Promoting Compliance with International Environmental Agreements –
An Interdisciplinary Approach with Special Focus on Sanctions

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North Atlantic Coast Fisheries (1910) (XI UNRIAA p. 173).

Trail Smelter Arbitration (1938, 1941) (III UNRIAA p. 1911)


ABBREVIATIONS

AOSIS    Alliance of Small Island States
CDM      Clean Development Mechanism
CFC      Chlorofluorocarbons
CITES    Convention on International Trade of Endangered Species
CO₂      Carbon Dioxide
EU       European Union
ECJ      European Court of Justice
FCCC     United Nations Framework Convention on Climate Change
G-77     Group of 77
GATT     General Agreement on Tariffs and Trade
GEF      Global Environment Facility
GEIC     The Global Environment Information Center
ICJ      International Court of Justice
ICRW     International Convention for the Regulation of Whaling
IISD     International Institute for Sustainable Development
ILM      International Legal Materials

¹ The awards of The Bering Sea Fur Seals case, North Atlantic Coast Fisheries case and the Trail Smelter case are reproduced in Kuokkanen, Tuomas (ed.), Seminal Cases of International Environmental Law (1999).
<table>
<thead>
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<tr>
<td>ITLOS</td>
<td>International Tribunal for the Law of the Sea</td>
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<td>IWC</td>
<td>International Whaling Commission</td>
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<td>JI</td>
<td>Joint Implementation</td>
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<td>MEA</td>
<td>multilateral environmental agreement</td>
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<td>MARPOL</td>
<td>International Convention for the Protection of Pollution from Ships</td>
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<tr>
<td>NGO</td>
<td>non-governmental organization</td>
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<tr>
<td>ODS</td>
<td>Ozone depleting substances</td>
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<td>UN</td>
<td>United Nations</td>
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<td>UNEP</td>
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1. INTRODUCTION

1.1 General

International agreements – or conventions or treaties as they are also called – are of ever increasing importance in the modern global world. Cooperation between states and international agreements are needed especially when mitigating challenging, large-scale environmental problems that seem to be only increasing in number these days. Presently, more than 200 multilateral treaties are controlling dozens of issues of environmental harm.¹ For instance the struggle against the global climate change or the loss of biodiversity will not produce significant results without wide-reaching international action.

In many international treaty regimes, the compliance rate is usually rather high. The reason is not necessarily the good will of states but rather the nature of the given commitments. International obligations always tend to be more or less compromises, the aim at the drafting phase of the agreement having been to make the compliance of states as likely as possible. On the other hand, agreements have a tendency to inevitably remain incomplete. High transaction costs, the characteristics of environmental problems and sometimes simply also the unwillingness of states to agree on the terms suggested bring about the agreements cannot be modified endlessly to cover all possible states of the world and to satisfy every party involved.² For this reason, compliance with agreements cannot be perfect either.

According to Louis Henkin, “almost all nations observe almost all principles of international law and almost all of their obligations almost all of the time.”³ Agreements are always created with the intention of parties committing to the commonly agreed obligations and reaching the objectives of the agreements as fully and promptly as possible. Already the Vienna Convention on the Law of Treaties presents the principle of pacta sunt servanda, according to which "Every treaty in force is

¹ Literature usually speaks about some 200 currently existing international environmental treaties. Ecolex, an information center for environmental law, lists more than 480 multilateral treaties relating to environmental conservation whereas the ENTRI (Environmental Treaties and Resource Indicators) database contains information for 425 multilateral treaties. The notion ‘international environmental treaty’ is obviously difficult to define.
² On the practical impossibility of perfect contracts, see e.g. Cooter – Ulen (2001) p. 206.
binding upon the parties to it and must be performed by them in good faith.” Shortcomings in compliance with international agreements understandably undermine the efforts to solve wide-ranging environmental problems and erode the credibility of international cooperation as well as lead to inefficiencies in the action of the parties seen as a whole.

It is clear that in order to be efficient, an agreement must state the consequences of breaching its terms. One cannot presume that the parties to an agreement would invariably behave in an altruistic manner once the rules of the game have been agreed to. Therefore agreements should be constructed in such a way that they promote compliance and make breaches simply unworthy. This can be accomplished by making the detection and verification of violations as well as responses to them more likely, credible and effective.

Ensuring compliance with existing agreements is at least as important as negotiating new commitments. The main points are: i) supervision of state action, ii) promotion of compliance with all possible means and iii) finding of efficient mechanisms to react to violations (to enforce obligations) when needed. Those form the compliance system of a treaty that in the end determines whether the terms of an agreement are followed and the desired behavioral changes reached.5

There are two basic directions a response to treaty non-compliance may take. The management doctrine, i.e. different diplomatic and assisting means to get the disobedient country back to the cooperative track, can be seen as usage of carrots whereas operation with negative incentives, i.e. sanctions, are in the role of sticks in international cooperative arrangements. Together these two types of mechanisms form a non-compliance response system to a treaty. That system is crucial in determining whether the concluded agreement shall be implemented and complied with among states and thus whether the set environmental objectives are reached.

4 Vienna Convention on the Law of Treaties, Vienna, 22 May 1969, Art. 26. Pacta sunt servanda is generally translated as ‘treaties are to be obeyed’. The rules set out in the Vienna Convention apply to treaties concluded after 1980, when the Convention came into force. However, it is widely regarded as having developed into a customary principle. See e.g. Aust (2000) p. 10.

5 Mitchell differentiates among three parts of any compliance system. First, a primary rule system consists of “the actors, rules and processes related to the behavior that is the substantive target of the regime”. Second, a compliance information system consists of “the actors, rules and processes that collect, analyze, and disseminate information on instances of violations and compliance”. Lastly, a non-compliance response system consists of “the actors, rules and processes governing the formal and informal responses – the inducements and sanctions – employed to induce those in noncompliance to comply”. See Mitchell (1994) p. 430.
However, the mere reaching of an environmental agreement does not guarantee improvement in the state of the physical environment. Firstly, the treaty texts themselves can be a hindrance to the realization of effectiveness: the formulations of the obligations are often very vague and packed with compromises to ensure the agreement would be acceptable to as many countries as possible – despite the numerous and varying interests they may have. Secondly, after that there remains the option for states not to ratify the treaty or to make reservations to it. And most importantly, states may simply neglect the implementation of and compliance with the established agreement; non-compliance often appears as an attractive policy option. Due to these reasons, there is a long way from the conclusion of a treaty to its satisfactory application at the practical level by the state parties.

Mechanisms to ensure enforcement are at least of equal importance with the careful formulation of the obligations of treaties. The commonly presented fact is that without effectual sticks and carrots states will act for the objectives of an environmental agreement only to the extent that is in line with their direct self-interest. Without effective and credible means to react to breaches, compliance with international environmental agreements will greatly remain dependent on the political will of the states involved. A state must always possess both motivation and capacity to comply with a given agreement: the motivation will decide state's will and the capacity its ability to fulfill its obligations.6

1.2 The Scope of the Study

This study examines international environmental agreements. The concept refers to multilateral agreements, i.e. conventions between three or more states. The word ‘international’ places any merely regional agreements beyond the scope of the present study and thus includes only multilateral environmental agreements, MEAs, that are in principle open for accession by any state in the world.

The study examines international compliance systems and sanction mechanisms built into MEAs. National enforcement of the treaty obligations and purely domestic measures are excluded from the current study. Furthermore, the focus will specifically be on state behavior: the essential, main

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actors in the international arenas, beholders of sovereignty and therefore entitled to determine about new international commitments. This study will inevitably present states largely as unitary actors, which is of course a simplification from the reality. Naturally it is not the institution called ‘a state’ that concretely makes decisions and is the driving force behind “state behavior”; the actual actors are the people in power in each nation state. They generally have differing interests and aims, but the debate on the joint course of action, the policy of a state, is conducted at the domestic level; in the international forum the state appears as an entity with a rather fixed view on issues. Hence, there may be conflicts in the domestic setting but in front of the international society a state generally acts as a unitary actor. For these reasons I concentrate in this study on state behavior, its root causes and implications in international environmental regulatory cooperation.

The whole of the field of international environmental agreements is not covered by this study. The purpose is not to provide an exhaustive overview of all multilateral environmental agreements and their compliance systems established so far. Instead, I select under examination treaties that provide useful examples and lessons for the themes in discussion at each time. The Montreal Protocol to the Vienna Ozone Convention, The Kyoto Protocol to the Climate Change Convention, The CITES agreement and the International Convention for the Regulation of Whaling are the most prominent and thus most closely examined international environmental treaties in this study. The idea is to pick representative examples from different treaty regimes for illustrating and demonstrating the issues the study is concerned with.

The study will give special attention to sanctions in international environmental agreements, but also other means for promoting compliance and the wider context of international treaty compliance, the special characteristics of international environmental agreements and treaty-making, are examined. This is necessary for the understanding of the role and essence of sanctions. Responses to treaty non-compliance are necessarily intertwined and any part of the system must not be examined in isolation. I would emphasize that international environmental agreements should respond to non-compliance with a distinct system, the rules and procedures of which were predetermined. Individual instruments applied in isolation from each other are not likely to reach their target in a desired manner.

7 To reach an international agreement, states must limit their sovereignty. The right for this belongs only to a nation-state.
1.3 The Method

Compliance issues with international agreements are very much a dialogue between international law and international politics, and the theory of international relations of the latter discipline in particular. Interdependence between international law and international politics cannot be denied. International law has apparent political foundations whereas international legal norms and practices generally set limits to acceptable practices in world politics.

Political science has identified four major theories on international relations: the realist, the institutionalist, the liberal and the constructionalist theory. Each of these can be adopted as a basis for explaining state behavior vis-à-vis the international community and for analyzing treaty compliance and its possible cures. The realist view holds that the general inability of international regimes to influence state behavior stems from the fact that the international system is based on anarchy. In the absence of a central enforcement authority, power is seen to be more determinative for compliance than binding international law. The structure of the international system is the major determinant for the emergence and extent of multilateral cooperation; the distribution of power among states, various interdependencies and the perceived costs and benefits from cooperation are key factors dictating the success or failure of international regulatory cooperation.

The standard realist model of international relations posits that states as unitary actors rationally pursue their own interests, given their capacities and the constraints imposed by the power and interests of others. States are engaged in strategic interaction in which they act to maximize their benefit by weighing the costs and benefits of different strategy options taking into account the (anticipated) behavior of other actors. The realist model of international relations is rather economic in nature, it often employs game theory in examining the structure that underlies multilateral treaties.

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9 There are many theories, or variations of them with different names, in the field of political science and international relations for explaining state behavior. The four briefly presented here are the main branches that also appear most often in the literature on the relationship between international law and international politics.
10 Mitchell (1994) p. 428. He adds that among realists, compliance is thought to occur with norms that powerful states have formulated favorable to themselves; “In other words, treaty rules do not cause compliance but “coincide” with existing behavior.”.
11 Kingsbury (1998) p. 350. He further states “Compliance for realists is little more than a calculation of interests in light of the existing distribution of power.”.
On the contrary, institutionalists, or neo-liberals, are not quite as categorical in their views on how international cooperation and compliance with treaties can be explained. They do not see that states make decisions on their treaty behavior in a straightforward manner on the grounds of cost-benefit considerations but they argue there are other forces available for the international regime to induce compliance. Power and interests are not everything: compliance can indeed be treaty-induced. Institutionalism emphasizes the role of international institutions and common interests developed between states in the realization of joint gains. Proponents of neoliberal institutionalism stress that international institutions can serve as a substitute for the enforcement powers of hegemonic states. This because international institutions can provide mechanisms for promoting compliance with agreed norms.

Liberal theories do not see states as unitary actors in the international spheres. Liberalists stress domestic-level actors and structures in explaining external state behavior. The approach includes components from e.g. the realist school of thought, but the focus stays on domestic actors and institutions that fundamentally formulate the policies of states. Liberalists also emphasize the role of social mobilization and (trans)national pressure that may significantly change the cost-benefit calculations of state actors towards compliance.

Constructionalists are more concerned with social aspects of state behavior. They give emphasis on social relationships between states and argue that the international system is a social system where states may develop shared expectations. With respect to compliance issues with international norms, constructionalists aim at changing the preferences of actors mainly by socially influencing means.

This study incorporates elements from more than one of the approaches presented above. I rely most on the realist school of thought but other aspects are employed occasionally as well. I accept for a great part the manifest of the realist approach that compliance with international treaties may

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12 See e.g. Martin (1993).
13 Caporaso (1992) gives a thorough presentation on what institutionalism consists of in international relations theory. He proposes three core principles of institutionalism: ontological, theoretical and interpretive. As a whole, institutionalism seeks to explain individual behavior by referring to “institutional facts” rather than to characteristics of individuals per se. See Caporaso (1992) p. 620-.
18 In contrast to rational or realist approaches that focus on mechanisms to change the cost-benefit functions of non-compliant actors. See Börzel (2002) p. 15
very often in the last analysis be explained by strategic behavior by states. Many a time states do not act out of a pure moral sense of obligation when they join an environmental agreement, or the moral obligations are not strong enough compared with the result of the cost-benefit analysis a state has conducted. Equally importantly, I acknowledge there are many states that act in good faith and are ready to genuinely see effort to comply with their international obligations. Nevertheless, strategic behavior is clearly present in international regimes, also environmental ones. Power and interests always play roles in determining behavior at the international level.\footnote{Mitchell (1994) p. 426.}

International law provides the framework for any international agreement and therefore forms the fundamental basis also for this study. Game theory, which I employ in this study as a part of the law 
& economics perspective on international environmental agreements, is directly based on a strong realist or rationalist perception of state behavior. It holds that an international treaty can only sustain cooperation if each country finds that complying with the agreement is in their interest. However, the institutionalist view comes up in the sections that illustrate and stress the significance of treaty institutions in providing mechanisms for monitoring and enforcing compliance with environmental treaties. The liberal theories are hardly reflected in the current study, and the constructionalism mainly only regarding the question of state reputation and the impacts of states being members of the international society and the networks of relations therein.

Although this study is a lot about strategic behavior by states with regard to international environmental agreements, one has to yet bear in mind that it is impossible to ever present straightforward and fully realistic models on state behavior. This is simply because there are so many factors possibly affecting the actions and policies of states, and neither the irrationality nor unpredictability of the actors can be excluded from the theoretic models. As a whole and despite the empirical material on actual treaty practice, the current study can be said to be a multi-disciplinary theoretical and conceptual approach to the issue of promoting compliance with international environmental agreements. It recognizes the legal, economic and strategic, institutional and political mechanisms that shape the environment for compliance with MEAs.
2. CHARACTERISTICS OF INTERNATIONAL ENVIRONMENTAL AGREEMENTS

2.1 State Sovereignty

National environmental problems can be dealt with by action of existing domestic organizations. For international problems, however, there is no supranational authority or world government that could enforce environmental policies of sovereign nations. It does not seem likely that this kind of organ would be established in the future, either, for states stick to their right of self-determination and are very unwilling to approve of an establishment of a supranational institution that would possess significant enforcement power.\(^{20}\) Hence parties to international agreements should themselves be willing to enforce them if they are to have any effect.

A fact is that many a time states fear they might inevitably drift into non-compliance at some point, or they even plan to breach an agreement in the first place, and therefore they are not willing to accept a treaty clause that would expose violators to serious countermeasures. Consequently there is a need for cooperation between states and international environmental agreements, agreements such for their content and structure that states commit to them even in the absence of an enforcing institution. This would require, then, that agreements were formulated so that the accession to and compliance with them would be in the interests of states, since treaty arrangements are always based on voluntarism. In other words, the resulted agreements should be self-enforcing.\(^{21}\)

The fact is a state need not enter into a treaty that does not conform to its interests. General treaty law does not allow the imposition of an obligation upon states to join a treaty arrangement nor to give binding decisions in a treaty regime upon third parties.\(^{22}\) From this, and from the absence of

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\(^{20}\) However, there have emerged signs in recent years that states have agreed to voluntarily give up a portion of their sovereignty to authoritative international institutions, a most recent – yet not by any means effortlessly accomplished – case was the establishment of the International Criminal Court. The tendency is also visible in the increased workload of international courts. Yet the actual and ultimate fulfillment of international commitments will remain with states.

\(^{21}\) A term first introduced in Barrett (1990). In a strict sense, a self-enforcing agreement does not need forceful enforcement simply because fulfilling its terms is in the interest of the parties, and hence no violations should occur. Therefore parties to international agreements must themselves be willing to enforce them if they are to have any effect.

\(^{22}\) See Vienna Convention Art. 35: “An obligation arises for a third State from a provision of a treaty if the parties to the treaty intend the provision to be the means of establishing the obligation and the third State expressly accepts that obligation in writing.” For a treaty to bind a state, it has to give its consent for that. Article 11 of The Vienna Treaty provides: “The consent of a State to be bound by a treaty may be expressed by signature, exchange of instruments constituting a treaty, ratification, acceptance, approval or accession, or by any other means if so agreed.” The law is strictly rooted on the requirement of consent.
supranational authority, it follows that treaty provisions are fashioned with care, so as to limit the state’s own commitment as well as to make evasion by others more difficult. Susskind argues that sovereignty is often used as an excuse. States show blatant disregard for rules and deadlines by declaring that more important than compliance is the issue that their sovereignty is being undercut by other nations.\(^{23}\)

*Melkas* asserts that behind the newest instruments, like the Kyoto Protocol, to respond to global environmental problems, there seems to be a deeper change in the basic structure of international law. A call for change in the position of states as the ultimate legislators behind the rules of international law seems appropriate under the circumstances, states Melkas and continues that “a change towards a more communitarian approach” is on its way.\(^{24}\) Furthermore, Delbrück states it is not necessarily so that the alleged logical connection between the concepts of World Law and World Politics and a pre-existing organized superior entity rests on a state-centered perception of the notion of politics and law. Delbrück argues that the meaning of globalization for the structure of the international system is that “the monopoly of the state as a political actor in the international system has been entirely broken.”\(^{25}\)

With regard to compliance with international agreements, it is important to distinguish between defection as a failure to *comply* with an agreement and defection as a failure to *participate* in an agreement. The distinction is important because while countries might be compelled, by means of the non-compliance mechanisms of international law and specific treaties, to comply with the agreements they sign up to, there does not exist an international norm that requires that states become signatories to an international agreement. Sovereignty ensures states have a freedom to participate in treaties or to stay outside them as they please. It is only once they have become members of a specific treaty that they bear an obligation to comply with the commitments laid down therein.

However, some treaties provide for the possibility they may be amended by a majority vote, in which case the result bounds also the objecting states (see e.g. the Convention for the Protection of the Ozone Layer, Vienna, 22 March 1985, Art 9 (3)). So, unanimous consent is not required every time new obligations for states are determined. However, states must have given their consent earlier to allow for such a procedure to be applied.

\(^{23}\) *Susskind* (1994) p. 22.
\(^{25}\) *Delbrück* (2002) p. 410. The foundation for the argument lies in the fact that international law consists of actions of state and non-state actors, transactions and situations of most different kinds that reach beyond the state or national level.
2.2 Weakness of Obligations

2.2.1 General

Consensus and with it relatively lax or indefinite articles, in the worst case a factual emptiness of an agreement, may damage the public picture and overall significance (the generally perceived as well as factual) of international agreements. Treaties may even contain intentionally left loopholes.\(^{26}\) Those may be originally meant to remain fairly small in scope, but can at some point turn into fairly large gaps. A good example of this is the International Whaling Convention and its ‘scientific whaling clause’ as an exception from the general prohibition of whaling.\(^{27}\)

A factor that often complicates negotiations on international environmental agreements is the prevailing scientific uncertainty over the subject matter. For instance, there is still debate in some research circles on whether climate change is really happening and whether it is mainly caused by human activities or not. In a smaller scale there may be uncertainty at least on qualitative issues, such as relevant physical and biological processes, the right magnitude of abatement levels, the various consequences of the environmental problem and so on. On the other hand, irreversible changes in the state of environment can happen if necessary measures are not undertaken in time; a rational actor should be cautious and not to commit itself to "too many" irreversible changes.\(^{28}\) The precautionary principle is clearly visible in this line of thinking.\(^{29}\) The uncertainty argument may be used to justify taking action now, before it is too late, or as a defense for delaying action.

In general, it is not worthwhile to wait for reaching full scientific certainty before undertaking internationally coordinated mitigation measures, also for strategic reasons. It may be more feasible

\(^{26}\) Sand finds such in e.g. the Montreal Protocol (Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987), calling its Art. 5 ‘the Third-World bonus’ and Art. 2(6) ‘the grandfather clause’. Sand (1999) p. 342.

\(^{27}\) International Convention for the Regulation of Whaling, Washington D.C., 2 December 1946, Art. VIII. Further, see Swanson – Johnston (1999) p. 173. Under the ICRW rules countries are permitted to issue permits for lethal research; the possibility may, however, be used as giving a tiny bit of respectability to a nation’s “normal” commercial whaling action.

\(^{28}\) Mäler (1990) p. 100.

\(^{29}\) The Rio Declaration on Environment and Development of 1992 contains the most commonly used general definition of the Precautionary Principle: “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” Principle 15. The principle has been argued to be a part of general international environmental law, but despite appearing in several international treaties, it has not been explicitly referred to as a customary principle in international judicial practice. For instance the Gabčíkovo-Nagymaros case (The International Court of Justice: Gabčíkovo-Nagymaros Project, Reports (1997) p. 7) of 1997 proves the ICJ was not ready to give way to the precautionary principle at the expense of the original treaty between Hungary and Slovakia. See Kulovesi (2002) and the ICJ judgment 92/1997.

For more on precautionary principle and international environmental agreements, see e.g. Sands (1995) p. 208-; Mickwitz (1998a) p. 73-92.
to try to create an environmental treaty before perfect information is available, because after that the welfare functions of states may become so dissimilar that it is difficult to establish fruitful cooperation anymore.\textsuperscript{30} In a prolonged stalemate situation emerges also the “shrinking cake – effect”: parties lose advantages of an agreement for good as starting of cooperation is put off further and further into future. The irreversibility problem emerges easily when determining for instance on common measures to protect biodiversity, for which, furthermore, private interests are usually insufficient.\textsuperscript{31} It may take a lot of time and effort to get to an agreement as parties wait that the treaty born from prolonged negotiations will cover the costs incurred in its drafting.\textsuperscript{32}

It may be, however, that the very existence of uncertainty increases the likelihood the needed consensus for the establishment of an international environmental agreement is reached. Kolstad argues that it is easier to reach a cooperative agreement on an environmental externality behind the “veil of uncertainty” about winning and losing than it is after the veil is lifted.\textsuperscript{33} Nevertheless, probably a more likely scenario is that science and the uncertainty factors it presents for treaty-negotiations are most responsible for delays affecting the development of international legal solutions to environmental problems.\textsuperscript{34} It is yet greatly so that policy-makers depend on science to provide necessary evidence before taking action.\textsuperscript{35}

There is a danger on the other hand, that the treaty obligations become weak as a consequence of inaccurate scientific knowledge on the environmental problem and its dynamics that are objects for the international regulation efforts. Prevailing scientific uncertainty would require certain flexibility into a treaty: if important future parameters, like information on the state of environment or technological possibilities to control pollution, change, this reflects to countries' welfare functions that hence change as well. Therefore there should be a chance to renegotiate an agreement when deemed necessary. Renegotiations bring, however, instability to treaty arrangements and are consequently often regarded by scholars as highly undesired in international treaty regimes.

\textsuperscript{31} Many of the species existing e.g. in tropical rain forests have no use value today, but may in the future become crucial for the development of new medicines, for instance. See Mäler (1990) p. 101.
\textsuperscript{32} For more, see Dixit – Nalebuff (1991) p. 45-.
\textsuperscript{33} Kolstad (2002) p. 3.
\textsuperscript{34} Redgwell argues that scientific uncertainty will not necessarily work towards preventing an agreement to be created but rather puts emphasis upon the need for information-gathering and exchange, monitoring and reporting obligations in the treaty text. See Redgwell (2000) p. 97.
\textsuperscript{35} Ramlogan (2002).
International treaties are said to be often results of highly compromised consensus efforts and to reflect the lowest common denominator between parties.\textsuperscript{36} The argument cannot be denied: when at best nearly 200 countries have gathered at the negotiating table, it is clear that the outcome cannot contain the views and interests of each and every nation. It is evident the treaty text is subject to hard bargaining, in the course of which the provisions may become more and more modest in order to account for the views of as many states as possible. It has been argued that in case of this kind of consensus treaties, there is no individual free-riding; instead, the parties take a collective free-ride.\textsuperscript{37}

However, very weak treaty obligations are not in anyone’s interest. They may result in fewer cases of non-compliance but the initial objective of the treaty, bringing about significant improvements in the state of environment, remains necessarily unattainable. Therefore it is not desirable to settle for the lowest common denominator but to aim higher even to begin with.\textsuperscript{38} By that I do not mean that fairness and justice should be abandoned. Rather I refer to a principle already mentioned in a couple of MEAs, the principle of common but differentiated responsibilities.\textsuperscript{39} It implies that in determining obligations for states under international environmental treaties, their different contributions to the environmental problem as well as capabilities to take action should be considered.

It could be argued that the quality of treaty obligations, the deepness or shallowness of cooperation is in direct proportion to the need for enforcement within a treaty. It can be assumed that if the treaty does not require big changes in state behavior, not much non-compliance will occur either.

\textsuperscript{36} Jenkins argues a consensus treaty may often consist of “no more than a policy not to disagree, rather than the parties’ positive affirmation of mutually agreed substantive rules.” Jenkins (1996) p. 222. Nonetheless, it has been said that it is obvious that political, economic, social and scientific consensus is critical to the initial and long-term success of an international legal response to the greenhouse effect. Taylor (1998) p. 22.


