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The system of international environmental governance has undergone a significant development in the past half of a century. Progress has been achieved especially at the normative level, with the adoption of treaties and instruments of soft law, and a general recognition that the environment is a concern of humankind as a whole. To this body of internationally agreed norms there does not correspond an adequate mechanism of environmental law enforcement. This remains the major weakness of the present system. This paper provides an analytical overview of the political, social and legal context of environmental governance. It analyses progress

made so far and suggests possible ways to address deficiencies of the existing system.

One possible way forward is the reform and strengthening of the global institutions. Various options are discussed in this regard. The paper also argues that there is a need for a more decentralized, multilevel governance based on a functional conception of state sovereignty, which is responsive to the general interest of the international community to protect the global environment. The European Union and the United States can significantly contribute to the advancement of this conception of “environmentally responsible sovereignty”.

The Evolution of the Global Environmental System: Trends and Prospects

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Global Environmental Politics

Climate Change

Introduction

More than half a century has passed since the modern ecology movement started to take hold and make environmental protection a political cause at the domestic and international level. This movement owes its first impulse to many people. However, in a research dedicated to the transatlantic relations, it is fitting to underscore that at its origin there is the work of scientists and concerned individuals especially of the United States (US) and Europe. The ground breaking work of Rachel Carson (1962) on the devastating impact of industrial toxic waste on the environment, the pioneering research of the biologist Barry Commoner documenting the harmful effects on children of radiological fall-out, Aurelio Peccei's Club of Rome, a precursor of the concept of sustainable development (Meadows et al. 1972), they all contributed to the nascent and powerful movement of modern ecology.

The efforts of these early pioneers did not display their effect only in academia and the closed circle of concerned scientists. They delivered policies that have had long-lasting effects at a normative and institutional level. The Partial Nuclear Test Ban Treaty saw the light in 1963, triggering the process of gradual phasing out of atomic weapon tests in the atmosphere, in outer space and under water (Treaties 1963). In 1970, the United States established the first Environmental Protection Agency, a model later followed by Europe at both a national level and the European Union (EU) level.¹ In April of the same year, the United States inaugurated the first Earth Day. In Europe, despite the absence of specific environmental provisions in the European Economic Community (EEC) Treaty, the European Court of Justice (ECJ) began to develop in the 1970s a jurisprudence recognizing the importance of environmental protection in the process of interpreting and applying provisions on the functioning of the common market (see, for example, ECJ 1980a, 1980b and 1985). It was in this context that in 1972 the first United Nations (UN) conference dedicated to the environment was convened in Stockholm and the Stockholm Declaration on the Human Environment was adopted, a seminal document from which a vast law-making movement in the field of environmental protection has since evolved (UN 1972).

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¹ The European Environmental Agency, located in Copenhagen, was established by Council Regulation (EEC) No. 1219/90 of 7 May 1990, updated and amended by Regulation (EC) No. 401/2009 of 23 April 2009 (EU 1990 and 2009b).

While the Stockholm Declaration can be seen as the act of birth of modern international law on the environment, there is no denying that even before the Declaration international law had played a role with regard to the protection of nature and natural resources. As early as the beginning of the 20th century we can find treaties on the protection of migratory birds and on the conservation of seals (Treaties 1902 and 1911). Later, the arbitral award in the *Trail Smelter* dispute between the United States and Canada set a precedent in the matter of cross-border air pollution which is still widely cited in international practice and still relevant to the adjudication of claim for damage in trans-boundary environmental disputes (Trail Smelter case 1941).

This notwithstanding, the Stockholm Declaration remains a watershed in the evolution of the system of global environmental governance at least for two reasons. First, the Declaration introduces in the lexicon of international law the term “environment”, which does away with the expression “nature conservation”, which was previously used. This is not only a terminological change: it reflects a transformative step in normative perspective. By shifting the focus from nature to “environment”, international law somehow abandons a normative perspective in which nature and its components are themselves the worthy object of protection and focuses instead on the “environment” as space of human life and activities. In this way protection of nature ceases to be an end in itself and becomes instead the instrument at the service of human needs. This is confirmed by the official title of the Stockholm Declaration, which adopts the expression “human environment” and opens up with the solemn proclamation: “Man is both the creature and moulder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth” (UN 1972: para. 1). This “instrumental” vision of nature was bound to persist in the subsequent evolution of the system of environmental governance. Actually, twenty years later, the Rio Declaration on Environment and Development, marked a turn toward an even narrower instrumental conception of the natural environment, in the sense of nature being at the service of economic growth and economic development (UN 1992b).

Second, and most importantly, the Stockholm Declaration emancipates environmental law from the original limits of “private law” and elevates it to the rank of public international law. This means that prior to the Stockholm Declaration nature protection was mainly incidental to the application of the rules regulating relations between neighbouring states (as in the US-Canada dispute in *Trail Smelter*, which involved damage caused by trans-boundary air pollution from Canada to the United States) or use of shared natural resources, such as lakes or trans-boundary waterways, for which private law principles of nuisance and good neighbourliness were the applicable law. With the Stockholm Declaration the protection of the environment is recognized as part of the public interest of the international community as a whole, independently of the specific reciprocal relations and interests of individual states. This is confirmed by the expressed reference in Principle 21 to the responsibility of states to ensure that activities within their jurisdiction and under their control do not cause damage to “the environment [...] of areas *beyond the limits of national jurisdiction*” (UN 1972, emphasis added). This obviously refers to common spaces such as the high seas, the international sea-bed area, outer space, and Antarctica. In this language we find a strong resonance with the 1970 finding by the International Court of Justice (ICJ) that certain obligations under international law – notably in the field of maintenance of peace, human rights and environmental protection – are not reciprocal but protect the general interest of the international community and therefore may be characterized as *erga omnes* (ICJ 1970: 32).

Today, it is generally recognized that the environment is a “concern of humankind as a whole”. Forty years after the adoption of the Stockholm Declaration, this concern persists and has become one of the main issues on the international agenda. Significant results have been achieved at the normative level, with the adoption of a large number of legally binding instruments, including international treaties and various declarations and other soft-law instruments. However, important gaps still exist, both at the normative and at the institutional level. In

particular, the *lack or deficiency of enforcement mechanisms* is a major weakness of the current system of environmental law, for which the 2005 World Summit outcome on the reform of the UN Charter has not produced any meaningful progress.

There is a long way to go before achieving a global system of environmental governance which can effectively address the challenges of protecting and preserving the environment as a public global good, and providing redress to victims when internationally agreed norms are violated. As practice has shown, important differences of views persist among states on the policies and measures to adopt, on the type of commitments to take, and on how to share responsibilities, especially between the industrialized countries on the one hand and the developing countries on the other. However, also among the industrialized states attitudes and policies differ significantly. While the EU and its member states have shown a consistent commitment to addressing environmental concerns, the United States have been far more reluctant to make any binding commitments at the multilateral level. Therefore, in the context of the European Commission-funded project Transworld, one of the objectives is to examine what the role of these two global actors has been, and their interaction with other significant groups of states, in the emerging system of environmental governance, and to consider how transatlantic cooperation could help strengthen this system in normative and institutional terms.

As one of the introductory papers of the Work-Package on Environment of the project, this paper aims to provide a general overview of the political, social and legal context of environmental governance, analysing the progress made so far at the normative level and identifying the main trends in this process (I), and to examine the achievements and gaps in terms of enforcement mechanisms (II). Based on this analysis, the paper suggests possible ways to address some of the deficiencies of the current system of environmental governance through global institutional reform (III).²

I. Political, Social and Legal Context of Environmental Governance: Progress by Stages

Over the last fifty years, international law and policy on environmental protection has evolved in several main phases, each representing a fundamental trend. In the first phase, starting with the 1972 Stockholm Declaration, there has been a gradual development of a body of international law on environmental protection, with the adoption of a large number of conventions and soft-law instruments. The second phase is characterized by the recognition that environmental problems are not only a question of accommodation within the bilateral relations between states, but involve also obligations towards the international community as a whole, and that common spaces – such as oceans or the outer space – need to be protected as global public goods. Thirdly, one can observe the development of general principles of customary international law by way of judicial and arbitral practice, and by their incorporation in domestic law and in the institutional law of regional groupings. A fourth phase can be distinguished, in which environmental protection is increasingly seen as a cross-cutting dimension of many areas of international law, such as trade, investment and human rights, rather than a distinct branch of international law. In this perspective, a further trend concerns the increasing reliance of public institutions on the private sector as a partner in the fight against environmental degradation, especially climate change. A closely related issue is the question how science and scientific evidence influence the development and the enforcement of environmental regulation.

