This article argues that a legally binding, multilateral agreement is a necessary condition for achieving the highest levels of greenhouse gas (GHG) emission reductions consistent with limiting warming to below either 2°C or below 1.5°C. Clear legally binding commitments within a multilaterally agreed process with strong legal and institutional characteristics are needed to give countries the confidence that their economic interests are being fairly and equally treated. Common accounting rules are needed for comparability of effort, and in order to protect environmental integrity, to demonstrate transparency, for effective monitoring, reporting and verification (MRV) of emissions and actions, and to facilitate and support a strong international carbon market. Securing full implementation will depend, in part, on the strength of an agreement’s compliance mechanism. The Copenhagen Accord, by itself, represents a quintessential ‘bottom-up’/‘pledge and review’ approach. It is open to interpretation whether the Accord can become a stepping stone on the way to strengthening the legally binding, multilateral framework to fight climate change, building on both the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, or whether it will lead to the unravelling and fragmentation of all that has been built up to date. Legal architecture choices made in 2010 and beyond are likely to be determinative.

Keywords: climate negotiations; climate regimes; climate targets; COP-16; international cooperation; multilateralism; post-Copenhagen
1. Introduction

The climate regime is at a crossroads. Under the Copenhagen Accord (UNFCCC, 2010) countries adopted the goal of limiting warming to below 2°C, with a review by 2015, in relation to a lower warming limit of below 1.5°C increase above pre-industrial levels that was put forward by over 100 countries. The Accord may be viewed as the next step in developing the multilateral climate governance architecture which has been under construction for the last 20 years. Yet, with the pandemonium surrounding the adoption of the Accord, the inability of countries to agree to 2050 global emission reduction goals, the lack of clarity on the legal form of the ultimate agreement or a timeline upon which to conclude it, and national emissions pledges that collectively fall far short of the Accord’s stated 2°C goal, some have questioned whether continuing to pursue an all-inclusive multilateral approach, in the near-term or at all, is advisable (Victor, 2009; Purvis and Stevenson, 2010).

One of the key overarching questions surrounding different architectural models for the climate regime is what is most likely to secure the most rapid, and ultimately deepest, global emission reductions over a sustained period of time spanning many decades. We posit here that limiting warming to the 2°C goal of the Copenhagen Accord, or below, means not just building an architecture that can peak global emissions by 2020 but that also establishes the basis for trust and common action towards deep emission reductions in subsequent decades. Given these multiple time-frames and the large scale of the required action, both in the short and longer term, to meet the Copenhagen Accord’s long-term goal, there is a need to consider the risk of path-dependent lock-in effects on the global architecture: in other words, what may look good from a short-term political perspective may contradict longer-term objectives.

The purpose of this article is to outline a top-down perspective on the development of the climate regime. Section 2 outlines the contours of a top-down versus bottom-up approach. This is followed by an evaluation in Section 3 of some of the basic properties of the climate change problem to elucidate what these properties may mean for a number of key architectural issues and questions. These are then examined in Section 4 from a top-down perspective. In Section 5 we present key conclusions.

2. Typology of top-down versus bottom-up approaches

The terms ‘top-down’ and ‘bottom-up’ are used to describe a range of different architectural permutations for international climate policy across several dimensions of policy. These create a spectrum of approaches. At one extreme, a strong top-down approach would involve strong global coordination, be centred around the pursuit of a common objective, and be implemented through targets and timetables based on commonly agreed rules, which would be progressively broadened and strengthened over time and would be legally binding, with a strong measuring, reporting and verification (MRV) system and compliance mechanism. At the other extreme, a weak bottom-up approach would have little or no global coordination of efforts, with coordination confined to, perhaps, a small group of countries. Countries’ emission actions would be based on unilateral pledges, rather than on the outcome of multilateral negotiations with set levels of ambition, for which accountability would be assessed domestically and not at the international level (i.e. no international compliance). There would be little or weak common MRV and accounting rules.

The American approach, put forward in mid-2009 under the Obama Administration, is often proffered as an example of a bottom-up regime, while the Kyoto Protocol is cast as an example of top-down architecture. Neither represents the extremes described above.

Under the American approach, countries pledge to undertake certain actions. Common MRV rules (with some variation between developed and developing countries) would be agreed, and a
review process established. For developed countries, these rules would largely be based on current Convention provisions and would do away with many of the innovative and important developments under the Kyoto Protocol and Marrakech Accords on emission reporting and on multilaterally agreed accounting rules for sectors such as land-use change and forestry. Compliance would be assessed domestically rather than internationally, and consequences would also only be domestic. The agreement could be legally binding, provided that there was ‘legal symmetry’ between all Parties except the least developed (USA, 2010).