\textsuperscript{38} Chayes & Chayes argue, however, that the lowest common denominator –outcome is not necessarily a failure and highly undesirable since it may be “the beginning of increasingly serious and concerted attention to the problem”. Chayes – Chayes (1993) p. 184. Ebbesson states treaties may function as a political incentive to further action and cooperation rather than as a legal restraint, when the substantial obligations are vaguely formulated. Ebbesson (1996) p. 16.

\textsuperscript{39} See e.g. the FCCC (United Nations Framework Convention on Climate Change, New York, 9 May 1992) and the Kyoto Protocol (Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 10 December 1997) where the principle is mentioned several times (the preamble and Art. 3, 4, 12 of the FCCC; Art. 10 of the Kyoto Protocol). The Montreal Protocol has adopted the idea of common but differentiated responsibilities as well, even though the principle is not stated in the treaty text. In general, the principle is illustrated in the commitments of developing and industrialized countries respectively. For instance, developing countries are granted “grace periods” with regard to the general obligation to phase out ozone depleting substances. In the same vein, emission targets are differentiated between countries under the FCCC, and developing countries are left outside of binding reduction targets altogether.
Correspondingly, states are likely to face compliance problems with strict treaty obligations, which causes demand for means to ensure commitments are being fulfilled. Hence there is a direct link between the degree of treaty obligations and need for different mechanisms to promote compliance.\(^{40}\)

### 2.2.2 Reservations

Many international agreements allow for the use of *reservations* or contain so-called *escape clauses*.\(^{41}\) These are leeway for parties to remain outside an arrangement established by the treaty or not to commit to a particular treaty obligation or a set of obligations. This kind of possibility for a limited deviation has been left into an agreement to ensure the treaty would be acceptable to a greater number of states; it is also a response to the countries' heterogeneity with regard to the issue area the treaty concerns. In other words, the possibility for opting out is used in multilateral agreements to ensure their relatively broad acceptance and coming into force. This can be regarded as an illustration of the principle of common but differentiated responsibility.

As was stated before, international agreements are based on consensus. Reaching the required unanimity about the treaty text involves compromises, which gives raise to dissatisfaction with some of the agreed upon provisions among participating states. Hence the need for reservations. Of course a state may choose not to sign the resulted treaty that is unfavorable for it in some respect, but more often both the treaty coalition as well as the state in question prefer the other option, signing the treaty but filing a reservation. General limits for treaty reservations are provided in the Vienna Convention: reservations are allowed so long as they are not incompatible with the object and purpose of the treaty, or unless the treaty prohibits reservations or allows only specific kinds of reservations.\(^{42}\)

A state may opt out of obligations in several ways: by ratifying the treaty with reservations; by not becoming a party to a stricter protocol to the treaty; or by refusing, under the objection procedure, to be bound by the treaty amendment decision, made e.g. by the International Whaling

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\(^{40}\) *Downs – Rocke – Barsoom* (1996) examine the question whether there is only little need for enforcement within international treaties due to so little existence of deep cooperation. They conclude (with a special reference to the Montreal Protocol) that in the environmental field, the cooperation has not often been especially deep.


\(^{42}\) Art. 19 of the Vienna Convention. For discussion, see *Aust* (2000) p.108-.
Reservations may take two forms. By making a *joining reservation*, a state may avoid a treaty obligation by entering a reservation at the time of its ratification of the convention in question. A *continuing reservation* allows a state to escape from new rules created under an international agreement.  

Even though reservations undermine international treaty system by enabling states to protect their economic and other interests, they are seen important with regard to future long-time development, especially as a means to deepen environmental cooperation later on. The employment of reservations may namely be a step towards avoiding sudden conflicts and creating ground for future cooperation in the same or a different issue area. Reservations also bring well-needed flexibility into environmental agreements by allowing parties to proceed towards a common objective yet at a different pace. Consequently the outcome of treaty negotiations does not need to be a compromise that even the last party is ready to accept, but the agreement can be built on objectives that are acceptable to the majority of parties and the rest may opt out from the controversial treaty provision. It can be assumed that many a time a more effective agreement as a whole is accomplished this way.

There is a wide practice concerning reservations in international agreements, in the field of environment especially in agreements that regulate international whaling and fishing. In the light of the experiences gained from there, allowing for opting out is not regarded as a favorable policy tool. It has been considered to violate, for instance, the fundamental principle that responsibility for the protection of common natural resources belongs to everybody. Moreover, reservations bring uncertainty into treaty regimes and inevitably lead to a certain open-endedness of commitments.

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43 See for instance Art. V(3) of the ICRW.
44 E.g. the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, D.C., 3 March 1973) allows for joining reservations (Art. XV, XVI, XXIII), the ICRW for continuing reservations (Art. V(3)).
45 Take the CITES, for example. It allows parties to enter objections to provisions and listings of species, and in effect puts such parties in a position equivalent to non-parties with whom trade in those endangered species is permitted. That kind of opting out clearly undermines the fundamental aims of the treaty regime.
47 This approach is successfully applied in the EU where reservations for a transitional period are an often-employed instrument. By giving states time to adjust to new rules, it takes into account the differences in the levels of departure between countries.
48 Rose – Paleokrassis (1996) p. 156. Sands states that if international law is to be effective, a far more rigorous approach needs to be applied to the interpretation and application of exception clauses. Furthermore, the burden of justifying an exception should be subjected to a higher threshold of proof. See Sands (1995) p. 451.
The practice also makes it difficult to assess states’ performance of their obligations.\textsuperscript{50} Hence compliance is difficult to monitor and enforce.

\section*{2.3 A Law and Economics Approach to Transboundary Environmental Problems}

\subsection*{2.3.1 General Concepts}

The ozone layer, climate system or a state of environment in general can be regarded as public goods: they are free to be used or enjoyed by everyone and the consumption by one party does not reduce in the slightest the amount of resource that is available to others. Moreover, no party can be excluded from enjoying the benefits associated with the resource.\textsuperscript{51} Usually some kind of support or force is employed when offering public goods at the national level, i.e. governments often step in to resolve collective action problems. For example, citizens are obliged, by form of paying taxes, to pay the costs for the maintenance and action of police forces, another public good. Were there no coercion, the result would most probably be that people would, in their individualistic aspiration for maximum benefit, give in to the appeal of becoming free-riders. They would see to it they enjoyed the advantage of the presence of the police but would not share the costs inevitably incurring from providing this good. In case of environmental problems, this model is visible in that polluters are willing to enjoy cleaner environment but they are not ready to participate in costly pollution mitigation efforts but instead evade responsibility.

Rational actors that aim to maximize their own benefit, of which kind actors harming the environment are usually thought to be, are keen to take advantage of the efforts of others without sacrificing anything themselves for the better environment. This inevitably leads to excessiveness in the harmful action and to demand for effective means to arrive at real cooperation in the battle against severe environmental problems. To make the setting even worse for international environmental cooperation, it must be noted that global public goods suffer from collective action problems even more than other public goods, due to the large number of actors involved and the diversity of their interests.

\textsuperscript{50} Koskenniemi (1992) p. 123.

\textsuperscript{51} Non-rivalry and non-excludability are the main characteristics of a public good. Carraro points out that non-excludability of environmental benefit is not related to the presence of asymmetries, even if asymmetries can strengthen it, and it occurs even if countries are identical. Carraro (1998b) p. 4.
Some environmental problems can be perceived to be a result of the existence and use of *common pool resources*. The term means a resource sufficiently large that it is costly to exclude users from obtaining subtractable resource units; the difference to the concept of public good is that the acquire of a resource unit by one user has happened at the expense of other potential users. A good example of this is international whaling. In principle everybody has free access to the world oceans to catch these massive marine mammals. Furthermore, as each catcher acts to maximize only his/her own benefit (by using the resource as much and as long as the individual marginal cost remains below the individual marginal benefit) and omits the effects his/her action has on other catchers, over-whaling and the dramatic downfall of whale stocks is the inevitable outcome. As a result, unrestricted whaling has given rise to an international *tragedy of commons*.\(^{52}\) All parties would be better off if the situation was taken into control by internationally agreeing on needed restrictions. This way it would be possible to get to a collectively rational and most beneficial outcome, to a situation where the summarized benefit of all actors would be maximal. Overexploitation constitutes a social loss because all of a society would be able to benefit from better regulation of the resource.\(^{53}\)

In terms of economics, environmental problems are results of *negative externalities*.\(^{54}\) When causing an externality, an actor only considers his/her private marginal costs and not the total, or social, costs of his/her actions. In other words, the actor does not internalize all social costs s/he causes – with a global pollutant, for example, all that harm that incurs outside the borders of a state –, which brings distortion to the intensity of how a resource is being used (e.g. pollution is caused). In other words, the resource is as a result used more than would be socially optimal. Mäler concludes realistically that whenever the area of jurisdiction differs from the area of environmental concern, one may expect lack of coordination and inefficiency.\(^{55}\)

An environmental problem is a kind of *market failure*, a distortion in the market’s allocation of resources\(^{56}\), which follows from the lack of clearly defined property rights and markets. According to conventional wisdom, the existence of a market failure requires interference from the part of state

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\(^{52}\) For a basic description of his phenomenon of the depletion of an open-access resource by overuse, see *Cooter – Ulen* (2000) p. 161-162.


\(^{54}\) These "environmental bads" can be divided, for example, into unilateral and bilateral ones. The latter can further be either regional or global. See further *Mäler* (1990) p. 81.


or international community. Moreover, the condition for cost-efficiency requires that because several (all) states contribute to an environmental problem, measures to mitigate it should be allocated efficiently between them. This is where international environmental agreements are needed.

2.3.2 State Heterogeneity

In terms of economics again, states are said to have individual social welfare functions. They can in principle be calculated on one hand from the costs from actions taken to mitigate the environmental problem, and on the other hand from the respective benefits accrued from cleaner environment. With global environmental problems the welfare functions of states are interdependent, so that the benefit or cost that one state faces is in theory the sum function of the emissions of all countries. The general starting assumption in the economic studies on international environmental problems is that states have symmetric welfare functions, which makes models and theories a little more straightforward. The reality is, however, different: within the climate change, for example, there are winners as well as losers.

Each state perceives environmental problems and the priorities they deserve differently. States place different values on environmental protection and have different interests in environmental issues. This already results from the fact that countries are different as to their natural conditions (e.g. climate, geography) and there is a lot of varying in stages of economic, social and political development. As a consequence, states have different criteria for affordable action to mitigate environmental harm. This should also be the underlying thesis when negotiating international environmental agreements. Then again there is the fact that acceptance of treaties requires unanimity, which provides that there has to be one treaty text everybody can agree to. These facts form a tough equation to solve. Not surprisingly the outcome is usually a less ambitious compromise, advancing according to the smallest common denominator between participating states.

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58 For example, many ocean islands are predicted to experience a considerable rise in sea levels probably in a few decades, whereas more continental industrial and agricultural countries can be expected to benefit from the consequences of the warming climate. Clearly states are not equally affected by environmental problems.
59 Sprinz & Vahtoranta suggest that different degrees of ecological vulnerability and of economic capacity explain much of the cross-national variance found in support of international environmental regulation. Sprinz – Vahtoranta (1994) p. 79.
60 See e.g. Victor (1999b) p. 10.
2.3.3 The Free-rider Problem

From what was stated above, it is clear that states have a great incentive to become free-riders with regard to mitigating environmental problems. Even if cooperation in dealing with a global problem is in each state's interests, they may end up taking a free-ride on the virtuous efforts of others. In that case a state decides to seek for even more individual gain and not to take up any mitigation measures in a hope that it gets its share of cleaner environment (resulted from the efforts of the cooperating states) without incurring any extra costs itself. The free-rider should, however, take into account the possibility that the whole agreement may collapse due to excessive free-riding and so everybody would be back to square one again. On the other hand the incentive to free-ride grows as the number of members in an agreement increases, because then the behavior of a single state has less significance to the treaty arrangement as a whole and hence to the maintenance of cooperation.61

There are two forms of free-riding. In external free-riding, states seek to benefit from emission reduction by not signing up to the agreement and staying outside. Conversely, in internal free-riding, signatory countries do not comply with the requirements of the agreement. Another division can be made between orthogonal and non-orthogonal free-riding. The former covers situations where countries’ reaction functions in the emission game are orthogonal, making about that free riders just benefit from the cooperative action of the coalition of signatories to a treaty and they cannot damage it (i.e. there is no “carbon leakage”). Non-orthogonal free-riding is at hand when countries’ reaction functions in the emission game are non-orthogonal, i.e. in an environment where there is interdependence between countries’ emission strategies (as is the case with global environmental problems), free-riders can damage the coalition by increasing their emissions whenever cooperating countries reduce their own.62 Therefore there is a prospect for leakage in this setting.

62 Carraro – Moriconi (1997) p. 7. This kind of interdependence among countries affects the stability of an MEA. In case of non-orthogonal free-riding and existence of leakage, the environmental benefits from cooperation are low, the incentive to free-ride is high, and conditions for transfers to be effective as a means to induce countries into the treaty regime are unlikely to be met. On the other hand, when the free-riding is orthogonal the environmental benefits are larger, free-riding is less profitable and transfers may achieve their goal to expand the treaty coalition. Carraro (2000) p. 10. Hence with non-orthogonal free-riding behavior the coalition has to reach a minimal size by which it can offset the damaging free-riders’ action. Carraro – Moriconi (1997) p. 8.
One aspect of free-riding is the order in which states join an environmental treaty. They may linger with the signature and hence enjoy the benefit as the treaty coalition restricts its pollution action and consequently release only a bigger share of the common resource to be used by free-riders. In this sequential acceptance problem, the bargaining problem continues to exist even if the agreement has been reached. The problem is an illustration of the so-called rent-seeking. Fishing agreements form a good example: the fish saved from catching quotas are only spared to be harvested by actors that are not parties to the agreement. In the presence of this kind of perverse incentive, it is even more difficult to get to a comprehensive treaty arrangement. Moreover, incentive to free-ride only grows with time, for as long as the door into a treaty stays open, holding out only becomes more valuable to the free-rider when more states join the agreement before it does. Hence the alternative costs for participating in cooperation are growing and joining a treaty becomes all the more costly.

A solution to the holding out problem in this context could be a practice where a definite date was determined for all potential parties to join a treaty, after which it would no longer be open to signature. On the other hand, committing to international agreements is always voluntary and so the proposed practice would not quite be in line with that principle, not to mention its application would be difficult in practice. Many environmental treaties nevertheless contain a provision on a minimum number of signatories that is needed in order the agreement to come into force. Hence the state that is considering joining the agreement should not only weigh the consequences the agreement would bring to it but also the option that the arrangement never comes into force due to the decision of that very state to stay outside. Here we can in a way see a threat of sanction even before the agreement itself has come into force. On the other hand, one may ask whether there is anything to preclude states from just starting new negotiations if the current treaty does not get enough support. The prospect of renegotiation steps easily into the picture.

There is usually variance in the cost-benefit function of a state that is taking a free-ride on a MEA. The party may first enjoy a short-term benefit e.g. in the form of increased competitiveness, but the degraded state of environment may cause more significant costs in the long run and completely

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66 For example, the Kyoto Protocol to the FCCC includes a “double trigger”: Art. 25 requires that at least 55 countries, which account in total for at least 55 per cent of the total carbon dioxide emissions for 1990 of the Parties included in Annex I, must have ratified the protocol before it shall enter into force.
68 By being able to keep its level of pollution or even increasing it while signatories have to cut emissions, which is almost without exception costly and so increases a country’s production costs.
offset the benefits earned earlier. Hence one could conclude free-riding is not usually persistent under environmental treaties, and it could be avoided for a great part if states were far-sighted enough and foresaw the ultimate outcomes of their actions.

*Barrett* shows that free-rider deterrence and compliance enforcement are related problems that can be solved jointly. Holding as starting point an assumption that signatories can impose a credible punishment to deter free-riding, he argues: “The worst harm that a signatory could do by not complying would be for it to choose an emission profile that matched what it would do if it withdrew from the agreement. Hence, if every signatory is deterred from withdrawing, each also is deterred from not complying. The binding constraint on international cooperation is free-rider deterrence, not compliance enforcement. Once free riding can be deterred, compliance can be enforced free of charge.”

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69 *Barrett* (1998b) p. 36.
3. THEORY AND PRACTICE BEHIND INTERNATIONAL ENVIRONMENTAL AGREEMENTS

3.1 General Game Theory and International Environmental Agreements

A state’s commitment to a treaty is not a one-off measure. Even though joining an agreement is an individual act, the preceding negotiation phases and the subsequent time of compliance with obligations is strongly founded on repeating state interaction. This also makes possible diverse multistage strategic behavior. States may form coalitions, weigh current and future benefits and costs associated with different sets of action, adopt different procedures to deal with treaty violations and so on.

Examination of strategic state behavior is as a rule based on assumed rationality of action.70 A rational actor is able to recognize the options for action available to him/her and their expected outcomes (payoffs in terms of economics) and to establish a preference ordering for them. A fundamental assumption therefore is that the actor in strategic games is strongly individualistic and self-interested and is expected to act according to what is most beneficial to him/her. In practice, however, one can strongly question this rationality assumption.

In real world, much cannot be relied on the idea that sovereign, rational and self-welfare-maximizing states would act out of pure altruism when making decisions about participation in international environmental regulatory cooperation. Many environmental problems involve significant economic implications, and accordingly it can be assumed that a state will not engage in pollution mitigation, for example, unless it regards that the accrued benefits will cover the costs incurred. A traditional view holds that there are primarily moral motives behind cooperation between states, that once agreed upon, norms are without questioning regarded as binding to parties ever after. However, nowadays it is more often considered that the effecting reason for international

70 Rationality can be individual or collective. Individual rationality implies that, if every other player plays the equilibrium strategy, each can do no better than to play this strategy as well. In case an “accidental” deviation occurs, other players will have an interest to carry out a punishment, providing that everybody else obey the strategy. Therefore free-riding and non-compliance are punished, and it is precisely because it is known that this behavior will be punished that no country deviates in equilibrium. Collective rationality implies that an equilibrium agreement cannot be vulnerable to renegotiation – that there cannot exist an alternative, feasible agreement that all countries prefer to the equilibrium agreement. Providing that all other players behave in the manner prescribed by the strategy, all of the players called upon to punish the defection would actually want to carry out the punishment and would not be tempted to renegotiate the agreement. Barrett (1998a) p. 3-4.
coordinative action is states' striving for an outcome that is compatible with their interests; in other words states act only the way and to the extent that is advantageous to them.71

Game theory is interested in how rational actors make decisions when those are interdependent. Parties interact with one another and the outcome is not only dependent on what we choose but also what the others decide to do. Game theory is designed to analyze this kind of interaction, the associated strategies and possibilities to achieve or sustain cooperation.72

Game theory may be seen as a description and analysis of an attempt to establish cooperation to overcome an environmental problem as a game in which states as players try to find an equilibrium solution. A one-off game is often modeled as the so-called *Prisoner's dilemma*.73 Within international environmental agreements, the prisoner's dilemma may be manifested in states slipping from agreed obligations. An example74: in principle it might be in State A’s interests that an international treaty was established to control CO₂ emissions. At the same time, though, State A may have an even greater interest to not to participate in this agreement and limit its emissions. This way it can enjoy the improved state of environment, thanks to the treaty and other countries' mitigation efforts under it75, but getting these benefits with lower costs than those states that are parties to the specific international agreement. This kind of situation can within game theory be illustrated as a classical prisoner's dilemma:

<table>
<thead>
<tr>
<th></th>
<th>Cooperate</th>
<th>Defect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperate</td>
<td>4,4</td>
<td>0,5</td>
</tr>
<tr>
<td>Defect</td>
<td>5,0</td>
<td>1,1</td>
</tr>
</tbody>
</table>

*Table 1 A CO₂ emissions game matrix between two countries.*

71 On the relationship between traditional compliance theory and an alleged more realistic approach, specifically in field of international customary law, see Goldsmith – Posner (1998).
72 Game theory has traditionally been divided into cooperative and non-cooperative. The starting point for the former is the assumption that an efficient policy target can be sustained in a full cooperative outcome; the main concern is in the burden-sharing. In contrast, non-cooperative game theory considers free-riding and non-compliance as the major constraints on international environmental cooperation.
73 For a basic description, see e.g. Cooter – Ulen (2000) p. 35-37.
74 Modified from Jeppesen – Andersen (1998) p. 66.
75 Carbon dioxide is a so-called global pollutant, i.e. an increase or decrease in the emissions in some part of the world affects in principle the whole global climate system.
The core point is clearly visible in the matrix: each state prefers not to comply with the agreement, regardless of what the other party is doing. However, it would be better for both if they chose to cooperate, – to which it is yet hard to get within this theory because of the significant free-riding incentive. In other words, rational actors have an incentive not to cooperate, even though mutual cooperation would be the collectively optimal outcome. The setting implies that either there will be no agreement to begin with, or a generated agreement is subject to massive free-riding as states act strongly in their self-interest and do not consider the joint (social) costs and benefits of their actions.

An environmental coordination problem can also be illustrated as a chicken game. It captures situations where some kind of environmental disaster is faced. Also in a chicken game countries have individual incentives to pollute, but the expected environmental damage is so grave that even at the individual level countries would prefer to unilaterally limit their emissions. The prisoner's dilemma, conversely, describes situations where the caused environmental damage is recognized but not perceived sufficiently severe so as to override individual opportunism.76

The two models presented can be perceived as being present in different stages of an environmental coordination problem. The underlying game of whether to play ‘cooperate’ or ‘defect’ is a prisoners' dilemma game, but the game of whether to be a signatory or non-signatory to the treaty is a chicken game. Each country would prefer to free-ride, but if too few countries are parties to the treaty, it is in the interests of non-signatories to accede.77

Association with the prisoner's dilemma gives a rather pessimistic picture of chances to overcome global environmental problems with inter-state cooperation. The fact is, however, that cooperation does take place and international environmental agreements do exist in reality. And true enough, the setting changes when states engage in long-term collaboration and cooperation is practiced in several fields.

A single, one-off game does not illustrate very well the dynamic action of real-world states. Maintenance of an international environmental agreement requires repeated choices, and state actions are on one hand characterized by dependence on the decisions of others, and by a rather straightforward aim to maximize own benefit and to take the actions of others as given on the other

76 On distinguishing between these two models, see e.g. Ecchia – Mariotti (1997) p. 12-21.
77 Barrett (1998a) p. 27.
hand. These features are accounted for in repeated games that go on forever or at least for an undefined period of time. The solution concept of this kind of prisoner's dilemma is called Folk theorem. According to it, in sum, when a game is repeated infinitely (and a trigger-strategy is applied in cases of non-compliance), any possible individually rational outcome may be an subgame-proof Nash-equilibrium on condition that players have low enough discount rates, i.e. they give sufficient value to future benefits. This model brings a significant amount of new potential equilibrium-strategies to games. Once players can in a repeated interaction use different sanctioning methods against each other, the free-rider problem can be prevented effectively and sufficient cooperation to mitigate a global environmental problem is within reach easier.

The lifetime of an MEA is generally long; the date of ending is not usually specified in the treaty. Thus states basically face an infinitely repeated game. In this kind of dynamic games, parties observe the actions taken by others before playing out their own strategies, supposedly optimal to the situation. Games like this allow players to learn from the reactions of others and subsequently apply different feedback-mechanisms to them. Hence it is question about using information from the past in choosing the strategy of action to the situation currently at hand. This way potential for cooperation may increase and it is possible to reach equilibrium solutions that would not have come into question had the game been only one-off.

Treaty formation and maintenance is indeed an evolutive process. Contrary to the realist theory of international relations, states are not invariably fixed with their interests and hence able to constantly make calculations on the costs and benefits of each and every choice of action. It is well possible states do not have fixed interests in every issue they are dealing with. Interests and points of emphasis may evolve, be discovered or redefined in the course of the treaty negotiations and implementation.

3.2 Coalition Formation

78 More on trigger-strategy later in section 6.3.
79 A Nash equilibrium implies that no actor has an incentive to change its strategy; in other words, each player plays its best strategy in the face of the strategies of others.
80 For the basics of different forms of prisoner's dilemma, their solutions and the Folk theorem, see e.g. Romp (1997) p. 220. Barrett shows, however, that the Folk theorem may not hold for a self-enforcing MEA, since that may be vulnerable to renegotiation. See Barrett (1994).
The versatile toolbox offered by game theory can also be used to examine coalitions that states form within environmental agreements, to analyze their characteristics, stability and the total benefit the “alliance” may secure to itself. Coalitions are major analytical characteristics in multilateral negotiation and maintenance of cooperation. Coalitions are not only theoretical constructions, however, but have proved to have direct relevance to reality. For instance, the negotiations under the Climate Change Convention have demonstrated the real function of coalition formation. The following negotiating coalitions have been recognized: the Alliance of Small Island States (AOSIS); the Group of 77 (also known as the G-77: a group of approximately 130 developing countries that does not include China); the “countries with economies in transition” (former Eastern bloc countries); the Umbrella group (Australia, Canada, Iceland, Japan, New Zealand, Norway, Russia and Ukraine; sometimes also the name JUSCANZ is mentioned, meaning a coalition comprising of Japan, the United States, Canada, Australia, and New Zealand); and the European Union. The groups have for the greater part acted as unitary actors in the negotiations. Coalition formation has benefited especially smaller states as the support of the coalition has assumedly given their views more weight.

