

THE FUTURE OF THE CLIMATE CHANGE REGIME AN OVERVIEW OF KEY ISSUES

Meinhard Doelle

This draft paper provided as background for the CANet conference in September, 2005 is part of a chapter in a thesis on climate change, compliance and the future of the climate change regime. This particular section considers the future of the climate change regime, reflecting in particular on the current state of the regime, the role of compliance with obligations under the Kyoto Protocol, and some external influences on the climate change regime. Please note that sections of this paper may not make complete sense without the context provided in other chapters. It was not possible to rewrite the paper to make it a stand-alone document. It will hopefully still serve as a useful background document for those particularly interested in the post 2012 debate.

In considering the future of the climate change regime, it is important to keep in mind that the current level of commitment to this issue may in part be a reflection of the level of uncertainty about exact nature of the future impact of climate change, and likely also the fact that the major impacts are generally not expected for some time to come. If this is the case, and the trend in the science continues to be toward greater certainty that human activities are causing climate change, one would expect that by 2012 to 2015, the perception about the importance of climate change, the urgency of addressing climate change, and the consequences of not addressing climate change in an internationally coordinated manner will be much higher than it is now.

This means that the pressure on countries to meet their obligations will likely be much higher in 2012 to 2015 than it is now. As a result, decisions about whether to purchase credits during the true up period to come into compliance with first commitment period obligations, for example, will likely be made in a very different context than the context within which the Kyoto Protocol and the compliance system were negotiated.

As we move from compliance with Kyoto to the future of the climate change regime, any analysis will have to consider the principles on the basis of which future rights and obligations might be distributed. This was an issue that was heavily debated during the negotiations on the Kyoto Protocol, but never resolved, resulting in pledge based rather than principle based targets for Kyoto.¹ The principles that have dominated this debate over time are introduced in the next Section.

(1) THE PRINCIPLES OF RESPONSIBILITY, POTENTIAL, AND CAPACITY

Any discussion of principles to guide the future direction of the climate change regime, to have legitimacy in the context of the UNFCCC, ideally would have its origins in the Framework Convention itself. Principles in the UNFCCC that are particularly relevant in this regard include the concept of “common but differentiated responsibilities”², recognition that developed countries need to go first³, the goal of the Convention as

articulated in Article 2, equity for current and future generations,⁴ and agreement to take a precautionary approach.⁵

Not all commentators have founded their discussion explicitly in this context. There is, however, a general recognition that the preamble and the first three articles of the UNFCCC provide the starting point for any discussion about the principles that the Parties intended to guide future negotiations. Three key principles have emerged from this, the principle that obligations should reflect responsibility for the problem, the principle that obligations should reflect potential to contribute to the solution, and the principle that obligations should reflect the capacity to contribute to the solution.⁶

The principle of responsibility is based on historical responsibility. Accordingly, each country would be assigned responsibility for a percentage of the GHG concentrations in the atmosphere above the baseline of 280 at any given time. Each country is then responsible for mitigation and adaptation costs in proportion to that percentage. This principle is based on rights and responsibilities rather than on more practical considerations of who can afford to do something about climate change, and where the efforts to mitigate will yield the best results. In basic terms, historical responsibility is reflected in the accumulated GHG emissions attributed to a given State based on past emissions, without distinguishing between emissions before and after climate change was identified as a potential global threat.⁷

The principle of potential is based on a State's mitigating potential, or its technical potential to reduce GHG emissions. Proposals for GHG emission reductions founded on this principle generally use per capita emission, emission intensity or emission growth rates to identify where emission reductions should take place. The basic idea is that reductions should take place where there is the most room to achieve them, in countries that are the least efficient, that have the highest emissions per capita, etc. Current per capita emissions are often used as a simplified approximation of mitigating potential.⁸

One would expect any proposal based on the principle of potential to focus on how to achieve emission reductions in the countries that have the most room to reduce emissions. This would suggest a focus on domestic emission reductions, unless the principle is combined with the capacity principle, and those with greater ability to pay may pay for reductions in countries with greater potential for reductions. Another interesting issue here is whether to define mitigating potential as the potential to reduce, or also as the potential to avoid increases. This is particularly relevant with respect to States such as China, India, and Brazil, where potential to actually reduce emissions may be low, but the potential to avoid future increases in emissions may be greatest.

The principle of capacity is based on a State's ability to pay for mitigation, its access to technology to reduce GHG emissions, and its ability to adapt. Proposals that apply this principle generally rely on Gross Domestic Product (GDP) or the Human Development Index (HDI) to determine the relative capacity of States to contribute to mitigation and adaptation efforts. The basic idea is that the richer, better off countries should do more.

Under this principle, responsibility is assigned according to some measure of a State's ability to assist in the transition.⁹

The principle of capacity, if implemented on its own, would sidestep the question of responsibility for creating the problem to date, and instead focus on States' ability to devote resources, technology, knowledge and other forms of capacity to climate change mitigation and adaptation. Similarly, on its own, it would ignore where the greatest potential for emission reductions is. To be implemented effectively as the overriding principle, Parties would presumably have to rely on trading, joint implementation, and other forms of cooperation among nations. Otherwise, the mitigation effort might be spent overwhelmingly in rich countries. Emissions in poor countries with limited capacity but great potential might otherwise be ignored.

What implication does the relationship between these three principles have for the allocation of State responsibility for climate change mitigation and adaptation? Assuming a commitment to address climate change¹⁰, the starting point might be a global level of emission that would ensure stabilization of GHG concentrations at levels with a low risk of causing irreversible harm to the climate system. Given the constant evolution of our understanding of the science, that global level of emissions would have to be updated regularly. The principles would then either individually or collectively guide the allocation of the obligation to reduce emissions to meet the global target. At the same time, responsibility to assist with adaptation would presumably be resolved applying the same principle or mix of principles.

Where do key individual States stand with respect to each of the three principles? States with high responsibility, high capacity and high potential are generally recognized to include the United States, Canada, and Australia. Europe and Japan are in a similar situation, except that the potential for emission reduction is lower given that these States are already much more efficient in their use of energy. In terms of responsibility, Europe, because it started industrializing first, would rate higher than North America, Australia and Japan. It is not surprising that developed countries generally have favoured a mix of capacity and potential as the dominant principles for long term emission reduction and adaptation obligations.

Key developing countries such as China, India, and Brazil have high potential to avoid future emissions, but much lower capacity and responsibility than developed States. Other developing States, such as OPEC members, Korea, and Singapore, are generally recognized to have the highest capacity of the developing world. Most other developing States rate low under all three principles. Not surprisingly, developing States generally have advocated strongly for historical responsibility as the basis for allocating future obligations.

With this in mind, how would each of the three principles influence mitigation and adaptation obligations of key States? With respect to a number of areas of global cooperation under discussion, the response seems uncontroversial. As a starting point, any of the three principles would support the need to make domestic emission reductions

in developed States. There will be some variations in the relative amount of reductions, but no fundamental disagreement on the need for action on this front. Similarly, one would expect developed States to generally look after their own adaptation needs. Support for emission reduction and adaptation efforts in developing States can also be justified on the basis of differences in historical responsibility, differences in capacity and differences in potential. It is not surprising therefore that emission reduction in developed States is at the heart of the Kyoto Protocol.

There are two areas, however, that are much more controversial. One is the question of liability for climate change impacts the global community is unable to avoid through mitigation. The other is the expectation that developing countries will commit to a low emissions development path in return for getting help from developed countries on mitigation and/or adaptation. Both issues are controversial for the same reason, its resolution depends on whether historical responsibility or current capacity is the driving force behind the resources transferred from developed to developing nations to deal with climate change.

If the dominant principle is historical responsibility, developed States clearly are liable for future impacts in developing States. Under this scenario, it is difficult to see how developed States can impose conditions in return for assistance offered either on mitigation or adaptation. If, however, the basis for assistance is capacity, and there is no basis for liability for future impacts, it is then reasonable for developed States to expect some commitment to a low emissions development path in return for offering mitigation and adaptation help. One would expect this to be a key difference in perspective between developed and developing countries. How these issues have affected the negotiations for the period after 2012 is considered in the following Section.

