3 The challenge of climate change

International law perspectives

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3.1 Introduction

Climate change represents one of the greatest challenges to international cooperation the UN and the EU have ever faced. Few topics provide a better illustration of the importance of a globally inclusive regulatory regime focused on preventive and precautionary approaches to environmental harm – or of the problems of negotiating one on such a complex subject.[1] It is *par excellence* a global problem, potentially affecting all states, and for which global solutions are essential. That was the reason for negotiating the two principal multilateral environmental agreements (MEAs) on the subject – the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. It was the reason for trying to negotiate a further global agreement at Copenhagen in 2009. Often referred to as 'international regimes', MEAs with their related protocols and soft law have been employed by states and international institutions to provide a regulatory system capable of dynamic evolution. The UNFCCC and Kyoto Protocol have thus become complex regulatory regimes, with regular meetings of the parties developing policies, principles and rules.

The process of elaborating these regimes has been characterised as one of 'interactional dialogue',[2] but its essential feature is negotiation and bargaining leading to adoption of a text agreed by consensus. Negotiations on climate change have always been difficult because of the complexity of the issues and the diversity of the interests at stake. This is not because the science is difficult or uncertain: it is not. We know that greenhouse gas emissions have already raised average global temperatures by some 0.7°C, and that whatever measures are

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1 See *inter alia* L. Rajamani, 'Addressing the Post-Kyoto Stress Disorder' (2009) 58 *ICLQ* 803; A. Proelss, 'International Environmental Law and the Challenge of Climate Change' (2010) 53 *German YbIL* 65.

2 J. Brunnée, 'COPing with Consent: Law-making under MEAs' (2002) 15 *Leiden JIL* 1. See also J. Brunnée and S. Toope, 'International Law and Constructivism: Elements of an Interactional Theory of International Law' (2000) 39 *Columbia JTL* 19.

taken now can at best limit future increases to around 2°C.[3] That will inevitably cause damage on a significant scale, especially to countries that are already low-lying or arid. But whatever the scientists may say, the politicians have a shorter-term perspective. Developed states want to keep the costs of adaptation down and the timescales long. Many have serious problems convincing electorates and legislatures that more needs to be done, although in this respect Europe is arguably further advanced than its main competitors. It has certainly been more willing to make commitments on greenhouse gas (GHG) emissions reductions[4] than the US, Canada or Japan, but the attempt by the European Union to provide international leadership on climate change has plainly not succeeded. European diplomacy has failed to move the US or the major developing states, partly because Europe has much less leverage on climate change than on trade. But opposition to new measures on GHG emissions or fossil fuel consumption is so strong in the US that it must be doubtful whether greater leverage would achieve anything. The newly industrialised economies such as China, India and Brazil want the developed states to show that they will live up to their commitment to shoulder most of the burden of change. Only then is it realistic to expect them to agree to take measures to contain their own GHG emissions. Many of the states most likely to be seriously affected by climate change are poorly resourced developing countries, and they rely heavily on developed states, the UN and the World Bank to come up with the money and resources they need to mitigate the worst effects. They have little or no leverage over the main players.

International agreement on further measures nevertheless remains essential for future progress – reducing GHG emissions and sustaining carbon sinks can no more be left to national policies and measures than could the promotion of free trade. In both cases international regulation provides the indispensable basis for collective action based on agreed objectives and common standards. But it does not follow that the existing structure of global climate regulation created by the 1992 UNFCCC and the Kyoto Protocol is the right one for the future or that it can succeed without support from other international regimes and institutions. The purpose of this chapter is to explore some of those questions.

The UNFCCC is a 'framework convention', i.e. it does not itself regulate climate change but only creates a basis for doing so. The strength of this framework is the opportunity it offers for negotiating multilateral solutions to environmental problems and the development of policies and measures, including binding regulations and non-binding guidelines, based on the best

3 IPCC, *Climate Change 2007: Synthesis Report* (Bangkok: IPCC, 2007); UNEP, *The Emissions Gap Report: Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2° C or 1.5° C? A Preliminary Assessment* (Nairobi: UNEP, 2010). For a good general study see E. Zedillo (ed.), *Global Warming: Looking Beyond Kyoto* (Washington, DC: Brooking Institution Press, 2008).

4 In 2009 the EU Council agreed a unilateral emissions reduction target of 20 per cent by 2020, calculated from a 1990 baseline.

science available. It has legitimacy: no other model of international governance offers such an inclusive and transparent basis for regulating phenomena of global character, such as global warning or ozone depletion, where no single state's acts are responsible and where the interests of all are at stake.

The model's most fundamental weakness, evidenced by the Kyoto Protocol and the Copenhagen negotiations in 2009, is that it depends on the ability of the parties to reach the necessary agreement on further measures that are strong enough to have an impact within the necessary timescale. This cannot be taken for granted. While the Kyoto Protocol certainly dictates reductions in GHG emissions for some developed states based on 1990 levels, even if met in full these targets fall well short of what will be needed to achieve a meaningful effect on atmospheric concentrations of GHGs. The protocol represents at best only a first step in the development of a stronger regime. Nor can the participation of all the important players be guaranteed, as the continuing opposition of the United States to participation in the protocol or a successor shows only too well.

Just as importantly, the concept of common but differentiated responsibility, as conceived in the UNFCCC and replicated by Kyoto, has so far relieved developing states of any obligation to constrain GHG emissions, however significant they may become. The rapidly rising CO_2 emissions generated by China and India are thus currently unregulated by Kyoto. At the same time, the globalisation of industrial output brought about by the World Trade Organization (WTO) free trade regime has in effect outsourced production from developed states covered by Kyoto's emissions reduction targets to developing states that have no such obligation. Changing this element of the trade bargain would also entail challenging the principle of common but differentiated responsibility, which is one of the cornerstones of the UNFCCC and Kyoto Protocol. Thus a key issue in the climate negotiations remains whether to preserve the architecture of historic responsibility agreed at Kyoto, or to start again with a new set of basic assumptions about who must take responsibility for reducing GHG emissions in future.

Here we can see that the climate regime established by the UNFCCC is not the whole picture. If climate change is to be tackled successfully then not just the US but also the industrialised developing states – especially China, India and Brazil – have to be brought into the GHG emissions and carbon management control regime. If trade is part of the problem, then alterations to the WTO trade regime may also have to be part of the answer. That cannot be achieved through the UNFCCC. Similarly, carbon capture and storage requires sub-seabed depositories and must be compatible with the Law of the Sea Convention and the London Dumping Convention. That requires cooperation by the parties to those treaties. Climate change policy cannot be implemented through the UNFCCC alone but requires co-ordination of policies and measures by a range of international institutions inside and outside the UN system.

The remaining sections of this chapter will focus on six sets of issues: the impact of Kyoto on GHG emissions; the Copenhagen, Cancun and Durban

agreements; alternative negotiating frameworks; human rights perspectives; law of the sea perspectives; trade law perspectives.

3.2 The impact of the Kyoto Protocol on Greenhouse Gas (GHG) emissions

By the end of 2010 GHG emissions from the EU had fallen by more than 17 per cent since 1990. It seems very likely that the EU will not merely meet its Kyoto obligations, but also its own voluntary commitment to achieve a 20 per cent reduction by 2020.[5] However, this is a somewhat illusory achievement, since it is more than offset by increased GHG emissions in those developing countries from which the EU now imports manufactured goods, most of all China. On that basis EU and US consumption emissions are estimated to have risen by over 40 per cent since 1990, corresponding to the rapid acceleration in Chinese production.[6] Since Kyoto targets are focused on GHG emissions rather than on consumption, most parties to Kyoto appear likely to meet their targets, except Canada (which has given notice to terminate its participation in the protocol). The data shows that global CO_2 emissions have stabilised, but they have not reduced, nor have they stabilised global temperatures.[7] Overall world emissions are down by just 0.1 per cent in 2009 compared to the previous year, but the detailed picture is more varied. CO_2 emissions derived from energy use have fallen 6.9 per cent in Europe and North America over the previous year, but this may owe more to the economic recession in these states than to measures taken to reduce emissions. In Africa emissions over the same period have fallen by 3.1 per cent, and in Eurasia by 9.2 per cent, while in Asia and Oceania they have risen by 7.5 per cent. In South America they are up by 3.6 per cent, and in the Middle East by 3.3 per cent. While US emissions are down 7.0 per cent compared to the previous year (to 5425 m tonnes), China's have risen 13.3 per cent in a year (to 7711 m tonnes) and it is now the world's largest emitter of CO_2. India's emissions have risen by 8.7 per cent (to 1602 mt) but Brazil's emissions have stabilised, while Russia and South Africa have lower emissions. At 4310 mt European emissions are now well below those of China and the US, but still ahead of South America, Africa and the Middle East combined.