Within any agreement, it is specifically the stable, established coalitions not vulnerable to the free-rider problem that are in search. According to the general theory, there are two main conditions for a stable coalition. First, leaving the coalition should not be in any member’s interest (internal stability). Second, no outside party should have an incentive to join the coalition (external stability). With these two conditions satisfied, the number of members to an agreement and thus

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81 Friedheim points out how for example under the International Whaling Convention there have been observed coalition formation and attempts to undermine the established alliances. Under the ICRW, there is a group of countries whose only aim is to establish a total ban for whaling. States that are outside of this presently dominating coalition basically have two options for action: they must attempt to form a unitary competing coalition or seek to influence the members of the whaling ban alliance so that they would moderate their views. This eventful “battle” is well illustrated by Caron (1995) p. 159-163.

Greenpeace has repeatedly reported on Japan’s impudent strategic behavior in its pursuit to enlarge the ICRW coalition by states favorable to its whaling policy. A high Japanese official has stated: “Because antiwhaling countries' attitudes are stubborn, it is judged that it is more advantageous for future negotiations to dig up supporting votes by increasing member countries than by trying to split opposing votes.” Quoted in Greenpeace (2002a) p. 1. Japan has pursued to enlarge the pro-whaling coalition under the ICRW by recruiting new members to the treaty and making them favorable to its policy views by e.g. offering the countries Japanese Overseas Development Aid (ODA). Greenpeace (2002a) p. 1.

82 See e.g. Wagner (2001) p. 386. The concept of internal and external coalition stability has four significant weaknesses, however, as reported by Finus & Rundshagen. First, the concept does not allow for the coexistence of several coalitions but assumes that there is one group of signatories and that non-signatories behave as singletons. Second, the assumption of external stability implies that signatories cannot turn down the application for accession of a non-signatory even though this is to the disadvantage of signatories. Third, the concept assumes a simultaneous decision of players of whether to join a coalition. A more plausible assumption seems that coalitions form sequentially where some countries act as initiators. Fourth, the concept assumes in an ad hoc way that players only consider the immediate reaction to a change of their strategy. It seems more natural to expect that - if players think about the future at all - they take also chain reactions into account. Finus – Rundshagen (2000) p. 5-6.
the uniform coalition remains stable. Interestingly, the recent climate change negotiation processes confirm that the initial climate change control coalition was not stable: the United States, the world’s largest economy and emitter of greenhouse gases, left the coalition and now acts as a singleton and free-rider. The reason for this behavior can be explained by the laws of game theory: economic payoffs of free-riding are higher than the benefit from joining the treaty coalition.84

The gains that accrue from having formed the coalition can be used to enlarge the block and to attract, e.g. by monetary transfers, more states to join in.85 A stable coalition is always individually rational, if not necessarily group-rational. The latter because the coalition as a whole may be better off if new parties join it. Hence, the ultimate Pareto-optimality is achieved if all actors join and form a so-called grand coalition.86

Theories show that a stable coalition is always small in comparison to the number of potential members.87 It has been further shown, that coalitions within countries that are symmetric for their cost-benefit functions are as a rule larger than ones of states with heterogeneous welfare functions.88 However, it is not necessary to always strive for a grand coalition; small and regional agreements may accomplish more.89 This seems to defend the decision that the emission reduction targets set out in the Kyoto Protocol apply only to industrialized countries.

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83 In addition, the coalition must be viable overall, in the sense that being a member is really more profitable than staying outside.
84 The US CO₂ emissions made up about 32% of the industrialized countries’ emissions in 1990; with the reduction target of –7%, the US would have to reduce their GHG emissions by 25-30% in 2010. This was clearly an obligation the state, its industry more specifically, could not afford. Buchner et al. (2002) p. 6.
85 However, it may not be possible to enlarge a coalition endlessly; the optimal number of members may be reached at some point. This number is possible to calculate in theory. The idea is that the acceptance of a treaty is dependent on the marginal benefit it generates to a marginal state. This applies so long as the costs for meeting treaty obligations stay constant and the benefit from the treaty is decreasing for an individual state (the marginal benefit of an emission reduction is decreasing because an improvement in the state of environment has more value when environment is very polluted than when the state of environment is already on a moderate level). Now the emission reductions made within an agreement will turn to the benefit of all parties and thus the marginal benefit that an individual country receives from its own abatement action is decreasing as the others are at the same time improving the state of environment with their own measures. No rationally acting state will join an agreement if the costs from that overweigh the respective benefits. This forms a boundary to the optimal amount of members in an environmental agreement. Swanson – Johnston (1999) p. 115.
86 The situation is a little distorted for actors seem to consider only their own marginal costs and not the joint marginal benefits of the agreement as a whole. Those yet increase as more countries join a treaty. It should be noted, however, that this theory is based on the assumption that countries are homogenous as to the costs and benefits associated with environmental treaties.
87 Tulkens (1998) p. 33.-
89 Finus (2000) p. 47. The coverage of an international environmental agreement can be increased by employing the possibility to form regional arrangements to support the reaching of common environmental objectives. A good example of this is the Lusaka Agreement (The Lusaka Agreement on Co-operative Enforcement Operations Directed at
If an environmental problem at hand is such that the marginal costs for its mitigation are high and the benefits respectively small, states are not willing to establish an agreement because the incentive to free-ride is so large. In a contrary situation (small costs, large expected benefits) establishment of cooperation will not be difficult. This involves an obvious paradox: when cooperation would be possible, it does not matter so much, and when international collaboration would be needed most, states do not have an incentive to establish it. In other words, when relative gains from cooperation are at largest, an agreement cannot be created and when states have arrived at collaboration, the absolute gains are negligible. Thus, when costs fall down, more countries join a treaty but the global benefits from the agreement itself fall. Barrett furthermore argues that with a large treaty coalition, an international environmental agreement can achieve very little no matter the number of signatories. That is simply because a defection or accession by any country has only a negligible effect on the abatement of the members of the coalition.

When a state considers joining an environmental agreement, it weighs on one hand the costs that the new obligations would entail, and on the other hand those respective benefits that would accrue when the participants cut their pollution. However, the alternative, that non-signatories of the treaty decide for their part to increase emissions at the expense of the state of environment, must also be taken into account. This (as well as some unintentional events) may give raise to a significant “leakage”. For example: the coalition of signatories to an environmental treaty cuts down its use of fossil fuels, as a consequence of which their price in the world market comes down. This forms an incentive for non-signatories to increase their fossil fuel consumption, and also industry will be prepared to move to these countries of lower environmental standards. Hence

Illegal Trade in Wild Fauna and Flora, Lusaka, 8 September 1994), negotiated between several countries of southern Africa with an aim to make the compliance with the CITES agreement more effective in the area. With the Lusaka Agreement, parties increase cooperation and coordination in monitoring and controlling the trade on CITES species. On the background, contents and significance of the agreement, see Yamin – Gualdoni (1996).


Ecchia & Mariotti argue that, from a coalition theory point of view, it would seem sensible to allow a group of countries jointly, as a coalition, discuss their joining or abandoning a given treaty coalition – naturally the created agreements should be self-enforcing, i.e. not based on the countries’ commitment to cooperation but on profitability after a cost-benefit analysis, just like the original treaty. The advantage of the consideration of a treaty as a coalition is that there may well be a case where two non-signatories would gain from joining the treaty coalition together, while each country individually would not. See Ecchia – Mariotti (1997) p. 6.

Schmidt (1998) p. 35; Barrett (1998b) p. 34.
Barrett states: “Potentially, if leakage is strong enough, the agreement would only succeed in redistributing global emissions.”

On one hand, carbon leakage tends to reduce the size of stable coalitions and even the likelihood of there existing a stable coalition because it reduces the coalition benefit and therefore increases the incentive to free-ride when the coalition is small. On the other hand, carbon leakage increases the return from large coalitions, and decreases the return from free-riding when the coalition is large. Therefore carbon leakage, if sufficiently large, can induce the formation of large environmental coalitions. Hence, there may be two equilibrium coalition structures: one formed by a small coalition and one formed by the grand coalition (or a very large one). In sum, the effects of leakage are two-fold and large coalitions are able to resist the free-riding incentive that leakage forms.

A treaty coalition may enlarge itself and make free-riding a less attractive policy option by timely strategic moves. When a country joins a MEA, the other signatories increase their abatement levels, hence rewarding the country for acceding to the agreement. When a country withdraws, the remaining coalition reduces its abatement level hence punishing the country from withdrawing from the treaty. These punishments and rewards are credible, because the signatories always maximize their collective net benefits by resorting to them. The latter move seems to be confirmed by the recent outcome of the Marrakech Conference of the Parties to the FCCC, where additional sink provisions were established after the US announcement not to ratify the Kyoto Protocol. The sinks inevitably reduce the environmental effectiveness of the Treaty.

The more countries have ratified an agreement, the more easily a new member will join the treaty coalition. States have a considerable interest to create and maintain a relatively stable and predictable international political environment. The more stable and predictable this environment is, the higher will be the costs from undermining it and thus the higher will be the likelihood to a

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94 Barrett (1998b) p. 34. One can question, however, how much the use of fossil fuels will actually decrease due to the Kyoto protocol, for instance. The main point is the fact the emission reduction targets concern only industrialized countries, developing countries were left aside any binding targets in this respect. Furthermore, the developing countries’ need for energy will grow dramatically in the future, so the total demand for fossil fuels is not to be expected to decrease, even if industrialized countries shifted to using mainly to other sources of energy, quite the contrary. Hence it is doubtful whether the world price will come down, be the Kyoto Protocol in force or not.

95 Carraro (1998a) p. 10.


97 Buchner et al. (2002) p. 10. Sink means “any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.” The FCCC, Art. 1(8).
strong atmosphere of compliance. A strong coalition generates air of community where a state does not anymore consider only its own interests but also what effect its behavior has on the other members of the coalition: things are starting to be perceived from the common good perspective.

3.3 States as Actors in the Network of International Relations

States can hardly afford to act in a vacuum with respect to other countries and the international community. There is a multi-layered network of relations between states, countries have various intertwined interests and connection points in their actions, for example in the fields of trade and foreign policy. The inevitable repercussions reach to international treaty arrangements: for example, a state may make concessions in one field and implicitly or explicitly take them back in some other issue area.

Common social norms and political motives are frequently used to explain the rather high rate of compliance international environmental agreements have enjoyed thus far. The fact is that treaty institutions do not usually possess the kind of authority and legitimacy (in practice: sanctioning force) that would guarantee a factually binding status to treaty obligations. However, there is a wide range of other means available to compensate this deficit.

It may be that a state is participating in international cooperation, in spite of it becoming costly, for the sake of reputation. Being seen as cooperative and a reliable partner is important for most states because that determines their attractiveness as a treaty partner both now and in the future. Conversely, a state may regard it benefits from certain toughness and irrationality that others attach to its behavior. This can be true especially with big and influential states: they are not very vulnerable to outside sanction measures after having breached their obligation under an international treaty. Those states may even prefer sometimes acting as they please and regardless of international norms, when they by so doing signal to the outer world that, for example, they do not tolerate offences made against their national security without taking a revenge. A good example is

100 However, this assumption is not necessarily effective for “rogue” states, precisely the ones most likely to breach international treaty obligations and become subject to reputation-damaging sanctions. See also The Stanley Foundation (1997) p. 14.
the war against terrorism the United States declared after the events of September 11th and actions taken therein. Furthermore, it is nearly impossible to effectively punish an irrational actor.102

On the whole it can be argued that reputational factors are more important to smaller than to bigger states, because the latter are faced with greater negative consequences if an important international relationship breaks down, – yet the setting could be understood also the other way around. In any case, reputation protects bigger states better, even though the smaller ones would be more in need of this kind safeguard.103 The withdrawal of the US from the Kyoto Protocol suggests that reputation effects may not always be strong enough to neutralize free-rider incentives. In this case, a big state could afford to harm its reputation. Furthermore, it is argued there is empirical evidence to suggest that the impact of reputation is both weaker and more complicated than usually thought.104

A reputational factor lies also behind the fact that states are generally reluctant to initiate non-compliance procedures against each other. It is illustrative that most, all in case of the Montreal protocol, reports of non-compliance have been made by the defecting parties themselves, after the party has been pressured by others to self-report.105 It is evident states are rooted in a dense network of international relations, which has its part in dictating how states behave with regard to international norms and commitments.

After all the analysis on strategic state behavior, one should bear in mind that games and strategic moves are by far not the whole picture of international environmental agreements. The reality thus far has been that by far most treaty violations have been strongly unintentional. Typically a state has had will to comply with treaty obligations but lack of resources as well as financial, administrative

103 Downs – Jones. The authors also examine the question whether states have one single compliance strategy for international cooperation as a whole or if reputation could be as if divided into parts, which would explain different compliance rates that states have in different agreements. A common result is that actors will develop multiple reputational assessments of the same partner. To say that the actors possess multiple reputations is not, however, to argue that these multiple reputations are completely independent. Downs – Jones p. 2.
A more significant weakness of this justification of the unitary-reputation theory is that it does not help to understand why states have different compliance rates in conjunction with different regimes and often with different treaties within the same regime. It seems there exist strategic interest for states to maintain different compliance rates. Kuokkanen suggests that as scientific expertise becomes more firmly internalized within environmental regimes, traditional diplomacy and politics began to lose their former role and regimes are being created for managing severe environmental problems on a long-term basis. See Kuokkanen (2000) p. 229-230. I think this may be one reason for states to adjust their compliance rates to be different in different treaty regimes. New techniques and circumstances change the role politics and strategic moves have in international regimes and hence states may eventually shift towards genuine partnership in a well-established regime.
104 Downs – Jones p. 1. The authors also suggest that reputation promotes compliance with international law most in trade and security and least in environmental regulation and human rights (p. 19).
and technological incapabilities and deficiencies have lead to the outcome that the objectives committed to have not been met.\textsuperscript{106}

4. THE MANAGEMENT DOCTRINE

4.1 General

Most countries join international environmental agreements with an intention to also comply with them. Usually this simply serves countries’ interests and therefore it is expected that once countries join an agreement, they will also comply with the obligations laid down therein. However, in reality countries are not always willing to or capable of acting the way an environmental treaty would require.

The international community has two kinds of means to react to non-compliant behavior by states: diplomatic and judicial; the international regimes literature often speaks about management and enforcement doctrines respectively. The former refers to "amicable" procedures, discussions and problem-solving in a cooperative atmosphere, in order to get the violating party back to compliance. The enforcement doctrine, then, is more accusatory in nature, even emphasizing differences and disagreements, and is ready to use forcing measures as the last resort to get the treaty obligations enforced fully.

The worst possible consequence from the solution tools to non-compliance offered by different levels of diplomacy is a stain to the reputation of the treaty-violating country and turning to the use of judicial means, whereas in the enforcement branch the negative consequence is always a punishing sanction. Overall, these two schools of thought represent different viewpoints as to how the international systems works, what are the possibilities to control state behavior by virtue of international law and what tools are available for this, plus which of them should be used eventually to handle compliance problems arising under international agreements.107

Research conducted within political science and international law usually presents the following: 1) compliance is generally quite good; 2) this high level of compliance has been achieved with little attention given to enforcement; 3) the compliance problems that do exist are best treated as management rather than enforcement problems; and 4) the management rather than the enforcement approach holds the key to the evolution of future regulatory cooperation in the international system.108 The observations reflect the approach adopted by the “managerial school”.

Many surveys strongly indicate that most treaty violations do not result from willful misconduct of states.\(^{109}\) So, it could be claimed in this light that softer means that promote or ease state compliance are by default more successful in ensuring the effectiveness of environmental agreements. However, it is often stated that the relatively high degree of compliance with environmental treaties does not reflect so much states' good will to take care of the common environment but it is rather simply a sign of how weak the obligations and thus the real significance of treaties are and thus of how modest the requirement for a change in state behavior in reality is.\(^{110}\)

The underlying idea of the management doctrine is in conformity with the general research results that are in favor of the opinion that states tend to comply with agreements they have explicitly committed to; breaches happen rather because of lack of resources than lack of will. Violations can be kept on a tolerable level by employing different positive incentives and continuous dialogue between treaty parties and institutions, international organizations and civil society. When a certain level of openness and transparency has been attained, the diplomatic ties between states, pressure from non-governmental organizations and the awareness of public are likely to keep states complying with treaties. The doctrine is characterized by flexibility and efforts to assist countries to build capacity to comply with their international commitments.

Management type of measures to react to non-compliance under a treaty concentrate on developing the capacity of the parties and on building confidence in the treaty regime as a whole. Goldberg et al. point out a facilitative approach can demonstrate to parties that their pending obligations are reasonable and achievable, thereby assuring those who fear they may face difficulties beyond their control that they will be assisted instead of penalized for their efforts. This in turn may encourage greater participation in the treaty regime.\(^{111}\) The management doctrine is by far a less legalistic approach to non-compliance than the enforcement-oriented policy and it emphasizes the maintenance of a cooperative atmosphere in compliance problems rather than confrontation. In general, the management doctrine can be thought to be a reflection of the general principle that international disputes should be settled by peaceful means. This concept is already included in the Charter of the United Nations that lists the most usual means for the settlement of disputes: negotiation, enquiry, mediation, conciliation, arbitration and judicial settlement.\(^{112}\)

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\(^{110}\) Most notably see Downs – Rocke – Barsoom (1996).

\(^{111}\) Goldberg et al. (1998) p. 12.

\(^{112}\) Charter of the United Nations, Art. 33(1).
The management doctrine clearly emphasizes preventive *ex ante* measures instead of *ex poste* enforcement. It builds on the simple truth that protection of the environment is best achieved by preventing environmental harm rather than by afterwards attempting to compensate or punish for such harm. However, the deterrence effect and thus the preventive role of stricter enforcement mechanisms, sanctions, should be recognized and considered.113

4.2 Reporting

Once an international environmental agreement has been signed, a system for gathering information on compliance with the agreed upon obligations must be established. Information-gathering is necessary in every stage of the preparation and enforcement of an agreement because only that way the transparency can be guaranteed and treaty violations detected, which is essential for an efficient agreement. There are three types of information that is usually collected: information on the activities that have lead to the environmental problem in question, on the quality of the problem itself at hand and on the measures taken to control and mitigate the problem.

The task of collecting relevant information is rarely given to a specific convention body. Instead most agreements include a duty for participating governments to produce reports on how the treaty has been nationally put into force and to hand the reports over to the body responsible for the international enforcement of the agreement. The information produced is typically not only related scientific research material but also reviews on e.g. granted permits, decisions made by domestic officials and observed norm violations of national actors.114 On the whole, there is a growing tendency to attach comprehensive reporting obligations to international environmental treaties.115

113 Kuokkanen argues that the whole of international environmental law has gone through a shift “from reaction to anticipation” and from *ex poste* solving of environmental problems and disputes to anticipating environmental management and dealing with environmental risks. See Kuokkanen (2000) p. 217 and passim. Roughly, the same has been the tendency in compliance issues as the focus has the last decades been on facilitative means and the use of sanctions, an *ex poste* reaction to non-compliance, has been rather rare. The development can be at least partly explained by the emergence of the precautionary principle.

114 Sands (1996) p. 55. For instance, the Montreal Protocol obliges its parties to annually hand over statistics on the production as well as export and import of the ozone-depleting substances that are to be supervised. In addition, parties are under the obligation to produce every other year a review of the measures taken in order to advance research, development and information exchange regarding to the issue of ozone depletion. Participating industrial countries are required to give a detailed description on the treaty implementation measures and procedures they have adopted and the estimated impact of those they will have on the implementation of the ozone convention in general. See Art. 7.

115 See e.g. the Montreal Protocol (Art. 7), the FCCC (Art. 12), Stockholm Convention of Persistent Organic Pollutants (Stockholm Convention of Persistent Organic Pollutants, Stockholm, 22 May 2001) (Art. 15).
Surveys may be demanded to be carried out on an annual basis or according to some other timeframe. An additional aspect in reporting may also be the possibility to request an explanation from a party when it is suspected of or observed having violated its obligations under a given treaty. With the requirement for a report, the party in question may be offered an opportunity to defend its actions and give an explanation for the emerged problems. All in all, reporting requirements enable the parties to assess how effectively the treaty is operating.

Reporting encourages parties to an agreement to fulfill their obligations by increasing the transparency of compliance. First of all, reports reveal to the state itself if it has implemented the agreement as required. States are thus able to make decisions about further action on the grounds of more accurate information. The reports of other countries, then, serve to reassure states that also other parties to the agreement are living up to their commitments and hence their own compliance efforts will not be undercut by free-riders. This way it is possible to mitigate the troublesome free-rider problem as well as to be sure there is equality between countries.

Different reporting obligations have proved to have also other positive implications. By making states responsible for their actions, they increase the experienced binding force of agreements. Furthermore, they spread knowledge on successful strategies and methods countries have adopted in fulfilling their treaty obligations. National reports also offer up-to-date, and from practical point of view important, information on environmental problems. As a rule, reporting requirements add to the information exchange and general cooperation between countries and/or different organizations, which helps to lessen duplication in actions taken and which thus increases efficiency in the implementation of international agreements.116

On the grounds of the information collected it is also easier to deal with problems arising in the implementation of a treaty. In addition, national reports help to target assistance to parties that need it the most. Reports also give reference to the work of building dispute settlement mechanisms into agreements – for triggering sanctions there needs to be accurate and legitimate information

116 Raustiala – Victor (1998) p. 678. As to environmental agreements as such, reported experiences of parties bring in valuable information with regard to modifying and re-shaping the existing treaty texts. Rose – Paleokrassis (1996) p. 149. They give first-hand information and starting points for assessment as regards the functionality of the agreement and the need for its modification. The gathered information can also be made use of when drafting future environmental agreements and in drawing their objectives and choice of means to reach the targets and deal with compliance issues. At their best, reports reflect what states are capable of putting into effect. As a result there should be more realistic and thus more efficient obligations laid down in upcoming international environmental agreements.
available, based on which it is possible to assess compliance and reach correct conclusions about violations as well as to ensure that all parties are treated equally.

A reporting requirement is a conflict-avoiding, open and transparent means to examine and guarantee the extent to which states are committed to their obligations. Many states, however, object going to forceful controlling of compliance. In their view, it is sufficient to follow the compliance of an agreement on a general level and not to interfere in the affairs of single states so strictly.117 Yet several studies show that the reporting practice of international environmental agreements is fairly active and efficient.118

By self-reporting states can produce information on their treaty behavior independently and in the spirit of international cooperation, without needing to fear of other actors' interference. The weakness of self-reporting is obvious: states have an interest to hide any aggravating material. For instance, parties to the International Whaling Convention have been known to skip reporting altogether rather than reveal a serious treaty violation.119 There should be means built into environmental agreements to make it possible for the international community to react if a state has not handed over a report as required. For instance under the CITES, the neglect of national reporting has been sanctioned120 which has had a positive impact on getting information from the parties of the treaty.121 It is important to recognize that a violation of a reporting requirement is a breach of an agreement just like a violation of any other treaty obligation and there should be at least the same means for reaction available as is the case with “substantial” environmental obligations.122

119 See Chayes – Chayes – Mitchell (1998) p. 46. There is also evidence from purposeful misstatements in national reports under the ICRW. The most flagrant example is the practice of the former Soviet Union: in the period from 1948 to 1973, 48 477 humpback whales were killed – rather than the 2710 officially reported to the IWC. Caron (1995) p. 171. This can surely be called a very serious underreporting.
120 See e.g. Notification to Parties No. 2000/057 ‘Failure to submit annual reports’ (2000), which gives a good picture on the current policy towards neglect of national reporting under the CITES.
122 On the other hand, Goldberg et al. argue that frank and responsible reporting develops more readily when the parties are not wary of submitting information out of fear of enduring harsh, immediate punishment. Authors make a reference to the Montreal Protocol where the Implementation Committee has sought to reserve strong measures to be used only against countries that persistently fail to live up to their obligations. Goldberg et al. (1998) p. 13.
Making reports and detected violations public and reacting visibly to them at the official level is important and may as such function as an effective sanction.\textsuperscript{[123]} This “shaming” increases the general transparency of the treaty, gives other parties of the agreement as well as environmental organizations an opportunity to put pressure on the country at fault to make it fulfill its obligations plus works through deterrence effect for preventing breaches already beforehand.\textsuperscript{[124]}

A mere treaty article that imposes a reporting obligation upon parties does not guarantee the realization of the efficiency aspects this procedure would bring along. For example, the quality of data produced this way varies greatly sometimes. The information of the reports should be accurate, up-to-date, complete, transparent and comparable. Once these criteria are met, it is possible to properly assess treaty compliance and react to defections in an appropriate manner. This ideal is often regrettably far from reality, however. The reason for reports that are of poor quality is usually not the lack of will for the part of the states – though especially in the age of cold war this occurred, too\textsuperscript{[125]} – but most often there is a lack of financial and human resources behind neglects of reporting.\textsuperscript{[126]}

In order the gathering of data would not be totally fruitless, the information received should be carefully evaluated, analyzed and interpreted, and then spread out via efficient channels. This task may be entrusted either to treaty bodies, national governments and/or NGOs. These organizations should naturally be provided with sufficient resources and capacity to efficiently carry out the task. There is plenty of room for improvement in the situation today: the need for analyzing the effectiveness of existing agreements is commonly recognized but this does not often reflect to the sharing of resources and to the priorities given in national or international policies.\textsuperscript{[127]} Still, if reports are not reviewed thoroughly and in a timely manner, they for a great part lose their fundamental meaning. At the same time the efficiency addition, with which it would have been possible to increase the likelihood of breaches being detected and reacted to strictly enough, is lost.

\textsuperscript{[123]} The effects reach to a state’s reputation. Publicity also gives the international community and national actors a chance to react to the breach and overall makes the treaty regime more transparent. Under the CITES, for example, a report on states’ negative actions is published occasionally.