(2) THE STATE OF NEGOTIATIONS UNDER THE UNFCCC

Discussions among the Parties to the UNFCCC on what should happen after 2012 have been underway informally since COP 7. By the time the EU tried to move to a more formal phase of negotiating future commitments at COP 8 in New Delhi in 2002, it became clear that these negotiations would be difficult at best.¹¹ No significant progress was made in either Milan or Buenos Aires,¹² leaving discussions on future commitments stalled. The current state of thinking on the future can be summarized by highlighting the different perspectives on these issues in developed and developing countries.

(a) Developed Country Perspectives and Issues

- Developed countries are prepared to accept some responsibility to assume leadership.¹³
- Mitigation approach proposed is generally based on the concept that economic growth and GHG emissions must be decoupled, so that economic growth can continue while GHG emissions go down.¹⁴
- There is limited willingness to sacrifice economic growth in developed countries for GHG emission reductions.¹⁵

- Some way has to be found to ensure strong action to reduce GHG emissions is taken in developing countries (some more from a fairness or competitiveness perspective, others more based on environmental effectiveness).¹⁶
- Strong and effective leadership from the EU will be crucial. So far the EU has been largely outwitted by OPEC and the US on the long term issues, in spite of its success in reviving the Kyoto process after the US pull-out. A key challenge for the EU has been its inability to adjust its position during negotiations, in large part due to its process for developing EU positions. This may get even more difficult with the recent expansion of the EU.¹⁷
- There appears to be no readiness to take on the issue of liability.¹⁸
- The specific needs and perspectives of EIT's, especially Russia and Ukraine, and their place among developed States, need to be taken into account.¹⁹

(b) Developing Country Perspectives and Issues

- The G-77 is a coalition formed because of the power imbalance between developed and developing countries, capacity issues, and the common demand of developing countries for development assistance. The G-77 coalition is not based on a common interest to prevent climate change.²⁰
- Subgroups, such as AOSIS, OPEC, LDC's, Emerging Economic Powers (India, China, Brazil), Africa, South America, and Asia all have very different interests on this issue.²¹
- Lack of adequate negotiating capacity of subgroups and individual States is a key factor in the survival of the G-77 in spite of its diverging and often conflicting interests with respect to climate change.²²
- Developing countries essentially argue that the three principles of responsibility, potential and capacity all point to Annex I country action, not developing country action. The only one that is likely to change in the near future is potential, as GHG emissions in countries like China and India begin to grow significantly. There is no real opposition in the G-77 to reduction efforts in developing countries, but those efforts are seen as the responsibility of Annex I countries.²³
- There is strong opposition to any discussion about Non-Annex I commitments to reduce or curtail GHG emissions. The G-77 view is that the way to achieve GHG emission reductions in Non-Annex countries is through Annex I countries leading by example, and through sustainable development assistance in the form of technology transfer, capacity building, and resources for adaptation.²⁴

It is clear that expectations between developed and developing countries are conflicting on a number of crucial points. In addition, the United States has opted out of the Kyoto process citing economic concerns and the position that the US will only take on binding targets if developing countries take on mitigation commitments as well. In the following Section, various proposals to overcome these challenges are assessed.

(3) SELECTED PROPOSALS FOR FUTURE NEGOTIATIONS

Over the past few years, as the focus has started to shift from the Kyoto rules to the period after 2012, a number of proposals have been put forward as guides for the long term allocation of rights and responsibilities with respect to both mitigation and adaptation. The following review of some key proposals is carried out to identify opportunities to overcome the current impasse and move toward agreement on principles to guide the long term allocation of rights and obligations.

The various proposals are considered in the context of the three principles described above, responsibility, capacity, and potential. A number of principle based approaches have been proposed. They differ mainly in their perspectives on the relevance or relative weight to be given to each of the three principles. Some clearly choose one principle as dominant in allocating rights and responsibilities. Others seek to blend principles. Others yet seek to explore the impact of the various principles on the actual allocation of emission reduction responsibilities and seek to focus debate on bridging gaps in the results as opposed to differences in terms of the relative legitimacy of the three principles. A few key proposals are briefly summarized below.

(a) Continuing with the Kyoto Approach of Pledge-based Obligations

This approach would see the continuation of the basic approach taken in the negotiations leading to the Kyoto Protocol in 1997.²⁵ The advantage of this approach is that it does not require agreement on principles, and it is easily accommodated under the current regime. It allows for progress to be made based on individual States' willingness to commit to reductions while the discussion on guiding principles for long term targets continues.

Perhaps the most apparent problem with the approach is that it appears to have led the regime to a significant impasse. The absence of agreement on principles to guide long term targets in combination with the recognition of the challenge of achieving reductions are likely to make future negotiations difficult. Specifically, this approach provides little incentives for a State to agree to do anything more than what that State was willing to do without international cooperation. The experiences with the UNFCCC in 1992 and with the Kyoto Protocol in 1997 have already demonstrated that it is difficult under such circumstances to achieve meaningful reduction targets²⁶.

The Kyoto process as the basis for distributing long term responsibility for mitigating and adapting to climate change is problematic more specifically because it uses the grandfathering principle by only requiring modest reductions relative to emissions in 1990. In other words, it suggests some form of entitlement by developed States in high levels of emissions while asking developing States to reduce their already relatively low emissions. This approach can therefore be expected to perpetuate concerns in developing countries that climate change mitigation will limit their ability to develop²⁷ (Baumert,

pages 31, 175), and make them even more reluctant to take on emission reduction commitments themselves.

Some have suggested that tinkering with Kyoto may be enough to address these concerns. One solution offered to this particular challenge is the use of voluntary commitments as a first step to bring key developing countries into the fold on mitigation²⁸ (Baumert, page 135 to 156). Another way to complement the current pledge based Kyoto approach to GHG emission reductions is to extend the application of the CDM as the mechanism to engage developing countries. The basis idea is to allow for CDM credits to be generated in developing countries in a more efficient and systematic way than possible under the project based CDM. The sector based CDM would encourage whole sectors to be upgraded to reduce emissions.²⁹

This proposal holds considerable promise to expand the use of the CDM. It is not likely, however to play a significant role in overcoming the current impasse. It is not likely that developed countries will see this as a form of commitment by developing countries. Similarly, it will not likely be seen by developing countries as sufficient to demonstrate that emission reductions can be made without limiting development.

In the end, the current pledge based approach is unlikely to be able to either motivate developed States to take on meaningful emission reduction targets or motivate developing States to take on mitigation commitments in any form. It seems clear, therefore, that a new approach is needed to move toward an effective global response to climate change.

(b) Responsibility as the Guiding Principle: The Brazilian Proposal³⁰

The original Brazilian Proposal was formally introduced during the negotiations leading up the Kyoto Protocol as a basis for implementing the concept of common but differentiated responsibilities. Specifically, in 1997, Brazil proposed a series of 5 year commitment periods for developed countries with the targets for each determined based on that country's cumulative contribution to GHG concentrations in the atmosphere. By limiting the application of the principle to developed countries, the 1997 proposal reflected a combination of the responsibility and capacity principles.

In terms of burden sharing among developed countries, the impact of the Brazilian proposal was that targets were not necessarily reflective of current emissions or potential for reduction, but rather placed higher burdens on nations that had industrialized earlier and had therefore contributed more to GHG concentrations over time. The fairness of the proposal very much depends on whether it is considered appropriate to consider emissions before anyone understood the climate change consequences of those emissions.

From a punitive perspective, it is difficult to see the fairness of holding someone responsible for something no one knew to be wrong. From an unjust enrichment and compensation perspective, the answer is less clear. A case can certainly be made that nations generally benefited economically from the activities that lead to the increase in

GHG concentrations over time. More questionable is whether current generations in those countries benefit. In other words, do citizens in the UK benefit from the fact that industrialization occurred earlier in Britain than in the United States?

