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Chapter 3

Flexibility, Compliance and Norm Development in the Climate Regime

Ronald B. Mitchell

Introduction

In the Framework Convention on Climate Change (FCCC) of 1992, the world's nations aspired to stabilize 'greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system'.² To achieve that lofty goal, the regime will need to create, over the next century, a broadly-held and abiding norm among governments and within global society that 'appropriate' behaviour requires significant and consistent efforts to reduce emissions of GHGs.

Other chapters in this volume focus on the relatively direct and immediate effects of the climate regime's existing compliance and enforcement mechanisms (or alternatives thereto), evaluating whether, how and under what conditions these mechanisms will influence the climate-altering behaviours of states and substate actors. In this chapter, I look at these mechanisms in light of their potential to have longer-term impacts that may, at present, not be as visible. I argue that initial compliance rates are likely to be quite high but that some, and perhaps much, of this compliance will be achieved without significant behavioural change in industrialized countries, economies in transition or developing countries. Taken together, the definitions of compliance, the methodologies for baselining, the flexibility states have in fulfilling their obligations, the availability of cheap emissions credits for violators to come into compliance, and the regime's general strategy of responding to non-compliance by facilitation rather than enforcement, will make it relatively easy and cheap to fulfil obligations. Initially, therefore, compliance rates are likely to be quite high even with little if any use of the regime's enforcement mechanisms. However, these high compliance rates are not likely to contribute significantly to averting climate change, at least in the short term. Such initial compliance, even if 'empty', may nonetheless help establish a strong international norm that countries that fail to take action to reduce GHG emissions are acting inappropriately. The very ease of complying makes it more difficult for a country to sustain an argument that not complying is appropriate: if compliance is easy for the country complying but non-compliance is expensive to the environment and other countries, then non-compliance is likely to be increasingly viewed as deserving of social opprobrium.

Were such a norm to develop, it could, over the longer term, contribute significantly to climate progress by convincing states that action to prevent climate change is the right thing to do even when it is costly.

At present, governments and individuals act in ways that contribute to climate change because of the strength of material incentives for such behaviours and the weakness of norms framing such behaviours as inappropriate. Existing social structures create both a logic of consequences and a logic of appropriateness that lead most governments and individuals to make little if any effort to avert climate change (March and Olsen, 1998). In a logic of consequences, 'action by individuals, organizations, or states is driven by calculation of its consequences as measured against prior preferences' (March and Olsen, 1998, pp949–50). Currently, most governments and individuals consider the costs of acting to avert climate change to exceed the benefits of doing so. There are, of course, a few 'no regrets' policies and behaviours regarding climate change in which the benefits accruing to those adopting them may be large enough to convince them to take action; new scientific insights may increase the number of such policies and behaviours. However, for the foreseeable future, the benefits of reducing or sequestering emissions or other climate-protecting actions will be uncertain, will occur in the future and will accrue to others, while the costs are clear, present and borne by those taking such actions, making such actions unattractive for those making decisions based in a logic of consequences. International institutions, including the climate regime, are systematically weak and have limited resources to alter costs and benefits enough to alter such decisions.

Given this, the climate regime's long-term success more likely depends on its ability, over the next century, to establish a new logic of appropriateness about acts that contribute to climate change. In a logic of appropriateness, actions are guided by norms that link particular identities or roles with particular behaviours in particular situations (March and Olsen, 1998, p951). Actors ask "what kind of situation is this?" and "what am I supposed to do now?" rather than "how do I get what I want?" (Finnemore and Sikkink, 1998, p914; see also the Introduction to this book). In this logic, actions are responses to internalized norms, externalized social expectations regarding appropriate behaviour in a situation, or beliefs regarding the behaviours one must engage in to acquire or maintain a certain identity. Actions that cause climate change, and the failure to take actions to avert it, generally have not yet been framed as illegitimate, reprehensible or otherwise inappropriate. Climate regime institutions and processes must foster economic, political and social changes that make behaviours that contribute to climate change appear increasingly inappropriate and convince more and more actors to accept that acts that are costly from a material logic of consequences perspective are, nevertheless, worth undertaking because they are the right thing to do.