\textsuperscript{[124]} Wiser states that the effectiveness of public reports is often based on their persuasive, rather than punitive, value in bringing about changes in state behavior. Wiser (1999) p. 29.


\textsuperscript{[126]} Developing countries, in particular, rarely have sufficient financial means and know-how to create an institutional and functional basis for their administration system to make it possible to meet the reporting obligations as required. See e.g. Werksman (1996) p. 119. Furthermore, the amount of and preciseness required from national reports within environmental agreements have risen remarkably in recent years and thus it is no wonder that especially developing countries are facing constant difficulties in carrying out their demanding job of information-gathering.

4.3 Compliance Monitoring

A few international environmental agreements recognize site-visits conducted by accredited independent actors as a means of compliance control. These kinds of on-site inspections are carried out by either national authorities, treaty compliance bodies or independent consults. Local experts and stakeholders as well as government representatives are as a rule heard in the course of the process. Inspections are in many cases likely to decrease the amount of treaty violations also by giving other parties a more accurate picture of the actual conduct of a state. Even so, states remain quite unwilling to expose themselves to on-site inspections since those are felt to excessively limit states' sovereignty. Nevertheless, on-site monitoring is predicted to increase among future multilateral environmental treaties.

Already the 1946 International Whaling Convention includes a provision that gives independent inspectors a right to monitor the catches of whales of member states. The observers are nominated by member states willing to participate in the scheme on a mutual basis. This practice falls well short of independent compulsory inspection procedure. In general with compliance monitoring systems, observers and inspectors have been nominated by parties willing to participate in the monitoring program, violations are reported back to a central body and sanctions are left to be implemented by the country itself, for example the one whose vessel was found to be in violation of the agreement.

Convention on the Regulation of Antarctic Mineral Resource Activities provides for an exceptionally strong in-country inspection. Within it, parties have agreed to open all of their mineral-related stations, installations and equipment in the Antarctic to inspection at any time by any party. Even no advance notice is required. This kind of compulsory inspection as a means of compliance monitoring is quite exceptional in the area of MEAs.

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128 In addition, Mitchell remarks that under the MARPOL, countries have had strong disincentives to carry out inspections in their ports since that would have made them less attractive for oil tankers than the neighboring ports. See Mitchell (1994) p. 447. This clearly implies the importance of comprehensive treaty regimes within which also the compliance rate is high.


130 See ICRW Schedule 1999, Part V.


Conferences of parties and establishment of different committees and treaty bodies that have regular meetings also serve for compliance control. Usually these bodies are not entrusted with power of imposing sanctions or to give binding control and sanctioning decisions against a violating country; the furthest they can go to is to start an investigation or to give recommendatory statements on suspected or detected breaches. In this connection it is important to recognize the role of independent environmental organizations that factually, though from outside the official machinery, keep constantly observing countries' national actions and their compliance with international environmental agreements.

4.4 Positive Measures

4.4.1 General

Supporting environmentally beneficial action with outside financing or with other kind of aid – e.g. technical – has become an increasingly important instrument when trying to create efficient international environmental agreements. Positive mechanisms increase the likelihood that countries join treaties and also comply with them. Another advantage of incentives is that they may be used also when it could be difficult for political reasons to impose actual sanctions.133

Polarization between developing and industrialized countries, where the latter ones are expected to assist the former ones in practicing their environmental policies, is often emphasized. This is the case especially with international environmental agreements that require a lot of effort and possibly big sacrifices from countries. Thus incentive-systems – where developing countries are usually the receivers of assistance – tailored into international treaties are likely to be perceived as contributing to the idea that the obligations laid down in MEAs are viewed equal between countries in different stages of development. Consideration has then demonstrably been given to principles such as equity and common but differentiated responsibility.134

Especially the use of financial incentives is often a welcomed counterbalance to traditional command and control policy, the effectiveness of which is regularly questioned. Conventional wisdom holds that the use of economic instruments in a reasonable manner in environmental

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regulation can lead to significant efficiency advantages.\textsuperscript{135} It is also important to note that different incentive mechanisms interfere with parties' conduct before a breach of a treaty has occurred. This is a good approach also for the state of environment.

However, it should be noted that too eager use of "carrots" can in the setting of MEAs induce states to strategically overstate the costs and difficulties they incur in implementing the agreement. That in a hope that they would receive more financial support from other parties or that the agreement would be negotiated more lax for its binding obligations to begin with.\textsuperscript{136} In the same vein the cooperating players could under-estimate their initial gains in order to decrease the amount of transfers they must provide.

Many kinds of issues can be placed under the concept of positive measures in MEAs; capacity-building may include offering of training, technical and scientific assistance, administrative assistance and transfer of information and know-how. The starting point is that non-compliance is mainly a consequence of deficiencies in administrative, economic or technical capacities of a country. Positive measures have indeed a key role to play in assisting developing countries in meeting their treaty obligations. The mechanisms often suffer from scarcity of funds, though.

\textit{Mickwitz} argues that a state that has received more resources and capabilities through positive measures will tend to value the environment more.\textsuperscript{137} The question raises, however, will this valuing be genuine and permanent, or will the policy change back to where it was if support is withdrawn. This is an important issue because international environmental treaties aim at permanent behavioral change and it can be argued that agreements are not on a sustainable basis if their effectiveness is totally dependable on distributed monetary and technical support. Some might argue that what matters is that states join and comply with MEAs, not what is their ultimate motive to do so. But what if the support is withdrawn like may happen to such costly compliance promotion mechanisms? In the absence of sanctions, states will have basically lost their interest to participate in joint environmental regulation efforts. I would therefore argue that positive measures, as they may in many cases leave states’ preferences unaffected, will not alone be enough to keep

\textsuperscript{135} For instance \textit{Gunningham & Grabosky} provide an excellent listing of the potential advantages of economic instruments in environmental policy, though the authors acknowledge the success of the economic policy tools substantially depends on the particular contexts in which they are applied. See \textit{Gunningham – Grabosky} (1998) p. 81.

\textsuperscript{136} \textit{Werksman} (1999) p. 5.

\textsuperscript{137} \textit{Mickwitz} (1998b) p. 13.
states actively in international environmental treaty regimes. A critical factor is the degree of commitment of a country.

4.4.2 Technical and Scientific Assistance

The Montreal Ozone Protocol, for example, grants states technical assistance when the lack of resources is obviously the principal reason for a treaty violation. Furthermore, there are different training programs carried out in connection with environmental agreements, which engage local actors. This can lead to various benefits in the compliance with a treaty at the practical level, for example in way of national authorities giving more weight to environmental obligations as they are now able to see the expected positive payback for the work they have been putting in. There can also exist a real need for additional training: within the CITES agreement, for instance, it has turned out that inadequate training of customs officials has lead to difficulties in distinguishing between legal and non-legal export or import of species of wild flora and fauna.

Vossenaar & Jha argue that technical and scientific assistance may go beyond providing mere compliance assistance, and develop into encouragement for “a dynamic process of continuously improving environmental performance that might go beyond the obligations under MEAs”. Technical assistance may well involve innovative approaches that are easily adoptable, advancing thus dynamic efficiency in the target country. In general, technological options and availability of technology at reasonable cost are undoubtedly important factors when a state is making decisions of action in the environmental field.

4.4.3 Financial Incentives

138 Art. 10A. Moreover, e.g. the Biodiversity Convention (Convention on Biological Diversity, Rio de Janeiro, 5 June 1992) promotes the transfer of technology to enable developing countries to benefit from exploitation of their biological resources. See Art 19.
139 See e.g. Mitchell (1996) p. 20.
142 Dynamic efficiency means an efficient allocation of resources that particularly promotes innovation and the development of new technologies or processes. However, Henikoff remarks many less developed countries fear falling into a new “dependency trap” based upon technology. Henikoff (1997) p. 50.
For a few years now, there have been proposals that economic instruments should be included in global-level environmental protection. This is happening at the national level in many countries today: instruments like environmental taxes, emission fees and environmental subsidies are essential parts of modern national environmental policies. Now many would like to see this kind of tools integrated also into international environmental agreements. As of now, this direct economic regulating has not been incorporated into any environmental treaty\textsuperscript{143} but while the world economy is ever more integrating, we should not rule out the possibility of using this internationally new kind of compliance promotion system. Scholars, though, are holding different views on the feasibility of direct economic instruments applied internationally.

With financial support given under a treaty, such projects can be funded that otherwise would have been out of reach for many states. Financing can be granted not only to environmental protection projects but also for example to training of national authorities that are responsible for implementing an environmental treaty, to scientific research that is relevant to the treaty, and to improving the general administrative structure of a country.

Financial support may be channeled to states for example via a special fund that is to be established and to which parties to a convention are required to give funds. A good example of this is \textit{The Global Environment Facility} (GEF) that was established in 1991 by the World Bank, the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP) as the funding mechanism for the Climate Change and Biodiversity Conventions. The GEF assists developing countries to fulfill their treaty obligations by giving donations and granting soft-conditional loans.

There are numerous treaty-specific trust fund arrangements as well, e.g. under the Ramsar Convention on Conservation of Wetlands.\textsuperscript{144} The most prominent treaty-specific finance mechanism is \textit{The Multilateral Fund of the Montreal Protocol} (MLF), which has operated with success in assisting developing countries to carry out phase-out projects for ozone depleting

\textsuperscript{143} Emissions trading in Kyoto Protocol might be considered an advanced step in this regard as it makes possible to apply rules of business world to environmental protection.

substances. The GEF and the MLF have together disbursed over a billion dollars to assist developing countries in meeting their obligations under environmental agreements. It should be noted yet that there can be funding flows to environmental projects also from outside actual treaty arrangements, namely from governments, investment and development banks and different private sector sources.

Financial support works best with treaty parties that have will but no sufficient resources to keep up with the level of obligations of an environmental agreement. Naturally financial assistance reduces the costs associated with treaty compliance for other parties as well and allows more countries to reach the conclusion that joining and complying with an environmental agreement is worthwhile. Distribution of financial support thus mitigates the free-rider problem: countries are supposedly more willing to commit to an agreement instead of only taking advantage of the efforts of others, if the related costs do not become too high.

One obstacle for adopting mechanisms for distribution of financial support in international agreements is the fact they are rather expensive in comparison to a more traditional sanction-based system; any money given out is finally away from some other purpose. Moreover, the threat of sanction becomes costly only when it fails in its function, i.e. in deterring non-compliance, whereas the use of financial incentives always involves costs once a desired behavioral effect is created. Side payments have a few important advantages, though. Firstly, they are applicable when

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145 The multilateral fund was established by the London amendment to the Protocol in 1990. See Annex II of the Report of the Second Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone layer, UNEP/OzL.Pro.2/3 (1990). It supports the “agreed incremental costs” of company-level investment projects of reducing or eliminating ozone-depleting substances in developing countries. Also the multilateral fund has been subject to criticism, starting from technological and institutional concerns and leading to political tension when the developing and industrialized countries, the two sides of the supposed bargain, remain insecure and subject to continual revision and renegotiation. See Parson – Greene (1995) p. 38-41.

146 Note by the WTO and UNEP Secretariats: Compliance and Dispute Settlement Provisions in the WTO and in Multilateral Environmental Agreements, WT/CTE/W/191 (2001) p. 3.

147 However, the development in providing assistance under MEAs has made about that developing countries have increasingly been viewing provisions for financial and technical assistance as prerequisites for joining international environmental treaties. For example, India insisted the Montreal Protocol Fund be in place before it would join the Protocol. Weiss (1997b). It has been argued the positive measures rendered the Montreal Protocol a politically acceptable instrument for the South (developing countries). These measures provided a counterbalance to the trade measures, which could have been construed as sanctions imposed by developed countries for a problem created by developed countries. Goldberg et al. (1997) p. 30.

Overall, financial assistance should be available as a non-compliance response only when the country’s failure to fulfill its obligations is due to lack of capacity; it should never be used to bribe a party into compliance, i.e. in a situation where the target state lacks only the political will to comply, not ability.

148 By and large, one could stay reserved towards policy that basically rewards mere compliance with norms that are obligatory for all states. On the other hand, it could be argued that promoting and sustaining compliance should be seen as the predominant goal and be pursued by the means most likely to accomplish that end. The Stanley Foundation (1997) p. 14.

imposition of actual sanctions as a result from a state’s non-compliance with an international agreement would be politically difficult. Secondly, with supportive mechanisms built into environmental agreements, it is possible to interfere and possibly correct a state’s behavior before an actual breach has occurred.

It has been argued that channeling economic support outside the treaty coalition leads to the weakened stability of the coalition of signatories. This is because transfers give states an incentive to remain outside the agreement, in a hope they would later be tempted into the regime by considerable monetary transfers. Moreover, the group of donors may face a collective action problem among themselves. Thus the key question in using economic incentives is the ability of states to strongly and credibly commit to an agreement so as to there be no slippage from the coalition.

In practice the side payments should be channeled from benefiting states to those for which joining and complying with a treaty would not initially be economically worthwhile. This requires a situation of potential pareto-efficient equilibrium: the benefit of the “winners” must be greater than the losses the “losers” of a treaty are expected to suffer, in order to it be possible the former to compensate the latter and still be better off than in the original, no-treaty setting. Furthermore, the payments should be the greater, the larger the inefficiencies from lack of environmental cooperation are deemed to be. Thus the support paid should correspond the share of its object of the total (potential) benefit the full cooperation would yield. Use of side payments is in practice feasible in a situation where the original treaty coalition, the donators, is committed to cooperation and acts to maximize global welfare. In addition the marginal costs the treaty-accessing countries face for reducing emissions must not be too high. These conditions satisfied, the existing treaty coalition will not fall apart under the payment burden.

151 Romp (1997) p. 223. He states that a country may this way concretely commit to a treaty by e.g. making significant implementation investments, such as installing cleaner technology. These are directed at the state fulfilling its treaty obligations but the other side of the coin is that the investments represent so-called sunken costs, detaching of which often proves to be rather difficult. A state may also decide to act in a highly altruistic manner, hence behaving against its short-term benefits, in an attempt to gain a leader status within the international regime that it perceives important.
152 Swanson – Johnston (1999) p. 111-112. By definition, pareto-efficiency requires a resource where there is no rearrangement that can make anyone better off without making someone else worse off.
It is clear that the use of side payments is not in line – actually one could speak about a flagrant contradiction – with the *polluter pays principle* recognized within general environmental law.\(^{154}\) What is applied instead seems to be some kind of “victim pays principle”.\(^{155}\) Then again, side payments add to that international environmental agreements would be regarded as fair and promoting equality between states as the differing burdens treaty obligations bring to countries are accounted for. This flexibility may be subject to misuse, however. States may intentionally leave their national environmental policies on a very low level as they expect to get that way even more financial support the time they become a party to an agreement.\(^{156}\) During the agreement states may start to understate their environmental preferences or to overstate the costs they incur thereof, and not even try to lessen their burden. The problems of moral hazard and holding-out are hence present.\(^{157}\)

*Chang* shows how a “carrots-only” regime is likely to entail its own economic costs by rewarding governments for environmentally harmful policies. This can happen in the presence of asymmetric information between states. Chang argues that “sticks” are definitely needed. Namely when there exist sanctions, a country that signals an inclination to harm the environment can bring greater penalties upon itself, whereas with carrots the same behavior can yield greater rewards.\(^{158}\)

### 4.4.4 Issue-linkage

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\(^{154}\) Introduced by the OECD in 1972: The principle to be used for allocating pollution prevention and control measures to encourage rational use of scarce environmental resources and to avoid distortions in international trade and investment is the so-called ‘Polluter Pays Principle’. This principle means that the polluter should bear the expenses of carrying out the above mentioned measures—“. Quoted in *Mickwitz* (1998a) p. 45. In other words, a policy should be designed in such a way that the costs of prevention and control of pollution are allocated to the polluter. In addition to protect the environment, the principle is said to be a necessary condition for both economic and dynamic (encouraging innovative behavior which results in technical development) efficiency as well as to entail a mark of fairness. See *Mäler* (1990) p. 82.

\(^{155}\) However, *Chen* argues that the asymmetry in bargaining power, rather than any pre-conceived principle, may be the main force in determining the identity of the donators and the receivers of side payments. He states that “While side payments between countries will generally be part of the agreement, some of these payments are made purely as a result of asymmetry in bargaining power and have nothing to do with the polluter pays principle or the victim pays principle. This implies that if the international community accepts that the polluter pays principle should govern any agreement on transboundary pollution, a mere declaration of this principle will not do the job. Care has to be taken in the design of the negotiation process to ensure that the actual outcome of this process will be consistent with the declared principle.” *Chen* (1997) p. 185, 187-188.


\(^{157}\) Exaggeration of need as a bargaining strategy may be useful in one-off, single-issue negotiations. *Susskind & Ozawa* suggest that where effective problem-solving and long-term working relationships are crucial, accurate statements should be preferred. *Susskind – Ozawa* (1992) p. 150.

One means to induce a country to join an international environmental agreement is to make it a part of or to link it to some other theme and treaty, one of such an issue area the cooperation in which states might have interests to participate.¹⁵⁹ But for issue-linkage, the topics might be negotiated separately or possibly not at all. Potential areas for linking issues are at least international trade, international debt or research and development (R&D) cooperation.¹⁶⁰ Establishment of this kind of linkage could make states see a global environmental treaty in a new light and induce to the regime countries that would not have come to sign the environmental treaty alone. Linkage allows for states to take advantage of their position in one field to offset their relative weakness in another issue area under treaty negotiations.¹⁶¹ Overall, linkage solves asymmetries among countries and it can also be used to offset the free riding incentives.

Issue-linkage is not only useful at the time a new environmental agreement is being negotiated but it can deter free-riding also later on. For instance, a breach of an environmental agreement may be punished within an international trade regime.¹⁶² It can be asked in this context, however, whether states would dare use this kind of option as they at the same time fear the imposition of a sanction will damage this other agreement as well.¹⁶³

¹⁵⁹ Stokke distinguishes functional (the function of one agreements affects the effectiveness of other) and political (actors regard the treaty arrangements as a part of a larger, normatively integrated whole) linkage. Though these categorizations can be understood in various ways. See Stokke (2001) p. 11-12. As an example of implicit political linkage, both Victor & Raustiala & and Munton et al., mention the Soviet Union’s commitments to environmental agreements which could be largely explained by their connection to wider foreign policy goals and especially the atmosphere of the cold war. Victor – Raustiala – Skolnikoff (1998) p. 12; Munton et al. (1999) p. 206. In any issue-linkage, there looms always the risk that the goals of one of the issue areas will predominate.

¹⁶⁰ For a theoretical illustration, see Botteon – Carraro (1998) p. 183. They conclude that linking the issues can substantially increase the number of countries that form an international environmental regime. Linkage can stabilize the joint agreement, thus also increasing its profitability because countries can obtain both the R&D co-operation and the environmental benefit. The incentive to free-ride on the benefit of a cleaner environment (which is a public good fully appropriable by all countries) is offset by the incentive to appropriate the benefit stemming from the positive R&D externality (which is a club good fully appropriable only by the signatories).

¹⁶¹ A question may be posed, however, whether actors value the benefits of each treaty together or separately. Furthermore, it is possible that issue-linkage will be misused by powerful states to achieve gains in additional areas based on their influence in the key questions. Mickwitz (1998b) p. 32. Such linkage most likely has negative impact on the (perceived) fairness of the enlarged regime. Carraro points out there are possible linkages which could easily be perceived as ‘black mail’ on part of the parties with strategic advantages. Carraro (2000), footnote 11 at p. 10. However, a significant advantage of a successful issue-linkage is that it allows for Homan’s Maxim – “The more items at stake can be divided into goods valued more by one party/parties than they cost to the other(s) and goods valued more to the other party (parties) than they cost to the first, the greater the chances of successful outcome” (cited in Sjöstedt et al. (1994) p. 8) – to be satisfied to the fullest.

¹⁶² Kroeze-Gil – Folmer (1998) p. 168. In Barrett’s terms, this allows for the strategy space for punishing non-cooperation to be expanded. See Barrett (1997) p. 346. One type of strategic linkage includes that sanctions from one issue arena be applied to enforce norms from another issue area. This has been used as an argument for linking at least some human rights to trade policy and agreements. See Leebron (2002) p. 14.

A prerequisite for an efficient issue-linkage is that states have clearly defined interests in the treaty areas in question. Furthermore, greatest overall benefit is to be expected if those interests are perverse, meaning that in an area where one state expects to gain the other expects to lose and vice versa.\textsuperscript{164} Broader issue-linkage is based on the idea that countries are not identical in their preferences and capabilities.

It has been estimated that issue-linkage could lessen the need for economic support within treaty regimes.\textsuperscript{165} On the other hand total costs may as well rise when two originally totally unrelated agreements are brought together. Namely that is likely to mean long and thorough negotiations, which easily makes transaction costs high.\textsuperscript{166} Perhaps due to this, issue-linkage has formally emerged so far only in bilateral treaty arrangements.\textsuperscript{167}

There are two basic options for issue-linkage within international agreements: to combine two public good (environmental) agreements or to choose the other to be a traditional club good agreement. This latter may be, for instance, an R&D agreement. The club good nature shows in the fact that the benefits of the agreement can only be enjoyed by the members of the particular agreement. This feature makes the treaty coalition more stable\textsuperscript{168} and moreover imposes often a negative externality to non-parties, e.g. in the form of reduced competitiveness, thus making them face a distinct win–lose scenario when considering whether to become a party to a treaty.\textsuperscript{169} In this situation a state may join an environmental agreement only in order to secure it will not be left without the benefits of the other, club good agreement. A good, yet not formal example of this

\textsuperscript{164} Kroeze-Gil – Folmer (1998) p. 168. The purpose is to create “additional value” by issue-linkage. Susskind (1994) p. 87. Linkage is meant to modify the degree of importance parties attach to the issue under negotiation.


\textsuperscript{166} Schmidt (1998) p. 29. Finus points out that linking two different existing treaties may prove to be difficult already for the reason that the requirements for new parties set out in the agreements may not be compatible (for example not every state is accepted into the WTO). Finus (2000) p. 33.

\textsuperscript{167} Finus (2000) p. 29. Susskind predicts that it may be necessary in the future to consider sets of international treaties simultaneously, or even to look at individual treaties “in the context of larger North-South global bargain.” Susskind (1994) p. 90.

\textsuperscript{168} Though Finus makes a remark that it is always better for an environmental agreement the more states join it. Finus (2000) p. 32. The same may not be true with club good agreements in the long run. For example, the benefits of parties to an R&D agreement rise as these actors gain competitive advantage over non-parties. However, the competitive advantage tends to disappear when the number of signatories increases because an increasing number of countries share the same more efficient technology, until finally there is no extra benefit in being a party to the agreement. This example demonstrates that the effect of treaties supporting one another is not always permanent. The diminishing returns of R&D cooperation causes that it may be optimal to exclude some countries from the joint R&D and environmental cooperation. Siniscalco (1999) footnote 11 at p. 8.

\textsuperscript{169} Finus (2000) p. 30. Where the agreement becomes a preferred, if not exclusive, means of obtaining a good, the non-participating state would face a loss. The choice is no longer between benefit and no benefit, but is now between benefit and cost. Failure to participate does not have a neutral result, but in fact results in punishment. Dannenmaier – Cohen (2000) p. 33.
feature of issue-linkage within international environmental agreements is the Montreal Protocol. It lies down a prohibition for the member states to trade ozone-depleting substances with non-parties to the Protocol. In the light of what was discussed above, it can be seen that the Montreal Protocol includes also a trade agreement and only by becoming a party to it as well a country may get access to the international markets for CFC substances. In the same vein, positive measures can be seen as issue-linkage as the original negotiations are broadened to concern also issues like financial or technological transfers.

4.5 Dispute Resolution

4.5.1 Treaty Interpretation

It is quite easy and thus alluring to get rid of a dispute arisen under an environmental agreement by re-interpreting the content of a difficult provision of the treaty text. International agreements are almost without exception results of long-drawn-out compromises and so treaty texts have very often been written using flexible terms and expressions that leave room for interpretation. Consequently there may emerge a need for bringing up questions regarding the accurate meaning of different treaty provisions to be dealt with on a larger forum. Discussions and the following conclusion about an open question do not only give a solution for an individual country but also make the treaty text clearer for the benefit of all parties.

The authority for treaty interpretation may be given, either by virtue of a treaty or implicitly, to a specific treaty body, which allows the interpretation dispute to be solved in a less confrontational manner than would be the case if the question automatically went to the proceedings of an international court. Specific treaty institutions can also prevent disagreement and treaty breaches from arising by on its own initiative drawing attention to possibly unclear treaty provisions.

One should be cautious, though, of not taking the option for treaty interpretation too far in the way of flexibility. There lies a danger that the binding force of treaty provisions is called into question:

172 Art. 31 and 32 of the Vienna Convention cover treaty interpretation and the three basic approaches that are applicable: literal, effective and teleological interpretation. For more, see Aust (2000) p. 184-206.
the norms and rules never arrive at a stable state but are continuously open to re-interpretation. Any agreement that has drifted to this kind of state cannot be effective in the long run; it becomes more and more difficult to achieve the objectives of the treaty if countries must act in an atmosphere of constant uncertainty.

4.5.2 Negotiation

Like in any other field of (international) law, also within international environmental agreements a solution to a dispute is generally first sought by negotiating before and outside any formal judicial procedures. Even for those agreements with strict non-compliance systems, parties usually accomplish their aims by negotiating among themselves. Nowadays it's nearly a routine for countries to seek for negotiation contact with the other party when a disagreement under an agreement arises. The reasons are apparent: a direct consultation contact ensures the parties retain a maximal control over the process and its outcome. Furthermore, legally binding court and arbitration processes are, in addition to their generally acknowledged benefits, also undeniably costly, laborious, slow and confrontational by nature. Additionally, legal processes tend to raise the political visibility of disputes, making it often more difficult for parties to settle the disagreement because privacy is lost and states have their public faces to protect. In a word, parties become less in control of the process once the dispute has reached a more formal or public level. Consequently judicial dispute resolution mechanisms have not played a significant role in ensuring compliance with international agreements, and this state of affairs is not very likely to change in the future, either. On the other hand, the binding character of a dispute settlement procedure is not even necessary if all participants see the process and its outcome justified and having binding force over its parties.