Not surprisingly, the proposal was not accepted in 1997, and Parties instead opted for a pledge based approach without reaching any consensus on principles.³¹ It is difficult to see how this principle on its own will gain acceptance as a basis for allocating future obligations. The proposal was revised in response to these and other questions raised about the methodology.³² The updated version was submitted in 1999. A question that has been raised repeatedly with respect to the Brazilian proposal is whether historical emissions are a good basis for allocating future responsibility. Nevertheless, the proposal and the principle of responsibility will likely continue to play an important role in future discussions about responsibility for climate change mitigation and adaptation.

(c) Mitigation Obligations Based on Per Capita Entitlement

Per capita emissions can be used in two different ways to determine long term mitigation obligations. They can be used as an indicator of potential, or they can be used more directly as a basis for allocating entitlement. So far, in the UNFCCC context, per capita emissions have been used as an indicator, but not as a basis for allocating entitlement. What is explored here is the use of per capita emissions as a basis for allocating entitlements to emit or conversely obligations to reduce emissions³³.

A number of proposals have been put forward that build on the basic idea that emission reduction obligations should be allocated on a per capita basis. The basic concept is that there is a sustainable or otherwise acceptable level of global GHG emissions that can be determined based on our scientific understanding of climate change. Based on this, the right to emit up to that level is then distributed equally or equitably based on some variation of per capita entitlement.

Proposals to implement this basic concept differ mainly in three respects. One is the level of emissions considered to be sustainable or otherwise acceptable. Another is how to get from the current distribution of emissions to the equal or equitable distribution of those emissions considered to be acceptable on a long term ongoing basis. This is a particularly important issue considering that some States have per capita emissions that are 30 times those of other States. The third variant is whether the allocation is based strictly on equal per capita entitlement, or whether there is some consideration of factors that justify deviating from equal. This generally includes discussion of equitable rather than equal distribution of entitlement, and raises the further question what differences in circumstances might justify different per capita emissions.

The first issue is primarily about the science of climate change, how to deal with uncertainty, and about practical limitations, such as technical, political, and economic constraints on the ability to achieve the reductions necessary. On the one hand, it requires consideration of what level of GHG emissions can be permitted without compromising the ability to meet the fundamental objective of the UNFCCC as set out in

Article 2. On the other hand, it raises questions about the lowest level of GHG concentration that is still achievable.³⁴

The second question is primarily about process and transition to the desired end point of equitable distribution of entitlement to emit greenhouse gases. How can States with high per capita emissions be motivated to implement effective mitigation measures, and what responsibility do such States have to developing States whose emissions are much lower, perhaps even below the ultimate per capita emissions target? Different proposals have used different methods to motivate States to make the transition. Most proposals have dealt in some form with equity issues for the transition period,³⁵ most commonly through the allocation of emissions credits that can be traded to States with high per capita emissions.

The third question is about equal versus equitable treatment. It raises issues about national circumstances that may justify higher or require lower per capita emissions. How should factors such as population density and the related issue of urban versus rural populations affect per capita emission targets? What about energy exporting versus importing States? Should factors such as States' climates and resulting demand for space heating or cooling be considered? Does the approach cover all emissions or only some sources to avoid having to resolve some of these issues?

The implications of a per capita based entitlement approach to long term mitigation obligations are discussed in some detail by Baumert in "*Building on the Kyoto Protocol*"³⁶. He summarizes the implications of this approach as follows:

(i) *Merits*

- Simplicity of concept
- Strong ethical basis
- Flexibility to accommodate changing scientific evidence
- Enhancement of efficiency of global trading
- Offer of incentives for developing-country participation
- Consistency with major guiding principles of the UNFCCC
- Amalgamates well with the Kyoto architecture

(ii) *Demerits*

- Limited global acceptability
- Limited flexibility to accommodating varying country circumstances
- Linkage with trading essential for success
- Associated issues of hot air and obligation costs³⁷

One particular proposal that has attempted to tackle the issues raised here is the contract and converge concept originally put forward by the Global Commons Institute in 2000³⁸. The first step in this proposal is to agree on the long term GHG concentration stabilization level that the global community is committed to achieving. The second step involves an allocation of emissions entitlement annually that is based on the idea of

taking everyone from their baseline to a per capita share of the total entitlement in time to avoid exceeding the GHG concentration limit set under step one.

Contract and converge thereby forces a transition from emission allocations based on historical emissions to an allocation based on per capita entitlement over a period of time that is dictated mainly by the global GHG concentration limit accepted as necessary to meet the objective set out in Article 2 of the UNFCCC. To deal with fairness of the transition for low per capita emitting States, and potential technical, political and economic limitations in high per capita emitting States to meet steep reduction obligations, the contract and converge approach is usually complemented with a trading system that allows some flexibility in meeting the targets for high emitting States and provides funding mechanisms for low emitting States.³⁹

(d) Sustainable Development Policies and Measures (SD-PAMs)⁴⁰

The focus of this approach is on how to engage developing States in climate change mitigation. In this sense the SD-PAMs approach is not a comprehensive alternative proposal to the Kyoto framework, but rather a proposal on how to address one particular challenge, that of developing country engagement in mitigation. The basic concept can be implemented in a variety of ways.

Harald Winkler and others propose a multi step approach in their Chapter on SD-PAMs in Baumert's book "*Building on the Kyoto Protocol*".⁴¹ First, a developing State interested in SD-PAMs has to identify development objectives, such as developing transportation infrastructure, addressing housing needs, providing better access to clean water and food, improving access to energy, or creating employment. Alternatively, these objectives could flow from an overall national development strategy.

The second step involves identifying ways to make the development path more sustainable. In the context of climate change, the focus would be on identifying ways to meet the development path in a manner that both reduces GHG emissions and results in an overall change to the development path that is more sustainable than the starting point. At this stage, it is there important to quantify the benefits of the alternate development paths identified, both generally within the umbrella of sustainability, and more specifically with respect to GHG emission reductions as compared to the pre-existing development path.

At this stage, the net impacts of the alternate development path for general sustainability and for climate change mitigation have to be quantified in some form. Up to this point, the host country can be expected to be in control of the process. When it comes to quantifying the sustainability and climate change mitigation benefits, however, there would likely have to be a process in place to ensure the net benefits are determined based on consistent and accepted methodologies, much like the process for certifying CDM credits under the Kyoto Protocol.

It is interesting that the SD-PAMs proposal put forward by Winker essentially stops here. There is only some vague reference to funding or credits being available for these benefits⁴². Open questions in Winkler's proposal include whether the commitments made are voluntary or mandatory, how the change in development policies would be funded, and how the net benefits to sustainability and climate change mitigation would be quantified, reported and verified.

The real opportunity of the SD-PAMs approach likely lies in the potential to combine the development agenda of developing States with the climate change mitigation agenda of the developed world. To do this, there would have to be a clear link between development assistance in the form of resources, expertise, capacity building and access to technology and key choices made by developing States about their development paths. The SD-PAM's approach provides that opportunity. There would also have to be an appreciation in developing countries that the low emission sustainable development path is a better path to prosperity.

For example, the development path China chooses on energy and transportation in the years to come has tremendous implications for the rest of the world. A well designed SD-PAMs mechanisms, either as part of the Kyoto process or outside, could facilitate the process of identifying what the developed world is prepared to contribute to motivate China to leapfrog to renewable energy and public transportation. At the same time, that same process would have to identify what is required to ask China to reject a development path based on private transportation and fossil fuels that was freely available to the developed world, and that is largely responsible for their current state of development. The key question may be whether any level of assistance will entice developing States such as China to make binding commitments to give up a development path that has been used in Europe and North America to produce incredible short term benefits.

