The number of plantations world-wide has dramatically increased in the last 15 years, in fact they have roughly doubled between 1980 and 1995 and are growing at a rate of 2.6 million hectares per year.³¹ This increase is a positive one in many ways, particularly in terms of forestry instruments such as the Forest Principles, the IPF and Agenda 21, however, it also raises some concern. The concern is primarily focused over the loss of biodiversity.

Plantations are highly variable they may be monoculture or mixed, composed of indigenous or exotic species, large scale or small scale, structurally complex or simple. These parameters have important effects on their success or costs. Failure, in terms of social and ecological costs, is well documented.³² Many diverse forest ecosystems and the biodiversity within them have been, and continue to be, transformed into high yielding mono-culture

tree-plantations—these now resemble fields of crops as opposed to natural forest. Plantations cannot produce the full range of goods and services that can be supplied by the natural forest, particularly non-wood forest products and some environmental functions.³³ This realization caused the CBD to recognize that only “some forests” can play a crucial role in conserving biodiversity.³⁴ This delineation with the word “some” was due to the debate between the virtues of the plantation as opposed to natural forests.³⁵

Given such concerns, it has been stipulated that the encouragement of the use of plantations for carbon sinks and to get emissions reductions credits must be done extremely carefully. That is, according to the Forest Principles, increases in forest cover and forest productivity should be undertaken in ecologically, economically, and socially sound ways.³⁶ Agenda 21 suggested the greening of “suitable areas”³⁷ and the IPF stipulated that plantations should be “complementary to natural forests.”³⁸

6.1.6 Questions Over Demand, Economic Value and Deforestation

A growing concern over the use of sinks as method sequestering carbon under the Kyoto Protocol is the choice that countries with tropical forests receive *no* financial recompense for keeping these forests standing, while they may however receive financial benefits if they plant fast growing, carbon fixing plantations. This is despite the fact that existing tropical forest may indeed sequester higher yields of carbon as compared to reforested plantations.

Overt demand to increase carbon-fixing sinks in tropical countries exists for two reasons. Firstly, plantations grow much quicker in the tropics, and the quicker that something grows, the sooner the investment will be reaped.³⁹ For example, annual growth rates of 3-5 cubic meters per hectare in eastern Canada and 10 cubic meters per hectare in the Southeastern United States pale in comparison to rates as high as 25 cubic meters in Indonesia and 30-40 in Brazil in the same period. And while it takes at least 15 years in Alabama (USA) to grow pine large enough to cut, rotations of eucalyptus

in Brazil can be as short as 4-6 years.⁴⁰

The ability to have a quick turn around on investment will be aided by a second factor which is that the costs per unit of carbon sequestered or conserved generally increase from low to high latitude countries from between \$2-\$8 per ton. With such a large price differential in an international market, it can be expected that, as the IPF recognized, carbon rights will go to those who can provide the lowest cost service.⁴¹ However those countries which provide the lowest cost service may need space to plant such sequestering, profit-making sinks. The need for space may create an incentive to cut down existing tropical forests.

The main concern for climate change arises if one considers that the existing tropical forests may already sequester more carbon than plantations. Tropical forests and the ecological services they provide to the international community should make them "extremely valuable"⁴² (in a financial sense). A number of international documents have suggested that this should be investigated further.⁴³ With regard to their role in climate regulation (i.e., what it would cost if the carbon they sequester had to be sequestered by an alternative method), it is estimated that the forests in Brazil alone are worth an estimated value of \$1,300 U.S. dollars per year, per hectare.⁴⁴ Other studies have suggested that replacing the carbon storage function of all tropical forests would cost an estimated \$3.7 trillion U.S. dollars - the equivalent of the gross national product for Japan.⁴⁵

This situation may now introduce an economic paradox, which acts against the principles of the CBD, the Forest Principles, and also actually makes climatic change worse. If the scenario described above actually begins to occur, the world's climate will worsen in direct proportion to the extent to which natural forests (especially old growth ones) are sacrificed for the purpose of starting plantations. Obviously, it is far better *not* to convert forests with a large initial standing biomass of carbon and comparatively slow growth rates to managed stands, because it may take an extended period for the net carbon sequestered to return to its initial value.⁴⁶ Put another way,

large amounts of carbon could be released into the atmosphere during transitions from one forest type to another, since the rate at which carbon may be lost during times of high forest mortality is greater than the rate at which it may be gained through growth to maturity.⁴⁷

Finally, a potentially ominous environmental side-effect of reforestation may be increased emissions of nitrous oxide. This is particularly so if reforestation is accompanied by extensive use of nitrogen fertilizer. The risk for increased nitrous oxide emissions may be particularly great in areas of tropical forests, which in their natural form are already major sources of this gas.⁴⁸

One answer to this paradox is to perhaps offer economic incentives or compensation to the countries which possess tropical forest not to deforest, so as to protect and conserve the benefits that such ecosystems provide to the global environment.