The Kyoto Protocol, on the other hand, has established a legally binding regime with targets and timetables, international flexibility mechanisms, strong MRV and accounting rules, and a compliance mechanism, for industrialized countries. The partial coverage in the first commitment period (2008–2012) was meant, by design and common agreement in Kyoto, as the first step on the path towards a global regime and to implement the obligation of the industrialized countries to take the lead (UNFCCC, 1992: Article 3.1). The strength of commitments was supposed to deepen along with the broadening of participation to include major developing-country economies in subsequent commitment periods.

Which of the ‘pledge and review’ type bottom-up or ‘targets and timetables’ top-down approaches is the most effective in achieving emission reductions has long been debated (Victor and Salt, 1995). The failure of industrialized (Annex I) countries to act on the weak pledge in Articles 4.2(a) and (b) of the United Nations Framework Convention on Climate Change (UNFCCC) led directly to the targets and timetables approach of the Kyoto Protocol; an approach put forward by the USA at COP-2 in 1996, much to the chagrin of the European Union (EU), which at that time favoured a more bottom-up policies and measures approach. This became a key point again (although the positions were reversed) in the lead-up to Copenhagen, particularly with respect to the USA’s implementing agreement proposal and its weak multilateral architecture. It is perhaps the stark climate policy landscape through which the road from Copenhagen has led that has given even greater momentum to this issue.

3. The climate change problem

Climate change has some important – and possibly unique – characteristics, which need to be accounted for in the design of an effective international regime. If not addressed effectively, then the objectives of limiting global warming to below 2°C (or 1.5°C), as outlined in the Copenhagen Accord, might not be achievable.

3.1. Collective action problem

Climate change is a collective action problem, which both makes the case for global coordination and ensures that building the effective regime architecture to support such coordination will be challenging.

The distribution of emissions of greenhouse gases (GHGs) is such that no single actor, or even class of actors, acting alone can resolve it. If all the Annex I countries unilaterally reduced emissions to zero, while Non-Annex I emissions continue to grow, the climate problem would not be solved: CO₂ concentrations, global temperatures, and sea level would continue to rise (Stern, 2007). The same applies if non-Annex I countries unilaterally reduced emissions to zero while Annex I emissions were unaltered. The extent to which countries are willing to act unilaterally is limited, as the benefits of the action are felt by all but the costs are borne by individual countries. Any regime that can limit warming to 2°C or below will need broad participation within a relatively few-decades in order
to be effective, yet this requirement also introduces a number of challenges. The participation of more countries, each with their own interests, increases the complexity of negotiations; the incentive to free-ride is high; and a de facto veto power is created, because individual countries know that their lack of participation will decrease the effectiveness of the regime and they can therefore negotiate concessions in return for their participation (Raustiala, 2005; Victor, 2006). These factors make both reaching an agreement and maintaining cooperation difficult. The urgency of the problem and the corresponding stringency of the emission reductions needed compound these factors.

3.2. Urgency
It is well established that the lower the level of global warming or CO₂ concentration desired, the faster emission reductions must be achieved (Wigley et al., 1996; Meinshausen et al., 2006; IPCC, 2007) and the broader and deeper the level of involvement of all significant emitters must be (Hof et al., 2009). The urgency of the problem results not only from the physics of the climate system, but also from economics: any delay in reducing emissions leads to rising mitigation costs for both developed and developing countries (Rossetti et al., 2009; Krey and Riahi, 2009; van Vliet et al., 2009). Moreover, delay – or slowness of response – could render the realization of lower warming and concentration levels technically and economically unfeasible (Keppo and Rao, 2007; Calvin et al., 2009; Gurney et al., 2009; Held et al., 2009; Loulou et al., 2009; van Vliet et al., 2009; van Vuuren et al., 2009; Edenhofer et al., 2010). If a limit of 3.5–4°C had been adopted, then the unilateral ‘bottom-up’ pledges made under the Copenhagen Accord for 2020, if effectively implemented, might be sufficient for the next decade or two (Rogelj et al., 2010). The goal of the Copenhagen Accord, however, is to ‘hold the increase in global temperature below 2°C’. Concerns over the risks facing the most vulnerable countries from a 2°C warming (and above), including sea-level rise in the case of Small Island Developing States (SIDS) (IPCC, 2007) and increased risks of drought, and water and food shortages, in the case of the Least Developed Countries (LDCs) (IPCC, 2007), resulted in agreement in the Accord to review the issue of limiting warming to below 1.5°C by 2015. This latter level requires bringing down atmospheric CO₂ concentrations from their present level (387 ppm) to below 350 ppm as soon as possible: the 350 ppm CO₂ level has been identified by many in the scientific community as a likely risk threshold for a number of systems, such as coral reefs and ice sheets (Hansen et al., 2008; Rockström et al., 2009; Veron et al., 2009).