On this data China and the US hold the key to controlling future anthropogenic emissions. China is not only the biggest emitter, but has by far the fastest growth in emissions. Its CO_2 emissions from energy use are up 340 per cent on 1990 levels. However, on a *per capita* basis Chinese emissions are still less

5 EEA Technical Report No 2/2011, *European Union Greenhouse Gas Inventory 1990–2009 and Inventory Report 2011: Submission to the UNFCCC Secretariat* (Copenhagen: EEA, 2011).

6 A. Brinkley and S. Less, *Carbon Omissions – Consumption-based Accounting for International Carbon Emissions* (London: Policy Exchange, 2010).

7 US Energy Information Administration 2011, available at www.guardian.co.uk/data. The data referred to in this section are all from this report.

than one-third of the US, while European and Japanese per capita emissions are just under half those of the US. To that extent the US remains easily the least efficient user of energy on the planet. Moreover, even in the midst of a recession, US energy-derived CO_2 emissions are still some 7.6 per cent higher than 1990 levels, while Europe's are down about 5.1 per cent compared to 1990. These figures suggest that the US would not have complied with Kyoto had it become a party, but they also suggest that it could have done so with relatively little effort through more efficient use of energy. However, these calculations take no account of other GHGs or of forestry or land-use changes.

Most importantly, there has been no overall reduction in the rate of increase in atmospheric CO_2 or global mean temperature. Limiting global temperature increase to 1.5°C is not achievable on this record and even 2°C is doubtful. Given the conclusions of the 4th IPCC Assessment Report we can see that Kyoto alone cannot meet the 'ultimate objective' of stabilising GHG concentrations 'at a level that would prevent dangerous anthropogenic interference with the climate system'.[8] Much more is needed, and would be, even if the US were a party and everyone complies fully with their existing Kyoto emissions reduction requirements. Even with US participation, the developed economies cannot by themselves do all that would be necessary to contain the global temperature rise to 2°C. The developing economies – and above all China – will have to carry some of the burden. From this perspective common but differentiated responsibility as represented in the Kyoto Protocol is not a viable basis for saving the climate.

A United Nations Environment Programme (UNEP) report in 2010 concluded that steep emission reductions are needed post-2020 in order to have any chance of limiting global warming to 2°C. The report explains:

> —That emission levels of approximately 44 gigatonnes of carbon dioxide equivalent (GtCO2e) (range: 39–44 GtCO2e) in 2020 would be consistent with a "likely" chance of limiting global warming to 2° C.
> —Under business-as-usual projections, global emissions could reach 56 GtCO2e (range: 54–60GtCO2e) in 2020, leaving a gap of 12 GtCO2e.
> —If the lowest-ambition pledges were implemented in a "lenient" fashion, emissions could be lowered slightly to 53 GtCO2e (range: 52–57 GtCO2e), leaving a significant gap of 9 GtCO2e.
> —The gap could be reduced substantially by policy options being discussed in the negotiations.[9]

3.3 Copenhagen, Cancun and Durban negotiations

The Copenhagen Conference in 2010 was supposed to agree, *inter alia*, GHG emissions reduction targets to come into effect after the expiry of the 2012

8 UNFCCC, Article 2.

9 UNEP, *The Emissions Gap Report: A Preliminary Assessment* (Nairobi: UNEP, 2010), p. 4.

Kyoto commitment period. It failed to do so. There were serious divisions and a negotiating breakdown. No binding agreement was concluded to replace or extend Kyoto. Only a non-binding 'accord' was adopted, but not as a decision of the Conference of the Parties (COP), and not by consensus of all the states participating. In contrast the subsequent meetings at Cancun and Durban have restored trust in the UNFCCC process and produced concrete results: they reflect far better diplomacy and the absence of high-profile politicians. Consensus was achieved, albeit with Bolivian opposition.

The Copenhagen Accords – essentially voluntary commitments to reduce carbon emissions and undertake other measures – have now been adopted as COP decisions at Cancun. Draft decision-/CP.16 defines, for the first time, a timetable and a precise objective. The parties agree ' … in the context of the long-term goal and the ultimate objective of the Convention and the Bali Action Plan, to work towards identifying a global goal for substantially reducing global emissions by 2050'. Further negotiations are thus required, but they will remain within the framework of the UNFCCC. Moreover there is also agreement:

> that deep cuts in global greenhouse gas emissions are required according to science, and as documented in the Fourth Assessment Report of the Inter-governmental Panel on Climate Change, with a view to reducing global greenhouse gas emissions so as to hold the increase in global average temperature below 2°C above pre-industrial levels, and that Parties should take urgent action to meet this long-term goal, consistent with science and on the basis of equity. …

Here we can see that holding global temperature increase to 2°C has now become the agreed long-term target. This is still 0.5°C higher than the small island states had sought, and it will not prevent harmful effects, but it is – potentially – achievable, albeit not easily.

Cancun does not repudiate the principle of common but differentiated responsibility, but it subtly and significantly changes the terms of the engagement between developed and developing economies. First, all states agree that:

> Parties should cooperate in achieving the peaking of global and national greenhouse gas emissions as soon as possible, recognizing that the time frame for peaking will be longer in developing countries, and bearing in mind that social and economic development and poverty eradication are the first and overriding priorities of developing countries and that a low-carbon development strategy is indispensable to sustainable development.

There is a longer timescale for developing states, but both developed and developing states have now made commitments to do more, albeit in different terms. For Annex I parties the commitment is to make 'quantified economy-wide emission reduction targets to be implemented by Parties included in Annex I

to the Convention as communicated by them and contained in document FCCC/SB/2010/INF.X4'. Translated into plain English the developed states have undertaken to reduce GHG emissions by the amount indicated by them as part of the Copenhagen Accord. These are not multilaterally agreed targets, unlike Kyoto; instead, each party has determined the level of its own reductions.[10]

Second, the more important departure from Kyoto is that developing state parties, including China, for the first time accept a commitment to reduce their own emissions: 'developing country Parties will take nationally appropriate mitigation actions in the context of sustainable development, supported and enabled by technology, financing and capacity-building, aimed at achieving a deviation in emissions relative to business as usual emissions in 2020'. This is less precise than the commitments made by Annex I parties, but it is more than non-Annex I parties are required to do by Kyoto. To that extent common but differentiated responsibility no longer means no emissions reductions by developing states: it means a commitment to different levels of reduction at different speeds.[11] The agreement on REDD (Reducing Emissions from Deforestation and Forest Degradation in Developing Countries) is also significant for the same reason.

Third, and equally importantly, the parties agreed:

> to establish a process for international assessment of emissions and removals related to quantified, economy-wide emissions reductions targets in the Subsidiary Body for Implementation, taking into account national circumstances, in a rigorous, robust and transparent manner, with a view to promoting comparability and building confidence.

Put simply, there will now be international monitoring and verification of national commitments to reduce GHG emissions. This is perhaps the most important achievement at Cancun since it will provide some mechanism for ensuring that all parties comply with what has been agreed.

The Durban conference finally moved the negotiating process back to the question of what happens after the current Kyoto Protocol emissions reduction period expires later this year. There are three important decisions. First, the

10 Among the more important but heavily conditional GHG emissions reduction 'commitments' are the following: Australia: 5 per cent unconditionally or 25 per cent by 2020 if further agreement; Belarus: 5–10 per cent if access to technology etc; Canada: 17 per cent aligned with US if legislation enacted; EU: 20 per cent unconditionally or 30 per cent conditionally; Japan: 25 per cent if comprehensive agreement; Russia: No specific target – range of reductions 'will depend on' various conditions; Ukraine: 20 per cent, if agreement among Annex I parties; USA: 'In the range of' 17 per cent against a base year of 2005, subject to legislation (which has not been passed).