(e) Flexible Targets, such as Intensity Targets

The basic concept behind the flexible target approach is that fixed targets, such as the first commitment period targets in the Kyoto Protocol, may be too rigid, especially considering fluctuations in economic activity⁴³. Such targets are therefore based on the premise that we have to reduce the GHG emission without limiting economic activity. In other words we have to decouple economic activity and GHG emission. This approach essentially chooses economic certainty over environmental certainty, by making the environmental goal of reducing GHG emissions the dependent variable.

This approach furthermore implicitly assumes that the level of economic activity itself is not the problem, or that the climate change challenge does not require a stabilization or reduction in global economic activity. Based on this premise, the dual intensity target approach therefore seeks to provide flexibility that is linked to these factors and thereby strives to encourage States to accept targets they might otherwise object to, due to uncertainties about future circumstances. It requires States to improve the ratio of economic output per unit of GHG emissions rather than to impose firm emission limits.

Intensity targets thereby tend to err on the side of uncertainty with respect to the environmental benefits in return for more certainty on the economic cost of climate change mitigation. It is these aspects of the intensity target approach that have made them controversial for use in developed States. This approach has been expressly rejected in the Kyoto Protocol. At the same time, it is this approach that has been implemented domestically in the United States. It has also formed a part of the implementation strategy for some States who are Party to the Kyoto Protocol, such as Canada's Large Industrial Emitters Programme.⁴⁴

The point made by Baumert is that the intensity target approach may nevertheless offer some opportunities in the context of developing States. Economic uncertainty is generally high in developing countries, much higher than in more developed States. This level of uncertainty, in combination with the particular concern in developing countries that climate change mitigation amounts to a limit on development may make intensity based mitigation targets more palatable in developing States, and may therefore provide a way forward on future mitigation commitments.⁴⁵

(f) Equity as the Guiding Principle⁴⁶

The central theme of this proposal put forward by Hermann Ott and others in a report entitled "*Equity in the Greenhouse*" is that equity needs to play a central role in developing the long term direction for the climate change regime. Ott identifies four imperatives for the reliance on equity in developing a global response to climate change⁴⁷. The legal imperative arises out of Article 3 of the UNFCCC by establishing equity as a guiding principle.⁴⁸ Ott points out that there are moral and political imperatives as well.

It is the practical imperative that Ott then focuses on. He argues that the legal, moral and political imperatives for equity have so far not produced an equitable response to climate change. Rather, it has been a response that disproportionately places the burdens on those with little or no responsibility, capacity, or potential to act. The point made is that in the absence of equity, a global consensus on how to respond to this challenge is simply not possible. Assuming this is the case, and that climate change requires a global response, equity is the only option.

The authors conclude that the equity imperative requires Parties to move forward with both mitigation and adaptation. The central question tackled is how to distribute the responsibilities and benefits of climate change mitigation and adaptation efforts necessary. The basic premise here is that the negotiations need to move beyond the developed developing State divide to identify where individual States fit relative to each other with respect to the three basic principles of responsibility, capacity and potential. Once this is determined, obligations and benefits on climate change mitigation and adaptation can be distributed accordingly.

There is some discussion of the relative influence of the three principles, but no clear resolution. The authors accept the concept that potential to mitigate is the dominant principle for determining which States have to carry out mitigation measures domestically, or where the reductions should be achieved. The more difficult question is on the relationship between responsibility and capacity. There is more focus in the report on responsibility, but what is missing is a clear connection between the general principle of equity and the question whether mitigation or adaptation is more appropriately funded based on current capacity to pay, or based on historical responsibility for the increase in GHG concentrations in the atmosphere.⁴⁹

The authors may be excused for sidestepping this issue, given that most countries with high capacity also share significantly in responsibility.⁵⁰ The report does suggest that high responsibility should be more directly linked to domestic emission reductions, and capacity more directly connected to funding mitigation and adaptation in States with less responsibility and capacity. However, there is no indication that this distinction is derived from anything more than a practical perspective that equates capacity with ability to provide resources, making allocation of an obligation to provide funding and other resources on the basis of capacity as opposed to responsibility perhaps more palatable.⁵¹

Although equity as a guiding principle for allocation of obligations for climate change mitigation and adaptation may have considerable appeal, a key practical question remains. How do international negotiations progress to a point where obligations are distributed based on equity? Is this as simple as pushing equity as the accepted norm and demonstrating that failure to follow this approach is in violation of this norm? Is equity an internationally accepted norm? Is it as simple as pointing to Article 3 of the UNFCCC?

The authors of the report appear to conclude that this comes down to political leadership in countries who are committed to responding effectively to climate change. The report points out that historically this has meant the EU, but that this is also a key question for other States, in particular developing countries, who could be (and perhaps need to be) playing a leadership role. This brings up questions of why developing States have not taken more of a leadership role. These issues, which are not explored in this report, require a consideration negotiating capacity of developing States and the G-77 alliance. These issues are explored in the following proposal.

(g) Overcoming the Taboos of Liability and Mitigation⁵²

In a report released by the Oxford Institute for Energy Studies at the climate change negotiations in Bonn, Germany in 2003, Benito Mueller and others seek to identify the key challenges facing the climate change negotiations and then develop strategies for overcoming them. The focus of the report is on what Mueller calls the twin taboos of the climate change negotiations, the refusal by developed States to discuss liability, and the refusal by developing States to discuss obligations to mitigate climate change. He relates these taboos with key concerns of the two sides. For developing States, the key concern is with respect to impacts and adaptation. For developed States it is that mitigation needs

to take place globally for climate change to be slowed effectively. His proposal lays out a very detailed plan of building trust and confidence that both Parties are prepared to move away from their taboos as long as their key issues are resolved in the process. Essentially, Mueller's point is that at the moment, both sides are holding out for their priority, and in the process, little is being done.

His proposal involves each side taking small steps toward addressing the key issues of the other as a way to build the trust needed to enable both sides to agree to move forward with mitigation and adaptation in parallel. Mueller therefore advocates a focus on developing first, on funding mechanisms for impacts and adaptation, and on developing a mitigation approach that recognizes the wide range of circumstances that exist in developing States.⁵³ Mueller's proposal then considers mechanisms for making technology available in developing States, including an expanded Clean Development Mechanism as a way to encourage mitigation in developing States. For more advanced developing States, Mueller proposes that they take on mitigation commitments of some form. He then discusses how such commitments might be structured given the current position against formal commitments in key developing States such as China and India.⁵⁴

Mueller also addresses the need to re-engage the United States.⁵⁵ The preconditions for re-engagement identified are domestic mitigation efforts in the US, a willingness by the US administration and the federal government to engage internationally, and a willingness by the international community to adjust the Kyoto framework to address key concerns of the US. Based on Mueller's analysis, the combination of the international community moving ahead and the considerable domestic action at the state level in the US will force the US administration to play a coordinating role. If the pressure for action at the state level continues, so will the pressure to develop consistent rules within the US.

Once there is a clear need for national coordination of climate change law and policy in the US, Mueller argues that it would be in the best interest of the US industries for the US to develop rules consistent with international rules under Kyoto. This would eventually result in industry pressure to re-engage internationally. It is important, however, to separate motivation to re-engage internationally from motivation to move the climate change regime forward. The factors Mueller explores do point to a possible re-engagement, but they do not illustrate whether and why the US would re-engage in a manner that encourages an effective global response to climate change rather than further delay.

Mueller concludes that the re-engagement of the US, engagement of key developing countries such as China and India in mitigation efforts in combination with the building of mutual trust will be key. Related to this, the study identifies the need to build negotiating capacity in developing Parties, and the need to make progress on the issue of responsibility for impacts and adaptation in developing States.

What is missing is a convincing argument that the step by step movement past the twin taboos of liability and mitigation will actually motivate any of the key States, such as China, India, and the US. This is particularly problematic with respect to the US, where

it is difficult to see any benefit other than the contribution to solving a global problem, admittedly one that will have local consequences. Assuming the motivation is there based on an acceptance that global cooperation on the issue of climate change is in the interest of all, Mueller's approach does provide a possible roadmap past the current impasse.