Against this background, the agreement of the international community on the 2°C objective is an important collective recognition of urgency. However, limiting global mean warming to this level, or lower, with high confidence (>75%), means that global emissions need to peak by 2020 and be reduced by more than 50% by 2050 (IPCC, 2007; Metz et al., 2007; Meinshausen et al., 2009). More rapid action than is embedded in the pledges made under the Accord for 2020 is thus needed, as at present these will – even if effectively implemented – very probably lead to warming in excess of 3°C above pre-industrial levels within the 21st century (Rogelj et al., 2010).

We posit that the scale and rate of emission reductions needed to meet the Copenhagen Accord warming limits have substantial consequences for the nature and architecture of the international climate regime.

4. A top-down architectural perspective
This section seeks to make the case for a top-down approach as ‘first best’. It is argued that if the long-term warming goals of the Copenhagen Accord are taken seriously, then only a strong and
effective top-down regime can provide the confidence needed for countries to commit to making deep emission reductions and facilitate early action in this direction. In the following section, the case is made for why we need to continue to elaborate and improve upon the current regime architecture. In other words, current political conditions do not warrant adopting a ‘second best’ approach, as this will make no further headway in the near or long term.

4.1. Need for global coordination
Coordination of actions and approaches by countries is needed because climate change is a collective action problem, and because of the urgency for rapid emission reductions. Five of the key functions that coordination provides are:

1. **An increase in the level of ambition of goals and emission reductions.** Where targets and timetables and other actions are negotiated multilaterally and in good faith, it is much more likely that individual country commitments will exceed those that would be put forward unilaterally outside of multilateral negotiations. Multilateral negotiations towards an agreed outcome, where all countries are trading off individual concerns against others, is likely to provide greater confidence that other partners will meet their commitments, thereby enabling each to go further than a minimum unilateralist stance.

2. **Reduced transaction costs.** Common emission reporting and accounting rules will, in general, reduce the transaction costs involved in developing and implementing MRV and accounting systems. In a bottom-up system where each country, or small group of countries, develops its own reporting and accounting system, discovering what other countries are really doing and what the ‘exchange rates’ between different accounting systems are would be expensive and messy compared with a coordinated system.

3. **Improved efficiency.** Emissions trading and the use of flexibility mechanisms offer improved economic efficiency. Such mechanisms benefit from coordinated approaches to setting accounting standards and transaction registries (Tuerk et al., 2009). Achieving lower GHG concentration levels is more costly the more fragmented a regime as a smaller number of countries must bear the cost, and/or because reductions cannot be achieved where it is most cost-effective to do so (Boeters et al., 2007; Hof et al., 2009). International emissions trading, one of the key architectural innovations promoted by the USA in the Kyoto negotiations, is widely accepted as an essential part of the international climate regime (Stern, 2007). Whilst bottom-up approaches to trading can work, where countries make bilateral arrangements, this is very much a second best approach in terms of environmental performance and cost (Flachsland et al., 2009). Moreover, a bottom-up approach to solely linking markets is still facilitated by a coordinated, rule-setting international regime, particularly as the stringency of targets has already been addressed at the international level (Tuerk et al., 2009).

4. **Improved transparency of actions.** Common MRV and accounting rules will increase transparency and reduce the potential for hidden free-riding, via strategic methodological and accounting choices by Parties.

5. **Improved environmental integrity.** Common MRV and accounting rules and internationally coordinated approaches to reviewing and adjusting countries’ reports will likely lead to higher levels of environmental effectiveness, as the potential for bad accounting choices to be revealed and rectified will be greater.
These functions on their own do not require global coordination. The climate goal sought, however, appears to be highly relevant to the degree of, and global character of, the coordination needed. A 4°C, or even a 3°C, goal is much less costly to achieve than 2°C (or 1.5°C) and would not have the same requirement to ensure efficiency and cost-effectiveness, nor the same need to ensure early and broad action as the lower temperature targets. Broader involvement of more countries sooner would appear to need more global coordination, and with the higher costs of the 2°C goal would come a greater need for efficiency, transparency and higher levels of environmental integrity. All of these factors point to a need for more global coordination rather than less.