² More detailed analyses of various fields of environmental law and governance and of the policies adopted by the EU and the US will be presented in a series of in-depth papers to be produced in the context of the Transworld project's Work-Package on Environment.

In this section we will briefly analyse these trends and the relevant instruments and practice, focusing on the normative developments. In order to illustrate the current state of affairs, a closer look will then be taken at two major areas: climate change and bio-diversity, also identifying the main policy attitudes adopted by the European Union and the United States.

A. Environmental Instruments adopted after Stockholm

After the momentum created by the Stockholm Declaration, the attention for environmental issues and the commitment to taking normative action has led to the adoption of numerous legal instruments dealing with specific aspects of environmental protection. During this first phase, which spans the 1970s and 1980s and the initial years of the next decade, more than a hundred universal and regional Multilateral Environmental Agreements (MEAs) were concluded (see, for example, Treaties 1986a, 1986b, 1990). Some of them took an innovative approach, such as the World Heritage Convention, which combines the protection of cultural and natural heritage of outstanding universal importance (Treaties 1972; for an analytical commentary see Francioni and Lenzerini 2008). Other international instruments adopted in this period are the Convention on International Trade in Endangered Species, the MARPOL system on the prevention of marine pollution from ships, part XII of the Law of the Sea Convention, and the Convention on Long-Range Transboundary Air Pollution (Treaties 1973, 1973/78, 1982, 1979). However, as argued in previous publications (Francioni 2012a and 2012c), the sector-by-sector approach followed by the vast majority of the early conventions disregards the interdependence of various elements of the biosphere and the need for an ecosystem approach to the preservation of environmental quality. Moreover, these legal instruments often fail to adequately integrate environmental standards into economic development policies, thereby denying a concern that was explicitly expressed in the Stockholm Declaration. Another weakness is the systematic absence of any rules on liability for breach of the obligations to respect and protect the environment. In general, the approach adopted in most of the instruments adopted in this period on the conservation of environmental resources is still “utilitarian rather than ecological” (Beyerlin and Marauhn 2011: 11).

B. Environmental Resources as Global Public Goods

The environmental conventions and agreements adopted in the second phase, starting just before the 1992 Rio Declaration, reflected the sense of urgency within the international community to respond to scientific evidence of irreversible environmental threats as a result of greenhouse gas (GHG) emissions, deforestation and other damaging human activities. The discovery of the erosion of the ozone layer led, first, to the adoption of the Vienna Convention and the Montreal Protocol on Substances that Deplete the Ozone Layer (Treaties 1985 and 1987). Global warming became a priority on the international political agenda with the 1992 Earth Summit held in Rio de Janeiro, the ensuing Rio Declaration, the establishment of the United Nations Framework Convention on Climate Change (UNFCCC) and the subsequent Kyoto Protocol (Treaties 1992d and 1997). In that same period, biodiversity degradation was recognized as a “common concern of humankind”, with the adoption of the Convention on Biological Diversity (Treaties 1992b).

A common feature of these instruments is the recognition – in more or less explicit terms – that environmental resources need to be considered as global public goods, and that their protection is in the interest of all people.³

3 The first example is the 1959 Antarctic Treaty: “Recognizing that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord”. Then more consistently since the 1990s: 1991 Protocol on Environmental Protection to the Antarctic Treaty: “Convinced that the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems is in the interest of mankind as a whole”; 1992 UNFCCC: “Acknowledging that change in the Earth’s climate and its adverse effects are a common concern of humankind”; 1992 Convention on Biological Diversity (CBD): “Affirming that the conservation of biological diversity is a common concern of humankind” (Treaties 1959, 1991, 1992d, 1992b).

This development reflects a trend that can also be seen in other fields of international law, whereby the role of states as the primary subjects and actors is gradually becoming less exclusive, and interests of other subjects, including private actors, individuals and groups of people – or indeed of humankind as a whole – are recognized. This trend is also emerging in judicial practice (see section II).

In this context, reference should also be made to the link between international humanitarian law (IHL) and the environment. IHL protects the environment both through its general provisions and through some specific provisions. As outlined by the International Committee of the Red Cross (ICRC), the general provisions on the conduct of hostilities apply to the environment. This means that the environment is civilian in nature and cannot be attacked, unless it has been turned into a military objective (ICRC 2010). Environmental destruction also has to be taken into account when assessing the proportionality of an attack on a military objective. Protocol I to the Geneva Conventions has added a specific prohibition to use “methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment”. Other specific provisions include the prohibition to destroy agricultural land and drinking water installations in order to inflict harm on the civilian population (Treaties 1977: art. 35, 54). In addition, the 1998 Rome Statute establishing the International Criminal Court (ICC) makes it a war crime to cause widespread, long-term and severe damage to the environment in violation of the principle of proportionality (Treaties 1998: art. 8). Moreover, the Convention on the Prohibition of Military or any Hostile Use of Environmental Modification Techniques (ENMOD) was adopted in 1976. The techniques covered by the convention are any that change “through the deliberate manipulation of natural processes - the dynamics, composition or structure of the Earth” (Treaties 1976: art. 2). Finally, “weapon contamination” also poses a threat to the environment. Unexploded munitions and other explosive remnants of war kill and maim, and they also contribute to the destruction of the environment by contaminating the soil and water, destroying fauna and flora, and undermining the sustainable use of natural resources. At the Rio+20 conference on sustainable development in June 2012, the ICRC warned about the dangers of this phenomenon, and launched a strategy on how to support sustainable development, aiming, *inter alia*, at reducing the impact of environmental degradation and climate change on the victims of conflict and violence (ICRC 2012).

On the whole, despite significant results in areas such as climate change and biodiversity, the persistent differences of views among states on some fundamental issues have been hampering further progress, as will be shown below (see para. E).

C. General Principles and Customary Law

Over the years, the adoption of MEAs, the policies adopted by states as well as judicial practice have led to the emergence of certain principles that are generally accepted and which are increasingly being applied, both at the national and at the international levels. Some of these principles have reached the status of customary international law, and are therefore legally binding. The process by which such norms evolve in the field of environmental protection is “analogous to the process in general international law” (Dupuy 2007: 454). Even though the traditional requirements for the development of customary international law, *opinio iuris* and state practice, still form the basis of this process (Treaties 1945: art. 38), the interpretation of these terms has given rise to a continuous discussion among legal scholars and international judges (Dupuy 2007: 449 ff.; Beyerlin and Marauhn 2011: 283-286). In this regard, it is generally accepted that state practice must be widespread and consistent, but there is still disagreement on how many states – and which states – need to take part in that practice before it is considered “general”, and on how long a certain practice must have been established.

Also the exact meaning of the *opinio iuris* requirement is still being debated, i.e. “that a state has acted in a particular way because it believes that it is required to do so by law” (Sands 2003:146, referring to ICJ in the North Sea Continental Shelf cases). This discussion is of particular relevance in the field of environmental law, where several fundamental principles have been adopted through non-legally binding instruments, such as the Stockholm and Rio Declarations. The question has been raised as to what extent a state’s consent to such non-binding texts can be considered as evidence of *opinio iuris*. Some commentators have expressed doubts in this regard, because a state that has given its consent “might have refrained from consenting to this resolution if it were known for its capability to produce legal effects” (Beyerlin and Marauhn 2011: 284). This view, however, contradicts the widely accepted idea that broad state consent to international resolutions, for instance by the UN General Assembly, does in fact constitute evidence of *opinio iuris*, or that such consent can be considered as evidence of state practice itself.⁴ In any event, the dynamic evolution of environmental law, both through the adoption of international standards and national legislation, and by way of national and international judicial decisions, appears to be quite conducive to the formation of rules of customary law in a relatively short period of time.

Some examples of general principles that have acquired the status of customary international environmental law, or may be considered to acquire such status in the future, are:

(1) The *principle of no harm or principle of prevention*: the duty of a state not to allow or tolerate any activity within its jurisdiction that may cause damage to the environment of other states or of areas beyond its national jurisdiction, unless the trans-boundary environmental impacts of this activity prove to be insignificant. This principle was first enunciated in an international arbitration in the 1941 *Trail Smelter* case between Canada and the United States.⁵ It was later incorporated in the 1972 Stockholm Declaration (Principle 21) and in the 1992 Rio Declaration (Principle 2), and it has been included in various international legal instruments ever since.⁶ The principle of no harm was also taken up by the ICJ in its 1986 advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons*, as well as in its 1997 judgment in the *Gabčíkovo-Nagymaros* case (ICJ 1996: para. 29; ICJ 1997: para. 53).⁷ It is interesting that this principle has been given also an extraterritorial dimension, in the sense of being binding also when a state plans or performs certain activities on foreign territory under the authority of law (see the *Iron Rhine* case 2005, discussed in Francioni 2007).