(h) The Multi Track Approach

There is a general recognition that no one approach in isolation is likely to be at the same time the most environmentally effective, equitable, economically and politically acceptable, and practically achievable. In particular, there is an emerging recognition by academics, researchers and negotiators that approaches may have to differ for adaptation and mitigation. Furthermore, even on the mitigation side, it is becoming clear that different approaches may be needed depending on a combination of the relative level of responsibility and capacity of a given Party State. This recognition was implicit in a number of approaches described above, and expressly recognized in others.⁵⁶ The need for multiple solutions is here illustrated in a proposal put forward by the Climate Action Network (CAN) at a side event at the 9th Conference of the Parties in Milan, Italy in December, 2003.⁵⁷

The CAN Proposal identifies three tracks for post 2012, the Kyoto track, a decarbonisation track and an adaptation track. The Kyoto track essentially continues with fixed emission reduction targets for Annex I countries. It is expected that with time, some but not all Non-Annex I countries will join the Kyoto track. The proposal suggests that future commitments should be determined on the basis of historical responsibility, capacity, and potential for reductions.⁵⁸ This track is also seen as the mechanism for implementing the principle that developed countries need to go first, a crucial part of the concept of common but differentiated responsibility.

The decarbonisation track is a second mitigation track that is designed to ensure that some form of mitigation action takes place in most of the States that are not part of the Kyoto track. The CAN proposal advocates for decisions about the choice of track based mainly on a Party's state of development. The most developed States would have mitigation obligations under the Kyoto track. The majority would fall under the decarbonisation track⁵⁹. The least developed States would not have any obligations to mitigate, and would therefore be exempt from both the Kyoto and the decarbonisation track.

The proposal does not identify in detail how individual Party's mitigation obligations or commitments would be determined. It does exempt those Parties from fixed emission reduction obligations. The SD-PAMs approach described above is referenced as a possible way to implement the decarbonisation track. The key component of the proposal is that the nature and extent of the mitigation commitment and obligation for Parties in this track will vary. It will depend on capacity, such as available resources and technologies. For more developed Parties, firmer obligations would be expected. For the least developed States, any effort on mitigation would be purely voluntary

The third track is referred to as the adaptation track. It serves to ensure those with higher responsibility and capacity provide adaptation assistance to those with lower capacity and responsibility. The focus of the proposal is on providing adaptation assistance to the least developed and the most threatened Parties. Obligations to contribute appear to be based on responsibility. The proposal contemplates that Parties eligible for adaptation assistance under this track may also take on some mitigation obligations. One would anticipate that such obligations would generally fall within the decarbonisation track, though the proposal leaves open the possibility that a Party that takes on Kyoto type targets might still be eligible for adaptation assistance. A well developed small island State with low historical emissions may provide an example.

The basic concept appear to be that the respective roles a given Party will be asked to take on will depend on its relative responsibility, capacity and potential at a given time. Equity, in particular intergenerational equity, is identified as a guiding principle, as are the principles of responsibility and capacity. The proposal places less emphasis on the principle of mitigating potential. Clearly, these efforts to combine various approaches to develop an overall long term strategy for moving from the current state to an equitable distribution of GHG emissions globally at overall levels that are sustainable is still in its infancy. They do show considerable promise in addressing at least some of the key concerns that have been expressed by Parties during the course of negotiations over the past few years⁶⁰.

(i) Other Efforts

In addition to these more formal proposals, there are of course numerous efforts under way at any given point within and outside the Kyoto process that have the potential to influence the future evolution of the negotiations and the climate change regime. Examples include the EU position on future targets⁶¹, proposals made by Italy at COP 10 to move toward intensity targets to bring the US back on board,⁶² various efforts by British Prime Minister Tony Blair to bring the US back to the negotiating table on climate change⁶³, and regional efforts within the context of the CEC to motivate the US to take domestic mitigation action. In a recent communication from the Commission of the European Communities, the possibility of a separate and complementary process involving the G-8 and key developing countries such as China and India is raised⁶⁴.

Another effort worth noting is the push for international cooperation on renewable energy that arose out of the World Summit on Sustainable Development in Johannesburg, South Africa, in 2002 (WSSD)⁶⁵. The United States opposed the creation of an international renewable energy agency at WSSD, as well as a renewable energy target. States nevertheless agreed to cooperate to promote the use of renewable sources of energy. The first step following WSSD toward global cooperation on renewables was the 2004 Conference in Bonn, Germany.⁶⁶ In the absence of concrete outcomes, it is too early to predict what form this effort will take, let alone what results it will achieve. It does, however, serve as an example of an alternative and possibly complementary approach to

Kyoto, one that has the potential to provide a positive external influence on the climate change regime.

If this effort is able to make renewable energy competitive on a broad scale globally, and if it can achieve this without universal support, but rather with a coalition of the willing, this effort on renewables may do as much for climate change mitigation and sustainable development than any binding obligations under the climate change regime. It remains to be seen whether sufficient level of cooperation on renewables is achievable, or whether the same interests that are preventing more progress on climate change will also prevent meaningful global cooperation to assist with the breakthrough of renewables and other technologies that are part of the solution.

It is important to consider the limitations of such efforts. Renewables initiatives, for example, are not likely to address broader development concerns of developing countries, nor will they address adaptation. Even with respect to climate change mitigation, renewables are clearly only a modest part of the solution. As discussed in Chapter 8, finding ways to reduce energy consumption is likely to be the single most important climate change mitigation measure.⁶⁷

(4) KEY CHALLENGES FOR THE NEGOTIATIONS

The following key actions need to be taken by some or all States to ensure an effective response to the climate change challenge:

- Domestic Action: Many States will have to make significant emission reductions domestically, either relative to current emissions or compared to business as usual projections.
- International Assistance: States with greater capacity will have to support reduction and adaptation efforts in States with lower capacity.
- International Liability: Some States may have to compensate other States or some of their inhabitants for the impacts of climate change.
- Commitment to Low Emissions Path: Some States may have to commit to a low emissions development path in return for receiving assistance on mitigation and adaptation.

The question posed here is what stands in the way of these key actions, and what can be done to overcome those barriers?

The need to make domestic emission reductions in developed countries is in principle not controversial. The differences between allocation of responsibility to make domestic emission reductions based on historical responsibility and current capacity are not major, suggesting that this should not stand in the way of agreeing on long term emission reduction targets in developed countries. Compliance with the Kyoto first commitment period obligations should provide the basis for more meaningful reduction targets in the future for two reasons. It will provide better information about the relative economic

consequences of making reductions. It will also ensure a level of trust that all developed countries are prepared to carry their share of the burden.

One challenge will be the engagement of the United States in some form of international commitment to make domestic emission reductions. Acceptance of historical responsibility as the dominant principle might provide an avenue for engagement, given that this principle would place a relatively higher burden on developed countries that are already doing more, such as a number of EU States. Furthermore, it is important to recognise that there has been considerable effort in the US to begin to reduce domestic emissions, what is missing is the international commitment to do so, and the cooperation with other developed States toward more meaningful, effective targets in the future.⁶⁸

With respect to domestic emission reductions in developing countries, however, the issue is more complicated. Domestic emission reductions from current emissions are a non-starter in most developing countries, given the relatively low levels of emissions in those countries. This really leaves the question of emission reductions compared to business as usual projections. Even here, there seems to be general acceptance that this can only be expected in the context of assistance from higher capacity States.