Negotiation is definitely a flexible way to attempt to reach a settlement in any dispute. Aust acknowledges that formal methods of dispute settlement have an important role to play but that “— they are generally no substitute for a carefully negotiated settlement.” He seems to be of the

175 Goldberg et al. (1998) p. 29.
176 Bhagwati states it would be desirable to evolve voluntary and non-binding mechanisms for the resolution of transnational environmental disputes. He points out how binding mechanisms have not been successful so far in the area of MEAs, they are tied up with the adversarial model and do not allow a variety of interests to be represented and heard and participate in the resolution of disputes. The sheer inertia is not any kind of deterrent. See Bhagwati (1998).
opinion that informal negotiations is the primary means to settle an international treaty-induced
dispute and that formal resolution procedures cannot usually be equally good.

I consider this is mainly true, in particular when looking from a procedural point of view. Definitely
negotiation is a greatly less confrontational and strict way of finding a solution to a dispute arisen
between states. Negotiation procedure is voluntary, informal in nature and parties can fairly freely
determine the direction the procedure takes. However, I regard negotiation problematic especially
with regard to its result. The negotiation procedure is informal, and the same applies to the
outcome. High flexibility and degree of informality put a lot weight on how binding parties finally
perceive the negotiated outcome since it does not pass a legal test. The resolution lacking legally
binding nature, a question arises regarding how obligating parties consider the result to be. The
negotiated outcome binds states as long as they so regard. When a party acts against the negotiated
decision, there is no means to seek for legal enforcement and to force the breaching state to act as
was agreed – unless some kind of legal agreement was signed as a result of settlement negotiations.

Therefore there lies a fundamental weakness in negotiating away an occurred treaty dispute. States
cannot necessarily be expected to follow the outcome of informal negotiations if there later emerge
other interests that dictate a different course of action to be more profitable. Naturally negotiation
results may possess strong moral bindingness and be abided by also on that basis, but the lack of
legally binding nature makes the outcome rather “unstable” and not ultimately resolved.

Dispute negotiation involves also other serious shortcomings from procedural point of view. The
very elements of flexibility and non-publicity make the process vulnerable to criticism. A treaty
generally includes a provision that requires parties to a dispute to enter into consultations or
negotiations regarding the question, but no actual procedural rules exist.179 Therefore the setting
easily becomes flawed so that the outcome is dictated by power politics rather than fair exchange of
views and seeking for a compromise. No external actor is supervising the course of settlement, there
is no concrete mechanism to ensure the dispute gets a balanced treatment.

Consequently the very fact that is the advantage of informal negotiation and consultation in settling
a treaty dispute is also its weakness. I do not question that states genuinely favor the negotiation

179 Art. 26 (pacta sunt servanda) of the Vienna Convention only implies that also these provisions have to be
implemented in good faith. Aust interprets this as requiring the negotiations to be conducted purposefully. See Aust
approach and that many a time it produces not only many kinds of savings but also fair and sustainable outcomes. Rather, it seems to me that formal dispute settlement mechanisms, the legal measures like arbitral settlement, must not be pushed aside and left as good as practically forgotten as a consequence of all the good effects that increased flexibility of negotiation is thought to bring. There should always be a possibility for a state to resort to legal means for settling an international dispute. It should not be assumed that informal route is more appropriate in every situation. It may be that on many occasions, but states should have a right for getting “a fair trial” when informal negotiating and bargaining is not likely or has failed to bring an acceptable result.180

4.5.3 Involvement of Third Parties

There has been a trend in recent international agreements to take in, either by a provision in the treaty or by agreeing about the option later, a third party to the process when a dispute emerges. These processes are direct continuation to the preceding negotiations and other more informal means of solution-finding to the dispute. The motive of this third party, which can be a treaty body or other state, to intervene can be purely altruistic, or an attempt to ensure that the dispute in question would not hamper party’s own interests.

Firstly, a third party can act as a mediator.181 This means s/he appeals to parties of a dispute and encourages them to make an effort in order to find a solution, usually by giving his/her own ideas for a basis of compromise. The role of the mediator is usually assigned to another party to the agreement, the secretariat or a specific committee of the convention. A mediator may, at the parties’ request, give a proposal or a ruling for a resolution of the dispute, which are of recommendatory nature. In practice mediation is more of a political process, which does not make it especially feasible for very substantial treaty disputes.182

A third party may, in addition, offer so-called good services or good offices to parties. This can happen in a concrete manner like for instance by offering to act as a host for negotiations or more

180 Informal settlement methods have many advantages over their formal counterparts, but they should not be overused at the cost of the legitimacy of the international treaty regime. Koskenniemi argues that law’s special kind of justifying power lies in the formalism and it cannot be done away with altogether without serious difficulties with regard to the political acceptability of the whole regime. Koskenniemi (1992) p. 147.  
181 For a comprehensive presentation on mediation in international environmental disputes, see Rubin (1993). Mediation is mentioned as a possible means of dispute settlement in e.g. the Biodiversity Convention and the Ozone Convention.  
like in mediation by giving assistance for resolving the dispute. Actual conciliation is a step further from mediation and good offices.\textsuperscript{183} It is a little more formal in nature, involving more thorough hearing of the parties, examining the claims and objectives and making proposals to the parties with a view to reaching an amicable settlement of the dispute.\textsuperscript{184} The result of third party conciliation is almost invariably non-binding.\textsuperscript{185} The procedure can be, however, nearly as expensive and time-consuming as an arbitration or judicial settlement.\textsuperscript{186}

Accordingly, parties remain in control of the result of the settlement process as long as they have a possibility to accept or reject the given proposal for the resolution of the dispute. Even if the resolution the conciliator gives is of non-binding, recommendatory nature, it can attain significant weight in practice, especially if the decision is made widely public.\textsuperscript{187}

\textsuperscript{183} Numerous MEAs provide for the establishment of a specific “Conciliation Commission”. There are provisions for compulsory conciliation e.g. in the Biodiversity Convention (Art. 27(4) and Annex II part 2), the Vienna Ozone Convention (Art. 11) and the FCCC (Art. 14).

\textsuperscript{184} As the Vienna Convention expresses the nature of conciliation. The formula has become a model in multilateral treaties thereafter.

\textsuperscript{185} \textit{Aust} (2000) p. 289.

\textsuperscript{186} \textit{Aust} (2000) p. 289.

5. THE ENFORCEMENT DOCTRINE

5.1 General

The management approach for inducing treaty compliance is clearly favored within international regimes. And why not: offering incentives and cooperative problem-solving does not pose threats to state relations and furthermore has proved to be generally effective. Positive measures are not alone, however, enough to bring back into compliance a country that does not have political will to cooperate. In that kind of situation, it can be presumed that diplomatic means have some effect only when there are also stricter enforcement-type of means in reserve that can be activated once the softer measures have failed to bring a country back into compliance.

The enforcement-oriented viewpoint that highlights dispute settlement systems and sanctions within environmental treaties is based on a widely held view that a state's decision to comply with an international agreement is always a result of strategic calculations on the expected costs and benefits that the required way of action would bring to that specific state. Therefore an appropriate reply to a treaty violation is to raise its costs by forceful enforcement. The approach clearly builds on the traditional realist models of state behavior.

Most international environmental agreements contain some provisions on possible dispute settlement mechanisms, though these do not often provide for mandatory arrangements. It is clear that also in this issue states prefer protecting their sovereignty rather than exposing themselves to countermeasures taken by the international community. Creating a binding dispute settlement system into an agreement is difficult in itself, not to mention establishing one into an international agreement that has to necessarily bring together weighty and diverse state interests.

It is said that enforcement-oriented non-compliance mechanisms too visibly underline the conflictory nature of the given implementation problems and thus raise the threshold for states to react to occurred treaty violations. That is because states are many a time reluctant for political reasons to take legal action against each other or to even authorize others for that.\textsuperscript{188} Furthermore, states are often, in keeping hold of their sovereignty to the largest extent possible, unwilling to delegate significant treaty enforcement power to international institutions. In the same vein countries that have doubts about their capability to comply with treaty obligations remain often

\textsuperscript{188} Werksman (1996) p. 102.
rather reserved towards forceful measures to react to non-compliance, since they have an interest to guarantee they will not possibly become target to too strict countermeasures if failing to quite meet the relevant treaty obligations.

Enforcement means are criticized for being bilateral in character, conflictual, adversarial and confrontational; in other words they underline the compliance problem to be requiring punishment and a conviction stating one party is right and one is wrong. Enforcement is furthermore strongly backward-looking in character, addressing the problem once it has already arisen.

It is not sufficient there to be versatile sanction provisions in international environmental treaties. They must also be applicable in practice when needed. First, there is as an obstacle to reacting to a violation of an MEA by means of enforcement the fact that in case of wide-reaching and even global environmental harm, it is difficult to attach responsibility to a single country. Furthermore, there may emerge a situation where no individual state has a sufficient interest to initiate countermeasures on behalf of all other parties – that are equally affected by the treaty-violating behavior since it damages the global commons rather than the territory or interests of one particular state. All parties may end up hoping others would undertake necessary measures so that the laggard state itself could enjoy the possible positive outcome without needing to see any effort and thus without incurring any cost for that. This is the basic structure for a collective action problem, another form of the free-riding problem. The problem is by default most severe within very widely participated environmental treaties where a breach by one party may not bring any single state such harm that it would see a need to undertake countermeasures; a single treaty party may well lack an interest to start to “litigate for the whole global community”.

In conclusion, due to a great number of uncertainty factors and the presence of collective action problem, environmental issues are as a whole difficult for realizing state responsibility. Birnie & Boyle conclude that state responsibility is an inadequate model for enforcement of international standards of environmental protection.\textsuperscript{189}

5.2 Dispute Resolution

5.2.1 Arbitration

International adjudication is an authoritative mechanism for determining questions relating to the interpretation and application of a treaty. Judicial dispute settlement measures provide a formal and precisely built process to resolve legal disputes; there can be found on the background the will of international community to ensure that there exist legitimate resolution mechanisms for genuine legal disputes that arise within international treaties. International adjudication is a part of the continuum of means included in a non-compliance response system of an MEA, it represents the shift from managerial mechanisms to forceful enforcement of international treaty obligations.

The settlement of disputes between states by compulsory legal means requires their consent. Either in advance, provided in the treaty within which a dispute has arisen or in a general treaty on the settlement of disputes to which parties in dispute are bound, or subsequently ad hoc once a disagreement has emerged. These agreements should also prescribe whether the resulting decision from the process is binding upon parties.

Numerous international environmental agreements contain dispute settlement provisions on establishing a specific arbitral tribunal which has jurisdiction to give final and binding – yet parties can also agree to apply only advisory recommendations – decisions on matters covered by the given agreement. Under the CITES agreement, for example, the dispute resolution procedure is launched if negotiations and discussions between states do not lead to a satisfactory result. Parties may then submit, by mutual consent, the dispute to arbitration. There has, however, often been left a provision in the treaty allowing for a party to remain outside any arbitration procedure if it so pleases. That kind of opting out is naturally not beneficial for effective international environmental agreements.

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190 Many treaties allow a party to make an optional declaration accepting compulsory judicial settlement or arbitration, but this operates only against other states having made a similar declaration.

191 Or submitting the dispute to the Permanent Court of Arbitration (PCA). It is actually not a permanent institution but consists of a panel of potential candidates who could be individually called upon ad hoc by the parties to a dispute to serve as an arbitrator. Interestingly, the PCA has adopted a set of Optional Rules for the Arbitration of Disputes Relating to National Resources and/or the Environment. However, Delbrück has stated that overall, the use of the PCA has not lived up to the expectations of its founders. See Delbrück (2002) p. 423.

192 See e.g. the Vienna Ozone Convention (Art. 11), the FCCC (Art. 14) and the CITES Convention (Art. XVIII).

193 Art XVIII.
Arbitration may be defined as “the submission of a dispute to a judge or judges in principle chosen by the parties who agree to accept and respect the judgement”. In arbitration procedure parties are free to name appropriate persons as arbitrators to their dispute and as a whole the process is not as “heavy” as in judicial court. Nevertheless, even the often positively perceived elements of flexibility have not managed to make arbitration a mechanism very often resorted to within international environmental law. It is illustrative, for instance, that so far no dispute between parties to CITES agreement has proceeded so far as to arbitration.

There can be a number of reasons for this unpopularity of arbitration as a means to react to a breach of a treaty. First and foremost, arbitration is a very confrontational procedure and therefore states prefer diplomatic and other means to deal with disputes. Arbitration is also very costly to parties, which tends to result in that only significant cases – generally ones that involve high monetary stakes – end up seeking for solution in arbitral procedures. In spite of these features, Aust argues that the possibility that another party to a treaty could take a dispute to arbitration is a powerful deterrent to a state considering breach of the treaty. This may hold true, in particular when the alternative would be to take the dispute to an international court. In case like that, the threat of arbitration would definitely have greater deterrence effect since arbitral procedure has certain advantages over judicial settlement, the main factor being that arbitration allows parties to be better in control the process.

I would not, however, directly conclude that the possibility of taking arbitral action inherently possesses powerful deterrent effect with regard to an international treaty. Arbitration can be said to be a little controversial in this respect, on account of some of its features – expensiveness, position of legal expertise, involvement of political motives – that may make it less attractive for parties to a dispute to initiate. Therefore, and basing on the experience gained in several treaty cases, arbitration has indeed produced solutions to difficult international legal problems also in the field of environment. For instance, in the context of the North Atlantic Coast Fisheries case, Kuokkanen has concluded the award given in the early 1900’s demonstrated that a third party was capable of settling a dispute in an adjudicative context by applying methods and techniques of international law. See Kuokkanen (2000) p. 28. However, arbitration did not grow into a significant dispute settlement mechanism under international environmental law. This is much due to the changes, like the doctrinal development of international environmental law and the law of natural resources, the introduction and establishment of environmental integration and sustainable development that have taken place in the international law governing the environment since the traditional era. For more, see Kuokkanen (2000).

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195 The very first environmental disputes that arose under international law were successfully solved by arbitration. One needs to just take a look at cases like the Bering Sea Fur Seal Arbitration (Bering Sea Fur Seals Arbitration, Moore (1898) p. 755), the North Atlantic Coast Fisheries Case North Atlantic Coast Fisheries, XI UNRIAA p. 173) or the Trail Smelter Case (Trail Smelter Arbitration, III UNRIAA p. 1911), to see that arbitration has indeed produced solutions to difficult international legal problems also in the field of environment. For instance, in the context of the North Atlantic Coast Fisheries case, Kuokkanen has concluded the award given in the early 1900’s demonstrated that a third party was capable of settling a dispute in an adjudicative context by applying methods and techniques of international law. See Kuokkanen (2000) p. 28. However, arbitration did not grow into a significant dispute settlement mechanism under international environmental law. This is much due to the changes, like the doctrinal development of international environmental law and the law of natural resources, the introduction and establishment of environmental integration and sustainable development that have taken place in the international law governing the environment since the traditional era. For more, see Kuokkanen (2000).
196 Aust adds that this is true especially within bilateral treaties. See Aust (2000) p. 291.
regimes, arbitration does not seem to be growing into an often-resorted-to mechanism for settling of disputes arising under international environmental agreements.197

5.2.2 Judicial Settlement

A dispute arisen in the area of international law can also be handed over to an international court for solution. Four different courts of justice have so far had a role in resolving disputes arisen with relation to international environmental agreements: the United Nations International Court of Justice (ICJ)198, the European Court of Justice (ECJ), courts established by numerous regional human rights treaties – most notably the European Court of Human rights, and the International Tribunal for the Law of the Sea (ITLOS).199 As a whole their role with regard to environmental questions has been fairly small, though, and will most likely continue to be restricted to dealing with important questions of principle rather than to resolving material environmental conflicts between states also in the future.200 Alternatively international courts usually have a mandate to give advisory opinions on matters brought before them. This could well increase the practical value of courts within environmental agreements. Advisory opinions of the ICJ, for example, do not have a legally binding effect, although in practice they are accepted and also acted upon.201

Jurisdiction of the International Court of Justice is general, so in that regard there is no obstacle for bringing questions arisen in international environmental agreements before it.202 A requirement for the jurisdiction of an international court of justice in each case is the consent of both parties. A state may also make a unilateral declaration recognizing its jurisdiction. For instance, to date 64 states have done so with regard to the jurisdiction of the ICJ, though several with reservations. Also in the

197 Werksman argues that arbitration could be, despite its emphasis on bilateral adversary relationship between the parties to a dispute, a feasible tool also in the context of an international treaty. Werksman argues the experience from the WTO dispute settlement system suggests that, in circumstances where the economic and political stakes are high, carefully tailored forms of compulsory and binding arbitration can resolve bilateral disputes in a way that also supports the multilateral framework. Werksman (1998) p. 62.

198 When they refer to judicial settlement, most environmental agreements provide for referral to the International Court of Justice. The ICJ has established a special Chamber for Environmental Matters; to date, however, no state has opted to have any dispute heard by the new chamber.

199 Among international courts of justice, there is also the recently established International Criminal Court (ICC) but it is not expected to have a role in the context of international environmental agreements.

200 Birnie – Boyle (2002) p. 232. They argue that international proceedings will rarely be the best way of settling claims for environmental injury affecting other states; international adjudication can better provide a form of third-party determination of rights over resources or common spaces.


202 See the Statute of the ICJ, Art 36: “The jurisdiction of the Court comprises all cases which the parties refer to it and all matters specially provided for in the Charter of the United Nations or in treaties and conventions in force.”
case of judicial settlement, proceedings are hindered by reservations that states may make when giving their consent. These naturally undermine the dispute settlement system, more so as the reservations made often concern issues that are most liable to conflicts. The decisions of the ICJ are binding on parties to the case and in respect of the matters in dispute, although not directly enforceable without additional intervention.

An international court has several advantages over an arbitral tribunal. The court has already been established, it is permanent in nature and states can have their dispute resolved free of any direct cost. It is also important that the court’s rules of procedure and methods of work will be known beforehand.\textsuperscript{203} In addition, a permanent court has built up a jurisprudence from the decisions it has already given, which makes it easier for states to predict how the court might approach a case. A weakness in the function of the ICJ in particular are the considerable delays in resolving cases brought before it. Long processing times are due to the Court’s current increased workload and simultaneous underfunding.\textsuperscript{204} It has been suggested that states may be deterred by the time lapses from submitting disputes to arbitration or judicial settlement when the case is about severe and/or urgent environmental threat.\textsuperscript{205}

\textit{Jurgielewicz} argues that “Traditional dispute settlement mechanisms, such as arbitration or resort to the ICJ, seem out of place when dealing with global problems”. She refers to the characteristics of disputes arising under international environmental agreements, and points out that those disputes involve more than the traditional complainant and respondent since a global harm affects all states. Furthermore, traditional settlement procedures usually require the existence of a formal legal dispute with the parties having an adversarial relationship.\textsuperscript{206} It has further been argued the role of courts is inevitably secondary in the functioning of the international legal system as regards protection of the environment. It is limited to the settling of bilateral problems, or to providing judicial review of the operation of treaty regimes and international institutions.\textsuperscript{207}

International legal disputes almost without exception involve political elements, and these interests are often being brought as arguments into the judicial settlement process. The decision given by the judicial tribunal is, however, always an answer to a legal problem and questions of pure

\textsuperscript{203} See the Statute of the ICJ, the Rules of Court and Practice Directions I-IX.
\textsuperscript{204} \textit{Aust} (2000) p. 295.
\textsuperscript{206} \textit{Jurgielewicz} (1996) p. 112.
\textsuperscript{207} \textit{Birnie – Boyle} (2002) p. 753.
environmental or international politics should be disregarded. Nonetheless, the settlement procedure gets easily political features, even if that had not the original intention of parties. This in turn may keep states from initiating counteraction against treaty violators, as they do not want to cause conflicts in state relations.

Formal dispute settlement mechanisms have a certain function despite difficulties in initiating them in the first place. As Ulfstein points out, dispute settlement should be available if the legality of a decision taken by an international institution is challenged. This naturally depends on the extent such bodies are granted with power to such as adopt binding decisions. Therefore it would seem that formal procedures for settling disputes arising under MEAs are not to be excluded from the repertoire of applicable means. The threshold for taking disputes to a formal settlement procedure inevitably remains high but that is not to say there would not be a need for the possibility to get a court-based legal solution to an international dispute.

In conclusion, a procedure for settling disputes may in practice possess elements from several methods, simultaneously or in sequential processes. Features like the binding nature of resolutions given or the need to recognize the jurisdiction of the court can be individually tailored to fit in each agreement and its possibly problematical features.

6. SANCTIONS IN MULTILATERAL ENVIRONMENTAL TREATIES

6.1 General

Different incentive instruments increase the willingness and capacity of states to comply with environmental agreements. With appropriate reporting requirements and general monitoring the treaty violations, that nevertheless occur, can be detected and appropriately verified. On the other hand, the negative consequences following a discovered violation work as a deterrent for states that are considering breaching the agreement. Furthermore, they serve as a restraint for free-riding since the confidence of all parties that others are keeping to their respective obligations is being strengthened. Lastly, force can serve the ultimate penalizing function for states that show indifference towards international norms.

The most important feature of all sanctions is that their existence makes the parties committed to an agreement believe that there is a considerable possibility that the action in contradiction with the agreement will be detected and the penalty that follows will be far greater than any benefit the breach alone would yield. Correct operation with different incentives and sanctions decreases the cost of complying with an agreement on one hand and increases the cost associated with violating the agreement on the other hand.

From an economic point of view, effective deterrence requires that the punishment times the probability of being punished is greater than the gain from non-compliance, where all are in present values. In other words:

\[
\text{punishment} \times \text{probability of punishment} > (\text{non-compliance gain}) (1+r)^t,
\]

where \( r \) is the discount rate and \( t \) is the number of years between the committed treaty violation and the punishment. A rational actor seeks to calculate in particular the expected real value of the sanction which consists, respectively, of the magnitude of the sanction measure, on the likelihood of its imposition and on the preferences its object has for time.

Sanctions are the core of the enforcement school of thought. The concept is broad, though; it can be thought sanctions as a policy instrument fall somewhere between diplomacy and violence.\(^\text{209}\) A

\(^{209}\) The Stanley Foundation (1997) p. 5.
sanction has been defined by Doxey as “measures of enforcement which follow violations of law”.210 This applies in the domestic context but the concept necessarily needs modification to cover characteristics of the international society. Doxey then arrives at the definition “—penalties threatened or imposed as a declared consequence of the target’s failure to observe international standards or international obligations.”211

The severity of the punishment associated with the breach of contract determines by and large the extent to which an agreement should be considered binding.212 An ever commonly shared view holds nowadays that lack of sanctions calls the credibility and effectiveness of the whole international treaty under question. Clearly there is need for sanctions since compliance with international environmental agreements is not nearly perfect.

The role of sanctions has not become very important in international environmental agreements as yet. Sometimes they have even been referred to as greatly inessential and ineffective in the international regulation of the environment.213 This issue can, however, be seen in another light as well: the deterrence effect of sanctions has in fact been very effective, since there has been so little need to undertake significant sanctioning measures in practice. And indeed, at its best a sanction functions as such a strong deterrent that it never needs to be actually carried out. Getting to this effective system is quite unlikely, however, especially as even threats of possible sanctions have not been used very actively in international environmental regimes so far. And the reasons for this state of affairs lie often elsewhere than in an extensive deterrence effect. Yet it must be stated that punitive measures do have significance as a last weapon against treaty-violators also in the area of international environmental management. In general it has been assumed that the threat of sanctions probably plays a much greater role in international relations than their actual use would suggest.214

6.2 Characteristics of Sanctions and Related Problems

A critical point for a punishment strategy is its credibility: only a threat of sanction that is convincing enough can keep cooperation in force during the operation of an agreement. This applies, then, only when it is in the threatener’s interest to carry out the punishment when needed.

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212 Ecchia – Mariotti (1997) footnote 1 at p. 2.
In terms of game theory, the punishment strategy must thus be a part of the Nash equilibrium of the whole game. In addition, according to the so-called Folk theorem, an efficient sanction after a treaty violation is to start permanently to play static Nash equilibrium. This forms a credible threat because according to it players choose the best strategy in relation to everyone else’s action.\textsuperscript{215}

To sum up: a sanction is credible if it does not damage too much the one who imposes it and if this actor prefers the sanction approach as an answer to non-compliance irrespective of what other actors do. These criteria change, however, if the game is repeated. Namely the punishment strategy must generate continuous benefit for its applier, and this profit should furthermore be at least as large as when both parties were in compliance with the agreement.\textsuperscript{216} Only this kind of sanction is renegotiation-proof.

There is evidence that threats of sanction do not always have the desired effect even in the area of international environmental agreements. For instance, Caron makes a reference to the International Whaling Commission in this respect and points out that Norway did not seem to take very seriously – and rightly so, as it turned out – the threat of the United States imposing economic sanctions on it for its whaling policy in 1993.\textsuperscript{217}

Ideally, a sanction will never need to be carried out in practice since the deterrence effect is enough to maintain cooperation. Consequently it would not be so important anymore whether the imposition of sanctions is costly, except when that affects the initial credibility of the threat of punishment measures. In theory, a rational actor will only violate a treaty obligation if the expected benefit from that outweighs the costs. In other words, a treaty breach done by a rational actor can be prevented beforehand if the discounted total of associated expected benefit from violation and the expected cost from consequently imposed sanction is less than the expected benefit from cooperation in a treaty regime.