(2) The *principle of precautionary action*. This principle has two faces. It entails, first, the obligation of a state not to allow activities within its jurisdiction, which might prove to be environmentally harmful until an environmental impact assessment has been undertaken, which permits transparent and democratic participation in the decision whether to allow such activities to proceed. This aspect of the principle is widely accepted as international law and may be considered to have customary status. It finds its origin in domestic law⁸ and was later enshrined

4 In this regard, the concept of “instant customary law” (*diritto spontaneo*) as put forward by Roberto Ago should also be noted, according to which a rule of customary law can emerge solely on the basis of *opinio iuris* as expressed, for example, through their acceptance of non-legally binding acts of an international organization (Ago 1957: 849 ff. See also Cassese 2005: 165-6; Dupuy 2010: 366-72).

5 This case involved a dispute between the US and Canada about damages incurred by the agriculture and forestry in the US state of Washington by the discharge of sulphur dioxide emissions from a lead and zinc smelting plant in British Columbia, Canada. The arbitral tribunal held that “under the principles of international law [...] no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties of persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence” (*Trail Smelter* case 1941: 1965).

6 For example, in 1992 UNFCCC (preamble), 1992 CBD (art. 3), 1982 UNCLOS (art. 194(4)), as well as in the 2001 draft articles on Prevention of Transboundary Harm from Hazardous Activities (art. 3). See Treaties 1992d, 1992b, 1982, and UN International Law Commission 2001.

7 In the latter ICJ recall “the great significance that it attaches to respect for the environment, not only for states but also for the whole of mankind”.

8 First in Sweden (1969), then in other European states (since the 1970s) and thereafter in Canada (1999) and to a certain extent in the US (Beyerlin and Marauhn 2011: 48).

in the 1992 Rio Declaration (Principle 15). It has subsequently been incorporated in international conventions (including Treaties 1985 and 1987) and in constitutional texts at the regional level, in particular the European Union.⁹ The second aspect of the principle entails the more radical duty to abstain from proceeding to the performance or permission of activities when they pose an environmental risk that the society is unwilling to run. This is a more controversial version of the precautionary principle, and for the time being it is part only of treaty law (in particular Treaties 2000a and 1991b. See Francioni 1992).

(3) The *principle of correction of adverse environmental impacts at the source*, i.e. the obligation of a state to give all neighbouring states prior notice of any activities planned on its territory that might affect the environment beyond its jurisdiction, and to give early warnings to them in case of an ecological disaster. This principle finds expression in the 1989 Basel Convention on Transboundary Movement of Hazardous Waste that restricts export of dangerous waste to countries where no safe disposal facilities are available (Treaties 1989).

Other principles have developed, which have increasingly been included in normative instruments at the international, regional and national levels, but which cannot be considered to have reached customary legal status. Among them, the “polluter pays” principle should be mentioned, according to which “national authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the costs of pollution” (Principle 16 of the 1992 Rio Declaration). The “polluter pays” principle was initially developed in the context of the Organization for Economic Co-operation and Development (OECD) since the early 1970s (OECD 1972, 1974, 1989), and it was subsequently endorsed at the EU level.¹⁰ Several international environmental agreements also reflect this principle (for example, Treaties 1992c, 1992a, 2001). Nevertheless, the exact meaning and applicability of the “polluter pays” principle has not yet fully crystallized. On the whole, a clear trend can be seen in the development of general principles of environmental law and their gradual evolution into norms of customary international law. An even more consistent and explicit application of these principles and norms is required both at the national level (legislative and judiciary), and in MEAs and decisions of international (quasi-) judicial bodies, in order to clarify their exact scope and to further strengthen their legal status.

D. Involving the Private Sector and Civil Society

Another trend that can be observed is the increasingly important role of the private sector and civil society organizations as partners of public institutions in the fight against environmental degradation. The responsibility of private entities, including businesses and industry, with respect to environmental protection has been recognized in various international declarations and other instruments.¹¹ Such involvement takes various forms, ranging from (i) participation of NGOs in treaty negotiations to (ii) private standard setting and (iii) partnerships, including public-private partnerships (PPPs).

9 It was first included in the 1987 Single European Act (in a more limited form, emphasizing the prevention element), then in the 1992 Treaty on European Union (TEU or Maastricht Treaty), and it is now enshrined in art. 191(2) of the 2010 Treaty on the Functioning of the European Union (TFEU), which states that “Union policy on the environment [...] shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay” (Treaties 2010c).

10 In particular, the 1987 Single European Act and the 1992 Treaty on European Union.

11 In the UN 1972 Stockholm Declaration the preamble refers to “responsibility by citizens and communities”; UN 1992a Report of the Conference on Environment and Development, Agenda 21, ch. 30 mentions the goal to strengthen “the role of business and industry”, including “promoting responsible entrepreneurship”; UN 2002 Report of the World Summit on Sustainable Development, para. 27 and 29 mention the duty of the private sector “to contribute to the evolution of equitable and sustainable communities and societies”, and “the need for the private sector to enforce corporate accountability [...] within a transparent and stable regulatory environment”.

(i) The increasingly active role of *Non-Governmental Organizations* (NGOs) as representatives of civil society in the negotiations of international conventions and at international conferences, such as those on climate change and sustainable development, clearly influences the outcome of negotiations. Such participation, particularly by specialized NGOs, has provided additional expertise and has sometimes facilitated communication between the parties.

(ii) *Private standard-setting* should be distinguished from public law-making in that the former mostly emanates from private organizations or business associations, and that it often is of a voluntary nature. Private standards can play an important role in complementing public legal rules, both at the national and at the international levels. Some examples are the standards adopted by the International Organization for Standardization (ISO),¹² the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI).¹³ In his context it should also be mentioned that, within the United Nations, initiatives have been launched to improve adherence to private standards by strengthening their relationship with public standards, including through the Global Compact and the draft norms and guidelines on the Responsibilities of Transnational Corporations and Other Business Enterprises with regard to human rights, and later the Human Rights Council Guiding Principles on Business and Human Rights.¹⁴

(iii) Perhaps the most innovative form of private sector involvement is through *partnerships between public and private entities*. A significant example in this regard is the participation of business corporations in initiatives in the field of climate change, in particular the Clean Development Mechanism (CDM) (see para. F) and the – still controversial – “green growth” or “green economy”. The UN Environmental Programme (UNEP) launched the green economy concept in 2008 amid widespread concerns about global recession. UNEP presented the idea of “green stimulus packages” and identified areas where large-scale public investment could kick-start a green economy. Although there is no internationally agreed definition of the term, green economy is defined by UNEP as one that results in “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” (UNEP 2010). There has been significant support for the further development of this concept (see UNDESA 2012: 7-8; UN Global Compact 2011), and green growth was one of the main themes at the 2012 Rio+20 Conference. In the outcome document of that conference, the Heads of State and Government affirm that they

“consider green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving sustainable development and that it could provide options for policymaking” (UN 2012: para. 56)

In this context, participation of the private sector is considered important:

“We encourage existing and new partnerships, including public-private partnerships, to mobilize public financing complemented by the private sector, taking into account the interests of local and indigenous communities when appropriate. In this regard, governments should support initiatives for sustainable development, including promoting the contribution of the private sector to support green economy policies in the context of sustainable development and poverty eradication” (UN 2012: para. 71).

¹² ISO 14000 and ISO 9000 families, concerning respectively environmental and quality management.

¹³ Greenhouse Gas Protocol (GHG Protocol), <http://www.ghgprotocol.org>.

¹⁴ UN Global Compact is a partnership initiative to which companies can sign up and commit themselves to adhering to certain standards, including in the environmental field. Draft norms and guidelines on the Responsibilities of Transnational Corporations and Other Business Enterprises were proposed by the UN Sub-Commission on the Promotion and Protection of Human Rights in 2003, but not adopted by the Commission on Human Rights; this led to the appointment of a special representative of the UN Secretary-General, John Ruggie, who drafted the Guiding Principles on Business and Human Rights which were adopted by the Human Rights Council in 2011, and endorsed by the General Assembly (UN Sub-Commission 2003, UNHRC 2011).