Another key issue appears to be how to motivate climate change mitigation action in States other than Europe and Japan, the two places that appear to be ahead of the international community on this in terms of domestic action. Much of this likely comes down to the United States. What will it take for the US to take climate change seriously domestically, and to lead on this issue internationally? Short of creating an economic incentive to motivate US leadership, there is no clear answer to this question.⁶⁹

With respect to international assistance, there also appears to be some recognition in line with the capacity principle, that there is some obligations by those with greater capacity to assist those with lower capacity⁷⁰ to mitigate and possibly assist with adaptation. The question is whether this takes place in the context of capacity (with some conditions imposed on the recipient of the assistance) or in the context of responsibility (presumably with less or no conditions).

The question of liability for climate change impacts is highly controversial, and is not likely to be solved through negotiations. It has so far largely been avoided, undoubtedly in part because of the potential implications and because it only arises to the extent that efforts to avoid harmful climate change are unsuccessful. What has become clear, however, is that resolving the issue of ultimate liability may be a prerequisite for the motivation needed to bring States to the negotiating table with a willingness to agree to effective measures to mitigate climate change.

This may mean that existing international law has to be put to the test to determine whether it can resolve the question of ultimate liability.⁷¹ As discussed in Chapters 5 to 8, International human rights norms, customary international law, and rules established under other regimes such as the WTO and UNCLOS may provide a basis for resolving the liability issue. Other, more general efforts, such as the International Law

Commissions work on State responsibility and liability,⁷² while of some promise, is less likely to be effective here because it requires a level of agreement that is not likely to be achievable on the climate change issue, given the current understanding of the stakes.

The issue of developing countries agreeing to a low emissions path in return for assistance on mitigation and adaptation is also very controversial. In the short term, one of the key questions appears to be how to engage emerging economic powers in climate change mitigation. The conventional wisdom appears to be that China, India, Indonesia, Brazil and Nigeria will not become full participants in mitigation efforts for decades to come.⁷³

Why is it that developed countries are not willing to work with developing countries to achieve reductions in combination with development assistance, essentially assisting in putting those countries on a sustainable development path? The answer appears to be an unwillingness to accept responsibility and acknowledge liability⁷⁴ by developed States. There are numerous signs of this throughout the evolution of the climate change regime. Failure to agree on funding mechanisms for climate change adaptation or mitigation in developing States based on responsibility is perhaps the clearest illustration.⁷⁵ Another signal is the rejection of responsibility as a guiding principle for developing emission reduction targets under the Kyoto Protocol in 1997.⁷⁶

This further highlights the need to resolve the liability issue outside the negotiations to allow the Parties to get past the current impasse. If the answer is that there is no liability for climate change resulting from anthropogenic GHG emissions, then the negotiations can proceed on the basis of capacity. Under those circumstances, higher capacity States would be reasonable in expecting some agreement to choose a lower emissions development path in return for the assistance provided.

If the answer is that those responsible for the GHG emissions are liable to those affected by climate change, it is equally clear that any assistance would be a liability mitigation strategy by those with the greatest historical responsibility. In that context, it is less likely that developing countries could be expected to accept conditions in return for assistance. At the same time, the risk of liability would be a motivator to choose a low emissions development path for all, including developing countries.

In the end, it is difficult to see how States will escape some form of liability for future impacts, especially if the response from key developed countries with high emissions continues to lag far behind the scientific evidence of the harm these emissions will cause in the future. Principles such as polluter pays, International Court of Justice Rulings on customary law obligations such as the Trail Smelter decision, statements on State responsibility in soft law instruments such as Stockholm and Rio, and the work of the International Law Commission all point to some form of responsibility and liability for extraterritorial impacts of actions taken within a State's boundaries.⁷⁷

There clearly will be considerable debate over issues such as when the science is sufficiently strong to establish the link, and whether responsibility is linked to knowledge

of the problem, but ultimately, it is inconceivable that the international community will stand by indefinitely and continue to allow the least developed States to suffer the consequences of climate change without holding those responsible for the majority of the GHG concentrations responsible in some form. Any delay on the mitigation side is tantamount to debating the wording of a house insurance policy while the house is burning down, rather than putting out the fire.

Other than the underlying dispute over liability, why is it that developing countries are not willing to accept some constraints on GHG emissions in return for further reductions in Annex I countries and some assistance in achieving their targets? The answer is not a straight forward one. Certainly, any acceptance of a commitment to limit GHG emissions in developing countries is seen as a potential constraint on development. Whether that potential materializes depends on whether the development path of a given country intersects at some point in the future with the GHG emission limit accepted by that country. Given the relative low capacity in these countries, and the priority to meet the basic needs of their populations, their ability to choose a low emission development path depends on the assistance they will receive from developed States.

So far, the negotiations on assistance to developing States and Annex I Party emission reduction efforts have combined to send the message to developing countries not to expect much help and that GHG emission reductions and economic growth are incompatible. Negotiations on capacity building, technology transfer, and adaptation help for developing countries in the context of the implementation of the Kyoto Protocol have been abysmal.⁷⁸ Efforts by Annex I Parties to reduce their GHG emissions while continuing to grow economically have had limited success at best.⁷⁹ The overall message from developed to developing States to date, whether it is accurate or not, has been that emission reductions come with a heavy economic price, and that developed States cannot be counted on to pay that price.

It is also important to recognize that for developing States, the issue of responsibility or liability is not limited to mitigation. It is generally accepted that developing States will feel the impacts of climate change disproportionately, that they are disproportionately unequipped to adapt, and that their contribution to the problem to date has been disproportionately low. As a result, it is not surprising that developing States have focussed on impacts and adaptation over mitigation. The fact that developed States have to date not shown much willingness to provide funding, build capacity, transfer technology or provide other resources to developing States on either mitigation or adaptation is a further deterrent to developing country engagement on mitigation.

To summarize, to get to an effective global response to climate change, the following needs to happen:

- Developed States need to either demonstrate by example that economic growth and climate change mitigation are compatible, or demonstrate that a high quality of life is possible without continued economic growth and with reduced GHG emissions

- Developed States need to demonstrate a commitment to assisting developing States in achieving comparable quality of life for its citizens without high levels of GHG emissions
- The role of historical responsibility needs to be resolved, as it appears to be at the heart of the current impasse. Once this is done, the question of the terms under which higher capacity States will assist lower capacity States must be resolved.

The question is how do we get there? A combination of an acceptance of responsibility and liability by high GHG emitting States and a much higher level trust by developing States appears to be the combination of change in circumstances required to make meaningful progress. Movement toward compliance with Kyoto obligations is likely to be an essential step in building trust among Member States. Developments in the science of climate change, assuming current trends continue, will increase the motivation for all States to take this issue seriously. Developments in technology can play an important role in demonstrating that lower GHG emissions does not mean lower quality of life, whether or not it means less economic output. However achieved, it is crucial that there be significant development assistance from higher to lower capacity States, and that the assistance be directed effectively to ensure a low emission development path in the lower capacity States.

What about responsibility for impacts and adaptation? Is this an issue that needs to be addressed to make progress on the mitigation side? Clearly, it would greatly assist the negotiations if Annex I countries accepted liability for adaptation cost based on responsibility principle. For one, it would provide motivation to take action to prevent climate change.⁸⁰ However, assuming that this is next to impossible to achieve in the context of the climate change negotiations,⁸¹ can an Annex I commitment to taking responsibility for mitigation in Non-Annex I Parties be enough to break the impasse?

Given the potential net benefit to developing States of mitigation assistance that also helps with development goals, the answer is probably yes. There is every reason to think that a serious commitment to combine mitigation and development assistance will be received favourably by developing States even in the absence of a commitment to adaptation assistance. The more difficult practical question is when and under what circumstances would key developed States such as the US even agree to a meaningful commitment to fund mitigation in developing States?⁸²

It seems that a strategy of development assistance toward a low GHG development path can build capacity to deal with impacts and adaptation, and can reduce the need for adaptation. That is not to say that there will not be need for adaptation help. If, however, mitigation is offered now in the context of a comprehensive sustainable development assistance strategy, it is not clear on what basis developing States would say no.