4.2. Technology approaches are insufficient

It has been argued that an approach driven by targets and timetables and broad agreements on emissions cannot work or may even be counterproductive (Victor and Salt, 1995; Victor, 2009), and some have argued that a technology-based approach should be deployed instead (Galiana and Green, 2009; Kramer and Haigh, 2009). The literature on low emission scenarios shows that the rapid development of clean technology is needed if strong climate targets are to be met (Rao et al., 2008; Held et al., 2009; Knopf et al., 2009; van Vuuren et al., 2010). While it has been found that technology agreements and coordination of R&D are a potentially useful adjunct to climate policy in general, the conclusion in the literature is that without strong driving goals the rate of introduction of new technology will be too slow to meet stringent climate protection goals (de Coninck et al., 2008; de Coninck, 2009). Furthermore, technology is not the only option through which to reduce emissions; changes in industrial practices, urban design and other areas of activity will also be needed (Metz et al., 2007).

4.3. Fairness, legitimacy and effectiveness

The fact that only 39 countries emit 76% of (2007) emissions¹⁰ and because the complexity of negotiations increases with the number of Parties represented, some have argued that smaller negotiating forums would be more effective (Victor, 2006; Naím, 2009). Fairness and legitimacy considerations, however, militate in favour of a more universal, multilateral negotiation. Moreover, from looking at the history of the climate issue, it appears relatively clear that the presence of the most vulnerable countries, in particular the Small Island States, has had a positive effect on the ambitiousness of the regime. AOSIS (the Association of Small Island States) has played a very important role in the international legal architecture of the climate regime and has helped push the level of ambition agreed between countries in the context of the Kyoto Protocol (Oberthür and Ott, 1999). Were it not for the insistence of these and other vulnerable countries, reference to 1.5°C would not have made it into the Copenhagen Accord.

Procedural fairness dictates that all those who are affected by an issue should have a say in its resolution, so as to be able to ensure that their interests are taken into account. Limiting those involved to the most powerful or the major emitters (between which there is significant overlap) is unfair and undermines the legitimacy of any regime created. Decision-making is more challenging in a larger setting, and the procedural rules that are often developed to manage such a process are prone to abuse. The ability of a handful of countries to block the adoption of the Copenhagen Accord or the well-known obstructionist methods of the Saudi Arabian delegation are cases in point (Depledge, 2008). Yet, we argue that the inclusion of the most vulnerable will have a greater impact overall than the delay tactics of a few.¹¹
4.4. Forum switching and regime fragmentation
Greater progress will not be achieved by switching between fora or creating new ones. As one set of commentators writes: ‘Moving climate negotiations to a new forum with the same nations would change neither their national interests nor the outcome’ (Purvis and Stevenson, 2010: 19). For instance, progress in the Major Economies Forum (MEF), an oft-touted alternative forum to UNFCCC negotiations (Victor, 2009), has been limited. Negotiating in a small group does not yield better outcomes if there is no agreement within the small group. The negotiations of the Copenhagen Accord, with its paltry 12 paragraphs and no agreement on a work programme for 2010 or reference to a legally binding outcome, clearly demonstrate this.

The lack of action with respect to international transport emissions highlights what can happen when issues are moved away from the climate regime: Parties could not agree on an allocation scheme for emissions from these sectors during the Kyoto negotiations and chose instead to offload responsibility to other institutions (Article 2.2 of the Protocol tasks Parties to work through the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) to reduce emissions in these sectors). Little more than symbolic action has been taken by these institutions to date (Oberthür, 2003, 2006).

The proliferation of informal processes in the aftermath of Copenhagen highlights some of the dangers of a bottom-up or fragmented regime; namely that key issues may be lost. REDD+, technology, finance, mitigation and MRV have dominated such processes; any attempts to include adaptation appear, at present, merely tokenistic.

4.5. Legal form
Whether or not the overarching agreement and the underlying commitments and actions need to be legally binding has been a major flashpoint of the negotiations. At its core, we posit that legal form is about the credibility of the commitment undertaken, and the gravitas with which countries approach their commitments, and is thus an indicator of the likelihood of their fulfilment.

In the climate context, legally binding agreements have several benefits, which in most cases add to the benefits of coordination discussed above:

1. **Enhanced confidence in making commitments.** A legally binding agreement is a signal of the seriousness with which Parties to the agreement intend to take their commitments. In other words, the legal form enhances the credibility of commitments, thereby adding to the confidence that others need in order to make similar commitments involving real political and economic costs. As such, a legally binding agreement is likely to help increase the real level of action.