Clearly the effectiveness of deterrence is greatly affected by the actor’s rate of time preference: the more states value short-term benefit and underrate costs that actualize far in the future, the weaker is the “shadow of future” and the incentive to violate an agreement. Deterrence effect is further

\textsuperscript{215} Cronshaw (1998) p. 46.
\textsuperscript{216} Endres – Finus (1998) p. 142.
\textsuperscript{217} Caron quotes Norwegian Ambassador Vibe: ”—as a close friend and an ally of the United States, we would be very surprised if the United States would apply sanctions against us.” The statement illustrates well the complexity of international sanctioning and the political motives involved. See Caron (1995) p. 167.
undermined by delays in the imposition of a sanction since the actualization of the punishment is hence put off causing two positive things for the violator: benefits from the possibly continuing treaty-violating behavior may keep accruing, and once the sanction is finally imposed, time has lessened its effect.

*Neuhold* points out that a state considering breaching a treaty may assume that the international community will not be able to agree on the sanctions to be taken against a decision to commit an internationally wrongful act.\(^{218}\) This clearly depends on the structure of the treaty: e.g. whether the imposition of a sanction requires a unanimous decision and whether the obligations laid down in the treaty are very vague making it difficult to verify a violation. Also the collective action problem may become relevant in this context. Sanctions are themselves a public good, and therefore constructing a sanctions system and applying it in practice is a collective-action problem in itself.\(^{219}\)

### 6.3 Sanctioning Strategies

A treaty violation by one party may lead to a situation where all other parties change their strategy of action as well and give up cooperation permanently. By doing so they apply the so-called *trigger strategy* (also known as *grim strategy*). According to it, punishment from one actor’s breach is in a way directed to all parties as cooperation is suspended once and for all, thus making it there will be no return to the cooperative solution. The threat of this kind of future may be sufficient to turn the prospect of violating a treaty not worthwhile.\(^{220}\) Moreover, to play trigger strategy constitutes generally the Nash equilibrium of the game, i.e. given that the other players play trigger, any player can do no better than to answer with the same. It should be noted, however, that sometimes ending cooperation permanently might be technically impossible or truly unbearable economically.\(^{221}\)

The weakness of trigger strategy lies in its credibility: terminating an agreement is not sensible if everyone is still better off when cooperation is sustained. It may well be that after an occurred breach of a treaty, parties start to renegotiate the agreement instead of applying any sanction clauses because all would do better collectively by *renegotiating* their agreement and restarting a cooperative phase. It is rational to carry out a self-harming punishment only if it induces the deviant


\(^{219}\) *Chayes* (1997) p. 54.

\(^{220}\) See e.g. *Müller* (1990) p. 93. The represented threat to continued cooperation is obviously an effective deterrent especially for a state that is rather dependent on its cooperative relations with other countries and the international community.

country to move back to compliance when the long-run gains from cooperation would outweigh the loss from punishing the violation.

This possibility for renegotiation strongly undermines the credibility of trigger strategy. Trigger strategy is said to be too unforgiving, and that causes its vulnerability to renegotiation. The fact is that states are in theory free to negotiate away from a punishment if all parties so agree.\textsuperscript{222} There may emerge situations where after an occurred violation, it is perceived to be an easier option to “let bygones be bygones” and to start over with new treaty conditions than to go the more difficult way of sanctions, especially if the enforcement of the original agreement by sanctions would bring harm also to the complying parties. Hence re-negotiation may appear to all as a better option with which cooperation can be restored. The practice may, though, undermine the credibility of future sanctions. The deterrence effect may be rendered near non-existent (since due to the low likelihood of imposition, the expected value of punishment becomes very small), which in turn challenges the whole international cooperation.\textsuperscript{223}

The trigger strategy is codified in Art. 60 of the Vienna Convention, according to which “A material breach of a bilateral treaty by one of the parties entitles the other to invoke the breach as a ground for terminating the treaty or suspending its operation in whole or in part.” The Kyoto Protocol contains a variation of the trigger strategy, namely the negative incentive regarding accession to the treaty. The protocol contains a minimum participation clause, which can in a critical situation mean that if a country fails to sign the agreement, all countries revert to the non-cooperative equilibrium.\textsuperscript{224} The agreement is at present facing a potential situation for trigger strategy: the entry into force is practically dependent on the ratification decision of the Russian Federation. In this situation the credibility problem is obvious: it is not in the interest of the treaty coalition to shift to non-cooperative strategy and to abandon the protocol. Instead some form of renegotiation may enter the picture and concessions will be made to ensure Russian’s participation. As a whole, the trigger strategy appears controversial with one fundamental of the international law, namely sanctioning

\textsuperscript{222} This was attempted with the Kyoto Protocol, for instance. There were attempts by some (but not all) countries to water down the whole agreement by renegotiation. This became evident when countries tried to obtain the management of sinks for CO\textsubscript{2} accredited as an abatement effort at COP6 in The Hague in November 2000. \textit{Lange – Vogt} p. 1.

\textsuperscript{223} Renegotiation indeed has its drawbacks. For instance, the practice involves a risk that states will not commit to agreements sufficiently, e.g. by making large investments that entail sunken costs, because they cannot be certain how permanent current obligations will be. \textit{Werksman} (1996) p. 95. The associated uncertainty makes renegotiation a problematic issue. Therefore it would be advisable to remove incentives to renegotiate agreements without careful consideration. From a compliance point of view, treaties should be constructed so as to ensure that it is in the interests of punishers to really carry out the sanction and not to overlook a treaty violation and return to cooperation as if nothing had happened.

\textsuperscript{224} \textit{Wagner} (2001) p. 392.
countries for not acceding to an MEA is at odds with the notion of voluntary participation in international agreements.

Another strategic model for sanctioning is the so-called *tit-for-tat*. The basic idea is that an actor always chooses the same strategy his/her opponent did in the preceding round. Thus cooperation is always followed by cooperation and defection by defection. The idea is that even if the defecting party received a larger profit in that one round he violated the treaty, the benefit will decrease in due course if he continues to defect and the other parties respond with the same action. Overall, *tit-for-tat* is more flexible than *trigger-strategy* as it allows for the use of more than one way to react to a punishment.\textsuperscript{225} Also it is not as susceptible to renegotiation because a breach is not necessarily followed by more than one unfavorable period.\textsuperscript{226}

The role of available information grows when applying *tit-for-tat* strategy. It is of crucial importance that breaches be identified correctly because one misinterpretation makes the whole strategy break down. That is because a wrongly observed violation leads to a counter-reaction, which then makes the originally innocent party react with a real breach, from which the other party gets a reason to continue on the punishing path and so forth. In sum: the *tit-for-tat* strategy can overcome non-compliance problems providing that actors have long-term views, regular and continued interactions and reliable information about each other’s behavior.

*Barrett* argues that in situations that initially look unpromising for cooperation, like a strong Prisoner’s Dilemma, the very strength of the individual incentives to free-ride may indeed persuade all countries to cooperate for the fear of a chain of retaliations. Clearly in order for this outcome to be taken seriously, parties must be sufficiently farsighted to understand the magnitude of the negative consequences that would follow from a switch to a non-cooperative behavior and continuing retaliation.\textsuperscript{227}

\textsuperscript{225} *Cronshaw* (1998) p. 46.
\textsuperscript{226} *Barrett* introduces a modified strategy of *tit-for-tat*, “*Getting Even*”. It requires that a country should play cooperate unless it has played defect less often than any of the other players in the past. Hence *Getting Even* imposes a punishment that is more proportionate to the harm caused by the deviation. An example by Barrett: “In a 2-player game, if one player deviates for 20 periods and then reverts to cooperation, Tit-for-Tat demands that the other player revert to cooperation immediately after the first player has done so. Getting-Even, by contrast, requires that the other player not revert to cooperation for 20 periods.” See *Barrett* (1998a) p. 17. Most importantly, Getting-Even is both individually and collectively rational.
The way players value profits they receive now or in the future is a factor that hinders the effective function of tit-for-tat. If parties have small discount factors (i.e. they put significant weight on only present profits and losses), the threat of a sanction that will be carried out and the following costs that will only actualize some time in the future may not be enough to maintain cooperation. Conversely, if a player attaches great weight on future benefits, it may not have an incentive to undertake sanctioning measures towards the defecting party because this would diminish too much its own future benefits. One could consequently argue that promoting more farsighted behavior on the part of countries could work to enhance international treaty cooperation.

Parties to a treaty coalition may *collectively change their behavior* as to make it function as a sanction for a treaty violator. A conventional wisdom holds a coalition aims to maximize the available joint net benefit that depends on the size of the coalition. Consequently when a state violates a treaty obligation, the coalition weakens its performance as well, making this a punishment to the defector because this will not get so much benefit anymore from leaving the coalition. This sanction is credible because by carrying it out, the treaty coalition receives the biggest possible benefit after a unilateral breach has occurred. This works also the other way round, i.e. makes joining the coalition more profitable for a state as in that case the members of the coalition will increase the intensity of their abatement efforts and thus the state of environment will get even better. At the same time, however, the incentive to free-ride on the efforts of others increases, hence turning this stabilizing strategy into a double-edged sword.

Loosening the obligations of a treaty coalition is clearly not an ideal form of sanction. Namely, lowering the intensity on which states mitigate their emissions does harm, when it comes to a global pollutant, also for those parties whose behavior had been exemplary. Also, the punishment will not have any real effect if the defecting country possesses very low environmental preferences. As a whole the following dilemma arises: Emission abatement targets that are set high tend to rise incentives for free-riding, but on the other hand if obligations are very modest, the threat to temporarily rise the emission level as a sanction is not so effective.

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229 Because the so-called opportunity costs will be smaller and because it will enjoy smaller environmental benefit since the treaty coalition does now less for the state of environment.
The wider and deeper cooperation is, the higher is the benefit from free-riding, making it that the damage to the potential free-rider in the form of a sanction must also increase in order free-riding to be deterred. The problem is, however, that the bigger the harm to the potential free-rider, the bigger is the cost to the punishing parties themselves as well. This self-inflicted damage due to the emission increase limits the size of the punishment that is available for free-rider deterrence, since the condition for a credible sanction was that it must not hurt the punishing parties more than is the damage caused by the treaty violation. On that account one could conclude the credible punishment available cannot be very substantial, which means that it cannot deter much free-riding.

Barrett makes a point about the role of a sanction in deterring external and internal free-riding. The starting point is that the greatest harm that any one signatory can inflict on the others is to do what it would do if it withdrew from the treaty entirely. Following from this, “--if a treaty can credibly threaten to impose a punishment that deters signatories from withdrawing unilaterally, it can easily threaten to impose a punishment that deters signatories from failing to comply with the agreement unilaterally. Once free-riding has been deterred, compliance enforcement comes free of charge.”\(^\text{232}\) The theory shows clearly how staying a non-signatory with regard to a treaty and non-compliance with it are two forms of the same problem of free-riding.

6.4 Actual Forms of Sanctions in International Environmental Agreements

6.4.1 Withholding Treaty Privileges

Withholding of member rights and privileges, or making them conditional, represents a rather traditional sanctioning method under international conventions. The practice cannot, however, be regarded as a good solution: this way treaties lose control over the states, probably ones that are very likely to become guilty of breaching the agreement and that would moreover most likely be in need of e.g. the financial assistance the treaty could provide them with. As a result, states may have it even more difficult to fulfill their treaty obligations On the other hand, suspending treaty privileges have little costs – in case of withholding financial assistance, the imposition of the sanction even brings saves to the donor side – which makes them attractive and credible sanctions.

The Montreal Protocol provides an excellent example. A party may lose its access to technology transfer or the Protocol’s financial mechanism, as well as the right to produce, consume, or trade in the controlled ozone depleting substances – clearly the ability to trade in regulated substances is treated as a privilege granted by the protocol. There is also a possibility that a country loses its “Article 5 status” (gives a grace period of ten years for meeting the obligations) if it fails to fulfill its reporting requirements. An obvious restriction for the use of the sanction clause is that it can only be applied against states that are receivers of the assistance or that are doing business with the regulated substances under the treaty, and to whom losing that status would bring significant harm.

The sanction mechanisms of the Montreal Protocol have proved to be effective. In late 1996 Russia was the only party still producing and exporting ozone-depleting substances (ODS). The Implementation Committee of the Protocol then suggested in a draft decision that further financial assistance to Russia be made contingent on improved compliance with reporting and substantive obligations. Russia responded by introducing import and export controls on ODS and reducing ODS recycling.

Under the Kyoto Protocol, a party’s right to participate in the cooperative mechanisms – JI, CDM and Emissions Trading – may be suspended if it has been determined the country does not meet the eligibility requirements for the use of those mechanisms. Furthermore, as a sanction from a general breach of the protocol, the eligibility of the party to make transfers under the Emissions Trading may be suspended.

A sanction may also be directed at a state’s future emission quota that may be placed subject to diminishment as a result from a treaty breach. This kind of sanction has been written into many international fishing agreements that provide for a reduction in total allowable catch for a subsequent fishing period, where the total allowable catch for the existing management period has

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234 This possibility has been used: Liberia was subject to a brief suspension in 1998. See Report of the 21st Meeting of the Implementation Committee, UNEP/OzL.Pro/ImpCom/21/3 (1998), paras 12-14. The clause has proved to be effective also on other occasions, e.g. in case of Mauritania, a threat to revoke its Art. 5 status made the country fulfill its reporting obligations. See UNEP/OzL.Pro/ImpCom/12/3 (1995).
been exceeded. The most recent and notable example is the Kyoto Protocol and its emission quotas. One could criticize this kind of approach, though, since a country may consequently start to put off infinitely into the future staying within the limits of its quota. That might result in that the effects of the sanction would never realize for that party. Obviously this kind of misuse of the system should be prevented.

A non-compliance system may not only provide for suspension of a treaty obligation but for the suspension or termination of the treaty vis-à-vis the non-complying state. The suspension must be in accordance with the applicable rules of international law concerning the suspension and operation of a treaty. Firstly, there is generally recognized a principle in treaty law, which tells that a party is released from its obligation to carry out a contract when the other party does not perform its part – \textit{inadimplemeni non est adimplementum}. However, it has also been recognized the principle is not relevant nor desirable in the context of e.g. human right treaties, environmental agreements may be counted to the same category.

A more comprehensive set of rules can be found in the Vienna Convention on the Law of Treaties. According to its Art. 60 para 2(a), a party that has violated its obligations under a multilateral treaty runs the risk of losing – temporarily or permanently – the advantages accruing to it under the treaty. However, this kind of serious countermeasure cannot be lawfully taken without a prior attempt to settle the matter in some appropriate way. Moreover, not any breach can give raise to suspension of the whole treaty, two conditions must be met: 1) there must be a material breach and 2) all the other parties need to agree to the suspension, in whole or in part, or the termination of the treaty in their relations with the defaulting state. They may also agree to suspend or terminate the treaty between all the parties.

\footnote{238 A party’s assigned amount for the second commitment period may be subject to a deduction of a number of tones equal to 1.3 times the amount in tones of excess emissions. See FCCC/CP/2001/13/Add.3, Decision 24/CP.7, section XV.}


\footnote{240 Koskenniemi (1992) p. 141-142.}

\footnote{241 Consisting of “a repudiation of the treaty not sanctioned by the present Convention” or “the violation of a provision essential to the accomplishment of the object or purpose of the treaty”. Art. 60 paras 3a and b. Therefore only major violations are in the scope of Art 60 (2a). Koskenniemi offers a reasonable explanation: the provision should be understood from the perspective of trying to avoid open controversy among treaty partners and to allow diplomatic means to deal with minor non-compliance without this having an effect on the treaty relationship itself. See Koskenniemi (1992) p. 140.}
The right to suspend the treaty belongs to the party specifically affected. Only if the breach radically changes the position of every party, may others also suspend the treaty in their relations with the defaulting party. 242 Here should be noted the fact that with respect to international environmental treaties, it is generally impossible to single out any one party specifically affected by a breach. 243

It is rather unlikely that a breaching country could be brought back to compliance with the threat of dismissing it from the treaty; on the contrary withdrawing from a demanding environmental agreement might be in the interest of the country, and this aspiration should absolutely not be reinforced. Another point to be considered is the possibility that the dismissal sanction could in principle be used against states the participation of which is most important for the treaty – yet that can be assumed not to be a likely option to realize in practice.

An important question is whether states value their member rights so highly that losing them would be a sufficient deterrent for staying clear of non-compliance. One could for instance argue that suspending voting rights would not necessarily bring many countries back to compliance since assumedly many a time that right is not seen very valuable as decisions in the treaty regime are made by consensus anyway. 244 On the other hand, a sanction tied to the privilege to participate in arrangements like international emissions trading may serve as effective deterrent to non-compliance also for the politically and economically strongest parties of the treaty. 245 Clearly conditioning or precluding participation in the cooperative mechanisms can be a powerful tool for addressing non-compliance by parties that plan to participate in such mechanisms.

### 6.4.2 Economic and Trade Sanctions

The sanction arrangements included in current multilateral environmental agreements are greatly grounded on the deep economic and political interdependencies that prevail between countries nowadays. During the last ten years or so, governments and international authorities have increased their use of economic sanctions as a policy tool in international relations. 246 The WTO has

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242 Art. 60 (2c).
243 More on this difficult question of locus standi regarding non-compliance with an international environmental agreement, see Koskenniemi (1992) p. 147-150.
244 Werksman (1998) p. 95.
identified 12 MEAs particularly containing trade-related measures, and even more treaties containing potential trade measures.247

Most treaty breaches are committed as a result of attempts to gain economic benefits. The possibility to tackle this kind of action with economic sanctions very effectively is obvious in this context. Often the sanctions do not even need to be especially large for them to have a desired effect on a party. On the other hand, non-complying countries are often those that are in a fragile economic state and so economic sanctions can make more bad than good for them. A sanction does not need to be very heavy or wide in scope to already shake the frail economy of a country.

Trade provisions in MEAs have in general been designed for two purposes: as a means of exercising control over trade itself that is considered to be the source of an environmental problem; or as an enforcement mechanism, to provide incentives and deterrence and thus promote compliance with the agreement. By and large, trade measures may have several other purposes in international treaties as well.248 In general, trade sanctions are directed at the products or substances that are the target of the treaty in question. Trade-related sanctions are furthermore apt to make environmental agreements appear more attractive and also to make the non-compliance system look more effective.249 An important precondition for success is, however, that the most influential market actors are members in the particular environmental agreement that resorts to the trade sanction.250

247 WT/CTE/W/160/Rev.1: Matrix of Trade Measures Pursuant to Selected MEAs – Note by Secretariat (2001). The list of 20 environmental agreements with potential trade measures includes also some regional treaties.

248 Charnovitz presents several categories trade measures may be divided into: 1) to encourage governments to join a treaty; 2) to persuade parties to comply with a treaty; 3) to conform production practices to those specified in a treaty; 4) to make a treaty more effective by preventing diversion of trade or leakage; 5) to prevent free-riders from gaining economic benefits from non-membership; 6) to assist other countries in enforcing their laws; 7) to prevent relocation through trade. See Charnovitz (1998) p. 102.

249 For instance the United States has used economic sanctions with an aim to bring Japan back into compliance with the International Whaling Convention. See for more, Wilkinson (2002) p. 75; Birnie – Boyle (2002) p. 211. Werksman refers to a fairly recent study (Hußbauer, Gary C. – Schott, Jeffrey J. – Elliott, Kimberley A., Economic Sanctions Reconsidered (1998)) on the effects of trade sanctions – as applied mostly to armed conflicts or states’ violations of human rights – between the First World War and 1990. Some of the observations were: sanctions proved at least partly effective in approximately 35 per cent of the cases; the success rate was highest when the sanction was imposed by several countries, when the required change in action was rather minor, when the target state was weak for its economic and political status, when the imposer of the sanction and the target country were in friendly terms before the punishment, when the imposition of sanction happened fast and in a decisive manner and when the costs of carrying out the punishment didn’t become too high for its imposer. See Werksman (1998) p. 96-97.

Pure economic sanctions are extremely rare in international environmental agreements; their area of application lies only in the national enforcement of treaty obligations. In the international context, it is yet easier to resort to e.g. trade restrictions in sanctioning non-compliance than to construct a functioning international fine-system, for instance. A system of graduated fines levied against non-complying parties would have its advantages, though: it would be the easiest and most predictable economic enforcement measure to administer, and it would have the further attraction of not implicating World Trade Organization (WTO) law. However, actually collecting fines levied against non-complying parties could prove problematic. Therefore assessing financial penalties against recalcitrant parties is extremely rare in international treaty law. The issue was raised in the negotiations of the Kyoto Protocol but did not receive sufficient support.

The Montreal protocol is probably the most notable MEA containing provisions on the possibility to apply trade sanctions against states not in compliance with the treaty rules. A country may lose any or all of its privileges to trade with other parties in controlled substances, products containing controlled substances, and the technology for producing and using controlled substances. To date, only two parties − Russia and Ukraine − have been actually subjected with trade measures. The case of Mauritania, among others, offers additional evidence of the effectiveness of the noncompliance mechanism: the threat of imposition of trade sanctions proved to be sufficient.

Under the CITES Convention, decisions of the Parties and the Standing Committee have been used to recommend, in principle in a non-binding way, the suspension of trade on certain species covered by the treaty. Article XIV(1) allows parties to take stricter domestic measures than those provided by the treaty; the Standing Committee has in a number of cases recommended to all parties to apply that article collectively against individual countries found to be in non-compliance. When the Committee has requested parties not to issue nor accept CITES documents from a breaching party,

251 For the same reason this study is not concerned with taxes as a means to induce compliance with MEAs. A tax is a non-existent instrument in international regulatory cooperation; not even such an integrated system as the EU has been able to agree on community-wide taxes. The issue of international taxes is evidently regarded just too complicated to be a realistic regulatory tool in a multilateral regime.

252 Goldberg et al. (1998) p. 31-32.


254 The Report of the Fourth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, UNEP/OzL.Pro.4/15 (1992), annex IV.

255 See the Report of the Seventh Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, UNEP/OzL.Pro.7/12 (1995), Decisions VII/18, VII/19.


trade with that country in products requiring such documents has been effectively banned until the party has returned to compliance with the treaty.\textsuperscript{258}

For instance, Italy has been excluded from the trade on CITES species for a certain time due to non-compliance behavior with the convention.\textsuperscript{259} Similar bans have been imposed on e.g. the United Arab Emirates\textsuperscript{260} and Greece\textsuperscript{261} among many other nations. All the bans were later lifted. The success rate of the trade measures undertaken under the CITES to date is almost 100%, though it is important to note that in most cases no real major economic interests have been involved in the trade and countries have not therefore been under great pressure to resist the non-compliance procedures.

One weakness of economic sanctions is that they have sometimes been used unilaterally for advancing certain foreign policy objectives rather than for making the implementation of international agreements more effective. Unilateral sanction measures are problematic in many aspects, not least for their legitimacy and fairness. The case is different if a widely participated international agreement gives a mandate for imposing certain restrictions on a non-complying party, this is the practice applied under the CITES, for example. In the instance of the CITES, the legitimacy of the collectively imposed sanction cannot be questioned.

Another limitation with regard to economic sanctioning is that in practice only the most powerful states can impose sanctions against weaker states.\textsuperscript{262} Especially when a state unilaterally imposes an economic sanction on a country that has violated an environmental agreement, the process almost without exception involves political objectives and pressure to use the measure more or less as a foreign policy tool. The fact is states may practice \textit{unilateral sanctioning} on account of domestic legislation yet making a reference to and seeking for justification from an international agreement. Unilateralism is not desirable in the international regulatory cooperation, for instance it creates uncertainty in international affairs. Wood has aptly stated: “Target states and other members of the

\textsuperscript{258} Wiser (1999) p. 34.
\textsuperscript{259} Recommendation No. 675 of the Standing Committee (1992).
\textsuperscript{260} Recommendation No. 783 of the Standing Committee (1994).
\textsuperscript{261} Recommendation No. 35 of the Standing Committee (1998).
\textsuperscript{262} Chayes – Chayes – Mitchell (1998) p. 41. For instance, it has been found that the successes in US unilateral sanctions policy have been occasioned by circumstances where the United States held disproportionate economic power. In other words, sanctions were in many instances successful because they were employed against target states whose economies were particularly dependent on the US economy. See the Stanley Foundation (1997) p. 7. Schmidt points out, however, that the existence of unilateral, protectionist, features might be defended by the increased credibility of a sanction. See Schmidt (1998) p. 29.
multilateral organization are likely to perceive unilateral action as a defection from the cooperative framework instead of enforcement against a defector.”

Restrictions to international trade that are posed by virtue of multilateral environmental agreements have raised questions about their compatibility with obligations countries are committed to under the World Trade Organization (WTO). This is a much-talked issue and the debate is likely to continue since there is a clear prospect that trade sanction provisions contained in MEAs may clash with the rules of the WTO.

Most MEAs with explicitly mandated or allowed for trade measures restrict trade between parties and non-parties or even trade between parties. These restrictions can be interpreted to violate the most-favored-nation principle contained in the Art. 1 of the GATT/WTO Agreement. Furthermore, Art. II prohibits discrimination in trade as well. In addition, Article XI forbids any restrictions other than duties, taxes, or other charges on imports from, and exports to, other WTO member.