However, the conference did not result in more clarity about the type of policies that could promote a green economy. On the contrary, a long list of very broadly formulated criteria was agreed, which do not provide much guidance for either governments or the private sector (UN 2012: para. 58). Despite this lack of consensus at the international level, many countries have over the years adopted green economy strategies, in which business corporations and industries have played a significant role (see UNDESA 2012: 26-33).

E. Science, Law, and the Politics of Environmental Science

Closely related to the role of the private sector is the issue of how science and scientific evidence influence the development and the enforcement of environmental regulation. Few areas of international governance are so directly influenced by science as the protection of the environment. Science determines the risk posed by new products and new industrial activities as well as the critical load sustainable by the affected ecosystem before an environmental breakdown occurs. Scientific research is required to understand how the exploitation of natural resources by man affects complex ecosystems, such as marine living resources, or contributes to rising temperatures on Earth as a consequence of deforestation and burning of fossil fuels. And yet, to this increasing importance of science in the field of environmental governance does not correspond a generally accepted method of translating scientific evidence into standards of environmental quality. Several high profile litigations before the ICJ are proof of this.

In the *Gabčíkovo-Nagymaros* case, involving a dispute between Hungary and Slovakia over the environmental sustainability of a system of dams on the Danube river (ICJ 1997), the Court was not able, or willing, to make full use of the wealth of scientific and technical information concerning the adverse environmental impacts of the proposed dams on the river ecosystem. The Court decided the case on the basis of formal rules concerning the sanctity of international agreements and the responsibility of the state for their violation. These rules, absent policy considerations based on the scientific assessment of the detrimental environmental effects of the dams, could not accommodate a broader perspective on science and law informed by sustainable development. In the more recent dispute between Argentina and Uruguay over the environmental sustainability of the construction and operation of paper mills on the river Uruguay (ICJ 2010), the question of science came up in the form of who had the burden of proving that the new project had such an adverse effect on the river ecosystem as to breach the international treaty obligations in force between the two countries. The 2010 judgment of the Court found that Uruguay had only breached its procedural obligations of prior information and consultation, but not its substantive obligation concerning the prevention of environmental harm to the river ecosystem. An important point of dissent in the judgment concerns the way in which courts should deal with conflicting scientific evidence produced by the litigating parties. While the majority opinion had passively relied on the scientific evidence provided by the disputing parties, the strong joint dissenting opinion by judges Al-Khasawneh and Simma argues that such methodology is flawed and that the Court should have weighed the scientific evidence provided by the parties with independent scientific expertise sought directly by the Court and with appropriate cross examination of different experts. This is an important issue, which is bound to re-emerge in other environmental cases pending before the ICJ.¹⁵

The difficulty of integrating science into environmental law and policy emerges also in the contradictory ap-

15 In particular, the case *Whaling in the Antarctic (Australia v. Japan)* concerning the legality of whale hunting by Japan in Antarctica, introduced by Australia in 31 May 2010 (<http://www.icj-cij.org/docket/index.php?case=148>), and the case *Aerial Herbicide Spraying (Ecuador v. Colombia)*, proceedings instituted on 31 March 2008 by Ecuador, who alleges damage to its environment and human health by the trans-boundary effects of the herbicide spraying by Colombia in its effort to destroy coca plantations destined to the production of drugs (<http://www.icj-cij.org/docket/index.php?case=138>).

proach taken to risk regulation in the US and the EU. In the US, in spite of the widespread faith of the American society in the objectivity and neutrality of science, the public debate on climate change has been mired in a bitter ideological controversy about the reliability of the scientific data brought in support of the anthropogenic causes of global warming. In addition, this debate has been heavily conditioned by the efforts displayed by the special interests – notably the oil and gas industry – to debunk evidence of the causal link between burning of fossil fuels and climate change. By contrast, in Europe there seems to be no ideological, or even religious, prejudice hindering the societal acceptance of the scientific evidence that climate change is man-made and largely depends on the pumping of greenhouse gases into the atmosphere.

Interestingly enough, the roles are inverted if we move from climate change to the social attitude toward scientific evidence regarding the risk posed by biotech products or technologically produced food. In this field the EU and its member states have taken a cautious approach and embraced the regime of the Cartagena Protocol on Biosafety additional to the Convention on Biological Diversity, which allows contracting parties to suspend the import of living genetically modified organisms (GMOs) and products whenever scientific evidence of their safety is not entirely convincing under the standards of the importing state (Treaties 2000a). By contrast, the US attitude in this field has shown wide social acceptance of biotech products and a remarkable trust in the scientific evidence provided in support of the safety of such products. At the same time the US government has refused to adhere to the “precautionary approach” underlying the Cartagena Protocol and has successfully challenged the EU system of prior approval of import and marketing of genetically modified products as too slow and capable of hindering free trade in violation of World Trade Organization (WTO) rules.¹⁶

In spite of these diverging approaches, the US and the EU share the fundamental belief that science is the only correct method to describe the natural world and assess the adverse impacts produced on it by human activities. What the above controversies show is that science cannot be a substitute for policy choices and responsible decision making. When we face difficult choices between progress and environmental protection, as in the case of biotech products, the use of nuclear energy, or the “fracking” of subsoil for shale gas, what we can expect from science is that the opinion of experts ensure transparency and awareness of risks, so that democratically appointed regulators can make informed decisions. On this, one should expect, the EU and the US continue to share a common cultural and political position.

F. Illustrating the Current State of Environmental Governance: Climate Change and Biodiversity

The normative developments in two fields will now be highlighted with a view to illustrating the current state of affairs and the respective roles of the EU, the US and other states in shaping the normative landscape: climate change and biodiversity.

¹⁶ See WTO 2006. The report of the WTO Panel was not appealed by the EU. Earlier, in 1998, the EU had lost a case brought before the WTO Dispute Settlement Body by the US to challenge the legality under WTO law of the EU regulations prohibiting the import and marketing of meat treated with hormones (WTO 1998a).

1. Climate Change

1.1. Current State of Affairs

With the 1992 UN Framework Convention on Climate Change, a number of core principles and objectives was set for further normative action.¹⁷ Art. 2 of the UNFCCC states that its ultimate objective is to stabilize the concentration of greenhouse gases in the atmosphere “at a level that would prevent dangerous anthropogenic (i.e., human) interference with the climate system.” According to the Intergovernmental Panel on Climate Change (IPCC),¹⁸ the decision of what constitutes “dangerous” interference can be informed by the natural, technical and social sciences, but also requires value judgments, which will vary between different regions of the world. Factors that might affect this decision include the local consequences of climate change impacts, the ability of a particular region to adapt to climate change (adaptive capacity), and the ability of a region to reduce its GHG emissions (mitigation capacity) (IPCC 2011). Subsequently, in the Kyoto Protocol, thirty-seven industrialized states and the EU as a regional group made binding commitments for reducing greenhouse gas emissions (Treaties 1997). These reductions amount to an average of five percent against 1990 levels over the first five-year period (2008-2012).¹⁹ In accordance with the principle of “common but differentiated responsibilities”, developing countries were not required to make any emission reduction commitments themselves, since it was considered that the largest responsibility for the current high levels of GHG in the atmosphere lied with the developed countries as a result of more than hundred-and-fifty years of industrial activity.

Even though the emission reduction targets must primarily be realized through national measures, three market-based mechanisms were created offering states additional means to meet their targets: emission trading, the Clean Development Mechanism (CDM) and Joint Implementation (JI). Emission trading allows countries that have emission units²⁰ to spare – emissions permitted them but not “used” – so as to allow them to sell this excess capacity to countries that are over their targets. The CDM was designed to stimulate industrialized countries to launch emission-reduction projects in developing countries, as a means to help them meet their own emission-reduction targets.²¹ The rationale behind this mechanism is that the introduction of clean technologies in developing countries will assist them in achieving sustainable development, as well as in reducing their own GHG emissions through the transfer of knowledge.²² Finally, the mechanism of Joint Implementation allows Annex I countries to invest in an emission reduction project in any other Annex I country²³ as an alternative to reducing emissions domestically.²⁴ In this way countries can lower the costs of complying with their Kyoto targets by investing in projects that reduce greenhouse gas emissions in an Annex I country where reducing emissions may be cheaper, and then using the resulting emission reduction units (ERUs) towards their commitment goal.

17 To date, this convention has been ratified by 194 states, as well as by the EU as a regional entity. The US has ratified the UNFCCC on 15 October 1992.

18 Panel of scientific experts established jointly by the World Meteorological Organization and the United Nations Environment Programme in 1988.

19 Detailed rules for the implementation of the Kyoto Protocol - the Marrakesh Accords - were adopted at the Conference of the Parties (COP)7 in Marrakesh in 2001 (<http://unfccc.int/cop7>).