6.1.7. References

¹FCCC. Article 2.

²The Net approach views greenhouse gases within a net ambit. That is, a final net figure is arrived at by ascertaining gross emissions, then subtracting any greenhouse gases which were removed from other methods, such as carbon fixing from this target.

³FCCC. Article 4.1.(b); 4.1.(d); 4.2.(a); 4.2.(b); 4.2.(c). See also Article 3.3.

⁴This recognised that the signatories agreed to strengthen their commitments with removals of "anthropogenic emissions by source" and "protecting and enhancing sinks and reservoirs of greenhouse gases." Sections II & III. The Berlin Mandate. Decision 1/CP.1. (1995). This is reprinted in the United Nations Climate Change Bulletin. 7(2):7.

⁵This hoped that the then forthcoming Kyoto Protocol would have commitments regarding "forestry" and reduction targets "with respect to ... anthropogenic emissions by sources and removals by sinks..." Paragraph 8 of the Geneva Declaration. (1996). This is reprinted in the United Nations Climate Change Bulletin. 12(3):7.

⁶Kyoto Protocol. Article 3.3.

⁷Kyoto Protocol. Article 2.3.

⁸CBD. Article 23.3.(h).

⁹CBD. Article 24.1.(d). Article 25 of the Convention goes so far to note that: “The provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity.”

¹⁰See UNEP/CBD/COP/2/Inf.2.

¹¹CBD. Article 7(c)

¹²CBD. Article 8 (I).

¹³IUCN (1994). *A Guide To The Convention on Biological Diversity*. (Environmental Policy and Law Paper No.30. IUCN. Gland). 10, 36.

¹⁴This is unlike the Ramsar Convention on Wetlands, The Convention on International Trade in Endangered Species, and the Bonn Convention on the Conservation of Migratory Animals.

¹⁵Put together by the WRI, IUCN, UNEP, FAO & UNESCO

¹⁶WRI, IUCN, UNEP (1992). *Global Biodiversity Strategy: Guidelines for Action to Save, Study, and Use Earth’s Biotic Wealth Sustainably and Equitably*. (Washington).

¹⁷Ibid.

¹⁸See Decision IV/15. The Relationship of the Convention With the Commission on Sustainable Development and Biodiversity Related Conventions. UNEP/CBD/COP/4/12.

¹⁹Intergovernmental Panel on Climate Change. (1996) *Technical Paper on Technologies, Policies and Measures for Mitigating Climate Change*. (WMO. Geneva). 55.

²⁰See IPCC. (1995). *Climate Change 1995: Impacts, Adaptations and Mitigation of Climate Change: Scientific-Technical Analyses*. (Cambridge University Press. Cambridge). 775.

²¹Reforestation involves planting trees on previously cropped land. The time limit is usually land which was deforested within the previous 50 years. Afforestation is the replanting of land which had forests on it 50 years or more previously.

²²Intergovernmental Panel on Climate Change. (1996) *Technical Paper on Technologies, Policies and Measures for Mitigating Climate Change*. (WMO. Geneva). 55.

²³Today’s climate and no change in the estimated available amount of land.

²⁴IPCC. Supra note 22.

²⁵Ibid. This is because the carbon released per acre of cut

forest is greater in tropical than in temperate regions. This is due to the fact that the tropical forest crown, unlike that of the temperate forests, contains more carbon than the soil.

²⁶See IPCC. (1995). *Climate Change 1995: Impacts, Adaptations and Mitigation of Climate Change: Scientific-Technical Analyses*. (Cambridge University Press. Cambridge). 775.

²⁷

For example, just to keep pace with global carbon dioxide emissions (about 3.2 billion tonnes per year), planting trees in an area the size of India annually would have to be implemented. Even if all the available land speculated upon was reforested, - approximately 4 million square kilometres (about half the size of Australia) even then, only 10% of the estimated emissions from fossil fuel burning world wide would be achieved by sequestration. See Schneider, S.H. (1989). *Global Warming*. Sierra Club Books. San Francisco. 188-189. Adger, W.N. & Brown, K. (1994). *Land Use and the Causes of Global Warming*. Wiley. London. 189-195, 227-230.