2. **Enhanced confidence in the delivery of commitments.** Where commitments are made for relatively distant time periods (e.g. 2020), legally binding commitments give greater confidence in the ultimate delivery of these. Whereas pledges (non-binding agreements) can be made by the government of the day, without recourse to Parliaments or Senates, binding agreements generally have to go through domestic ratification processes. In other words, both the legal nature of the agreement and its subsequent ratification serve as indicators of the level of commitment of Parties. Legally binding agreements increase the costs of non-compliance, as the withdrawal procedures are more cumbersome and reputational costs are higher, and they are thus more likely to bind future governments than pledges. Experience with the Kyoto Protocol indicates that, of the ratifying countries, almost all – with the exception of Canada – appear very likely to comply with their obligations.

3. **Facilitates domestic implementation.** Implementing ministries are better able to deal effectively with other ministries opposed to actions and policies when putting policies
through governmental review, because of the need to implement international legal agreements and because of the higher level of government commitment that usually follows from the ratification of legally binding instruments. Experience with the Kyoto Protocol indicates that it has served as a driver behind much domestic climate policy (Parker, 2008), which arguably would not have occurred in its absence. This can be seen as an example of how international agreements and domestic policy are inextricably linked, and how this link may be used by actors in the multi-level climate governance setting to enhance to stability of climate policy over time (Putnam, 2009).

4. Reduced transactions costs. In theory, it is often said that transaction costs are reduced as governments need not continually renegotiate agreements. In a climate context, such benefits may accrue once governments agree on a burden-sharing arrangement or other legal machinery to more routinely extend and deepen emission targets and other elements of the climate architecture.15

Pledges, in contrast, are said to more flexible, which may be desirable in cases where uncertainty is high; may provide greater opportunities for compromise if there are divergent views between countries; are quicker to negotiate, as the same level of scrutiny in the wording of commitments is not necessary; and are faster to implement or take effect, as no domestic ratification process is required (Raustiala, 2005). Concluding a pledge may also provide signals, as there will be a particular signal given by the fact that countries were able to come to an agreement, irrespective of legal form. Many of the purported advantages of pledges could also apply to legally binding agreements, depending on the content of the agreement (Raustiala, 2005). Flexibility can be included in legally binding agreements – the use of flexible mechanisms in the context of the Kyoto Protocol being a prime example. Also, provisional application clauses included in legally binding agreements and accompanying prompt start decisions can encourage the immediate implementation of commitments and related mechanisms.

4.6. MRV and compliance: how transparent is transparent?

The MRV and compliance discussion is emblematic of the broader top-down versus bottom-up debate. A comparison of the US approach to MRV with the current developed-country rules under the Kyoto Protocol, namely Articles 5, 7, 8 and 18 and subsequent CMP16 decisions, illustrates the benefits of the current rules and how these can be strengthened in the future. Agreeing upon common rules increases the transparency of the regime, as comparability of effort and the detection of non-compliance with pledges or targets is facilitated.17 Under a strong MRV regime, emissions are accounted for using agreed methodologies and are subject to independent review and adjustment, and assessment of compliance; while, under the American approach, countries would only report on their emissions according to general formats, and undergo a review process with no assessment of compliance. Given the complexity and diversity of sources of emissions and removals (sinks) and methodologies for estimating these and, consequentially, the potential for self-serving estimates, it is imperative that detailed accounting rules are agreed collectively rather than just a general reporting format, which countries may or may not choose to follow. Without internationally agreed rules, countries may choose the metrics, methods and definitions of sources and gases that are most favourable to their national circumstances.18

International review/verification is necessary in order to build trust between countries, reduce transaction costs, and ensure the environmental integrity and transparency of the system. Without a centralized system for the monitoring, review and verification of emission reductions, only those countries with the capacity to undertake such activities unilaterally would be able to detect whether others were fulfilling their obligations. Even then, these countries would not have the...
same level of access to data as international expert reviewers currently have under the Protocol, nor would there be the ability, as exists presently, to adjust countries’ accounts in cases of non-compliance with reporting requirements. Under the Kyoto rules for developed countries, expert review teams have the power to adjust emissions data when it is incomplete or not in conformity with inventory preparation guidelines. This creates an incentive for countries to produce high-quality emissions data and to adhere to the rules. The reviews of countries’ initial reports under the Kyoto Protocol demonstrate that the potential occurrence and extent of discrepancies with common rules is not insignificant. In at least one case, that of Greece, this resulted in an adjustment to base year emissions by almost 4% (UNFCCC, 2007a).