5. PROGNOSIS FOR THE CLIMATE CHANGE REGIME

The future of the climate change regime remains uncertain. Until the issue of liability for climate change impacts is resolved, it is unlikely that a completely satisfactory and effective way of distributing future obligations can be found. In the meantime, other crucial steps toward an effective regime can be taken. A number of external influences may also have a significant impact on the regime. Developments in the science of climate change are one. Technological advances to assist with mitigation are another, as is the growing gap between energy demand and supply globally. The need for international cooperation, as evidenced by such developments, is likely to put increasing pressure on States to find a way forward.

In the process, the current impasse in the climate change negotiations, if it continues, will put increasing pressures on existing international regimes to apply existing rules to the climate change context to motivate international cooperation. This in turn may motivate States to work to overcome the impasse through a combination of negotiations and the use of existing legal tools, such as those covered in Chapters five to eight and other mechanisms such as the use of the International Court of Justice to clarify the line between customary rules of State sovereignty and State responsibility.

The various proposals being considered for the climate change regime implicitly either propose one or a combination of the three principles as guiding principles for the long term targets, or seek to sidestep the issue by proposing allocations without positioning them in the context of these principles. Furthermore, a number of the proposals are preoccupied with the transition period rather than the equity of the final outcome in terms of the allocation of mitigation and adaptation obligations and impact liability. At the same time, there are a number of proposals that should be able to accommodate a principled approach to long term mitigation and adaptation obligations, once Parties resolve their differences over the underlying principles. The Multi-Track approach appears particularly well suited to provide a framework for the negotiation of future obligations.

Regardless of which of the proposals is used, the analysis carried out in this dissertation points to the following steps to a more effective climate change regime:

- The inequity of the position of a number of key developed countries, most notably Australia and the United States should be exposed through credible international and domestic legal means, such as those explored in Chapters 5 to 8, as well as the International Court of Justice⁸³, and domestic tort claims⁸⁴.
- For negotiations on future commitments to succeed in achieving international consensus on targets that are effective in mitigating climate change, the negotiating capacity of developing countries, especially the least developed countries, needs to be enhanced to reduce the influence of OPEC within the G-77, and to allow developing States to formulate positions that will ensure effective mitigation without compromising legitimate development objectives⁸⁵.
- Considerable work needs to take place bilaterally between developed States and emerging economies, such as China, India and Brazil. An agreement between

these two groups on mitigation and development assistance in return for a low emissions development path is crucial.

Given the complexity of the issues, the state of negotiations, the position of the current US administration, and the absence of consensus on principles to guide future negotiations it is unlikely that the current impasse will be resolved easily or quickly. At the same time, if current trends continue, the pressure on States to move forward with more meaningful mitigation measures globally will increase significantly over the next decade. Re-engagement of the United States, compliance with the first commitment period targets, and better leadership from the EU and developing States are essential prerequisites for the evolution of the regime. Clarification of liability for impacts and State responsibility for climate change under existing rules of international law can also greatly enhance the prognosis for the climate change regime.

1 For a discussion of the implication of pledge based targets, see M. Doelle, “The Kyoto Protocol; Reflections on its Significance on the Occasion of its Entry into Force” (2005) Dal. L.J. 27:2 [forthcoming in 2005].

2 United Nations Framework Convention on Climate Change, Intergovernmental Negotiating Committee for a Framework Convention on Climate Change OR, 5th Sess., Annex, UN Doc. A/AC.237/18 (PartII)/Add.1 (1992), 31 I.L.M. 849, online: UNFCCC <<http://unfccc.int/resource/docs/a/18p2a01.pdf>> [UNFCCC or The Framework Convention], Article 3. See also *Conference of the Parties to the Framework Convention on Climate Change: Kyoto Protocol*, 10 December 1997, U.N. Doc. FCCC/CP/1997/L.7/add. 1, 37 I.L.M. 22 (1998), [hereinafter the Kyoto Protocol].

3 Ibid, UNFCCC, Preamble

4 Ibid, Article 3.

5 Ibid, Article 3.

6 Hermann E. Ott et al, “South-North Dialogue on Equity in the Greenhouse” May 2004, Wuppertal Institute, Germany, online: Wuppertal Institute <www.wupperinst.org/download/1085_proposal.pdf>.

7 Ibid. at 3.

8 Ibid. at 3.

9 Ibid. at 3

10 Perhaps with a recognition that a precautionary approach is warranted.

11 Benito Mueller et al, “Framing Future Commitments; A Pilot Study on the Evolution of the UNFCCC Greenhouse Gas Mitigation Regime”, Oxford Institute for Energy Studies, EV32, June 2003, at 4-3.

12 *Report of the Conference of the Parties on its Tenth Session*, Conference of the Parties, United Nations Framework Convention on Climate Change (UN FCCC), 6-18 December 2004, FCCC/CP/2004/10/Add.1(Decisions 1/CP.10 - 11/CP.10), FCCC/CP/2004/10/Add.2(Decisions 12/CP.10 - 18/CP.10), online: UN FCCC <<http://unfccc.int/2860.php>> [hereinafter COP 10], *Report of the Conference of the Parties on its Ninth Session*, Conference of the Parties, United Nations Framework Convention on Climate Change (UN FCCC), 1-12 December 2003, FCCC/CP/2003/6/Add.1(Decisions 1/CP.9 - 16/CP.9), FCCC/CP/2003/6/Add.2(Decisions 17/CP.9 - 22/CP.9 & Resolution 1/CP.9), online: UN FCCC <<http://unfccc.int/2860.php>> [hereinafter COP 9], *Report of the Conference of the Parties on its Eighth Session*, Conference of the Parties, United Nations Framework Convention on Climate Change (UN FCCC), 23 October – 1 November 2002, FCCC/CP/2002/7/Add.1(Decisions 1/CP.8 - 20/CP.8), FCCC/CP/2002/7/Add.2(Decisions 21/CP.8 - 25/CP.8 & Resolution 1/CP.8), online: UN FCCC <<http://unfccc.int/2860.php>> [hereinafter COP 8].

13 Mueller, supra # 12, at 3-1.

14 Ibid. at 3-1.

15 Ibid. at 3-1.

16 Ibid. at 3-1.

17 Ibid. at 3-3.

18 Ibid. at 3-4.

19 Ibid. at 3-4.

20 Ibid. at 4-1 to 4-5.

21 Ibid., at 4-1 to 4-5.

22 Ibid. at 4-6 to 4-21.

23 Ibid. at 4-3.

24 Ibid. at 4-3.

25 See Kevin A. Baumert *et al.*, eds., *Building on the Kyoto Protocol: Options for Protecting the Climate* (Washington, D.C.: World Resources Institute, 2002), online: WRI <http://pdf.wri.org/opc_full.pdf>, at 31 - 60

26 The absence of meaningful reductions in developed States in turn makes meaningful developing country participation more difficult.

27 Baumert, *supra* # 26, at 31, 175.

28 Ibid. at 135 – 156.

29 Ibid. at 89 – 108.

30 Ibid, at 157.

31 Ibid. at 160.

32 Ibid. at 160.

33 Ibid. at 175.

34 For an analysis of this balance between what is practical and what is necessary to meet the objective in Article 2, see Elzen (den), M. G. J., *et al.*, “Meeting the EU 2 Degree Climate Target: Global and Regional Emission Implications” (2005) Report 728001031/2005, Netherlands Environmental Assessment Agency, online: <www.mnp.nl>.

35 I.e. compensating low per capita emitters and/or penalizing high per capita emitters during the transition period

36 Baumert, *supra* # 26, at 175 - 198

37 Ibid, at 196

38 Global Commons Institute, online: GCI <<http://www.gci.org.uk/>>, for technical support and information concerning “Contraction and Convergence” a planning model, “Contraction and Convergence Options,” is also available for download.