20 Under the Kyoto Protocol, allowed emissions are divided into “assigned amount units” (AAUs). The emission trading mechanism is set out in art. 17 of the Protocol.

21 CDM projects earn tradable certified emission reduction (CER) credits that can be used by industrialized countries to meet part of their emission reduction targets. See art. 12 of the Protocol.

22 3.276 CDM projects were registered by the CDM Executive Board up to July 2011. For an assessment of the benefits of the CDM, see UNFCCC 2011a.

23 Annex I Parties are listed in Annex I to the UNFCCC: http://unfccc.int/parties_and_observers/items/2704.php.

24 For more details on the Joint Implementation Project see <http://ji.unfccc.int/index.html>.

While the normative innovation of the UNFCCC and the Kyoto Protocol are generally recognized, the level of implementation of the adopted measures and targets has been quite variable among different states. The EU and its member states have unilaterally decided to go beyond their emission reduction targets included in the Kyoto Protocol. In an internally binding decision, the EU has set a target of cutting GHG emissions by twenty percent in 2020 from 1990 levels (EU 2009a). Within the EU institutions, the possibility of moving towards a thirty percent reduction of emission levels is currently being discussed. On the other hand, the US has not ratified the Kyoto Protocol following a refusal from its Congress to make binding commitments without any agreement on efforts to be made by newly industrialized and highly polluting states such as China and other developing countries.

Subsequent developments have shown a substantial decline in political willingness among several other industrialized states as well, which claim that over the years the share of GHG emission from a number of “rapidly growing” developing countries equalled or even exceeded those from industrialized states. At the same time, developing states have refused to make any binding emission reduction commitments, still underlining their economic disadvantages and requiring substantial financial and technical support for introducing clean technologies. Moreover, heavy polluters in the developing world have argued that GHG emissions should be measured as a function of the GDP per capita rather than the aggregate national data. Even though substantial efforts were still made during the 2007 Bali conference to establish a course for a new negotiating process, these differences of views have led to the “failure” of the Copenhagen conference on climate change in 2009.

At the next conference held in Cancun (Mexico) in 2010, much energy was devoted to re-establishing a dialogue, without reaching many concrete results in terms of new commitments. Nevertheless, agreement was reached on measures to help developing nations deal with climate change through finance, technology and capacity-building support, to be managed by three new institutions: a Green Climate Fund, a Technology Mechanism and an Adaptation Framework. Also a Registry will be created, where developing countries will detail their voluntary plans to limit GHG emissions and the support they need to achieve them.²⁵ At the 2011 Durban Conference of the Parties to the UNFCCC, it was decided to launch a process “to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties”, to be adopted no later than 2015, and which should come into effect by 2020 (decision 1/CP.17 in UNFCCC 2011b). The EU decided to extend its emission reduction goals to the second commitment period (2013-2017), while Russia, Canada and Japan have declared they would not adopt new targets (Krukowska 2011). During the Doha Climate Change Conference, held from 26 November till 8 December 2012, it was decided to extend the Kyoto Protocol to 2020. Although no new financial commitments were made, the summit established for the first time that rich nations should move towards compensating poor nations for losses due to climate change. This is referred to as the “principle of loss and damage”. The conference “encourages” developed country parties to further increase their efforts to achieve the joint goal of mobilizing USD 100 billion per year by 2020. The conference also cleared the way for the Kyoto protocol to be replaced by a new treaty binding all rich and poor nations together by 2015 to tackle climate change. The absence of any concrete financial commitments led to severe criticism from environmental NGOs and developing states, which on the other hand considered the acceptance of the principle of loss and damage as an important positive result.

Finally, at the Rio+20 UN Conference of June 2012, a new strategy document was adopted, confirming the economic, social and environmental dimensions of sustainable development and setting out some paths for working towards achieving this goal (UN 2012). The document is another declaration of intent without any legally

²⁵ Cancun Agreements, adopted on 11 December 2010 (<http://cancun.unfccc.int>).

binding force, and it includes no firm commitments by states on concrete targets. On the other hand, while no definition of the term “sustainable development” has been formulated, the conference has contributed to a gradual clarification of its different aspects and the responsibilities that need to be taken up by states, civil society and international organizations, including UNEP and other agencies of the UN system (see also section III).

1.2. Attitudes of the EU and the US

When considering the relative input from the EU and the US in the field of climate change, the EU has clearly taken an active stance, both in accepting binding targets and in implementing them. According to the 2012 emissions inventory report prepared by the UNFCCC Secretariat, the EU has decreased its total aggregate emissions in the period 1990-2010 by 16.8 percent (UNFCCC 2012a: 9).²⁶

Several policy initiatives have been launched at the EU level, and EU legislation on climate change has been increasingly refined, reflecting the evolution of the international climate change regime (Marín Durán and Morgera 2012: 258). In this regard, the EU’s Climate and Energy Package and the Emissions Trading Scheme (ETS) constitute progressive policy measures.²⁷ Moreover, the EU has increasingly included climate change-mitigating measures in its external relations tools. Climate change cooperation is consistently included in the EU’s bilateral and multilateral agreements with third states, including developing countries, and climate change has become the number one priority for EU external funding (Marín Durán and Morgera 2012: 260). Despite these positive achievements and the important role played by the EU in international negotiations, the insistence on multilateral agreements may have hampered progress in alternative forums, including through bilateral channels. However, the EU and Australia recently signed an agreement to link their carbon trading systems by 2018. This is the first full international linking of emission trading systems, which could “build further momentum for establishing a robust international carbon market” (EU 2012).

As already mentioned above, the US has not been willing to accept any concrete binding targets. Indeed, in the period 1990-2010, the US has not diminished its GHG emissions; instead it increased its total emissions by 8.6 percent (UNFCCC 2012a: 9). The US’ hesitation on climate change has been driven by many reasons including ideology, shifting scientific attitudes, and partisan politics. However, economic concerns, especially since 2008, constitute the main factor explaining this rather negative attitude. As pointed out by some experts, in the US “popular opinion now holds that China, India, and other new developing nation competitors have profited at the expense of the [US] – and thus cannot be exempted from bearing a share of the burden of environmental collective action.” (Esty and Moffa 2012: 784-5).

Nevertheless, a small step seems to have been taken to mitigate the firm position of the developing states at the 2011 Durban conference. While the principle of shared but differentiated responsibilities is still upheld, a certain degree of effort by developing states, especially those having a large share in the global GHG emissions, appears to have been accepted. The fact that the US remains an active participant in the international discussions on climate change and sustainable development shows its interest in influencing their outcome. This has also been apparent in the Rio+20 conference, where the US delegation – composed of a large number of diplomats and experts – has prominently contributed to the debate.

26 However, within the EU, there are clear differences: while, for example, Spain and Greece have increased their total emissions by 24 and 12.9 percent respectively, several member states have reached higher reduction levels than the EU average, ranging from 21.7 percent (Germany) to 63.8 percent (Romania) and even 148.1 percent (Latvia). These figures are including the change of emission as a result of LULUCF (land use, land-use change and forestry); the figures excluding LULUCF are: for the EU -15.4 percent; for the US +10.4 percent.

27 More information in the EU Commission website: <http://ec.europa.eu/clima/policies/package> and <http://ec.europa.eu/clima/policies/ets>.

Transatlantic cooperation in the environmental field takes place through various channels. Annual high-level meetings are held and since the adoption of the New Transatlantic Agenda (NTA) and its Joint Action Plan in 1995, EU-US cooperation has been extended to environmental issues. The dialogue focuses especially on the nexus between climate change, energy and environmental cooperation, although cautious language is used at the EU-US summit meetings on promoting multilateral agreement on the post-2012 climate change regime and the creation of a global carbon market (Marín Durán and Morgera 2012: 226). Joint statements have been adopted, for example on energy security, efficiency and climate change (EU Council 2007), and transatlantic dialogues have also been set up at different levels, such as parliamentarians, business, consumers and civil society.

2. Biodiversity

2.1. Current State of Affairs

At the 1992 Earth Summit in Rio de Janeiro, agreement was reached on a comprehensive strategy for “sustainable development”. In addition, the adoption of the Convention on Biological Diversity (CBD) was a significant step in setting international standards for the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources.²⁸ The CBD has endorsed the “ecosystems approach”, according to which humans, with their cultural diversity, are an integral part of many ecosystems. It is a strategy for the integrated management of land, water, and living resources that promotes conservation and sustainable use in an equitable way (for further details on this approach, see Slootweg 2009: 25-32).