11 Commitments include: China: 40–50 per cent per unit of GDP by 2020, and an increase in forests and non-fossil fuels; Brazil: 36–38 per cent by 2020 through reduced deforestation, new farming practices, energy efficiency and alternative fuels; India: 20–25 per cent voluntary reduction by 2020 (base year 2005); South Africa: 34 per cent reduction by 2020 and 42 per cent by 2025, depending on financial support/technology transfer etc., and the conclusion of a binding agreement.

parties agreed to a second Kyoto commitment period which will last either five (2013–17) or eight (2013–20) years, but without Japan, Russia and Canada. Second, they initiated the negotiation of a 'protocol, another legal instrument or an agreed outcome with legal force' applicable to all Parties to the Convention. The new protocol will enter into force in 2020 and address, *inter alia*, mitigation, adaptation, finance, technology transfer, transparency and capacity-building. Third, the gap between commitments made and commitments needed to meet the 2°C target would be addressed by further negotiations in the years before the new agreement comes into force. There are significant ambiguities here, and further negotiations are still required to finalise the new protocol and agree on additional commitments. But this does move the process beyond Cancun.

It nevertheless remains true that we are still a long way from doing enough to stabilise the situation at a 2°C increase. The key question continues to be whether China and the US will do more domestically to drive down global emissions much faster than at present. The US Congress has shown no interest in doing so, but China appears more serious about the commitments it has made. An economic boom would rapidly negate the current modest progress, however.

3.4 Institutional problems: the negotiating framework

The UNFCCC and the Kyoto Protocol are simply treaties – legally binding agreements between participating states that create what is in effect a free-standing international regulatory regime. The key institutional element of that regime is the Conference or Meeting of the Parties (MOP) which provides a political forum for negotiating more detailed rules and commitments. The most important of these is obviously the Kyoto Protocol, which itself follows the same institutional arrangements. These bodies operate outside the formal structure of the UN system or any other international organisation. They are neither UN specialised agencies like the International Maritime Organization (IMO) nor UN programmes like UNEP. Rather, they operate as autonomous intergovernmental structures whose competence is neither exclusive nor comprehensive, but is limited to regulating climate change.

The UNFCCC negotiating model involves universal participation and negotiation by consensus, rather than voting on the text. The benefit of this model is that it allows complex, comprehensive and inclusive agreements to be negotiated, relying on the 'politics of interdependence' that characterises regulation of world trade, the oceans, or the global environment. This model was successful at Rio and Kyoto, but it is does not always work, and it has not worked smoothly in the current phase of negotiations on climate change.

Participation in the UNFCCC regulatory process is open to all members of the UN system (UNFCCC, Art. 20). In theory any state can stay outside the regime: there is no compulsion to become a party. In practice participation is nearly universal. At the time of writing there were 192 parties to the

UNFCCC[12] and only three UN Member States were not parties but participated as observers: Andorra, Somalia and Iraq. Taiwan was the only significant non-UN non-party.[13] Diversity of political interests among the participants is a prominent feature of the UNFCCC/Kyoto process. This is not a regime that can be understood in terms of a simple split into developed (Annex I) and developing states (non-Annex I). While the major developed states are nearly all members of the Organisation for Economic Cooperation and Development (OECD), they disagree over climate policy. Many developing state parties have little in common. Notable examples are the small islands states which may disappear with sea-level rise and the Arabian oil producers with a vested interest in pumping more fossil fuels. The main groupings within the system include the Association of Small Island States (AOSIS) (43 states), least developed countries (49 states), the EU (27 states), the group of 77 (developing countries plus China), the Umbrella Group of non-EU developed states (which includes Canada, Australia, Japan, Russia, Ukraine and US), the 'environmental integrity group' (Mexico, Korea, Switzerland, Liechtenstein, Monaco) and 13 OPEC states. Membership of groups is important because only group representatives have access to many of the informal consultations and to the final phase of the negotiations.

The inclusivity of the regime is strengthened by a consensus/package deal negotiating procedure which generates a greater need to engage in diplomacy, to listen, and to bargain than would be the case when decisions are taken by majority vote. A consensus agreement usually entails an interlocking whole or 'package deal' whose integrity is protected by a prohibition on reservations – in effect an all-or-nothing bargain. In essence this means that there is normally no voting and a text is adopted only when states no longer object to the deal as a whole. Bringing the negotiations to that stage requires delicate diplomacy which balances the vital interests of all the main groups in the negotiations. Every group of states has to be accommodated in this process – none can be ignored. Powerful states or groups of states cannot simply dictate what should be in an agreement without risking ultimate breakdown. The concerns of small or otherwise insignificant states have to be accommodated. This explains the influence of AOSIS during the original UNFCCC negotiations, but also the need to keep the United States on board during the current negotiations.

Processes of the kind just described tend to enhance the legitimacy of what has been agreed and make it more likely that states will comply, but they also make it harder to reach agreement. The failure of the Copenhagen negotiations in 2009 shows that consensus requires compromises that may be unobtainable, or may result in a text that is weaker or more ambiguous than some states are prepared to accept. Negotiations can only proceed at the pace of the slowest learner. There is little doubt that it is quicker and easier to negotiate a new

12 This includes the EU and two non-UN members (Niue and Cook Islands).

13 The Holy See participates as an observer.

text by majority vote, but also little point. If global problems require global solutions then the process must be capable of delivering globally. Even two-thirds majorities are not enough for that purpose if some key states are in the minority, and that is why the climate regime is not in principle a process of majority decision-making. But if the compromises necessary to engineer consensus cannot be reached then nothing will be agreed, and some way must be found to overcome that outcome. For that reason the option of adopting a text by majority vote is normally retained as a fallback if all else fails. Much will then depend on how many states are in the minority and how important their participation may be.

Whether to join in a consensus is thus a potentially delicate decision. A state that refuses to do so may find itself ignored, as Bolivia was eventually ignored at Cancun, or it may simply be part of a tiny minority if it forces matters to a vote, a position in which the US regularly finds itself. But if the participation of a state is essential to the deal under discussion then other states may have no option but to keep negotiating if stalemate is to be avoided. Thus, to stand any chance of success, a deal on climate change will have to enjoy the support of the EU, the US, China, India, Brazil, Canada, Australia, Japan, the major oil-producing states, AOSIS and the G77 grouping of developing states. A simple majority of votes will not be sufficient to produce a globally inclusive outcome.

Are there alternatives to a global consensus deal? Possibly, but they all have serious drawbacks. The easiest alternative is a coalition of the willing within the OECD – in effect an agreement among the Kyoto Annex I parties. The obvious problem is that the OECD does not include China, India, or Brazil. A G20 agreement is possibly a better model because it includes these states. Nevertheless, even that would probably remain useful only in tandem with UNFCCC negotiations, but the G20 could supply the necessary political input for a broader agreement if it could agree on one.

A more contentious alternative is the creation of an international environmental organisation, based on turning UNEP into something more like the WTO. The fragmented structure of international environmental governance is obvious when viewed from a climate perspective, and it might be thought that regulation of climate change and the co-ordination of international environmental law-making should therefore be the responsibility of a dedicated international environmental organisation. Proposals to create such a body or to turn UNEP into a UN specialised agency have not so far found the necessary support, but the idea has not gone away and it remains strongly supported by some states, most notably France and Germany. The main arguments in favour are essentially bureaucratic. First, it is said that UNEP's standing, funding and political influence would be enhanced. Second, co-ordination and policy coherence would be improved if it hosted the secretariats of the major environmental treaties. This could reduce overlaps and duplication, while improving effectiveness. Protagonists rightly point to fragmentation of existing structures, the relative weakness of UNEP as the principal UN body with

general environmental competence and the powerful focus the International Monetary Fund (IMF), the World Bank and the WTO bring to economic development. Several models are canvassed by those in favour. The most radical would merge existing bodies into a powerful new intergovernmental environmental organisation with decision-making and enforcement powers. A less radical vision would merge existing environmental institutions and treaties into a new organisation similar to the WTO. The least radical choice would simply upgrade UNEP into a UN specialised agency rather like the IMO.