None of the trade provisions contained in the international environmental treaties have so far been challenged by WTO members—though there is recognizably real potential and a growing possibility for a large-scale conflict. Yet the status of trade-related measures taken pursuant to MEAs with respect to general rules of the WTO is generally perceived as _lex specialis_ under international law. With regard to the Montreal protocol, it has been regarded as a missed opportunity that no clear statement was made by the signatories that those provisions (on trade restrictions) were to take priority over the GATT/WTO.

Article 30 of the Vienna Convention on the Law of Treaties sets forth rules governing the situation where states are parties to treaties relating to the same subject matter. The result concerning a

264 It is important to keep in mind that he problem only arises when sanctions are applied against countries that are WTO members.
266 _Stendahl-Rechradt_ (1996) p. 41; _Stilwell – Tarasofsky_ (2001) p. 15. The priority question remains unclear to a degree, though, since trade and environment regimes are dealing with different subject matters and have thus different nature and objectives. Therefore the rule on treaty conflict that the later in time treaty prevails over the one earlier in time does not hold here. Moreover, _Stilwell – Tarasofsky_ (p. 15) remark that the “--rule does not appear to address the timing of a decision taken by the governing body of a treaty that creates a trade-related environmental measure and is therefore not helpful in this context.” The question is also explored by _Cameron – Mjolo-Thamage – Robinson_ (1992) p. 489-492.
MEA/WTO – dispute is that if the treaties are perceived to govern the same subject matter, i.e. trade, the earlier treaty may prevail as long as it is compatible with the treaty adopted later. However, if one of the treaties does not include all states that are parties to the other treaty, the provisions of that treaty where all are parties will prevail. The relationship between trade sanctions adopted in multilateral environmental agreements and WTO rules remains indisputably unresolved, however. Sands states that “In the absence of a clear ‘choice-of-treaty’ clause, these conflicts are unlikely to be resolved by recourse to textual interpretation and legal niceties such as *lex posterior v. lex specialis* rules under the 1969 Vienna Convention—.”

On the other hand it is perceived that the current dispute settlement processes of the WTO or MEAs are not suitable to handle disputes arisen within the other regime. An important question in the future will be, which instance shall settle conflicts arisen on the ground of a trade measure taken pursuant to an MEA. It has been recognized the WTO has no special expertise as to how to deal with environmental problems. Furthermore, The Trade and Environment Committee has stipulated that if a dispute arises over a trade action taken under an environmental agreement, and if both sides to the dispute have signed that agreement, then they should try to use the environmental agreement to settle the dispute. But if one side in the dispute has not signed the environment agreement, then the WTO would provide the only possible forum for settling the dispute. It may not be that clear, however. It has been estimated that although WTO members have expressed hope that disputes between parties might be settled within the MEAs themselves, a party complaining about the use of such *non-specific trade measures* would almost certainly choose to take its case to the WTO. The inclination may be explained by referring to perceptions like the requirements of MEAs regarding trade measures are often imprecise, MEAs may impose new conditions on participants without their consent (conditions based on majority and not consensus decision-making), and MEAs do not have the kind of well-developed judicial mechanism that has emerged in the WTO.

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270 See e.g. Stendahl-Rechradt (1996) p. 42.
271 Sampson (1998) p. 31. However, the WTO agreements allow panels examining a dispute to seek expert advice on environmental issues.
273 Morici (2002) p. 3. Cameron criticizes the dispute settlement systems contained in current MEAs in comparison with the WTO dispute settlement understanding (DSU) mechanism. The latter has got to offer rewards, economic and political benefits, for use. The system is furthermore fast and effective, and the rules are generally respected. Cameron regrets there are no comparable mechanisms in MEAs. See Cameron (1998) p. 18.
The potential clash between MEAs and the WTO creates uncertainty and makes the enforcement mechanisms in MEAs questionable, which is definitely not a desirable situation. Even if there is no formal conflict, the continuing uncertainty may have significant consequences on the function of both environmental and trade regimes. It has been predicted the “chilling effect” or the “political chill” comes to affect the negotiation of future MEAs.\textsuperscript{274} As well as threatening the integrity of existing MEAs, the potential for conflict with WTO rules is a near deal-breaking concern in new MEA negotiations, as demonstrated by the difficulties in drafting e.g. the Kyoto Protocol.\textsuperscript{275}

The possibility of a WTO conflict is said to be an illustration of the fragmented character of international law.\textsuperscript{276} This is true: sections of international law have developed quite isolated from each other, the coordination having been almost non-existent until recent years. Given the circumstances, it is no wonder different regimes are now seen to drift into clashes. This then may be regarded as an illustration from the very nature of international law: contrary to national law-making, international norms are established strongly on the basis of consensus and generally in isolation from other areas of international law or without considering the system of international law as a whole in relation to the specific agreement under negotiation.

It is clear that the MEA/WTO debate requires coordination and bringing together of relevant provisions between these different types of international regimes.\textsuperscript{277} And indeed, in recent years collaborative action between international environmental regimes and the WTO has emerged.\textsuperscript{278}

\textsuperscript{276} Ulfstein (1996) p. 114.
\textsuperscript{277} The WTO Committee on Trade and Environment has suggested two possible approaches that the WTO could adopt with respect to trade measures contained in international environmental agreements. See WT/CTE/W/4. The ex poste – approach holds that the WTO could, by using a specific waiver, approve on a case-by-case basis the use of trade measures within an environmental treaty regime. This approach, despite its faults (like low predictability and security against a WTO-challenge, failure to provide certainty and guidance to MEA negotiators, probably a time-consuming and cumbersome procedure, only a short-time solution, see Stendahl – Rechradt (1996) p. 41; UNEP – IISD (2000) p. 62) has been regarded as a potential method for reconciliation between the WTO and MEAs.

The ex ante – approach involves the use of the amendment of article 20 of the WTO-agreement which is the general exception rule to GATT/WTO-obligations. This would mean that the conditions and criteria for the use of trade measures in international environmental treaties would be defined beforehand. It is said the approach would create ‘an environmental window’ in the WTO. The advantages of the ex ante – approach are clear, but doubts have been cast in the fear of it facilitating the application of discriminatory measures by opening the door to protectionist abuse. See Stendahl-Rechradt (1996) p. 42.

\textsuperscript{278} The WTO established a Committee on Trade and Environment (CTE) in 1994. The purpose of the Committee is to “identify the relationship between trade measures and environmental measures”. The Committee will initially address, among other things, “the relationship between the provisions of the multilateral trading system and trade measures for environmental purposes, including those pursuant to multilateral environmental agreements;-- the relationship between the dispute settlement mechanisms in the multilateral trading system and those found in multilateral environmental agreements”. See the Ministerial Decision on Trade and Environment 15.4.1994. It has been ensured the CTE hears also the MEA side, for example the CITES Secretariat has been holding an observer status.
It has been suggested that potential tensions between trade and environmental regimes could be reduced through better communication and understanding of the compliance and dispute settlement systems in MEAs and the WTO. On the whole, international trade and environmental agreements should be clustered or tied together more effectively, as this would in all likelihood improve the effectiveness and efficiency of both regimes. Brack concludes that a new WTO side agreement on MEAs would be the best way forward.

Conflicting views have also been presented on the relationship between applying MEA-based trade restrictions to non-parties and general international law. Trade sanctions on non-parties fulfill a double function. First, they seek to prevent free-riders from enjoying the benefit of an agreement without contributing to the cost, an argument of equity and effectiveness. They also encourage participation in a global agreement by bringing states less benefit from staying outside the treaty arrangement. The widely accepted conclusion on the position of trade sanctions against non-parties is, however, that there is no conflict in the issue since international law does not contain a general requirement to engage in trade with all states, and in any case no obligations are imposed on third states. Such states then have three options to choose from: 1) to become a party to the agreement; 2) to remain a non-party but to seek to avoid restrictions by complying with the regime; 3) to remain a non-party but to be in non-compliance with the treaty regime, becoming thus subject to trade restrictions.

in the CTE since 1997. See Committee on Trade and Environment, Communication from the CITES Secretariat, WT/CTE/W/165 (2000) p. 3. Birnie & Boyle state the CTE has ended up in a deadlock in the question concerning trade restrictions in multilateral environmental agreements and that the likelihood the presented new approaches for reconciliation the two possibly conflicting regimes will be adopted is minimal. See Birnie – Boyle (2002) p. 707. Also Stilwell & Tarasofsky assess the CTE has made little progress regarding ways to strengthen and clarify the relationship between MEAs and the WTO, despite proposals by a number of WTO Members to amend WTO agreements to address the tensions between the WTO and the use of trade measures in MEAs. Stilwell – Tarasofsky (2001) p. 10.

There has been a series of meetings bringing together the Secretariats of the WTO, multilateral environmental agreements and UNEP, in most cases also with governments and NGOs. For summary of the output, see UNEP (2002).

280 Brack (1998b) p. 19. For one proposal on the elements of a good neighbor policy between the WTO and MEAs, see Krist.
281 The argument that trade measures against non-parties encourage wider participation in MEAs is not quite straightforward. Surveys on the Montreal Protocol namely indicate that trade sanctions may have had an effect on states’ decisions to join the protocol but still trade measures were deemed to be less significant than positive measures in this respect. The same tendency is observable in several other case studies. See Vossenaar – Jha (1998) p. 67-73. Brack presents an opposite view, by claiming that trade restrictions appear to have provided a strong incentive to join multilateral environmental treaties and a number of countries have cited them as the major justification for their decision to participate. See Brack (1999a) p. 134. In any case a country’s decision whether or not to join a MEA is guided by several factors and interests, trade implications being only one issue influencing the final determination. The emphasis countries give to possible trade restrictions naturally varies.
282 Ulfstein (1996) p. 106. Brack argues that “If the objectives of the MEA are accepted as valid, and if the actions of non-participants inflict physical damage on members of the agreement – which, in the case of transboundary or global pollution (such as climate change), they always do – then a strong case can be made for discriminatory measures directed against non-participants.” See Brack (1998a) p. 139.
Overall, trade measures can be viewed as a more credible threat to deter free-riding than an increase in emissions, for example. That is because, according to Barrett, trade measures mainly harm the free-rider, whereas the emission increase considerably harms the punisher as well.\textsuperscript{283} On the other hand, trade sanctions are a fairly blunt instrument that is not very well responsive to the level of non-compliance. Moreover, the design of the sanction requires care since import or export restrictions can have devastating effects on domestic economies and cause most significant costs to ordinary citizens. It is clear that if badly designed, trade sanctions can leave all parties worse off.

\textsuperscript{283} Barrett (1997).
7. CONSTRUCTING NON-COMPLIANCE MECHANISMS INTO INTERNATIONAL ENVIRONMENTAL AGREEMENTS

7.1 Choice of Approach

An agreement should be constructed in such a way that it brings under control the environmental problem the treaty arrangement has originally been designed for. To achieve this objective, there necessarily need to be mechanisms that make states perceive compliance with an agreement as worthwhile. Whether incentive-based or sanctioning procedures are effective in attaining this is a sum of great many factors, such as the prevailing economic and technological circumstances in a country and the global as well as local political and resource-oriented conflicts of interest.

Mainly because cooperation between states has been rather shallow within international agreements and compliance rates have been fairly high so far, it has been difficult to assess what strategy would work best when responding to the problem of treaty non-compliance in different situations. There is not enough empirical knowledge to allow for saying anything final on whether it is better to apply the enforcement-based doctrine or to use incentives and softer methods to ensure or restore compliance. The main determinant in the choice of applied means of response is whether the major factor behind treaty violations is seen to be willfulness or unintentional misperceptions and lack of resources. It can be assumed that the effectiveness of softer reaction means will diminish as states increasingly face genuine difficulties in complying with treaties.

Under the management doctrine, a treaty violation is viewed more like a problem waiting to be solved than a “crime” that calls for punishment. The approach treats non-compliance as resulting from incapabilities and miscalculation within states. It recognizes the sensitive nature of international agreements that are based on voluntarism, and by noting this strives to secure that the commonly agreed objectives could be attained. Management school of thought reflects a trend away from relying solely upon sanctioning and dispute settlement provisions and towards more emphasis given to monitoring, verification and implementation assistance.

The enforcement doctrine has as a starting point a presumption that states fall out of compliance with international agreements because they decide to do so. In other words, the attitude of states toward international cooperation is one that regards that as a chance to gain individual benefit at the cost of the cooperation of others. It is clearly not much use to employ sanctions when the cause of a treaty violation is a lack of domestic resources in the country in question; but when there is
purposeful maximizing of self-interest behind the non-compliance, forceful means of enforcement are to be applied. Sanctions are crucial in agreements where free-riding is possible and could carry significant rewards. However, the distinction between sanctions and other means of ensuring compliance is not always clear. For instance, a fact that a treaty body reacts to a strikingly substandard national report by making it public with all its flaws can as well factually function in the way of a sanction – providing the country in question cares for its image and reputation in the international circles.

In developing non-compliance regimes, it should be taken into account that the mechanisms are mutually supportive in serving the aim of enhancing and promoting implementation of and compliance with international environmental commitments. Dispute avoidance mechanisms that prevail during the pre-dispute phase, and dispute settlement mechanisms both serve the overarching aims of achieving meaningful cooperation in the environmental field and avoiding environmental harm.284

In an ideal situation, proceedings actualizing after a treaty breach could be selected from a long continuum. That would enable the special features and individual circumstances of each case of non-compliance to be taken into account as comprehensively as possible. Consequently one could assume that also the response undertaken would with this kind of approach be the most effective to restore cooperation. There are various reasons for non-compliance with an international agreement and, moreover, complying with or neglecting treaty obligations often involves differences of degree, which facts require a system that has to provide different responses to a variety of compliance problems. States’ compliance of with their environmental obligations may also vary with time, a point also worth considering when building a compliance response system into a MEA.

The starting point is to use different "soft" means to seek for solution concepts with which to improve the effectiveness of an environmental agreement, for both individual state parties and the treaty system as a whole. The means for that vary from increasing the transparency of the treaty and assisting participating countries financially and technologically, to arranging multilateral negotiations and granting participants more time to fulfill treaty obligations. If these prove unsuccessful, i.e. the treaty-violating behavior continues, – and it can be stated with considerable certainty that it is question about willful action – other parties may employ harder measures and

shift to using legally binding dispute settlement procedures and sanctions. They are meant to deal with non-compliance that is not occurring due to insufficient resources or misunderstandings but is a result of more or less willful neglects and breaches.

There should always be a possibility of using sanctions when treaty-violating behavior is severe and continuous. When the content of the original obligation is clear, the road for negotiation has reached its end and, after time has been given for returning to compliance and no major change in a state’s action has taken place, some kind of sanction is absolutely in place. In applying sanctions, it is important to make the level of sanction sensitive to the level of non-compliance: a situation should never arise where a party sees that the punishment it receives will not be reduced even if it marginally improves its compliance.285

The Montreal Protocol provides a good example of a treaty the non-compliance response system of which has been carefully crafted and which combines management and enforcement approaches in a balanced way. Under the protocol, a special Implementation Committee always first examines the suspected breach and then seeks in a friendly atmosphere to find a solution that would satisfy all the parties involved. Only after this route has come to a dead end, comes up the possibility to apply stricter means for restoring respect for the agreement. The process illustrates the approach according to which emerged disagreements are subject to attempts of smoothing away before they are allowed to evolve to graver judicial disputes.

The non-compliance procedure of the Montreal Protocol has proved to be effective in practice, not least due to the powerful incentives and disincentives that it has access to. The case of non-compliance by Russia can be viewed to illustrate a successful approach to compliance problems: a combination of carrot (financial assistance) and stick (financial conditionality and trade restrictions) was used with success. As a whole the Implementation Committee has applied a pragmatic, cooperative approach, which has been regarded to improve the ability of the process to influence the behavior of non-compliant parties.286 A long-term iterative approach allows for finding a most efficient way to treat each occurred case of non-compliance.

As experiences from international agreements have accrued, it has become evident that ensuring compliance with obligations will not be successful only by always adopting new forms of sanctions

to be used against violators but attention should be directed more towards different intensive political persuasion-processes. Presenting treaty breaches as willful actions that require punishment does often more bad than good as the failure to comply with an agreement may result from a party's lack of capacity rather than from determined recalcitrance against the international community. In that kind of circumstances strong sanctions imposed on a state will not promote compliance but rather further hinder it.

Means to react to the neglect of obligations should first induce toward treaty compliance, provide different solution concepts and incentives. Actual enforcement measures should only be undertaken when the breach is continuous or some way particularly reproachful. It is evident that a significant and persistent violation of an environmental agreement tends to weaken the credibility and reliability of a treaty and to lead negative political, economic and environmental consequences. However, it is strongly advisable to favor softer measures for promoting compliance especially when the treaty is still at its early stages, so that the threat of serious sanctions would not deter potential signatories from the treaty regime.287

The two approaches to non-compliance with international treaties are widely regarded as competing, both in theory and practice.288 It would not need to be that way. The doctrines are not mutually exclusive; differentiation is a reflection of the various reasons for non-compliance by states with their international obligations, not an implication of two competing approaches of which only one is right and comprehensively appropriate.

The legal relationship between measures taken under the two approaches is not conflictory. Both kinds of proceedings can be invoked within the same dispute, even simultaneously, for instance ongoing political processes are no bar for the jurisdiction of the ICJ.289 Some conflict between the systems may arise, but international law does not have an unambiguous answer to give.290

Tallberg challenges in his work the conception of exclusiveness between management and enforcement doctrines in promoting compliance with legal norms. He bases his argumentation on the case of European Union (EU) and on the comparison with other international regimes. Tallberg

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287 Weiss (1997a) p. 64. Weiss states it is good that states can examine and consider beforehand their ability to comply with the agreement, but a sharp focus on compliance may also make states overcautious and thus excessively limit the number of states that commits to the agreement.


290 For discussion, see Fitzmaurice – Redgwell (2000).
presents that enforcement and management mechanisms are most effective when combined. He argues: “In real-life international cooperation, the two strategies are complementary and mutually reinforcing, not two discrete alternatives. Compliance systems that offer both forms of instruments tend to be particularly effective in securing rule conformance, whereas systems that only rely on one of the strategies often suffer in identifiable ways. By the same token, compliance systems that develop this complementarity over time demonstrate an enhanced capacity to handle non-compliance.”

The Kyoto Protocol provides a recent example of which way the international community believes compliance with a multilateral environmental agreement can be ensured. As a result of long negotiations, parties adopted a two-way-approach to solving compliance problems that might arise under the protocol. The purpose of the facilitative branch is to assist and support parties in implementing their commitments. The institution is evidently based on the managerial approach to non-compliance. The enforcement branch shall make formal declarations of detected non-compliance and decisions concerning the consequences of non-compliance. The means of reaction differ clearly from those available to the facilitative branch.

The decision to create the described two-branch non-compliance system can be regarded as a remarkable achievement; the arrangement is clearly more demanding and detailed than the similar systems in other international environmental agreements. The compliance system is furthermore in a clear connection with the Kyoto mechanisms and fulfilling of the reporting obligations. The protocol itself states: “The objective of these procedures and mechanisms is to facilitate, promote and enforce compliance with the commitments under the Protocol.” The emphasis seems to be, also according to that formulation, on preventive means in accordance with the management school on compliance.

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292 Consequences of non-compliance applied by the facilitative branch include 1) “Provision of advice and facilitation of assistance to individual Parties--“; 2) “Facilitation of financial and technical assistance to any Party concerned, included technology transfer and capacity building from sources other than those established under the Convention and the Protocol for the developing countries”; 3) the same facilitative operations for countries with economies in transition; and 4) recommendations to the party concerned. FCCC/CP/2001/13/Add.3, Decision 24/CP.7 (2002), section XIV.

293 The consequences may be: 1) discounting the tonnes (“Deduction from the Party’s assigned amount for the second commitment period of a number of tones equal to 1.3 times the amount in tones of excess emissions”); 2) a party has to prepare a compliance plan (a detailed plan defining how the state will meet its target for the subsequent commitment period); and 3) suspension of the eligibility to participate make transfers under emissions trading. FCCC/CP/2001/13/Add.3, Decision 24/CP.7 (2002), section XV.

294 FCCC/CP/2001/13/Add.3, Decision 24/CP.7 (2002), section I (emphasis added).
It is illustrative that the parties to the FCCC and Kyoto Protocol recognized that a regime comprised only of managerial “carrots” would be insufficient to induce them collectively to reduce emissions. However, parties were unable at Kyoto in 1997 to agree on language establishing specific, binding enforcement measures in cases of non-compliance, and put off adoption of such language until a later time.\footnote{Goldberg – et al. (1998) p. 21. Agreement on the non-compliance mechanisms was reached in Marrakech in 2001.}

Taken together, an ideal non-compliance system incorporates elements of both the management and the enforcement approaches, not as alternatives but rather as a menu of possible responses to different possible types of non-compliance. In an ideal situation sanctions increase the efficiency and effectiveness of other means to induce compliance while stepping forth themselves only as a last option.

One of the problems has been the general attitude of certain treaty-makers on the whole question of disputes settlement provisions of treaties in general. Adene calls them the idealists. They have an attitude that the main effort of treaty-makers is the production of a treaty in which all legal interests are properly balanced and which is intended and designed to work without major difficulties as to interpretation or application. According to this attitude, Adene claims, “--no intricate procedures for the settlement of disputes are necessary in multilateral treaties, except some general clauses pointing to the basic requirement of peaceful settlement through procedures to be agreed by the parties or suggested for acceptance in the instrument itself.” This was the attitude of many treaty negotiators in the past when dispute settlement articles were not given so much attention.\footnote{Adene (1997) p. 288.} The situation has changed, however, in recent decades and nowadays a lot of time and effort is given for the creation of effective non-compliance and dispute settlement procedures in international treaties.

### 7.2 Characteristics of an Ideal Sanction

It is impossible to present a generally applicable model for an ideal sanction. That is already due to the varying nature of international environmental agreements and the diversity of targets of regulation. On the whole, beforehand prevention of treaty breaches is a strongly advisable approach because repairing resulted negative consequences afterwards will as a rule become more costly – both in monetary and environmental terms.\footnote{Wiser – Goldberg (2000) p. 27.}
Firstly, a sanction must be constructed so as to be of appropriate magnitude, i.e. the punishment following a breach must not be too harsh. There lies the obvious danger that states evade too strict sanction clauses and as a result prefer to stay outside the whole treaty. Nevertheless a sanction should be of such a size that the costs it brings outweighed the benefits from treaty violation – the effects of discount factors included. Optimal deterrence would require the expected sanction be equal the full social cost of the non-compliance.

The consideration of the appropriate magnitude of sanctions gets a new dimension when the issue of fairness is added to the analysis. 298 A very high punishment is easily seen as unfair – or in terms of Polinsky and Shavell: “will result in the lowering of individual’s fairness-related utility” – which is not in any party’s interest. Fairness is an important concept for non-compliance mechanisms of international agreements since a sanction that is perceived as unfair can have far-reaching implications for the whole treaty regime and farther. An unfair system cannot gain legitimacy in the eyes of its targets, a fact that may in the worst case lead to the collapse of the whole legal arrangement.299 Overall, the degree to which actors concern themselves about fairness in sanctions should be reflected in the probability and magnitude of the punishment.300

In the world of risk-neutral actors301, if the magnitude of a sanction is lowered, this decrease in the expected value of the punishment must be offset by increasing the probability of the imposition of the sanction respectively. It is often thought that an effective sanction mechanism consists of a highest possible sanction and a relatively small probability of imposition. That allows maintaining a reasonable deterrence effect while enforcement costs remain moderate. That kind of sanction would

298 Implications of fairness in sanctioning policy are discussed by Polinsky & Shavell. They introduce a new aspect to the conventional deterrence ideal, adding to the harmful act the expected fairness-related utility or disutility associated with the imposition of sanctions on the violator. Consequently, an optimal sanction no longer equals with the conventional deterrence ideal but must reflect both deterrence and fairness. The optimal sanction lies, therefore, between the fairness ideal and the full deterrence ideal and may be less or more than the conventional deterrence ideal that is usually taken as a starting point for constructing an effective sanction. Polinsky & Shavell conclude that for most harmful acts the fairness ideal presumably is far less than the maximal sanction. In that case raising the sanction to its maximum level could cause a remarkable reduction in social welfare due to fairness considerations. Fairness is inevitably a complicated concept. Polinsky & Shavell take notice of the tension between their approach to fairness (implied in the empirical significance of the taste that individuals have for fairness of punishment) and that of philosophers who tend to emphasize notions of fairness per se, regardless of the preferences of individuals. Polinsky – Shavell (2000) p. 233.


become, however, extremely costly to impose (unless it can be assumed that the clause would never be invoked, i.e. the deterrence effect was perfect) and secondly, the price for possible interpretation errors would become very high.\textsuperscript{302} Yet there are many other factors influencing a sanction policy, especially in the area of international law and international politics where coercion cannot be widely applied due to the well-known issues of state sovereignty and lack of central enforcement authority.

A sanction should be construed sufficiently \textit{simple}. That would allow actors to calculate expected consequences for different policy options and to do rational choices of action accordingly. It is important that sanctions, and the situations in which they will be applied, are well understood in advance, only that will ensure their effectiveness. In other words, a sanction must be \textit{predictable}.

Very complex sanction structures also increase associated administrative and transaction costs and cause delays in execution. Also the predictability and transparency of a sanction will suffer because of the complicated structure, and along with these diminishes also the relevant deterrence effect and feel of fairness of the arrangement. The simplicity of the countermeasure is related to efficiency as well: the sanction system should not be stalled with unnecessary, bureaucratic steps.