39 See Niklas Hoehne *et al.*, “Evolution of Commitments under the UNFCCC: Involving Newly Industrialized Economies and Developing Countries” Federal Environmental Agency, Germany, February 2003, Research Report 201 41 255 UBA-FB 000412, at 41

40 See Baumert, *supra* # 26, at 61

41 Ibid.

42 One way to facilitate this process might be through an expanded, sector based CDM, but this could also take place outside the current Kyoto process, by setting up separate funding mechanisms for SD-PAMs.

43 For an overview of flexible versus fixed targets, and a specific proposal in the form of dual-intensity targets, see Baumert, *supra* # 26, at 109

44 See Climate Change Plan for Canada (2002), available at www.climatechange.ca

45 The concept of dual intensity targets is considered in some detail by Baumert in the context of creating commitments for climate change mitigation in developing countries that are not seen as limiting development, and that at the same time send a sufficient signal to developed States that the effort on mitigation is a global effort.

46 See Ott, *supra* # 7

47 Ibid, at 15

48 UNCCC, supra # 3. Article 3(1) requires Parties to protect the climate system “on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities”.

49 Ibid, at 31, where the authors suggest that both contribute, but without addressing the relative contribution responsibility and capacity each should make.

50 See Baumert, supra # 26, at 214, table 9.5, where per capita emissions targets for different states are compared based on different allocation principles. The last two are generally based on responsibility and capacity respectively, and the variations are relatively minor

51 See Ott, supra # 7, at 32, Box 2

52 See Mueller, supra # 12

53 Ibid. at 6-3 to 6-7.

54 Ibid. at 6-15.

55 Ibid. at 6-16.

56 See, for example, Ott, supra # 7, which builds on the premise that the obligations and benefits for climate change action be distributed based on Parties’ relative capacity and responsibility.

57 Climate Action Network (CAN) “A Viable Global Framework for Preventing Dangerous Climate Change” (2003) CAN Discussion Paper, online: Climate Action Network <<http://www.climatenetwork.org/pages/publications.html>>.

58 See Section 4(1) on the three principles above

59 Initially, this might include all developing States other than the least developed States. Over time, some of the more developed States, such as Singapore, South Korea, and China would be expected to take on binding targets.

60 For another proposal built upon the same basic principle, see Niklas Hoehne et al, “Options for the Second Commitment Period of the Kyoto Protocol” Federal Environmental Agency, Berlin, Germany, February 2005, ISSN 1611-8855, online at: <<http://www.umweltbundesamt.de>>.

61 “Winning the Battle Against Global Climate Change”, Commission of the European Communities, Brussels, 9 February 2005 {SEC(2005) 180} online: <http://72.14.207.104/search?q=cache:crDpXngSfK8J:europa.eu.int/comm/environment/climat/pdf/comm_en_050209.pdf/>.

62 *Report of the Conference of the Parties on its Tenth Session*, Conference of the Parties, United Nations Framework Convention on Climate Change (UN FCCC), 6-18 December 2004, FCCC/CP/2004/10/Add.1(Decisions 1/CP.10 - 11/CP.10), FCCC/CP/2004/10/Add.2(Decisions 12/CP.10 - 18/CP.10), online: UN FCCC <<http://unfccc.int/2860.php>> [hereinafter COP 10].

63 Such as efforts to make climate change a priority at the 2005 G-8 Summit chaired by Tony Blair.

64 See “Winning the Battle Against Global Climate Change”, Commission of the European Communities, Brussels, 9 February 2005 {SEC(2005) 180} online: http://72.14.207.104/search?q=cache:crDpXngSfK8J:europa.eu.int/comm/environment/climat/pdf/comm_en_050209.pdf/, at 5

65 For a general discussion of the role of the WSSD in the development of international environmental law, see Nicholas A. Robinson, “Befogged Vision: International Environmental Governance a Decade After Rio” (2002) 27 Wm. & Mary Env’tl. L. & Pol’y Rev. 2, and George Pring, “The 2002 Johannesburg World Summit On Sustainable

Development: International Environmental Law Collides With Reality, Turning Jo'Burg Into 'Joke'Burg'" (2002) 30 Denv. J. Int'l L. & Pol'y 410.

66 For more information on the 2004 Renewable Energy Conference in Bonn, see <http://www.renewables2004.de/>

67 See, for example, R. Torrie, *et al*, "Kyoto and Beyond: The Low-emission Path to Innovation and Efficiency" (October, 2002, David Suzuki Foundation and Climate Action Network Canada), online: David Suzuki Foundation <www.davidsuzuki.org>.

68 On the current domestic situation in the United States, see, for example Greg Kahn, "Between Empire and Community: The United States and Multilateralism 2001 – 2003: A Mid-Term Assessment: Environment: The Fate of the Kyoto Protocol under the Bush Administration" (2003) 21 Berkley J. Int'l L. 548, and John C. Dernbach, "Making Sustainable Development Happen: From Johannesburg To Albany" (2004) 8 Alb. L. Envtl. Outlook 173.

69 See also discussion of state responsibility throughout, and in particular in Chapter 10.

70 but high mitigating potential

71 For a discussion of the issue of liability for climate change impacts as far back as 1990, see Durwood Zaelke *et al*, "Global Warming and Climate Change: An Overview of the International Legal Process" (1989-1990) 5 Am. U. J. Int'l L. & Pol'y 249, at 261

72 For an overview of the work of the International Law Commission on transboundary environmental harm, see Practicia Birnie *et al.*, *International Law & the Environment*, 2nd ed. (Oxford: Oxford Univeristy Press, 2002), at 105

73 Mueller, *supra* # 12, at 5-1

74 *Ibid*, at 5-1

75 *Ibid*, at 5-1

76 As discussed above, the rejection of the Brazilian Proposal was in large part due to developed State's rejection of historical responsibility as an acceptable basis for allocating emission reduction targets

77 See discussion in Chapter 10

78 See developing country Section in Chapter 2

79 See Chapter 2. The EU and Japan are generally recognized as the only jurisdictions that have demonstrated any ability to decouple economic growth and GHG emissions.

80 This is not very helpful from a practical perspective, because a voluntary acknowledgement of liability will only take place once there is a preparedness to take responsibility. A finding of liability for impacts and adaptation by a credible source of international law, however, might influence some state's perspective on mitigation responsibility.

81 At least without some external influences on developed countries, such as a finding of liability for impacts

82 Note that Mueller, *supra* # 12, at 6-2, expresses the view that for developing countries the impacts and adaptation side is a critical issue, and that future progress on mitigation is dependent on movement from Annex I Parties on impacts and adaptation.

83 See Zaleke, *supra* # 72, at 261

84 See, for example, R. S. J. Tol, *et al*, "State Responsibility and Compensation for Climate Change Damages: A Legal and Economic Assessment" (2004) 32 Energy Policy 1109; A. Daniel, "Civil Liability Regimes as a Complement to Multilateral Environmental Agreements: Sound International Policy or False Comfort?" (2003) 12 R. E. C. I. E. L. 225; A. Boyle, "Globalising Environmental Liability: The Interplay of National and International Law" (2005) 17 J. Envtl.

L. 3; and J. Brunnée, “Of Sense and Sensibility: Reflections on International Liability Regimes as Tools for Environmental Protection” (2004) 53 Int’l. & Comp. L. Q. 354.

85 For a more detailed discussion of the challenges for developing country participation, see J. Gupta, “Global Environmental Governance: Challenges for the South from a Theoretical Perspective” in Biermann, F., *et al*, *A World Environment Organization: Solution or Threat for Effective International Environmental Governance?* (Aldershot, Ashgate Publishing Company, 2005), at 57. On pages 66 – 68, the author discusses the following 8 challenges for effective developing country participation in the negotiation of multilateral environmental obligations: 1. The hollow mandate; 2. The defensive negotiating strategy; 3. The handicapped coalition forming power; 4. The handicapped negotiating power; 5. The structural imbalance in bargaining; 6. The competing hypotheses of problem-solving; 7. Decreasing legitimacy in north-south negotiations; and 8. Regulatory competition and late-comers.