Sceptics remain unconvinced by some of these arguments. To them a new environmental organisation is politically unrealistic and would not be any better at securing the necessary decisions. Insofar as reform is necessary to enhance the efficiency of the present eclectic system, they favour a simple clustering of MEAs within UNEP and greater efforts to co-ordinate international action.[14] A UN environment agency could not monopolise the field. It could not take over the environmental responsibilities of other specialised agencies, such as the Food and Agriculture Organization or the IMO: the work of these bodies has an important climate change dimension which cannot be separated from their general responsibilities. Nor is it evident how co-ordination of environmental treaty regimes would be any easier under a specialised agency. States are no more likely to negotiate or revise climate agreements under a new agency than they are at present, and the agency could not impose change unless given unusual powers. There may well be efficiencies to be gained from a 'clustering' of secretariat services and non-compliance procedures within UNEP. Certainly, there is a need for a system that can ensure the integration of environmental and development objectives in a more balanced and efficient manner,[15] but a more centralised, bureaucratic and entrenched institution may be less likely to influence the system as a whole, or to facilitate the cross-sectoral integration that the UN's Agenda 21 seeks to promote.

It is thus far from obvious that this idea represents a viable alternative to the present system, whether for regulation of climate change or in respect of any other environmental topic. The WTO has not succeeded in negotiating a deal in the current Doha trade round. It is hardly a good model for regulating an even more contentious subject. A new environmental organisation could work if given sufficient power and resources, but that is most unlikely to happen.

That leaves the UN as the only existing body with the potential to influence the UNFCCC negotiating process effectively. The main asset of the UN General Assembly (UNGA) is its universality, but if consensus cannot be achieved

14 All of these are arguments are comprehensively addressed in F. Biermann and S. Bauer, *A World Environment Organization* (Aldershot: Ashgate, 2005). On clustering see K. Von Moltke, 'On Clustering International Environmental Agreements', in G. Winter (ed.), *Multilevel Governance of Global Environmental Change* (Cambridge: Cambridge University Press, 2006), pp. 409–29.

15 J. Ayling (1997) 9 *JEL* 243, at p. 268; W. Chambers (ed.), 'Serving Many Voices: Progressing Calls for an International Environmental Organisation', in *Reforming International Environmental Governance* (New York: United Nations University Press, 2005), pp. 13–39.

through the UNFCCC process it seems unlikely that the UNGA will be any more successful. It would face exactly the same political obstacles. Only the UN Security Council (UNSC) has the necessary status and legal authority to change the mould and legislate for climate change without the consensus agreement of other states. Could the UNSC become an alternative international legislature in order to fill the vacuum left by any failure in the UNFCCC law-making process? Some authors have used the concept of 'environmental security' to envisage a greater role for the UNSC in dealing with environmental threats and emergencies.[16] Measures to promote environmental protection may in some circumstances be necessary for the maintenance of international peace and security, thus giving the UNSC power to take mandatory action under Chapter VII, but 'the language of the Charter, not to speak of the clear record of the original meaning, does not easily lend itself to such an interpretation'.[17] The UNSC has acted cautiously in this respect, using its Chapter VII powers only once in relation to an environmental matter, to hold Iraq responsible in international law for environmental damage inflicted on Kuwait during the 1991 Gulf war.[18] In 2007 it also held its first ever debate on climate change.

Moreover, although the UNSC is not formally a law-making body, since 9/11 it has started to use its mandatory powers to adopt a small number of binding resolutions on anti-terrorism measures laying down general rules for all states.[19] There are some obvious advantages to UNSC law-making rather than the more formal processes of negotiation through the UNGA or a treaty conference. First, all UN Member States are bound to comply with Chapter VII resolutions – there is no room for opt-outs or reservations. Second, such resolutions prevail over other international agreements and they do not have to conform to existing general international law.[20] UNSC law-making could thus enhance the coherence of international law if used appropriately. To that extent the UNSC could become an instrument of law reform, overcoming the problem of the 'persistent objector' in customary law and the 'free-rider' in multilateral treaties.

Nevertheless, to give the UNSC an enhanced role as an international legislator in areas such as climate change would be a tenable option only if the

16 A. Timoshenko, 'Ecological Security: Response to Global Challenges', in E. Brown Weiss (ed.), *Environmental Change and International Law* (New York: United Nations University Press, 1992), ch. 13; L. Elliott, 'Expanding the Mandate of the United Nations Security Council', in Chambers (ed.), *Reforming International Environmental Governance*, but for contrary views see P. Szasz, 'International Norm-making', in E. Brown Weiss (ed.), *Environmental Change and International Law*, pp. 359–61; C. Tinker (1992) 59 *Tennessee LR* 787.

17 Szasz, 'International Norm-making', p. 359.

18 UNSC Res 687.

19 Two striking and unprecedented examples are SC resolutions 1373 (2001) and 1540 (2005) both Chapter VII resolutions passed in the aftermath of the 11 September 2001 attacks in New York and Washington and later atrocities.

20 'The Charter does not provide that decisions … in order to be enforceable must be in conformity with the law which exists at the time they are adopted.' Kelsen, *The Law of the United Nations* (New York: United Nations University Press, 1950), pp. 294–95.

process can be legitimised and made generally acceptable to states. At present it is questionable whether the unreformed UNSC can be said to have the right process to make itself legitimate as a law-making body. Whether viewed in terms of accountability, participation, procedural fairness, or transparency of decision-making, it remains a seriously deficient vehicle for the exercise of legislative competence. It presents a stark contrast to consensus-based treaty negotiations like the UN Convention on the Law of the Sea (UNCLOS) or the UNFCCC, or to the adoption of resolutions by the UNGA. The vast majority of UNGA Member States would in effect be excluded from the law-making process. This may be justifiable in cases where urgent action is required to maintain or restore peace and security, but should the UNGA be excluded even when less urgent law-making is undertaken? Further resort to Chapter VII law-making would also evade national control over the process of treaty ratification and may on that basis be regarded as undemocratic. It has already encountered problems of acceptability before national courts.[21] For all these reasons expansive use of Chapter VII powers by an unreformed UNSC is more likely to be resisted by some states regardless of the binding character of these resolutions.[22]

The problems are obvious if we consider current UNSC membership from the perspective of major GHG emissions: the US, China, Russia are already on the UNSC, but India and Brazil are not permanent members. The EU is fully represented only if Britain, France and the one other EU Member State on the UNSC can present a co-ordinated European position. Most of the other GHG emitters and oil-producing states are only represented in the UNGA: a UNSC law-making process would have to involve UNGA participation to be inclusive.

But if we get the process right then the UNSC could be seen as one way of breaking any deadlock in UNFCCC negotiations. In this context legitimacy, constitutionality and process are intimately connected. The most effective way to engage in UNSC law-making would be to ensure that such resolutions are debated and adopted in UNGA first – before giving them binding force in UNSC. It would also be necessary to maintain and enhance deliberative and transparent processes in both the UNGA and UNSC when such resolutions are under discussion, but there is no reason why observers and accredited NGOs should not be involved at this stage as they are in the UNGA and in the UNFCCC.

Law-making by 15 states for the rest of the world is not attractive or likely to work without broader support. In any event, it would be no use unless the US, Russia, China and Europe could agree on what to do, since they all have a veto over the UNSC. But if they can agree then it is probably unnecessary to

21 Joined Cases C-402/05 P and 415/05 P *Yassin Abdullah Kadi and Al Barakaat International Foundation v Council of the European Union and Commission of the European Communities* [2008] ECR I-6351.

22 See India's opposition to UNSC 1540: Letter from the Permanent Representative of India to the United Nations, addressed to the President of the Security Council, dated 27 April 2004.

resort to the UNSC in the first place. Thus there seems little practical alternative to the present UN negotiating framework, however slow it may be. Cancun and Durban thus offer at least the illusion of progress while holding open the possibility of a future pregnant with possibility.