Likewise, in 1990, the US announced that they would plant one billion trees in every subsequent year. However, even this massive reforestation project would only be equivalent to a 5% reduction of annual US carbon dioxide emissions. See Crutzen, P. (1993). ‘Linkages Between Global Warming And Other Aspects of Global Environmental Change.’ In Mintzer, I.M. (ed). *Confronting Climate Change: Risks, Implications and Responses*. (Cambridge University Press. Cambridge). 15, 28.

²⁸Pachauri, R.K. (1993). ‘Wait and See Versus No Regrets: Comparing the Costs of Economic Strategies.’ In Mintzer. Ibid. 237, 240.

²⁹IPCC. *Impacts*. Supra note 26. 778.

³⁰

Nauru, the Marshall Islands and Kenya all made similar points on this issue. See Response From Parties. Ibid. MISC.4.pp.28. & MISC. Add 1. pp.19.

³¹Food and Agriculture Organisation. (1994). *The State of Food and Agriculture: 1994*.(FAO. Rome). . 269.

³²Ibid. 268-271. The 1995 IPCC Assessment stated : “The establishment of plantations is becoming less socially and politically desirable, especially with the global concern for biodiversity and other social, cultural, land-tenure and economic factors.” See IPCC. *Impacts*. Supra note 105. 781.

³³They are also generally more vulnerable to fire, windstorms, disease and other naturally occurring events. See Noss, R. & Cooperrider, A. (1994). *Saving Nature’s Legacy: Protecting And Restoring Biodiversity*. (Island Press. Washington). 195, 197.

³⁴See UNEP/CBD/COP/3/L.8.

³⁵See Earth Negotiations Bulletin. (1996). *Future Program of Work for Terrestrial Biological Diversity*. 09:65.

³⁶Principle 8(a) & (b) of Agenda 21; Article 6(a) of the Forest Principles.

³⁷Chapter 11, paragraph 12.

³⁸IPF. Supra note 33. Paragraph 28(b).

³⁹ See Booth, D. E. (1992) 'The Economics of Old-Growth Forests.' *Environmental Ethics*. 14 :43-60.

⁴⁰See Brown, L. et al. (1998). *Vital Signs: The Environmental Trends That Are Shaping Our Future.*(Earthscan. London). 124.

⁴¹Intergovernmental Panel on Forests. (1996). *Scientific Research, Forest Assessment and Development of Criteria and Indicators for Sustainable Forest Management.* E/CN.17/IPF/1966/25. 8 August 1996. Paragraph 36(c).

⁴²Subsidiary Body on Scientific, Technical and Technological Advice. (1996). *Economic Value of Biological Diversity.* UNEP/CBD/SBSTTA/2/13. 9 July. Paragraph 47.

⁴³The need to develop methodologies to calculate the financial benefit of such services was noted in the Forest Principles, and Agenda 21. (11.22(a). Specifically, Agenda 21 hoped to help improve and develop "methodologies for a comprehensive assessment that will capture the full value of forests, with a view to including that value in the market-based pricing structure of wood and non-wood products."(11.23.(j). Likewise, the Forest Principles hoped that: "Decisions taken on the management, conservation and sustainable development of forest resources should benefit... from a comprehensive assessment of economic and non-economic values of forest goods and services and of the environmental costs and benefits." Principle 6(c). See also Principle 13(c).

⁴⁴See UNEP (1995). *Global Biodiversity Assessment.* (Lead authors, Heywood, V.H. & Watson, R.T). Cambridge University Press. Cambridge.. 880.

⁴⁵Food and Agriculture Organisation. (1994). *The State of Food and Agriculture: 1994.*(FAO. Rome), 288.

⁴⁶See Marland, G. (1992). 'Should We Store Carbon In Trees?' *Water, Air and Soil Pollution*. 64: 181-195.

⁴⁷ IPCC. (1996). *Climate Change 1995: Impacts, Adaptations and Mitigations.* (Cambridge University Press. Cambridge). 13-14.

⁴⁸See Crutzen. Supra note 112. 29.

7

Conclusions

The preliminary results of the project indicated the critical importance of taking into account the linkages between the Kyoto Protocol and other international regimes in order to ensure the Protocol's effective implementation. In particular, the relationships between the Protocol and international trade and investment regimes highlight the need for considering the potential conflicts in elaborating the details of the flexibility mechanisms at COP 4. The project results also emphasized the role of the private sector in implementation of the Protocol, specifically in carrying out CDM and joint implementation projects and emissions trading transactions. Research on the use of standard contracts for transactions under the flexibility mechanisms showed their potential value in ensuring compliance with the environmental goals of the Kyoto Protocol.

Finally, the results highlighted the need for further research in the areas in which preliminary results have already been achieved as well as in the areas of non-compliance and the relationship between the Kyoto Protocol and other MEAs.