Ultimate regime success at altering actors' behaviours depends less on instrumental manipulation of incentives than on deeper transformations of the goals they embrace and the behavioural norms they accept. Non-authoritarian governance – the only type possible internationally – works only if those being governed view its proscriptions and prescriptions as legitimate and appropriate constraints on their behaviour. Behavioural change will require states and their policy makers to accept either an internalized or externalized behavioural norm, either believing themselves

that actions to avert climate change are appropriate obligations or believing that other states and their own polities view such actions as appropriate obligations. Experience with human rights norms suggests that, while it may take decades, relatively weak international institutions can induce such normative shifts that eventually convince even initially-resistant governments to bring their behaviours in line with those considered necessary to be accepted as full members of the community of nations (Keck and Sikkink, 1998).

I begin by delineating how compliance is defined and the role of baselines in both country-level and project-level compliance under the FCCC, as developed up to and including the provisions of the Marrakesh Accords. I then go on to examine how the provisions for monitoring and verification, review, facilitating compliance and enforcement are likely to operate. I examine how those compliance and enforcement mechanisms are likely to influence the behaviour of states and non-state actors in the short term through a logic of consequences, and how they may have deeper and more substantial influences on their behaviour over the longer term through a logic of appropriateness.

Obligations under the FCCC

Under the 1997 Kyoto Protocol to the FCCC, many industrialized countries and economies in transition listed in the Convention's Annex I have undertaken quantified emission limitation or reduction commitments (QELRCs) delineated in the Protocol's Annex B, which are intended to achieve, in the aggregate, a 5 per cent reduction in these countries' emissions from 1990 levels by 2008–12.³ The Marrakesh Accords of November 2001 elaborated compliance definitions and mechanisms related to these commitments.

Were each Annex B country required to achieve its QELRC target through domestic action, the behavioural changes required would have been both costly and inefficient. The environmental benefits of reducing or sequestering a ton of carbon dioxide are independent of where the reduction occurs, but the corresponding costs of this reduction or sequestration vary significantly across countries. Requiring countries to meet their commitments domestically would make achieving a given reduction more costly and, therefore, would reduce the total reductions politically and practically achievable. To address this, the Marrakesh Accords granted states considerable flexibility in meeting their commitments. This flexibility involves creating an emissions accounting and trading system in which countries are granted emission units corresponding to their Annex B commitments, can buy or sell additional emission units under specified conditions, and will be considered compliant if the total number of emission units they possess exceeds their actual emissions. The Marrakesh Accords established four types of emission units and usage rules, as follows:

- 1 assigned amount units (AAUs), which correspond to a country's Annex B commitment, and which another country can acquire through emissions trading from other Annex I countries (Article 17).

- 2 Emission reduction units (ERUs), which countries can acquire from other Annex I countries through joint implementation (JI) projects (Article 6).
- 3 Certified emission reductions (CERs), which countries can acquire from Clean Development Mechanism (CDM) projects undertaken in non-Annex I countries (Article 12).
- 4 Removal units (RMUs), which countries can acquire through activities in Annex I countries that remove GHGs from the atmosphere.

Countries were also allowed to 'bank' emission units in excess of their first commitment period targets and use them in future commitment periods. The banking of AAUs was not limited; the banking of ERUs and CERs was limited to 2.5 per cent of a country's original AAUs; and the banking of RMUs was prohibited. Since these provisions made emission reduction obligations dynamic, the parties created a transaction log system to track exchanges between countries and across periods and thereby provide clarity regarding each country's target at the end of the first commitment period.