3.5 Human rights perspectives

The growing environmental caseload of human rights courts – over 20 cases since 2002 – indicates the importance of the topic. In effect a greening of human rights law has taken place. So extensive is the environmental jurisprudence of the European Court of Human Rights (ECtHR)[23] that proposals for the adoption of an environmental protocol to the European Convention on Human Rights (ECHR) have not been pursued.[24] Instead, a *Manual on Human Rights and the Environment* adopted by the Council of Europe in 2005 recapitulates the ECtHR's decisions on this subject and sets out some general principles. It would be wrong to assume that this is simply a European phenomenon, however. The greening of human rights law extends to the Inter-American and African human rights systems, as well as the 1966 UN Covenant on Civil and Political Rights.[25]

Despite their evolutionary character, human rights treaties still fall short of guaranteeing a right to a decent or satisfactory environment if that concept is understood in broader, essentially qualitative, terms unrelated to impacts on specific humans. It remains true, as the ECtHR re-iterated in Kyrtatos, that 'neither Article 8 nor any of the other articles of the Convention are specifically designed to provide general protection of the environment as such'.[26] This case involved the illegal draining of a wetland. Although the applicants were successful insofar as the state's non-enforcement of a court judgment was concerned, the ECtHR could find no violation of their right to private life or enjoyment of property arising out of the destruction of the area in question. Although they lived nearby, the applicants' rights were not affected. They were not entitled to live in any particular environment, or to have the surrounding environment indefinitely preserved.

23 See in particular *Lopez Ostra v Spain* (1994) 20 EHRR 277; *Guerra v Italy* (1998) 26 EHRR 357; *Hatton v UK* [2003] ECHR (Grand Chamber); *Fadeyeva v Russia* [2005] ECHR 376; *Öneryildiz v Turkey* [2004] ECHR 657; *Taskin v Turkey* [2004] ECHR, paras. 113–19; *Tatar v Romania* [2009] ECHR, para 88; *Budayeva v Russia* [2008] ECHR.

24 See Council of Europe: Committee of Experts for the Development of Human Rights, *Final Activity Report on Human Rights and the Environment*, DH-DEV(2005)006rev, Strasbourg, 10 November 2005, pp. 2–3.

25 *Maya indigenous community of the Toledo District v Belize*, Case 12.053, Report No. 40/04, Inter-Am. C.H.R., OEA/Ser.L/V/II.122 Doc. 5 rev. 1 at 727 (2004), para. 150; *Ilmari Lansman et al. v Finland* (1996) ICCPR Communication No. 511/1992, para. 9.4; *Lubicon Lake Band v Canada* (1990) ICCPR Communication No. 167/1984, para. 32.2; *The Social and Economic Rights Action Center and the Center for Economic and Social Rights v Nigeria* (2002) ACHPR Communication 155/96, paras. 52–53.

26 *Kyrtatos v Greece* [2003] ECHR 242, para. 52.

The Inter-American Commission on Human Rights has taken a similar view, rejecting as inadmissible a claim on behalf of all the citizens of Panama to protect a nature reserve from development.[27] In a comparable case concerning objections to the growing of genetically modified crops the UN Human Rights Committee likewise held that 'no person may, in theoretical terms and by *actio popularis*, object to a law or practice which he holds to be at variance with the Covenant'.[28] These cases demonstrate the limitations of civil and political rights as a basis for advancing the general public interest in environmental protection.

Economic and social rights may potentially have somewhat broader environmental implications that could help guarantee some of the indispensable attributes of a decent environment. A 2009 report for the Office of the High Commissioner on Human Rights (OHCHR) emphasises the key point that, 'While the universal human rights treaties do not refer to a specific right to a safe and healthy environment, the United Nations human rights treaty bodies all recognise the intrinsic link between the environment and the realization of a range of human rights, such as the right to life, to health, to food, to water, and to housing.'[29] The UN Human Rights Committee has adopted various General Comments relevant to environmental protection and sustainable development, notably General Comments 14 and 15, which interpret Articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) to include access to sufficient, safe and affordable water for domestic uses and sanitation, the prevention and reduction of exposure to harmful substances including radiation and chemicals, or other detrimental environmental conditions that directly or indirectly impact upon human health.

Would human rights law help us to address climate change or ensure justice for those most affected? Certainly the connection has been noted.[30] In 2009 the UN Human Rights Council adopted Resolution 10/4 (2009) on human rights and climate change:

> Noting that climate change-related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights including, *inter alia*, the right to life, the right to adequate food, the right to the highest attainable standard of health, the right to adequate housing, the right to self-determination and human rights obligations related to access to safe drinking water and sanitation, and recalling that in no case may a people be deprived of its own means of subsistence.

27 *Metropolitan Nature Reserve v Panama*, Case 11.533, Report No. 88/03, Inter-Am. C.H.R., OEA/Ser.L/V/II.118 Doc. 70 rev. 2 at 524 (2003), para. 34.

28 *Brun v France* (2006) ICCPR Communication No. 1453/2006, para.6.3.

29 UN HRC, *Report of the OHCHR on the Relationship Between Climate Change and Human Rights*, UN Doc. A/HRC/10/61, 15 January 2009, para. 18.

30 See generally S. Humphreys (ed.), *Human Rights and Climate Change* (Cambridge: Cambridge University Press, 2009).

However, before concluding that human rights law may provide answers to the problem of climate change, two cautionary observations in the OHCHR Report[31] are worth highlighting:

> [w]hile climate change has obvious implications for the enjoyment of human rights, it is less obvious whether, and to what extent, such effects can be qualified as human rights violations in a strict legal sense.
>
> (para. 70)

> (…)human rights litigation is not well-suited to promote precautionary measures based on risk assessments, unless such risks pose an imminent threat to the human rights of specific individuals. Yet, by drawing attention to the broader human rights implications of climate change risks, the human rights perspective, in line with the precautionary principle, emphasizes the need to avoid unnecessary delay in taking action to contain the threat of global warming.
>
> (para. 91)

On the view set out here, a human rights perspective on climate change essentially serves to reinforce political pressure coming from the more vulnerable developing states. Its utility is rhetorical rather than juridical. Governments obviously have a legal responsibility towards their own population at least to help them adapt to or mitigate harmful impacts of climate change. But this essentially domestic, internally focused perspective does not address the larger global issue of preventing climate change – it merely assists with amelioration of harm to particular individuals and communities within a state's own borders.

The more difficult question is whether GHG emitters have a legal responsibility to protect people in *other* states from the harmful impacts of those emissions on the global climate. Human rights treaties generally require a state party to secure the relevant rights and freedoms for everyone within its own territory or subject to its jurisdiction.[32] The question whether these treaties can have extra-territorial application is for that reason a difficult one. There are some precedents in favour but mainly where a state is in control of territory or there is a 'common legal space'.[33] Even if this reasoning is correct in cases of transboundary pollution affecting a neighbouring state,[34] it does not follow

31 UN HRC, *Report of the OHCHR on the Relationship between Climate Change and Human Rights*.

32 1950 European Convention on Human Rights, Article 1; 1966 UN Covenant on Civil and Political Rights, Article 2.

33 See, e.g., *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion,* ICJ Reports 2004, para. 109; *Ecuador v. Colombia (Admissibility)* [2010] IACHR Report No.112/10, paras. 89–100; *Cyprus v Turkey* [2001] ECHR No.25781/94; *Loizidou v Turkey (Preliminary Objections)* [1995] ECHR Sers. A/310, para. 87; *Loizidou v Turkey (Merits)* [1996-VI] ECHR, para. 52. Contrast *Bankovic v Belgium and ors.* [2001] ECHR No. 52207/99.

34 The question arises in the *Aerial Spraying Case (Ecuador v Colombia)* currently (2011) awaiting a hearing in the ICJ.

that it will be equally valid in cases of global environmental harm, such as climate change. Here the obvious problem is the multiplicity of causes and states contributing to the problem, and the difficulty of showing any direct connection to the victims. The inhabitants of sinking islands in the South Seas may justifiably complain of human rights violations, but who is responsible? Those states like the UK, US and Germany whose historic emissions have unforeseeably caused the problem? China and India whose current emissions have foreseeably made matters worse? The US or Canada, which have failed to agree to, or to take adequate measures to, limit further emissions, or to stabilise global temperatures at 1990 levels? At this point it may be better to accept, as the OHCHR appears to have done, that human rights law is not the right medium for addressing a shared global problem of this kind and that further negotiations through the UNFCCC process are the only answer.