Three protocols to the CBD have been adopted so far: the Cartagena Protocol on Biosafety, the Nagoya Protocol on Access and Benefit-sharing, and the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress (Treaties 2000a, 2010a, 2010b). The Cartagena Protocol aims to ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks for human health. The Nagoya Protocol aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way, including by appropriate access to genetic resources, transfer of relevant technologies, and by appropriate funding. The Nagoya-Kuala Lumpur Supplementary Protocol aims at providing a legal framework for compensation of damage resulting from the trans-boundary movement of living modified organism (LMOs) within the meaning of the Cartagena Protocol. In 2010, the Conference of the Parties to the CBD adopted a strategic plan for 2011-2020, setting five strategic goals to be achieved during the current decade.²⁹ In this context, the Aichi Biodiversity Targets were also adopted, translating the strategic goals into twenty more detailed targets to be achieved by 2020.³⁰ Notwithstanding the importance of reaching agreement on such targets among the large majority of states, these protocols are formulated in rather general terms (see, for example, Target 7), and set quite non-ambitious numerical objectives (Target 11).

28 See Treaties 1992b. As of December 2012, 193 states are parties to the CBD. While the US has signed the Convention, it has not yet ratified it. The EU as a regional entity has approved it and its member states have ratified the convention. CBD has been ratified also by the five BRICS countries.

29 Strategic Plan for the Cartagena Protocol on Biosafety for the Period 2011 to 2020, http://bch.cbd.int/protocol/issues/cpb_stplan_txt.shtml.

30 Aichi Biodiversity Targets, <http://www.cbd.int/sp/targets>.

2.2. Attitudes of the EU and the US

The European Union is a party to the CBD, alongside its member states. However, in comparison to the efforts in the field of climate change, the EU's implementation of the agreed norms on biodiversity and their inclusion in its external action have been more ad hoc and rather inconsistent. This can be explained, *inter alia*, by the "patchy" development of EU internal legislation on biodiversity originating in the late 1970s and 1990s, which focused on "traditional" conservation measures, such as protected areas and species (Marín Durán and Morgera 2012: 261-5). However, in recent agreements, including the Cotonou Agreement (Treaties 2000b: art. 46), the interactions between the CBD and trade-related issues have been addressed. Also the need to mainstream biodiversity in other policy areas and in other sectoral environmental policies has increasingly been included in action plans adopted by the EU and partner countries (Marín Durán and Morgera 2012, Ch. 5). While more importance has gradually been given to biodiversity in the EU's external assistance through thematic funding instruments, this has not sufficiently been the case in the context of the general development cooperation instruments (Marín Durán and Morgera 2012: 264). The Commission has recognized the need for a more coherent approach in the EU's external action to effectively support global biodiversity goals, as stated in its proposed 2020 Biodiversity Strategy.³¹ Also the adoption of the internal legislation required to implement the Nagoya Protocol within the EU (which will have extra-territorial implications) will contribute to a more systematic integration of biodiversity concerns in the EU's external relations (Marín Durán and Morgera 2012: 265).

As with respect to climate change, also in the field of biodiversity the United States has not been willing to commit itself to take any protective measures through an international binding legal instrument. After an initial refusal to accede the CBD under George H.W. Bush, President Bill Clinton signed the Convention, but no agreement has been reached on ratification since then. According to Robert F. Blomquist, "the American response to the CBD has been characterized by four discrete periods of policy reaction: (1) expressing concern about the problem of global biodiversity protection, from 1989-90; (2) expressing disagreement over the advisability of the United States committing to sign a multilateral biodiversity convention, from 1991-92; (3) debating ratification of the 1992 Rio text of the CBD from 1993-94, and (4) a long and relatively inactive period of resisting ratification from 1995 to the present". He concludes that: "While understanding America's response to the CBD is complicated, four interrelated themes help to put the United States' legal and policy responses to the Convention in perspective: (1) institutional tension between the President and Congress concerning foreign affairs; (2) conservative concern about the emerging configuration of international environmental law; (3) American corporate interest in maximizing biotechnology profits; and (4) complexities in resolving international economic and physical spillovers through legal policy instruments" (Blomquist 2002: 585-6).

It can be concluded that in the field of climate change and biodiversity, important progress has been achieved in creating an international normative framework. However, significant shortcomings exist in terms of universal adherence to these norms. In particular, the non-ratification by the US of the main international instruments in these fields severely limits the possibilities for transatlantic cooperation.

³¹ See the EU Commission website: <http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm>.

II. Enforcement Mechanisms: Pitfalls and Potentialities

As often highlighted in academic literature, international environmental law can be considered as an under-developed body of law, in particular because of the lack of compulsory compliance mechanisms and the deficiency of institutional structures (Francioni 2012c). As a result, the monitoring of implementation of environmental norms is fragmented, and legal cases on environmental issues are increasingly brought before judicial bodies established in the context of other fields of international law, in particular human rights, and trade and investment law.

Below a brief overview is provided of the main features of existing environmental compliance mechanisms, indicating both positive elements and existing gaps. Also discussed are some examples of international judicial practice of non-environmental bodies, assessing the extent to which this development is adequate, or if it hampers the creation and strengthening of specific environmental monitoring bodies.

1. Environmental Compliance Mechanisms: A Brief Assessment

The traditional means of implementing and ensuring compliance with international law are its incorporation into national law, judicial monitoring by national courts and dispute settlement through an international monitoring body.

With regard to domestic law enforcement, there is no general consensus among states on what constitutes a “good”, “safe” or “healthy” environment, and to date it has not been possible to reach universal agreement on the legal content of concepts such as “precautionary approach” and “sustainable development” (on the latter see Lowe 1999: 19-37 and, for a more positive evaluation of international practice, also Francioni 2007: 41-62). Moreover, scientists have drawn varying conclusions as to the meaning of “sustainability”, “critical environmental load” or “sufficient evidence” of risk (Malaguti et al. 2010; Francioni and Montini 2003). Such a lack of clarity leads to conflicting views and consequently to differences in the implementation of internationally agreed norms in the domestic legal order. This is reflected in the persistent divergence of legal and policy positions with regard to the what measures are considered effective to mitigate and adjust to climate change (Francioni 2007).

Even though several environmental conventions provide for some form of international compliance monitoring, there is no uniform approach. Such compliance mechanisms include, in particular, (i) *continuous monitoring* of the conduct of the parties, and (ii) *mechanisms for dispute avoidance and settlement*.³²

While continuous monitoring is foreseen in various conventions, most often through reporting procedures, mechanisms for dispute avoidance and settlement have only been included in a small number of MEAs. In this regard, the non-compliance mechanism of the Montreal Protocol on the Ozone Layer has been relatively effective. While its regular component is responsible for a continuous monitoring, its *ad hoc* component has dealt with a few formal submissions of non-compliance concerning countries in economic transition (Belarus, Bulgaria, Poland, Russia and Ukraine) (Victor, Raustiala and Skolnikoff 1998).

Other examples are the enquiry procedure in the 1991 Convention on Environmental Impact Assessment in a

32 Other elements are (iii) compliance assistance and (iv) flexible methods for treaty amendments and adjustments. See Beyerlin and Marauhn 2011: 321 ff.

Transboundary Context (Espoo Convention),³³ and the compliance procedure of the art. 18 of the Kyoto Protocol (Treaties 1991a, 1997). This latter example is also significant since the Compliance Committee that was created is composed of two branches: a facilitative branch and an enforcement branch (see annex to decision 27/CMP.1 in UNFCCC 2006). The facilitative branch is responsible for providing advice and facilitation to parties in implementing the Protocol, and for promoting compliance by parties with their commitments (para. IV.4). The enforcement branch is responsible for determining whether a party included in Annex I is not in compliance with, *inter alia*, its quantified emission limitation or reduction commitment, and with the reporting requirements under the Protocol (para. V.4). The enforcement branch can, under certain conditions, impose sanctions, including the “[d]eduction from the Party’s assigned amount for the second commitment period of a number of tonnes equal to 1.3 times the amount in tonnes of excess emissions” (para. XV.5a). Even though, to our knowledge, this sanction has so far not been imposed on any state, the enforcement branch has over the years considered several cases of non-compliance and recommendations have been made to the parties concerned to correct this situation.³⁴