International compliance is required in order to both facilitate and secure the fulfilment of obligations and to ensure that consequences of any failure to act are detected and treated consistently (with respect to other countries with similar obligations). Verification can only go so far. If expert reviewers detect a problem what happens next? Transparency is not solely about building trust between Parties that all are acting, but also about detecting when Parties are not fulfilling their commitments. It is meant to provoke a reaction and this reaction is the substance of any compliance regime. The mere existence of the Kyoto Compliance Committee has contributed to adherence with reporting and data guidelines. The American approach would establish domestic compliance with international review rather than an international compliance regime.

It is worth writing a few words on the relationship between legal form, the depth of commitments, and the strength of a compliance mechanism. There has been some research on the compliance with pledges and some evidence of success (Shelton, 2000). If the requirement to be legally binding is such a sticking point in the negotiations, then would not a pledge be more effective? Louis Henkin’s assertion is well known: ‘It is probably the case that almost all nations observe almost all principles of international law and almost all of their obligations almost all of the time’ (Henkin, 1979). It is also often argued that states conclude agreements that they can comply with. Without controlling for the depth of commitments, research into compliance with pledges is of little guidance to the climate situation. This is akin to the criticism made by the enforcement school of the managerial approach (for which broad compliance with managerial regimes is observed) (Downs, 1998). If commitments are deep, we propose that a strong compliance regime is necessary and that these commitments must be enshrined in a legally binding instrument in order to be credible. There is little empirical evidence of deep pledges with strong compliance regimes (Raustiala, 2005). If commitments are weak, one may ask, does it matter? Under a scenario in which a regime is being built-up for both the near and long term, we argue that yes, it does.

5. Conclusions

The case has been argued for a top-down and legally binding architecture that builds on and extends many of the key characteristics of the Kyoto Protocol. Such an architecture, we contend, is needed to make the rapid progress required if emissions are to be reduced at the rate, and to the level, demanded by the Copenhagen Accord’s below 2°C goal. With the pledges made in a bottom-up manner under the Copenhagen Accord falling far short of what is physically required to limit warming to below 2°C, there is a clear tension between what is apparently politically achievable at present from such an approach and what the science indicates is necessary.

Experience with the nascent form of a top-down regime discussed here, the Kyoto Protocol and its implementation regime and consequential effects on domestic implementation, shows clearly that this has served to enhance, rather than hinder, the development and implementation of domestic climate policy. The Protocol was the driving force behind the tightening of emissions...
allocations in Phase II (2008–2012) of the EU Emissions Trading Scheme (EU ETS) (Parker, 2008). The development of an emissions trading scheme (ETS) in New Zealand (New Zealand, 2002) was contingent on the Protocol, as it has been in Australia.22 Japan has also implemented a number of climate policies driven by its Kyoto obligations (OECD, 2009). Even Canada, prior to the change in government, had started to take measures to implement the Protocol and was taking the first steps towards establishing an ETS (Department of the Environment, 2005). Elaboration of domestic climate policy may also have occurred in the absence of the Kyoto Protocol; however, its development and ambition would have been less certain and, most likely, weaker.

The failure of governments to maintain momentum towards a legally binding and ambitious (both factors cited by many governments) agreement in Copenhagen, with a clear pathway for its achievement, has hindered climate policy in many countries. A number of countries have both stepped back from emissions actions they would have been prepared to take had more been agreed internationally and have experienced difficulty in advancing climate policy on the domestic front (the two undoubtedly being inextricably linked). Japan’s move to set up an ETS has been rendered much more uncertain by the failure of Copenhagen (Carbonpositive, 2010). The political difficulties experienced by Australia are in no small part due to the inability of Copenhagen to secure an ambitious global agreement. Efforts by the EU to strengthen its 2020 target to 30% have been hindered substantially for similar reasons: the failure of Copenhagen has made it more difficult for those member states that do support a 30% target to gain traction on this issue.

The USA has proposed ‘a new climate architecture ... grounded in the need to take action that can actually address the problem. It pushes countries to deliver, but does not insist on promises that can’t be kept’ (Stern, 2010). This is a bottom-up system with weak MRV for industrialized countries, compared with the present Kyoto system, and a low level of global coordination. Proponents of this approach argue that it is more likely to be effective in limiting emissions than the top-down model which we have outlined. However, the evidence to support this contention is very weak and we suggest, points in the opposite direction. Following the failure to agree ambitious goals in Copenhagen, a number of countries have stepped back from emissions actions that they would have been prepared to take had more been agreed internationally. The EU is resisting strengthening its ‘20% reduction by 2020’ target, because of the absence of ambition from others. Australia has postponed its ETS and lowered its goals, and the timeline for the implementation of Japan’s ETS is increasingly unclear. These, and other developments, reflect the fact that the Copenhagen Accord, on its own, represents a quintessential ‘bottom-up’/pledge and review’ approach, with few incentives for countries to go further than they would be prepared to go unilaterally. The clear potential for the lack of forward mementum to lead to fragmentation of the regime can be seen in the start up of talks between China and Japan of a bilateral carbon crediting mechanism outside of the UNFCCC (Masaki, 2010).