3.6 Law of the Sea perspectives

For low-lying states and small islands, sea-level rise and changes in the marine ecosystem are the most immediate threats posed by climate change. The 1982 UNCLOS provides a fairly comprehensive regime for the protection and preservation of the marine environment and the prevention, reduction and control of marine pollution damage to other states. Its provisions are increasingly relevant to climate change insofar as GHG emissions cause marine pollution and harm the marine environment. In particular, Article 192 provides that 'States have the obligation to protect and preserve the marine environment'. The 'marine environment' for this purpose includes 'rare and fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life'.[35] In addition, states parties to UNCLOS also have an obligation under Article 117 to conserve 'the living resources of the high seas'. The latter phrase certainly covers fish and marine mammals.[36] Later treaties, such as the 1992 Convention on Biological Diversity, suggest that, consistently with the objects and purposes of UNCLOS,[37] Part XII can readily be interpreted to cover protection of marine biodiversity in general, and conservation of coral reefs in particular.[38] The obligation of states is thus not confined to the protection of economic interests, private property or the human use of

35 Article 194(5).

36 See references to fisheries organizations, fishing patterns, and marine mammals in Articles 118–20.

37 See in particular the preambular paragraphs: 'Recognizing the desirability of establishing through this Convention, with due regard for the sovereignty of all States, a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment … '

38 In *Import Prohibition of Certain Shrimp and Shrimp Products*, WTO Appellate Body (1998) WT/DS58/AB/R, at paras. 130–31, the WTO Appellate Body interpreted the phrase *'exhaustible natural resources'* in the GATT Agreement by reference *inter alia* to the 1992 Convention on Biological Diversity.

the sea implied in the Convention's definition of 'pollution'.[39] Part XV provides for compulsory settlement of UNCLOS disputes by a variety of international courts and tribunals, and this may give weaker states with limited influence in negotiations the opportunity to exert greater pressure on GHG emitters through litigation.

Atmospheric deposition of CO_2 into the marine environment arguably falls within the terms of Article 192 and the subsequent provisions of Part XII. It may be that other greenhouse gases are also relevant, but CO_2 appears to be the most important and to have the greatest impact on the health of the oceans. Article 194 requires states to take measures necessary to prevent marine pollution 'from any source'. There is an indicative list of sources in Article 194(3) which covers, *inter alia*, 'the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping'. While anthropogenic GHG emissions are not specifically listed here, it is entirely plausible to read Article 194(3) as covering atmospheric depositions of CO_2 resulting in marine pollution. A significant proportion of marine pollution already comes from airborne depositions, and it has never been suggested that this is excluded from UNCLOS. If there were any doubt about this, reference could also be made to Article 207 on land-based sources of marine pollution. Article 212 would cover CO_2 emissions from ships or aircraft, although it might be argued that it goes no further than that. Taken together, Articles 194 and 212 appear to cover all airborne sources of marine pollution comprehensively, including GHGs.

These CO_2 emissions have caused marine pollution. Article 1(1)(4) of UNCLOS defines 'pollution of the marine environment' to include the introduction of *substances* or *energy* resulting in harm to the marine environment. CO_2 emissions appear to have resulted in the deposition of excess anthropogenic carbon into the oceans, altering their chemistry, and making them more acidic.[40] They also appear to have added 'energy' to the oceans, either directly by causing ocean temperatures to rise, or indirectly by melting ice caps and glaciers, resulting in sea-level rise. Evidence evaluated in reports from various UN specialised agencies has shown that these depositions have caused or are likely

39 Article 1(1)(4), on which see below.

40 The surface ocean absorbs around one quarter of the carbon dioxide emitted to the atmosphere. 'As more … anthropogenic CO2 has been emitted into the atmosphere, the ocean has absorbed greater amounts at increasingly rapid rates' (CBD, *Scientific Synthesis of the Impacts of Ocean Acidification on Marine Biodiversity*, CBD Technical Series no. 46, p. 9). 'Ocean uptake of CO2 … from increasing atmospheric CO2 concentrations, reduces surface ocean pH and carbonate ion concentrations. … ' As a result, ' … the oceans are becoming increasingly acidic, jeopardizing marine biodiversity and even entire ecosystems (e.g. coral reefs)' (IOC/UNESCO, *Building Stewardship for the Ocean: The Contribution of UNESCO to Responsible Ocean Governance, Our Changing Oceans: Conclusions of the First International Symposium on the Effects of Climate Change on the World's Oceans (Gijon, 2008)*, *ICES Journal of Marine Science Advance* Access (4 June 2009) pp. 1–4, at p. 1.). See generally, M. Allsopp *et al*., *State of the World's Oceans* (Dordrecht: Springer, 2009), ch. 5.

to cause the kind of harmful effects listed in Article 1(1)(4).[41] Typical damage that has been identified includes sea-water intrusion affecting freshwater aquifers and inundating coastal areas, causing disruption of family life for those who live on affected coastlines. There is also economic loss to coastal communities resulting from depleted fish stocks, coral bleaching and loss of marine biodiversity resulting from higher temperatures and acidification. Sea-level rise may in extreme cases result in internal displacement of populations or even wholesale abandonment of islands or territory. Low-lying countries such as Bangladesh are particularly vulnerable.

Article 194(2) of UNCLOS is directed at protecting *other states* from marine pollution damage. It is particularly pertinent to climate change insofar as states are required to take measures to control and regulate polluting 'activities' within their jurisdiction. Examples of such activities would include industrial installations which generate CO_2, power generators that use oil or coal, oil extraction industries, coal-mining, or possibly deforestation. This does not mean that corporate polluters would be responsible under the Convention, or that the contribution of each plant would have to be quantified. The Convention does not address private parties directly. But it does make state parties responsible under Article 194 for regulating and controlling the risk of marine pollution damage to other states resulting from the activities of the private sector. Fundamentally this is an obligation of due diligence – states must take the measures necessary to prevent or minimise harmful pollution, including environmental impact assessment, regulation and use of best available technology, application of the precautionary principle and enforcement.[42] On that basis states have an obligation to control and reduce CO_2 emissions from any source likely to pollute the marine environment and cause harm to other states.

The standard of conduct set by Articles 194 and 212 is very general – 'prevent, reduce and control' – and it does not imply that all pollution must be prevented, nor that anthropogenic CO_2 emissions must cease immediately, or even eventually. Measures that gradually reduce pollution and that result in meaningful lowering of carbon emissions over a period of time would be sufficient. The UNFCCC would be relevant when interpreting and applying both articles.[43] In particular, Article 2 talks about *stabilising* GHG concentrations at a level that would prevent 'dangerous anthropogenic interference with the climate system'. It does not talk about eliminating or reducing them. It envisages a timescale 'sufficient to allow ecosystems to adapt naturally to climate change, to ensure

41 CBD, *Scientific Synthesis of the Impacts of Ocean Acidification on Marine Biodiversity*; FAO, *Fisheries Report No. 870: Report of the FAO Expert Workshop on Climate Change Implications for Fisheries and Aquaculture* (Rome: FAO, 2008); IPCC, *Climate Change 2007: Synthesis Report* (Geneva: IPCC, 2008).

42 ILC, 2001 Articles on Prevention of Transboundary Harm, Article 3 and commentary, *ILC Report* (2001) GAOR A/56/10, 391–95, paras. (7) – (17); *Pulp Mills on the River Uruguay*, 2010 ICJ Reports, paras. 197 and 223; *Advisory Opinion on Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, 2011 ITLOS Seabed Disputes Chamber, paras. 115–20.

43 In accordance with Article 31(3)(c) of the 1969 Vienna Convention on the Law of Treaties.

that food production is not threatened and to enable economic development to proceed in a sustainable manner'. It does not talk about immediate results. At the same time, given the scientific uncertainty and the risk of serious and irreversible harm to the marine environment posed by climate change, the measures taken must be adequately precautionary. Article 3(3) of the UNFCCC says that parties 'should' take precautionary measures to anticipate, prevent or minimise climate change and mitigate its effects. Plainly, if there is evidence of a risk of serious or irreversible harm to the marine environment, application of the precautionary principle would strengthen the argument for saying that more should be done to reduce CO_2 emissions.