2. Enforcement by Alternative Legal Means

Due to the lack of specific dispute settlement mechanisms for most areas of environmental law, states and individuals have turned to other international bodies to seek legal remedies. In the first place, regional human rights courts have developed an “environmental dimension” of human rights through an *extensive interpretation* of the obligations of states that are parties to the relevant human rights conventions. In this respect, the European Court of Human Rights (ECtHR) has extended the protection of the European Convention on Human Rights (ECHR) to persons exposed to hazardous industrial and technological activities incompatible with the respect of the right to life (art. 2) (see EctHR 2002) and the right to private and family life (art. 8) (see EctHR 1994, 1998 and 2005). The ECtHR has also ruled that it falls under the “positive obligations” of states parties to effectively enforce legal, administrative, and judicial measures to prevent or remedy harmful environmental interferences by private actors with the sphere of protected rights. Moreover, it has developed a procedural requirement of information and consultation with affected parties as a condition for the fulfilment of the obligations arising from specific human rights provisions, such as articles 2 and 8 (Francioni 2010: 48 ff). Also in other regions human rights courts have reached similar conclusions. In particular, the Inter-American Court of Human Rights (IACtHR), in the *Mayagna (Sumo) Awas Tingni Community v Nicaragua* case, held that the property rights of these indigenous peoples had been violated by the granting of a logging concession to a private company, with potentially serious environmental consequences. The Court held that

“the State must adopt in its domestic law, pursuant to article 2 of the American Convention on Human Rights, the legislative, administrative, and any other measures necessary to create an effective mechanism for delimitation, demarcation, and titling of the property of indigenous communities, in accordance with their customary law, values, customs and mores [...]” (IACtHR 2001: para. XII, 3).

The African Commission on Human and Peoples’ Rights has also followed this approach (ACHPR 2001), being facilitated in this task by an explicit provision (art. 24) in the African Charter on Human and Peoples’ Rights enunciating a right to a “satisfactory” environment (OAU 1981).

33 Art. 3(7) of the Espoo Convention states that in cases where the states parties concerned cannot agree on the question whether one of them is likely to be affected by a significant trans-boundary impact of a proposed activity.

34 For example, at its meeting of 22-24 October 2012, the enforcement branch considered compliance by Slovakia, Romania and Lithuania. See UNFCCC 2012b. A list of cases is available in the UNFCCC website: http://unfccc.int/kyoto_protocol/compliance/questions_of_implementation/items/5451.php.

Besides human rights law, also international economic law has been used to fill the gap in environmental compliance mechanisms. In this regard, states have filed complaints with an environmental dimension related to trade, to the dispute settlement procedure of the WTO. In the field of investment, states, individuals and private entities have called upon arbitration mechanisms created under regional agreements such as the North American Free Trade Agreement (NAFTA), and presented cases to the International Centre for Settlement of Investment Disputes (ICSID), created under the 1965 World Bank Convention. Only a few examples will be mentioned here (see also Francioni 2012c: 7-10).

As regards the WTO, in some cases it was ruled that environmental concerns had been legitimately pursued by states. This was concluded in the *Shrimps and Turtle* case, extending the application of the “exhaustible natural resources” exception (Art XX(g)) to living resources of the sea (WTO 1998b). Also in the *Brazilian Retreaded Tyres* case, the WTO Panel and subsequently the Appellate Body ruled that environmental and health considerations may justify the adoption of an import ban on retreaded tyres (WTO 2007). However, in other cases environmental concerns were not considered legitimate and WTO rules were applied “mechanically”. Such an attitude was adopted in the cases *US - Prohibition of imports of Tuna and Tuna products from Canada* and *EC - Measures Concerning Meat and Meat Products (Hormones)* (WTO 1982 and 1998a), as well as in the *Biotech* case.³⁵

Also in *investment arbitration*, the last decade has shown a progressive incorporation of environmental concerns. National regulatory measures adopted with the goal of environmental protection have been disputed because of the direct or indirect impact that these measures were considered to have on the rights of the investor. Examples of cases where the arbitration panels decided in favour of the rights of the investors are *Metalclad* and *Santa Elena* (ICSID 2000a, 200b). In *Metalclad*, a claim by a US investor was upheld, who had planned the construction of a landfill for the disposal of hazardous waste in Mexico, while the Mexican local authorities had declared the concerned area to be a natural reserve. The arbitration panel considered this environmental decision as an interference with the property rights of the US investor. In *Santa Elena*, the arbitration panel also confirmed the rights of a US investor in a claim against Costa Rica, which had adopted measures to enlarge a natural reserve in compliance with obligations under the UNESCO World Heritage Convention, leading to a loss of opportunity in a tourist development project.

On the other hand, in the cases *Glamis Gold* and *Methanex*, a more favourable attitude was adopted towards the recognition of environmental considerations (*Glamis Gold* case 2009; *Methanex* case 2005). In *Glamis Gold*, the claim by a Canadian mining company against the US for an alleged violation of its property rights as a result of environmental regulation was rejected. The arbitral panel held that the disputed environmental legislation adopted by the US pursued a legitimate goal – ensuring rehabilitation of the land after extraction activities, also protecting the rights of native tribes in the area – and that it did not lead to any discriminatory treatment. The same conclusion was reached in *Methanex*, involving a claim by a foreign company against the US for loss of property rights as a consequence of environmental legislation in California banning the production of a fuel additive, in which the company was involved. The investment panel decided in favour of the US, considering the abstract and general character of the environmental legislation, and the open and democratic process of its adoption.

³⁵ See WTO 2006. In this case, the WTO Panel upheld a claim by the US and other states that the precautionary procedure adopted by the European Community for the authorization of the import and marketing of genetically modified products amounted to a violation of WTO obligations because of the undue delay in the administrative procedure followed in the authorization process. The panel held that the MEA on which the EC had based this procedure, the Cartagena Protocol, was not relevant because the US was not a party to it.

Even though these are positive developments towards the integration of environmental concerns in the settlement of economic disputes, they are still exceptions to the general practice in which precedence is given to protecting the economic rights of investors and of states (Francioni 2012c: 10).

3. The International Court of Justice

The ICJ has expressed itself on environmental issues in a number of cases. In the above-mentioned advisory opinion in the case *Legality of the Threat or Use of Nuclear Weapons*, the ICJ affirmed the existence of an obligation of states to prevent damage to the environment - the “no-harm” principle (ICJ 1996: para. 29). This principle was confirmed in the judgment in the *Gabčíkovo-Nagymaros* case (ICJ 1997: 7-84), which concerned the refusal by Hungary to follow up on a project decided under the former Communist regime, providing for the construction of several dams in the Danube. The Court also recognized the importance of sustainable development, which could serve as a legal tool to achieve economic development while ensuring environmental protection. Nevertheless, the ICJ did not accept the argument put forward by Hungary, that the adoption of environmental measures can justify non-compliance with prior treaty-obligations. As argued in earlier publications, it is regrettable that the Court has thereby reiterated traditional principles of the law of treaties and of state responsibility, instead of recognizing the progressive development of principles of environmental law (Francioni 2012c: 10).

In the *Pulp Mills on the River Uruguay* case, the ICJ confirmed the obligation to undertake a trans-boundary environmental impact assessment and to comply with a number of other procedural obligations when planning or authorizing industrial activities having potentially trans-boundary effects (ICJ 2010). Even though this confirmation is in itself important, the Court’s approach to separate, in its judgment, these procedural elements from the substantive obligation to prevent environmental damage is rather disappointing (Francioni 2012c: 10-11).

As this overview shows, so far only very few cases with an environmental dimension have been brought before the ICJ. In order to demonstrate its readiness to take on such cases, the Court created an Environmental Chamber in 1993. Due to the persistent lack of relevant cases in this field, elections for this chamber were discontinued in 2006.

However, the Court is currently considering three new cases with important environmental aspects: *Aerial Herbicide Spraying (Ecuador v Colombia)*, *Whaling in the Antarctic (Australia v Japan)* and *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*.³⁶ These recently introduced cases seem to indicate an increasing willingness of states to resort to the ICJ to adjudicate international environmental disputes.

III. Environmental Governance through Global Institutional Reform

The evolution of the system of global environmental governance shows that, although significant progress has been made in establishing a vast network treaty obligations and soft law prescriptions in many sectors of environmental governance, the main challenge remains of how to guarantee at a global level that the regulatory system of human activities is systematically aligned with natural and ecological systems that govern life on the planet.

³⁶ Proceedings instituted on 31 March 2008, 31 May 2010, 22 December 2011. For the first two cases see note 15. For the latter see <http://www.icj-cij.org/docket/index.php?case=152>.