The position of the USA remains one of the central issues in the international climate negotiations. One of the key arguments that the USA’s climate delegation has used in favour of the bottom-up architecture described above, is that anything else would not get through the US Senate, and the promotion of legally ’hard’ elements of an international agreement could threaten the passage of legislation. Many other countries are reluctant to go further than unilateral, pledge and review approaches unless the USA takes a stronger position.

If this logic were followed to its conclusion, with cap-and-trade legislation in the USA now shelved for 2010 and the timeline for its reintroduction and ultimate adoption very uncertain, then the only option for the foreseeable future would be a weak, bottom-up, pledge and review system, in the (faint) hope that the USA will join an international regime in the next few years. Such an outcome would spell the end of the nascent but, as we have argued, essential multi-lateral architecture that has been developed under the Kyoto Protocol, and forestall its extension
in different ways (bearing in mind all countries’ common but differentiated responsibilities) to non-Annex I countries. This would not be effective, as it would undermine existing climate policies and would likely weaken those being planned.

The conclusion that can be drawn is that those countries that understand the need for a legally binding, top-down global architecture, and how important it is to build on, and not to lose, what has been developed so far, need to find creative ways of moving the present round of negotiations forward. In practical terms, this means deciding on the legal form in Cancún and a timetable and a process for concluding the agreements, which realistically will have to include amendments to the Kyoto Protocol for its second commitment period, uncoupled from the USA’s domestic climate policy situation.

Notes

1. The USA argues that a bottom-up approach ‘is the only practical way forward if you mean to include all significant economies, because no across-the-board, top-down target would be acceptable at this stage to developing countries or, indeed, to us’ (Stern, 2010).

2. For full details of the USA’s MRV proposal, see UNFCCC (2009a: 70–71) and USA (2010).

3. Countries would meet their quantitative emissions reductions/removals ‘in conformity with domestic law’ (USA, 2009: 6) or could be achieved with ‘means provided for under their respective laws and policies’ (USA, 2010: 85); in other words, the rules— and compliance with those rules— are established domestically.

4. Geoengineering approaches to limit warming may then be needed; however, there are very substantial risks from this type of response measure (Brovkin et al., 2009; Jones et al., 2009; Oschlies et al., 2010).

5. With respect to pre-industrial levels, and assuming a 90% confidence level, with CO₂ concentrations limited to around 550–650 ppm.

6. Note that an aggressive regime will ultimately be needed because, under this climate target, rapid reductions in CO₂ emissions will be needed well before economically recoverable reserves of fossil fuels are exhausted (Meinshausen et al., 2009).

7. See www.sidsnet.org/2.html.


9. Evidence is growing that dangerous changes may also be expected in industrialized countries, such as the USA, at levels lower than 2°C warming. Recent work on projected climate change in the USA concluded that the ‘intensification of hot extremes could result from relatively small increases in GHG concentrations, suggesting that constraining global warming to 2°C may not be sufficient to avoid dangerous climate change’ (Diffenbaugh, 2010).

10. This is the ‘PRIMAP baseline reference’. PRIMAP stands for the Potsdam Real-time Integrated Model for probabilistic Assessment of emissions Paths [see www.primap.org].

11. This is not, however, to argue against reform of the UNFCCC process, which is badly needed (Depledge, 2006; Yamin and Depledge, 2010).

12. These include the Paris–Oslo process on Reducing Emissions from Deforestation and Forest Degradation (REDD), the High-level Advisory Group on Climate Change Financing, the Petersberg Climate Dialogue, the Cartagena Dialogue, and the informal meetings held by the incoming Mexican presidency, as well as those that were already in existence (the MEF, the G8/G20).

13. REDD+ goes beyond deforestation and forest degradation, and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.

14. Countries indicated, at the Petersberg Climate Dialogue in Germany in March 2009, a willingness to spearhead further work on adaptation. An interim Adaptation Partnership has since been established by Costa Rica, Spain and the USA. The Partnership is meant to be facilitative and is ‘not intended to be ... a venue for directing resources or setting global priorities’, as opposed to, say, the significant short-term financing behind the Paris-Oslo Process or the Technology Action Plans of the MEF. Whether the partnership will bear fruit remains to be seen; however, it seems to be much more akin to yet another clearinghouse. See www.adaptationpartnership.org.