Mitchell notes that complexity is often in-built in deterrence-based sanctioning strategies. To be effective, they often require the successful completion of a complex chain of actions (such as detection, identification, “prosecution”, imposition of sanction). Mitchell points out that successful deterrence strategies must ensure that the whole legal chain operates smoothly, since “the breakdown of any link can significantly impair its effectiveness.”\textsuperscript{303}

Another crucial feature of a sanction is \textit{credibility}. The threat of punishment will have effect only if the target has strong reasons to believe it will be carried out when circumstances so require. The likelihood with which a sanction is imposed forms, with the size of the countermeasure, the expected value of the sanction. It is that value against which rational maximizers of self-interest weigh their incentives to defect from an agreement. Poor credibility may turn a whole sanction system of a treaty totally useless in practice. It is argued that credibility is a central problem in the organization of cooperation on sanctions.\textsuperscript{304} Building and maintaining sufficient deterrence is not

\textsuperscript{303} Mitchell (1994) p. 456.
\textsuperscript{304} Martin (1993) p. 407.
easy in international regimes. Furthermore, paradoxically, a deterrence capability can render sanctions to work against themselves: since their anticipation alone is enough to bring about compliance, a threat to impose them every time beforehand is not credible.

International law requires sanctions to be in a proportionate relation with the breach (principle of proportionality). Any punishment to deter non-compliance must “fit the crime”. There must not be a situation where a state can grab a bargain that allows it to harm environment more at the same price i.e. the size of punishment remaining constant. A punishment should hence reflect the gravity of the act of non-compliance. Aspects of the treaty violation, such as the type (substantive or procedural), the question of fault and the overall severity of the act or omission should be considered before a decision of the consequences is made. Similar requirements are mentioned e.g. regarding the compliance system of the Kyoto Protocol, where it is stated that the cause, type, degree and frequency of the non-compliance of a party should be taken into account when determining consequences.

Accordingly, the characteristics of each case of treaty violation should be taken into account when imposing a sanction. It seems in this light that an automatically falling punishment is not desirable but proportionality would demand more ad hoc type of mechanisms. Generally, mechanisms to react to treaty breaches should be constructed so that there was a balance between a treaty body's case-by-case consideration and automatically activating provisions. Albeit the practice of treating every violation separately increases the (felt) fairness of the procedure, as it allows the parties to modify their response to the specific circumstances and needs of the non-complying party, it also brings uncertainty and delays to the functions of the non-compliance system. Readily-tailored procedures for dealing with compliance problems bring, for their part, desired deterrence effect and certainty into a treaty arrangement. On the other hand they can, when given a strong emphasis and

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305 Martin suggests a state may signal its commitment to the treaty and the sanction provision and thus increase its credibility as a sender of a sanction and make the sanction seem renegotiation-proof by e.g. reducing incentives to change policies in midstream, involving a state’s reputation to the strategy and by making a public institutional commitment Martin (1993) p. 418. Also, one should also not underestimate the significance of using an institution and its credibility in the imposition of sanctions. However, the rule is that the outcomes in the punishment rounds of games should not be Pareto-dominated i.e. the worst possible choices of action in every situation. With these limitations, equilibrium solutions to the game are obviously more difficult to achieve.


308 Goldberg et al. suggest, with reference to climate change regime, that on a conceptual level, the non-compliance regime directed toward procedural non-compliance should rely on persuasion, in the form of carrots and sticks, to induce compliance. Substantive noncompliance should, by contrast, invoke a strict liability approach of “making the climate whole”. See Goldberg et al. (1998) p. 23. The approach is clearly visible in the compliance system of the Kyoto Protocol.

309 FCCC/CP/2001/13/Add.3, Decision 24/CP.7 (2002), section XV.
when there is a lot especially economically at stake, even drive states away from the treaty regime – or prohibit others from joining.\textsuperscript{310}

Some flexibility should be allowed so that countries can be clearly forgiven in extreme circumstances. If the exceptions to compliance rules are allowed only in extraordinary circumstances, then they will not damage the credibility of the overall system. Art. 62 of the Vienna Convention on the Law of Treaties addresses the “fundamental change of circumstances”. Accordingly, a fundamental change of circumstances which has occurred with regard to those conditions existing at the time of the conclusion of a treaty, and which was not foreseen by the parties, may be invoked as a ground for terminating or withdrawing from the treaty if 1) the existence of those circumstances constituted an essential basis of the consent of the parties to be bound by the treaty; and 2) the effect of the change is radically to transform the extent of obligations still to be performed under the treaty. However, a fundamental change of circumstances –clause may not be invoked if the “change is the result of a breach by the party invoking it either of an obligation under the treaty or of any other international obligation owed to any other party to the treaty”. Hence, a treaty breach of a state may in some rare cases be justified by extenuating circumstances. The provision of the Vienna Convention is clearly not a loophole, since the requirements laid down are rather stringent. Nevertheless, one can imagine situations where the fundamental change of circumstances –clause could be invoked under international environmental agreements, for instance the extinction of a protected species could force a state to resort to the clause.

The ideal duration of a sanction is a sensitive question. It is often thought the longer, the better because longer duration increases the cost to the punishment causes to the target. However, one could also argue that the longer sanctions are in force, the weaker their effect becomes. That is because the target may adjust to the existence of the countermeasure with time, and the passage of time may harden the resolve of the target. A frequent use of sanctions may also decline their credibility over time.\textsuperscript{311}

\textsuperscript{310} Werksman (1998) p. 99. Werksman also notes that efforts to pre-define categories of non-compliance and to associate these categories with specific non-compliance responses have thus far failed under the Montreal Protocol. See Werksman (1998) p. 72.

The final lifting of sanctions should be planned. Every sanctions regime should have a “sunset clause”, a maximum time for application established. Sanctions should never be permanent. The imposition decision should stipulate the conditions under which sanctions should be lifted and thus present a reasonable exit strategy for parties. In general, sanctions may be lifted either because the behavior that led to their imposition has changed, or because they have demonstrably failed to bring that about.

If kept in place for too long, sanctions can have untoward implications, such as potentially serious social, economic and political effects. Therefore there should be constant monitoring of the effects of the sanction on the target state. Accurate information is needed in order to determine how long the sanction should stay in force, if it can be exchanged to a lighter one or if other kinds of measures are needed. To begin with, it is of vital importance that verification of treaty breaches, i.e. observation and identification of violations, is conducted reliably and on equal grounds. Self-monitoring is often doomed to fail because such a practice will provoke extensive opportunistic behavior by states. Hence the need for internationally organized monitoring for state activities related to environmental treaty obligations. Sanctions should be based on scientific data on the act of violence of the treaty. The Montreal Protocol’s linkage between the Implementation Committee and a technical and scientific advisory panel suggests that a linkage to expertise can be valuable.

Sanctions imposed under an international agreement should also be decided multilaterally. Joint sanctions are to be preferred rather than sanctions imposed unilaterally by an individual country. Adoption by a credible multilateral organization provides important legitimacy for the application of sanctions, and collective action reflects a consensus on the applicable norm. In general, adoption of countermeasures outside organizational frameworks poses them on an unstable ground.

312 The Stanley Foundation (1997) p. 16.
315 Delbrück argues the most important feature of lawmaking treaties is that they are directed toward a common goal of all parties and that, therefore, implementation of the treaty obligations is owed by each party to all the other parties. According to Delbrück, this in turn means that a violation of one of the treaty obligations by one party in respect of another party constitutes a violation of the obligation vis-à-vis all the other parties to the treaty, irrespective of whether these other parties themselves directly suffered injuries from the violation. Therefore all other states party to the treaty are entitled to sanction the non-compliant state. This “intra-treaty erga omnes-effect”, concludes Delbrück, represents “a fundamental shift of the international law of treaties toward an objective character of international law.” Delbrück (2002) p. 416.
316 However, Martin argues that the process of organizing multilateral sanctions typically occurs under conditions of significant asymmetry of interests among potential sanctioners, which is apt to give rise to coordination problems between the leading sender and the others that try to free-ride. See Martin (1993) p. 408.
As Doxey remarks: “The absence of structure means intense diplomatic bargaining with a variety of policy priorities jostling for precedence and the result may be more akin to multiple unilateralism than a genuine multilateral effort.”\(^{318}\) It is important, therefore, that imposition of international sanctions takes place in an organized manner and involves the whole treaty coalition e.g. through a specific enforcement body. Unilateralism should in general be avoided to the greatest extent possible; coordinated practice is to be favored in order to prevent chaos and anarchism in the international sanction policy. Collective decision-making may also allow for a proper assessment of the overall situation and ensure sanctions are not resorted to for domestic political reasons. Moreover, for an economic point of view, the more parties are imposing a sanction, the less will be the cost for each individual sender – for the same or greater total deterrent. A multilateral sanction clause may be hard to create, but once in place it may be relatively inexpensive to enforce.\(^{319}\)

Taken together, there should be a graduated series of responses to problems of non-compliance. Both the intent and capacity of countries to comply may change. That suggests the measures needed to maintain compliance by individual treaty parties may also change.\(^{320}\) De Jonge Oudraat has examined the question: “which tactics are likely to be most effective: a swift and crushing blow, or a gradual tightening of the screws”. He finds two schools of thought dominating the debate on sanction tactics. One theory holds that sanctions are most effective when they are imposed immediately and comprehensively. The view is defended by arguing that sanctions should be imposed early in a crisis since gradual imposition gives the target time to adjust. The other school of thought asserts that sanctions are most effective when imposed gradually and incrementally. It is argued that comprehensive sanctions are the economic equivalent of wars of attrition, which will almost inevitably cause actors to move behind the regime. The political and economic characteristics of a target are fundamentally the keys to determining which approach to choose.\(^{321}\)

Sanctions should be constructed in such a way as to allow for responding promptly, predictably and firmly when states commit breaches of international environmental agreements. An ideal sanction should be able to consider and respond to the special features of the treaty and the environmental problem it is targeted to mitigate, the characteristics and situation of the non-compliant party as well as the international realm, its laws and politics.

\(^{318}\) Doxey (1996) p. 54.


\(^{320}\) Weiss (1997a) p. 59.

7.3 Full Compliance May Not Be a Necessary Objective

In principle, international agreements can tolerate non-compliance so long as it does not form a threat to the fundamental principles of the treaty and the realization of its objectives. Chayes & Chayes speak about ‘acceptable’ level of compliance. According to the concept, the treaty regime as a whole need not and should not be regarded as a standard of strict compliance but kept on a level of overall compliance that is “acceptable” in the light of the interests and concerns the treaty is designed to safeguard. This view should, however, not take into account only the effects that directly reflect to the state of environment but also effects of a more indirect nature, ones that reflect all the way to the system of international agreements and cooperation. Violations of an environmental agreement are not necessarily overlooked, even if they were fairly inconsequential for the object of regulation, if there is at the same time a danger that this gesture would be interpreted, for example, as signal of decay in the moral of the international community.

Full compliance may not always be necessary for the effectiveness of an environmental agreement. A moderate compliance rate may bring significant improvements to an environmental problem, though most likely not solve it completely, if the underlying agreement has been constructed ambitiously enough. When negotiating an international environmental agreement, there are many a time two competing proposals on the table. Acceptance of the other would potentially lead to greater improvements in the state of environment but the other side of the coin is that fewer countries would be ready to join it or comply with subsequently. The other draft for an agreement would get a higher compliance rate for its more moderate objectives. In these situations it is very difficult to make a decision, which one of the models would turn out more effective in the end? How to strike a balance? Is it better to give priority to the aim of getting as many countries as possible into an agreement and thus ensure their behavior could be influenced on at least to some degree, or should the agreement cover only those states that are really “motivated”?


323 Mitchell (1996) p. 25. Non-compliance may also be an indicator of the challenges faced in implementing deep and demanding commitments. Raustiala & Victor argue that in some cases, extreme non-compliance can be an indicator that international cooperation is becoming deeper and more effective. Raustiala – Victor (1998) p. 694.

324 On the superiority of shallow versus stricter commitments and their implications, see e.g. Victor (1999a). The basic implication is that a restricted regime membership that allows states to establish a deeper level of cooperation, should be such that would offset the losses arising from the fact that some states have been excluded from the treaty regime.
In the view of economists, an acceptable level of compliance is at hand when the marginal benefit from investment in compliance deterrence outweighs the relevant costs. Also from an economic point of view, high compliance rate is not a rule-like implication of the effectiveness of a treaty arrangement. Costs from staying in compliance may be higher than what would be optimal from the viewpoint of cost-effectiveness. *Downs* argues that when the benefits and/or costs associated with an agreement are sufficiently volatile, players can be better off negotiating an agreement that permits them to defect and pay modest penalty than they would be negotiating an agreement with more rigid penalties that ensured full cooperation and a perfect compliance rate.  

With treaty violations, one must be cautious about their *cumulative effects*. A decision not to react to a defection may induce other parties to “test the limits” of the treaty regime as well. *Chayes & Chayes* regard it plausible that treaty regimes may become subject to a kind of critical-mass phenomenon, so that once defection reaches certain level, or in the face of particularly severe violation by a major player, the whole regime might collapse.  

While weighing different options for regulation, the associated benefits and costs of each, combined with different compliance rates, should be considered. In general it is, nonetheless, so that higher compliance leads to an improved state of environment – for the agreement is particularly tailored for this objective. All the same, effectiveness considerations bring new kind of questions into play.

### 7.4 Concluding Remarks

The ICRW has been facing the dilemma with respect to the level of cooperation. The key question has been whether to maintain a moratorium on commercial whaling in a treaty to which fewer countries are willing to be parties or allow some commercial whaling to keep countries operating under treaty auspices. *Mitchell* (1996) p. 25.

*Downs – Jones* p. 6.

*Chayes – Chayes* (1993) p. 201. They speak about a “tipping point”, the nearing of which states may observe in order to ensure the regime will not collapse. See p. 204.

Nevertheless, substantial and unwanted non-compliance with the rules of an international environmental agreement can lead to activities that are contrary to the rules laid down in MEAs and can cause great harm. *Neumayer* refers to the UNEP (UNEP/EC/WG.1/5 (1999): Report of the Working Group of Experts on Compliance and Enforcement of Environmental Conventions – Preparatory Session) which goes as far as calling that kind of activities ‘international environmental criminal activities’ and estimates that the total value of these activities are in the order of $20-40 billion annually, or around 5-10% of the size of the global illegal drugs trade. *Neumayer* p. 8.
Despite the globalization development, state sovereignty will continue to set limits to the quality and deepness of international cooperative efforts. New commitments are treated with suspicion. Furthermore, states may agree about a need to take joint efforts for the global environment but the factual consensus does not necessarily reflect to reality. That is because states look at the picture from a wider than merely environmental viewpoint: state sovereignty cannot be allowed to be restricted except on weighty reasons; the environment cannot be viewed in isolation but must be considered in the context of international cooperation and the associated threat to state sovereignty as a whole. States may fear that entering deeper collaboration in one field will soon bring pressure to open up for international regulation in other policy areas as well.

The fact that global environmental issues and their solution concepts pose threats to traditional notions of state sovereignty should be recognized and accounted for when establishing international regulatory regimes. The transition to more stringent obligations on one hand and to more enforcement-oriented means of response to non-compliance on the other hand would be best to conduct carefully and as a gradual process. Only that way sovereign nation states can be kept along in the development. Furthermore, states should be encouraged to view cooperation as an element of the very notion of sovereignty: sovereignty not only means independence, it also means responsibility to cooperate.

There lies an aspect in the negotiation and text formulation phases of international agreements that potential breaches could be prevented already beforehand. Making agreements by and large on the grounds of reached compromises and favoring flexible provisions and possibly non-binding arrangements, the likelihood for severe treaty violations to emerge will certainly diminish. Moreover, at the same time diminishes the pressure on actors and organizations whose task is to monitor and enforce treaty obligations. This kind of strategic anticipation has its drawbacks, however: modest and lax norms undermine the effectiveness and credibility, to name but a few features, of environmental agreements.

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327 Taylor argues that sovereignty must continue as a basis of international relations. Taylor (1998) p. 351. Jayasuriya states there is no doubt that the process of globalization is transforming traditional conceptions and constructions of sovereignty. However, globalization transforms, not dissolves or erodes, the way in which sovereignty is produced. See Jayasuriya (1999) p. 425, 453. Hurrell & Kingsbury argue that “—the structure of both the international political and legal systems continues to rest heavily upon the independence and autonomy of separate sovereign states and the pluralism which this entails.” Hurrell – Kingsbury (1992) p. 6.


329 See generally Perrez (2000); Koskenniemi (1989). Perrez states he presents a new theory of sovereignty as responsibility to cooperate, which indicates a shift of the focus of international law from independence to cooperation and sets a framework for concrete state behavior. The argumentation reminds that of Koskenniemi, though.
According to the view that emphasizes prevention of environmental harm, resources should be directed within an agreement first and foremost to guarantee that monitoring and securing measures could be undertaken before a breach has occurred, instead of trying to detect and examine it only afterwards. Most efficient would be to screen and prevent those state actions that most closely forego a violation.

Opportunistic behavior occurs when treaty parties do not trust each other enough, to the extent that would ensure efficiency. Distrust clearly leads to incomplete commitment among participating countries, from which arise for instance the undesired free-rider problems. One means to prevent free-riding is to increase the transparency of the agreement, this can be done e.g. with clear and easily verifiable treaty provisions, by emphasizing appropriate reporting requirements and otherwise strengthening the culture among states to comply with internationally agreed norms. It is also important that the verification of treaty breaches lies on a sound basis, in other words the detection and identification of breaches must be done reliably and with equal grounds.

It is also possible that deeper cooperation does not require stronger means of enforcement. The underlying situation may change in such a way that the incentive to violate a treaty obligation a state faces becomes as a matter of fact smaller. Downs & Rocke & Barsoom rightly point out the often forgotten fact of reality that “changes in technology, relative prices, domestic transitions and ideas have inspired more international cooperation than have all efforts at dispute resolution and enforcement combined.”

It looks like drafting of compliance response systems is seen increasingly important within international environmental agreements. With the Kyoto Protocol, for instance, negotiations on the formulation of compliance provisions were long and complicated. Furthermore, the fact that Japan and Russia made clear that an acceptable result on the treaty text on compliance was a precondition for their ratification of the protocol, illustrates how much weight states put on the requirement a treaty should provide proper measures to be taken against non-compliant parties. More complicatedness can be expected if and when negotiated new international agreements become more ambitious for their targets and thus demand for more enforcement-oriented non-compliance.

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mechanisms increases. Fitzmaurice & Redgwell point out how long it took to negotiate a compliance response system into the Kyoto Protocol and argue that indicates the transition from a facilitative to a more enforcement-oriented approach to compliance will not be an easy one.\footnote{Fitzmaurice – Redgwell (2000) p. 64.}

More generally, it has become customary to put off the design of any compliance procedure until after the treaty itself is established, rather than to regard compliance control as an integral part of negotiating new commitments.\footnote{Victor (1999a) p. 163-164.} This can be regarded to demonstrate the still somewhere existing attitude that the main effort in international treaty negotiations is to create a general framework and the specific obligations for cooperation, and compliance provisions are secondary in state preferences. A better explanation would be that compliance issues present an important yet difficult question for the negotiating parties and that creation of a detailed non-compliance system is preferred to be left for future. That there even is need for treaty-specific mechanisms for responding to non-compliance can be thought to reflect a recognition of the failure of general international law and traditional dispute settlement mechanisms to provide efficient and effective means of deterring and providing reparation for non-compliance.\footnote{See e.g. Werksman (1998) p. 63. Unless an international treaty provides otherwise, non-compliance with its terms will by assumption be governed by the rules set out in the Vienna Convention on the Law of Treaties. Although not all states are Parties to the Convention, much of it is considered to be customary international law, and thus binding upon all states. Werksman (1999) p. 14.}

In the question on promoting compliance with international environmental agreements, a comprehensive approach should be adopted. It would allow even rather minor compliance problems to be addressed as early and as effectively as possible. The approach should be approved already in treaty negotiations, which should be participated by all parties the problem under the collective mitigation efforts might concern. The negotiations may need one or more leader states but strong domination by any actor is undesirable; all participants should have a possibility to present their views and to influence – generally as a member in a coalition – the negotiated outcome.

The resulted treaty obligations should not merely reflect the lowest common denominator among negotiators. Imprecise and lax rules may seem attractive since they do not require significant changes in state behavior and thus will not pose large compliance problems, either. They are, however, greatly ineffective in bringing the state of environment to an acceptable level. Furthermore, even stringent treaty obligations are not of much help without effective monitoring as
well as enforcement; without those aspects real implementation of any agreement is highly unlikely. Monitoring will ensure detection of any occurred treaty violations, and enforcement will be the last option for bringing a state back to honoring its commitments. Lack of ability, financial resources and technical capacity to comply must be distinguished from the lack of political will to comply and means to react to a compliance problem should be chosen on that basis. Situations vary when a management or enforcement -oriented approach is more apt and effective. Any non-compliance system should be a combination of different type of means, mechanisms designed to fit specific situations on the basis of taking into account the nature of the environmental problem, the structure of the legal obligation, the actual capacities of the concerned countries, and other relevant circumstances. Not every case of non-compliance and reasons behind it can be predicted, therefore an iterative approach should be adopted, allowing the use of a long continuum of response mechanisms and the proceeding also on case-by-case basis.

The resulted non-compliance system should incorporate means of both management and enforcement doctrines. The system should be flexible so as to be able to respond to different types of compliance problems states may face. At the same time, however, the existence of perverse incentives should be minimized and the damaging free-riding deterred, which may require in some cases rather strict sanctions or at least a credible threat of them. In the middle of all this, fragmentation of non-compliance procedures should be avoided. Brack argues that a fragmented system bears a danger e.g. in the form of increased likelihood of countries “shopping around” for the forum in which they are most likely to be successful.336 For this reason, it is important the root cause of each case of non-compliance is identified and non-compliance procedures are constructed so as to address those causes. Issues should be examined also in order to avoid unnecessary duplication and other kind of waste of resources.

It is important to keep in mind that the mere existence of non-compliance response mechanisms does not guarantee compliance with a treaty. There is on one hand the degree of a country's commitment to the environmental agreement, and on the other hand the relative political and economic power of the state which would allow it to act according to its own interests and regardless of international norms. The worst-case scenario is that formal dispute settlement systems in particular will be left with a role to function only as a symbolic threat against treaty violators.337

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336 Brack (2001) p. 3.
The logic behind traditional enforcement doctrine indicates that as environmental agreements become more demanding for the participating states, willful violations will increase in number respectively. In other words, when implementation of international agreements becomes more demanding and costly for states, the incentives for willful breaches will inevitably grow. This development seems to call for considerable increase in more binding and rigid measures available to react to treaty non-compliance; enforcement strategies that raise the cost of non-compliance appear to become necessary.

Most current MEAs emphasize dispute avoidance rather than dispute settlement. Sanctions have so far been a very little used instrument. The situation may change in the future when treaty obligations become stricter, there is more (economically) at stake in environmental questions, and action required by treaties would mean real and significant change in current state behavior. As the marginal costs for fulfilling international obligations rise, increases also the likelihood treaties are violated intentionally. The same is true with the dependence of states on each other’s behavior: free-riders are not to be supported. It can be assumed that in these conditions also the need for stronger sanctions will be in increase.338

There have already been signs that compliance is becoming under increasing pressure within international regimes; attacks on the scientific consensus about the ozone depletion, the development of black market and the suspicions of cheating have indicated this within the ozone regime, for instance.339 Globalization poses its own challenges for international environmental regulatory cooperation, yet also offering states a new inspiring environment and toolbox for taking joint effort for mitigating international environmental problems.340 Deepening integration between states is to be expected, within which international commitments are likely to develop into a direction that shall require extensive political, legal and concrete behavioral changes in the way states treat the environment. Previously domestic matters become global, issues are increasingly interdependent and it will demand more and more to have at least some control over the whole. Sands suggests that the development has already lead to a situation where the challenge is not the insufficiency of the rules, but rather that there may be too many, that they are frequently vague and

340 Perrez claims that with growing global interdependencies, the individual state interests become increasingly parallel and gain homogeneity. That will lead to the emergence of a general interest and the international order for protecting it. See Perrez (2000) p. 140.
open-ended, and that rules addressing different subject matters may frequently be in conflict with each other.\textsuperscript{341}

The environmental problems of the future will not be benign ones.\textsuperscript{342} The world will most likely be facing environmental threats that are growing in the number and extent of their effects. With this scenario, it can be assumed that establishment of international environmental regulatory cooperation will face growing difficulties. States are having a lot at stake in treaty negotiations and at the same time the treaty obligations should be formulated fairly stringent for that is what the state of environment will require. Treaty negotiations will be increasingly painstaking and the lowest common denominator may be found only on a lower and lower level – or the other alternative is that agreements will have to be constructed to include very complicated provisions, escape clauses and differing responsibilities for states if a global-level treaty regime is still desired.

Innovative and efficient measures to address non-compliance become all the more important when international treaty arrangements develop and evolve increasingly demanding for states. The most successful environmental agreements so far, like the Montreal Protocol, have used a mix of formal and informal, soft and hard means to react to compliance problems. Overall, the weight in current and future international environmental agreements should continue to be on incentive-based methods and procedures that underscore cooperation, while maintaining the threat of a credible sanction to be applied when a treaty violation proves to be significant and persistent. This kind of approach may be the best means to prevent and deal with breaches of MEAs.

\textsuperscript{341} Sands (2001) p. 549.

\textsuperscript{342} The term ‘a benign problem’ is used by Ulfstein, by which he refers to the characteristics of the ozone depletion: the prevailing scientific consensus, mitigation measures not having major economic or political repercussions, the problem having negative effects on all states there thus being no losers or winners in the game and the strong public opinion of concern on the effects of the depleted ozone layer. These factors are claimed to be for a great part behind the success of the ozone regime. See Ulfstein (1996) p. 114.