The most obvious way of showing a failure to take the measures required by Articles 192 and 194 is to argue that the Kyoto Protocol sets a standard for giving effect to these provisions – that, in other words, UNCLOS developed state parties must comply with their emissions reduction targets under the Kyoto Protocol. This argument thus presents a very clear pathway through which compliance with Kyoto's CO_2 emissions reduction standards could be litigated in UNCLOS proceedings. Of course it would have to be shown that Kyoto parties have not complied with their emissions reduction commitments. It is quite likely that most of the Annex I states will meet their Kyoto emissions targets by 2012: only Canada currently stands out as likely to be in breach.

Kyoto does not set specific standards for CO_2 emissions by the aviation or shipping industries. Article 2(2) provides:

> The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively.

As noted earlier, Article 212 requires states to control atmospheric pollution from ships and aircraft and it provides a basis for reducing CO_2 emissions from these industries. The interaction of this provision with Kyoto Article 2(2) is problematic. On the one hand, Article 2(2) does not exempt aviation and shipping from controls on CO_2 emissions. On the other, it envisages negotiations and further measures within the relevant international organisations. A resolution on reduction of aviation emissions of CO_2 was adopted by the International Civil Aviation Organization (ICAO) in 2010.[44] Regulations on CO_2 emissions from ships were adopted by the IMO in 2011.[45]

The argument that Kyoto sets a standard for giving effect to UNCLOS Part XII is even less useful against developing states, or against developed states that are not parties to Kyoto. Developing states parties to Kyoto have no obligation to

44 ICAO resolution A37–19 (2010). The EU has extended its emissions trading scheme to aviation.

45 The Marine Environment Protection Committee of the IMO adopted amendments to MARPOL Annex VI, with entry into force on 1 January 2013, making the Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Management Plan (SEEMP) mandatory subject to certain conditions.

reduce GHG emissions, even if like India and China they are large emitters of CO_2. They will still be in compliance with Kyoto even if their CO_2 emissions have greatly increased since 1997. They would not be in breach of UNCLOS Articles 192 and 194 if Kyoto defines the content of those articles. With regard to the US, which is not a party to Kyoto or UNCLOS, it might be argued that it is bound by customary law to apply internationally agreed standards on CO_2 reductions in order to give effect to their obligation to protect the marine environment and other states from pollution.[46] But the obvious difficulty is that developed state parties to Kyoto have different percentage reductions targets, and in some cases they are permitted to increase emissions. Taking Kyoto as a standard of diligence for non-parties simply begs the question – what standard and for whom?

An additional argument is that compliance with Kyoto is not enough to satisfy the requirements of UNCLOS Part XII – that the two agreements are wholly unrelated, and that UNCLOS is the more demanding, especially if interpreted by reference to the precautionary approach and the duty of due diligence referred to earlier. This is an attractive argument precisely because it would set a common higher standard for CO_2 emissions reductions for all developed states and would address the obvious inadequacy of the Kyoto emissions reduction commitments. Marine pollution will worsen even if every party complies with Kyoto in full, since GHG emissions overall will still continue to rise – they will simply do so less quickly. If the evidence of serious or irreversible harm to the marine environment is good enough then surely we could say that stronger precautionary measures must not be postponed?

Attractive though this may be as an argument, the counter-arguments are considerably easier to make. There is first the *lex specialis* problem. Can it plausibly be claimed that UNCLOS regulates climate change impacts on the oceans in splendid isolation from Kyoto? Other marine pollution agreements are directly relevant to the interpretation and application of Part XII obligations, including the 1973/78 International Convention for the Prevention of Pollution from Ships (MARPOL Convention) and the London Dumping Convention. Why should Kyoto be different? The argument that compliance with agreed standards of pollution control (such as Kyoto) is not enough to satisfy the more general duty of due diligence has been tried and, so far, it has not been successful. Ireland made precisely that argument, based on UNCLOS, in the *Mox Plant Case*. The point was never decided for jurisdictional reasons, but Ireland's case received no support from the European Commission whose job it is to enforce European treaties against Member States.[47] More recently, Argentina made the same argument unsuccessfully before the ICJ in the *Pulp Mills*

46 In other contexts the US has accepted that UNCLOS reflects the customary international law of the sea, by which it is bound.

47 As the ECJ subsequently made clear, that court has exclusive jurisdiction over a dispute involving two EU Member States and a treaty to which what was then the EC is a party and in respect of which it has competence: Ireland had thus violated the duty of co-operation under EU law by bringing Annex VII proceedings. See Case C-459/03 *Commission of the European Communities v. Ireland* [2006] ECR I-4635.

Case.[48] Both developed and developing state parties would undoubtedly point to Article 193 of UNCLOS, which refers to their 'sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment.' This would be interpreted as a reference to the right to sustainable development, in accordance with the case law of the ICJ.[49] Fundamental to the ICJ's case law is the balancing of interests that must take place when environmental matters are involved. Taking these decisions into account, and the two previous points, it seems very likely that any tribunal would view reduction of GHG emissions as an exercise in balancing continued economic development against environmental protection, and that it would be reluctant to require more of states than they have agreed to under Kyoto, or under Article 2 of the UNFCCC, which refers to enabling 'economic development to proceed in a sustainable manner.' This approach would not be helpful to states trying to argue that compliance with Kyoto is not enough in order to fulfil UNCLOS obligations.

The final point to consider is whether the decisions reached at Copenhagen, Cancun and Durban, summarised in the third section of this chapter, change the position under UNCLOS. It seems unlikely that they do. None of the 'commitments' made in any of these venues is binding on states, and they are lacking in the kind of precision that would normally be necessary in order to show that new international standards for preventing marine pollution have been agreed. The most that might be said is that there is now consensus on holding the global temperature increase to 2°C as the agreed long-term target, and that measures must be taken under UNCLOS to meet that target in respect of the marine environment. Much will depend at this point on how far – and whether – states set about implementing the Copenhagen/Cancun/Durban Accords. The more they do so the stronger an argument based on UNCLOS becomes.

The relationship between UNCLOS and climate change is not clear-cut, despite its obvious importance. Nevertheless, it is doubtful whether viewing climate change through the law of the marine environment greatly alters the overall picture. At best it provides a vehicle for compulsory dispute settlement notably lacking in the UNFCCC regime. Realistically, while UNCLOS may import any newly agreed standards for the control of GHGs, it is not a substitute for further agreement.

3.7 Trade law perspectives

The WTO has no specific mandate to protect the environment, but the preamble to the 1994 Marrakesh Agreement establishing the WTO acknowledges that expansion of trade must allow for 'the optimal use of the World's resources in

48 ICJ Reports (2010).

49 *Gabčíkovo-Nagymaros Dam Case* (1997) ICJ Reports 7, para. 140; *Iron Rhine Railway Arbitration* (2005) PCA, paras. 58–59; *Pulp Mills Case (Provisional Measures)(Argentina v Uruguay)* (2006) ICJ Reports, para. 80; *Pulp Mills Case (Merits)* (2010) ICJ Reports, para. 177.

accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development'. To that extent protecting the world from climate change is a legitimate concern of those charged with developing and applying WTO law. Nevertheless, the problem of entrenched and competing institutional values is well illustrated by the interaction of WTO law and the UNFCCC regime. Reflecting the objectives of the WTO, a commitment to an 'open international economic system' is expressed in Article 3 of the UNFCCC. Yet it is the lack of GHG emissions controls on developing states that has in effect enabled developed states to export GHG production to China, India, Brazil and other developing states.[50] By doing so they have neatly evaded the emissions constraints placed on Annex I developed states by the Kyoto Protocol. Those constraints focus on emissions of GHGs within the country concerned; they ignore emissions generated by goods produced elsewhere that are then imported.[51] As we saw earlier, the EU's consumption of GHGs has in fact increased since 1990, because of imports from China and other developing countries. In that sense free trade and the globalisation of production and transport have exacerbated the difficulty of regulating GHG emissions. It is an obvious question whether a post-Kyoto accord can sustain this bargain unaltered – doing nothing about trade will certainly make climate change harder to solve. At the very least it may be necessary to factor imports from non-Annex I countries into Annex I GHG reduction commitments, but it also raises larger questions about whether WTO rules on free trade can survive if we want to get serious about oil and coal consumption or deforestation.[52]

Article XX of the GATT allows for national exceptions from the principle of free trade. There is no reference to the environment as such, but two provisions are broad enough to cover certain environmental problems: Article XX (b), which allows for measures 'necessary to protect human, animal or plant life or health', and Article XX (g), which allows for measures 'relating to conservation of exhaustible natural resources'. Both exceptions are subject to the requirement that the measures taken must neither be 'arbitrary or unjustifiable discrimination', nor 'a disguised restriction on international trade'.[53] Article XX(b) was relevant in the Asbestos Case, where the Appellate Body held that a measure is 'necessary' for the protection of public health if no

50 Brinkley and Less, *Carbon*.

51 Contrast the Montreal Protocol to the Ozone Convention, which regulates both production and consumption of ozone-depleting substances across all of its parties. This effectively prevented the outsourcing of production. The Kyoto negotiators could not reach agreement on a similar approach.