15. A number of proposals have been put forward with a view to streamlining negotiations on future commitments once a legally binding agreement has been reached. See, for example, the Australian schedules proposal which simplifies the amendments procedure (Australia, 2009a, 2009b). A number of other Parties have highlighted the need to streamline entry into, or voluntary adoption of, Annex B type commitments.

16. Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP).
17. Common rules are needed for accounting standards for industrial – as well as land use, land-use change and forestry (LULUCF) – emissions; reporting formats for data and actions; standards for the international review of these reports and actions; assessment of compliance with obligations; definitions of tradable carbon market units; a means to track and log the trading of such units internationally; and a means to verify that such units represent real reductions.

18. Take global warming potentials (GWP) as an example. Parties currently use the IPCC’s Second Assessment Report (SAR) GWPs, estimated over a period of 100 years, to report on their emissions. If some Parties, but not others, adopted the IPCC’s Fourth Assessment Report (AR4) GWP values, and chose a different period for estimating the GWPs, it would become harder, if not impracticable, to compare the emission actions of countries. This would be likely to create gaming of the system, as Parties would strive to use the GWPs most favourable to their emissions profile. Accounting of LULUCF emissions is another example. The Netherlands has had significant adjustments made to emissions from deforestation in its base year (UNFCCC, 2007b). Australia has also submitted revised LULUCF data in response to questions raised by expert reviewers (UNFCCC, 2009b).

19. A total of 124 potential problems were identified in the initial reports. In other words, 124 questions about data were raised that would not have been addressed if there was no power of adjustment (UNFCCC, 2008). Parties would simply have had to accept the numbers provided by others. In the end, 117 of these issues were resolved amicably through a dialogue between the reviewers and the Party concerned; the other seven relate to two Parties, Greece and the Netherlands, where reviewers calculated adjusted base-year data. In Greece’s case, the adjustment resulted in a decrease in emissions in the base year by 3.7%.

20. With respect to the ability of expert review teams to adjust data (and for any disputes between these reviewers and the country concerned to be decided by the Compliance Committee), Oberthur and Lefeber (2010) posit that: ‘arguably, the temptation of states to insist on favourable estimates has been tempered by the prospect of having to defend those estimates before the [Compliance] Committee’. The discrepancy between the timely submission and adherence to mandatory reporting guidelines between national communications and annual GHG inventories and initial reports is another example of the value of the Compliance Committee. Only the latter may (and have) resulted in referrals to the Committee.

21. There are two schools of thought when it comes to compliance: that it should be facilitated and that it should be enforced (Chayes and Chayes, 1995; Downs, 1998). The first contends that countries do not willfully disregard the obligations they have undertaken, but that any non-compliance stems from a lack of capacity to act. The second argues that to achieve deep cooperation – such as the ambitious emission reductions needed to avoid dangerous climate change – strict enforcement is needed so as to remove any benefits of defection (in other words, making the cost of defection greater than the cost of action). The design of the Kyoto Protocol Compliance Committee, with its facilitative and enforcement branches, reflects both approaches (Brunnée, 2003). It is argued here that the enforcement mechanism needs to be strengthened for industrialized countries, based on experience from the first commitment period, but that it is only appropriate to extend a facilitative mechanism (either as part of the Kyoto compliance mechanism or some separate mechanism) to developing countries at this point, given their capacity considerations. The facilitative or early-warning function of the Kyoto regime is underdeveloped; the fact that Canada has not been in front of the Compliance Committee with respect to its present emissions is a case in point. The trade policy review process under the World Trade Organization (WTO), with which the American proposal has many similarities, has been well received by countries (Steinfatt, 2010). However, it is an open question as to how effective the trade policy review process would be if the WTO did not also have a dispute settlement body. Establishing a review mechanism that could serve such a facilitative and early-warning function would be beneficial to the regime. However it must only supplement, not replace, the enforcement function of the Compliance Committee.

22. After a change in government, Australia quickly ratified the Protocol in late 2007 and took steps to establish an emissions trading scheme in short order (by 2010) (Commonwealth of Australia, 2008; Wong, 2008). The Rudd Government had started to consider the possibility of an emissions trading scheme in late 2006, but ultimately only pledged to establish one by 2012 (Cole, 2007; Commonwealth of Australia, 2007). That the establishment of such a scheme has now been deferred does not detract from the policy ‘push’ created by Kyoto, but simply serves to demonstrate that addressing climate change is not easy (BBC, 2010).

References


612 Hare et al.


CLIMATE POLICY


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