It is an issue that becomes more critical when we look at the implementation dimension. With the exception of regional systems, such as the European Union, international environmental law still suffers from a serious deficit of enforcement mechanisms. No international court for the environment exists today, nor has a specialized agency within the United Nations been set up in spite of the increasing pressure and alarm posed by the impending threat of global warming. This stands in stark contrast to the advanced process of institutionalization of other areas of international law such as trade, with the WTO and its dispute settlement body, or human rights, for which regional courts and global adjudicatory bodies have existed for a long time already.

Implementation of international environmental standards is still largely left to the spontaneous compliance by states through their domestic law and in some limited cases to soft enforcement mechanisms such as the “non-compliance procedures” that permit some level of moral and political suasion to be applied to states unwilling or unable to respect the standards set in the multilateral treaties to which they are parties.³⁷

Against this backdrop, the question arises whether in order to improve the quality and effectiveness of global environmental governance and in particular the enforcement of the existing environmental standards a reform is needed at the level of international institutions. The answer to this question remains contentious. On the one hand, a trend is discernible toward a broad acceptance of an enhanced role of international institutions, especially within the UN system, in the supervision and implementation of environmental law. On the other hand, resistance and diffidence persist with regard to delegating to an international bureaucracy functions and competences in the environmental field which touch directly on the freedom of states to manage their natural resources and to pursue their development policies. This remains one of the main fault lines dividing the EU – which has shown a marked preference for a multilateral approach and for strengthening international institutions – and the US, which remains sceptical with respect to an enhanced role of international institutions in the environmental field. It is not the purpose of this paper to take a position as what approach is preferable in view of a more effective system of environmental governance. What this paper aims at is simply to clarify what are the options that from a legal-political point of view would be open if and when consensus were to be reached on the desirability of a reform of existing environmental institutions.³⁸

The simplest reform option in technical and political terms would be that of *reinforcing the existing structure and competence of the UN Environmental Programme*. UNEP was established as a follow-up of the 1972 Stockholm Declaration and since then it has remained the sole UN institution dedicated to environmental governance. The upgrading of this institution, which still remains a simple “programme”, would avoid the difficulty of negotiating an agreement for the setting up of new bodies, organizations or entities with new competences. A revamped UNEP would be also an economic solution since there would be no need for any new bureaucratic machinery and no need for a transitional system to transfer functions and responsibilities from one institution to another. The advantages of this approach, however, are offset by the fundamental limit that UNEP would continue to be a simple “programme”. This would hinder its capacity to perform the functions of a true public authority capable of leading to effective rationalization of global environmental action, including coordination of existing environmental regimes, each now functioning as an autonomous system with the attendant problem of proliferation of conferences of the parties, meetings of the parties and relative secretariats.

Given these shortcomings, a second option can be considered, which would consist in the *establishment of a specialized UN agency* with specific competence in the environmental field. This agency would inherit the competences and functions presently attributed to UNEP. It would also develop new functions for the coordination

37 The prototype of such “non compliance procedure” is art. 8 of the Montreal Protocol on Substances that Deplete the Ozone Layer (Treaties 1987).

38 In addressing this issue, this paper builds on Francioni 2005.

of environmental initiatives and regimes within the UN system, and conduct inter-agency coordination with other UN programs and institution, such as the UN Development Programme (UNDP), the Food and Agriculture Organization (FAO), and the World Health Organization (WHO), to the extent that their initiatives and programmes present an environmental dimension.

This solution certainly presents the hurdle of some difficult negotiations to reach the agreement necessary to set up a specialized agency and to devise rules and procedures for inter-agency initiatives and coordination. But it would also present several advantages. First, the new agency would enjoy stronger institutional status than UNEP. This would facilitate its role as a public authority in the environmental field. Second, its status as a UN agency would enhance coherence of the rather fragmented environmental action, which today is pursued by a multiplicity of multilateral environmental agreements (the MEAs we have mentioned several times in this paper) with the risk of disconnection and even conflict between different regimes. As a UN entity, the agency could also perform an important function in capacity-building, especially in developing countries, a function that today is shared in various forms between UNDP and UNEP, and would presumably enjoy more visibility before the international civil society.

Finally, a more radical option for the institutional reform of environmental governance would be to follow the model adopted in the field of international economic law with the establishment of the WTO and *create a self-standing World Environmental Organization* (WEO) independent from the UN. This model would entail the “packaging” of most of the multilateral environmental agreements, including the Framework Convention on Climate Change and related protocols, in the institutional structure and within the mandate of the organization. It would require a lengthy and difficult negotiation and probably would meet opposition on the part of those countries which may feel diffident toward an organization that is not part of the UN. But the most serious opposition would certainly come from those countries that are not prepared to delegate important decisions affecting the economic and social development of their societies to an international institution that in their view does not enjoy democratic legitimacy for the exercise of an important aspect of public authority, as is the case for decisions affecting the environment and the use of natural resources. For cultural and constitutional reasons the United States would most likely fall in this camp.

Conclusion

The evolution of the system of environmental governance over the past half century shows that significant progress has been made in terms of mobilization of world public opinion toward the common cause of preventing and reducing environmental degradation, and in terms of normative action in many areas of public regulation, including trans-boundary pollution, nature conservation, and safeguarding of global public goods such as biodiversity, climate, Antarctica.

Where the system is showing more stagnation than progress is the enforcement of environmental standards. The present system of environmental governance remains weak as compared to other areas of international law, such as investment, trade and human rights, in which international commitments undertaken by states and other international actors can be enforced by compulsory dispute resolution mechanisms.

The paradox of the international environmental system is that the spectacular accumulation of treaties, declarations, and other normative instruments, coupled with the great variety of regimes established by “conferences” and “meetings” of state parties, and relative secretariats, has given rise to a sort of global administrative law of the environment, which, however, remains orphan of “environmental justice” and of mechanisms of effective implementation. In this context, the system is bound to remain weak because the strength of a legal regime

rests with its capacity of being interpreted and applied through binding decisions by courts or other public authorities. This way, law can become, from abstract prescription, an evolving body of effective regulation, capable of self-renewal and dynamic adaptation to new circumstances.

In this paper we have discussed possible options for the strengthening of the institutional dimension of the present system of environmental governance. In this respect, recent experience, especially in connection with the World Summit Outcome, shows a marked divergence between the EU, generally favourable to the strengthening of multilateral institutions, and the US, still opposed to the creation of new environmental institutions and much more inclined to rely on market mechanisms and the role of the private sector.

Whether this divergence will persist or diminish in the future is not a matter for this paper to address. What we can safely say, however, is that in spite of this divergence, the US and the EU can contribute to the progress and effectiveness of the present system of environmental governance by internalizing basic principles and values of environmental protection in their respective domestic legal orders. National courts and administrative agencies can be powerful instruments for the advancement of environmental governance. This is so especially if one thinks of the fact that one of the most important implications of the global ecology movement is the transformation of the traditional principle of state sovereignty. This principle, originally conceived in terms of dominion over the national territory and jurisdiction over nationals, is increasingly acquiring a “functional” dimension in the sense of its exercise being related to and conditioned on the general interest of the international community to respect and protect elements of the environment that are vital to sustain our life on the planet.

The principle of “common concern of human kind” that has emerged with regard to the preservation of biodiversity and with respect to climate change is a manifestation of this functionalization of sovereignty. It does not entail the establishment of a supra-national system of environmental governance, but rather a call for “responsible sovereignty” and for a use of governmental powers that is aligned with the general interest of the international community to protect the global environment.

The EU and the US can significantly contribute to the advancement of this conception of “environmentally responsible sovereignty”, because their constitutional system is based on democracy, the rule of law and human rights. Therefore they are well equipped, legally and culturally, to foster progress in environmental governance in a “bottom-up” approach, through the participation of public authorities – legislative, administrative and judicial – and also of the private sector and of civil society, in the process of preventing and reducing the present spiral of environmental degradation.

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THE PROJECT

In an era of global flux, emerging powers and growing interconnectedness, transatlantic relations appear to have lost their bearings. As the international system fragments into different constellations of state and non-state powers across different policy domains, the US and the EU can no longer claim exclusive leadership in global governance. Traditional paradigms to understand the transatlantic relationship are thus wanting. A new approach is needed to pinpoint the direction transatlantic relations are taking. TRANSWORLD provides such an approach by a) ascertaining, differentiating among four policy domains (economic, security, environment, and human rights/democracy), whether transatlantic relations are drifting apart, adapting along an ad hoc cooperation-based pattern, or evolving into a different but resilient special partnership; b) assessing the role of a re-defined transatlantic relationship in the global governance architecture; c) providing tested policy recommendations on how the US and the EU could best cooperate to enhance the viability, effectiveness, and accountability of governance structures.

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