52 See S. Barrett, *Climate Change and International Trade: Lessons on their Linkage from International Environmental Agreements* (Geneva: CTEI, 2010); UNEP/WTO, *Trade and Climate Change* (Geneva: UNEP/WTO, 2009).

53 Article XX, *chapeau*.

GATT-consistent alternative is reasonably available and provided it entails the least degree of inconsistency with other GATT provisions.[54] However, it is for each Member State to determine what level of protection it wishes to require, provided it can demonstrate a risk to health: 'we note that it is undisputed that WTO Members have the right to determine the level of protection of health that they consider appropriate in a given situation'.[55] It seems clear that climate change is or will become a risk to human health, as evidenced by the following extract from the above-mentioned 2009 OHCHR Report on the relationship between climate change and human rights:

> 32. Climate change is projected to affect the health status of millions of people, including through increases in malnutrition, increased diseases and injury due to extreme weather events, and an increased burden of diarrhoeal, cardiorespiratory and infectious diseases. Global warming may also affect the spread of malaria and other vector borne diseases in some parts of the world. Overall, the negative health effects will disproportionately be felt in sub-Saharan Africa, South Asia and the Middle East. Poor health and malnutrition increases vulnerability and reduces the capacity of individuals and groups to adapt to climate change.[56]

Climate change is equally obviously a threat to exhaustible natural resources.[57] Article XX (g) has been considered in several cases, most notably the *Shrimp–Turtle* decision of the Appellate Body. Its significance for the climate change appears to be as follows. First, 'exhaustible natural resources' may be living or non-living, and need not be either rare or endangered. Thus the term potentially covers, *inter alia*, forests, biodiversity, terrestrial and marine living resources, and the quality of air and water.[58] Second, national measures will be accepted under Article XX if they are reasonably related to the purpose of protecting exhaustible natural resources. Third, the measures in question may relate to natural resources located intra- or extra-territorially, i.e. in the oceans. Fourth, in the case of resources which are shared or common property and where there is therefore a duty under general international law to cooperate in conservation and management, unilateral trade restrictions are more likely to be regarded

54 See *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R (2001), at paras 155–75.

55 *Ibid*., para 168.

56 UN HRC, *Report of the Office of the United Nations High Commissioner for Human Rights on the Relationship Between Climate Change and Human Rights*, GAOR A/HRC/10/61, 15 January 2009, citing IPCC, *Climate Change 2007: Synthesis Report* (Geneva: IPPC, 2008) p. 48. Footnotes omitted.

57 CBD, *Scientific Synthesis of the Impacts of Ocean Acidification on Marine Biodiversity*, CBD Technical Series no. 46; FAO, *Fisheries Report No. 870: Report of the FAO Expert Workshop on Climate Change Implications for Fisheries and Aquaculture* (Rome: FAO, 2008); IPCC, *Climate Change 2007: Synthesis Report* (Geneva: IPCC, 2008).

58 In *Standards for Reformulated Gasoline,* WT/DS2/AB/R (1996), the WTO Appellate Body found that clean air is 'an exhaustible natural resource'.

as arbitrary or discriminatory for the purposes of Article XX if the state concerned has not first sought a cooperative solution through negotiation with other affected states. This requirement can be observed in Principle 12 of the 1992 Rio Declaration and in the *Shrimp–Turtle* decision, where the failure of the US to negotiate disabled it from relying on Article XX.[59] It seems probable that the same requirement of prior negotiation would apply to unilateral measures intended to prevent climate change causing harm to natural resources. Fifth, there was 'arbitrary discrimination' because US law required a 'rigid and unbending … comprehensive regulatory program that is essentially the same as the US programme, without inquiring into the appropriateness of that program for the conditions prevailing in the exporting countries'.[60] Moreover, the Appellate Body found that the GATT requires 'rigorous compliance with the fundamental requirements of due process' with respect to exceptions to treaty obligations.[61]

Resort to unilateral measures is thus heavily circumscribed but the *Shrimp–Turtle* decision by implication suggests that they are permitted if the other party rejects good faith attempts at negotiation, provided the measures in question comply with the *chapeau* to Article XX. What is less clear is whether unilateral measures are also permitted where both sides have negotiated in good faith but have simply been unable to reach agreement, for example because they differ in their view of what tackling climate change requires. It is one thing to say that states must cooperate, but what constitutes a failure to cooperate?

This is a special problem in climate law. There are legitimate differences of opinion on what measures should be taken to address climate change, how soon they should begin to operate and whether they should be in a form binding on all states or only on developed states. The idea that Europe or any other party could resort to unilateral trade sanctions under GATT Article XX if climate negotiations fail is tenable only if it can be shown that the other party has failed in its obligation to cooperate. Assuming a challenge to the legality of unilateral measures the decision must, in such a case, be made by the WTO Dispute Settlement Body. In its *Shrimp–Turtle Art 21.5* decision the Appellate Body held that:

> The conclusion of a multilateral agreement requires the cooperation and commitment of many countries. In our view, the United States cannot be held to have engaged in 'arbitrary or unjustifiable discrimination' under Article XX solely because one international negotiation resulted in an agreement while another did not.[62]

59 *US – Import Prohibition of Certain Shrimp and Shrimp Products*, WTO Appellate Body (1998) WT/DS58/AB/R, paras. 168–72.

60 *Ibid.*, para. 177.

61 *Ibid.*, para. 182.

62 *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, *Recourse to Article 21.5*, WT/DS58/AB/RW (2001), p. 37.

The threshold test of arbitrary and unjustifiable discrimination is unlikely to be passed by a mere breakdown in *bona fide* negotiations.

Even if the conditions for resort to unilateral trade sanctions are found to exist however, the real problem with using them to pressurise reluctant states into reducing GHG emissions is that this would represent a desperate last resort. They might work against an oil-exporting state like Saudi Arabia, but could Europe really use them against China or the US? The only likely outcome would be a trade war. Legally, it might be possible in certain circumstances. Politically, it seems only likely to worsen relations.

3.8 Conclusions

International law cannot solve the problems posed by climate change, neither can international litigation. At best, international regulation based on the UNFCCC and the Kyoto Protocol provides a good basis for co-ordinated action by governments and the private sector, but it can only be effective to the extent that politicians allow it to be. The fundamental challenge is to secure a strong commitment from all parties to take the necessary measures, and therein lies the core of the problem. A global solution requires near global consensus if it is to work, and that has come only slowly and reluctantly on the part of some key states. The challenge at this point is essentially political rather than legal. For all of the reasons set out earlier there seems only limited scope for using human rights law, WTO law or the Law of the Sea as weapons to pressurise governments over climate change. In this context there really is no useful alternative to negotiation, except at the margins or in extreme cases.

While Europe is doing reasonably well at meeting its Kyoto commitments and promoting energy efficiency, given the modesty of what Kyoto requires that is hardly a surprise. Europe's attempt to lead by example on Kyoto and post-Kyoto negotiations has not been a notable success. Poor European diplomacy and bad negotiating tactics at Copenhagen were rescued by Mexico at Cancun. There is some movement by developing industrialised states, but the developed states are still unable to agree on a common vision of the way forward. The restored consensus is based on a lowest common denominator approach because, as we have seen, there is no viable alternative to consensus negotiations, but it represents only what is politically feasible, not what is scientifically necessary or technologically possible. It remains to be seen whether it generates measures sufficient to restrain global temperature rises to 2°C. Future progress will depend on the US and China, not on Europe, which has largely done all it can.