The Marrakesh Accords established several other provisions. Parties were prevented from using these mechanisms unless they were compliant with mechanism-specific requirements as well as more general methodological and reporting requirements.⁴ Countries were provided a period, called a 'true-up' period, during which they can acquire enough AAUs, ERUs, CERs, and/or RMUs to fulfill their commitments that extends for 100 days after completion of the expert review process for the last year of the first commitment period, i.e. 2012.⁵ A version of 'buyer liability' for the validity of permits was created by requiring countries to maintain a commitment period reserve of 90 per cent of their assigned amounts, calculated from the QELRCs reflected in Annex B, to reduce the risk of countries overselling emission units and failing to meet their targets.⁶ Developing countries were authorized to undertake unilateral CDM projects and market the resulting emission credits (Pew Center on Global Climate Change, 2001).⁷ In addition, a CDM Executive Board was created to develop rules governing the operation of, and verification and accounting of credits from, CDM projects, including accrediting operational entities to evaluate projects and assign project credits.

The Marrakesh Accords established a Compliance Committee, consisting of a Facilitative and an Enforcement Branch. The Facilitative Branch is tasked to promote compliance by all parties with their commitments through appropriate recommendations, advice and/or technical and financial assistance.⁸ The Enforcement Branch is tasked with determining the compliance of Annex I parties with their Protocol commitments, and applying consequences that can include – depending on the commitment breached – a declaration of non-compliance, submission of a plan for coming into compliance, suspension of eligibility to participate in the flexibility mechanisms, and the deduction of 100 per cent of excess emissions in the first commitment period, plus a 30 per cent penalty, from a party's assigned amount in the second commitment period.⁹

The role of baselines

Both country baselines and project baselines influence compliance dynamics within the climate regime. Country baselines are estimates of a country's net GHG emissions during the first commitment period (2008–12), had it followed a business as usual scenario and not changed its policies or actions in response to the regime. Project baselines are estimates of net GHG emissions from a specified area over a specified time had a JI, CDM or RMU project not been undertaken.

Since Annex B targets translate into absolute emission levels, country baselines do not enter into legal determinations of Article 3.1 compliance, which depends only on a country having valid AAUs, ERUs, CERs and RMUs in excess of their actual emissions. However, country baselines are central to how difficult and costly it will be for a country to comply, and therefore how likely it is that countries will. The distance between a country's business as usual baseline and its target corresponds with the degree of behavioural change a country must make (or the amount it must spend on credits) if it seeks to comply. Because GHG emissions tend to track economic growth, declining economic conditions will make it easier or cheaper to comply, while economic booms will make it more difficult or costly.

Country baselines, even when not actually known, are likely to be central determinants of the cost of emission units in whatever emissions trading market develops. Annex B commitments ensure that at least some countries, most notably Russia and the Ukraine, can, without taking any climate-protecting action, meet their Kyoto targets and still have 'hot air' credits to sell. Most other countries will have to estimate their emissions relative to their targets and either introduce policies and programmes to meet their commitments domestically, initiate JI or CDM projects abroad, or acquire AAUs, ERUs, CERs or RMUs from other countries in the emissions market. The decision of which action to take will depend, of course, on the relative cost per ton of carbon dioxide (CO₂)-equivalent of those alternatives.

The supply of, and demand for, hot air credits will influence the price of all emission units and hence the cost of compliance. Because there is no real cost of producing hot air units, Russia, Ukraine and any other countries that can confidently predict business as usual emissions below their commitments can sell those units at very low prices. Those countries will have incentives to charge as much as they can, but can undercut (and therefore drive down the price of) any other credits which those countries purchasing credits perceive as equivalent. The regime has sought to foster an emissions trading market in which AAUs, ERUs, CERs and RMUs are equivalent. Assuming the US neither ratifies Kyoto nor enters the emissions market during the first commitment period, estimates suggest that the 'overall demand for emission rights is likely to be lower than the supply of "hot air" from Russia and Ukraine [and so] the world market price will be very low' (Michaelowa, 2001, pVI). That said, two factors may create a market that differentiates hot air credits from others. First, given the buyer liability created by the 90 per cent commitment period reserve requirement, if uncertainty regarding the validity of hot air credits is greater than uncertainty associated with other credits, those credits will be priced differently (Victor, 2001a; Victor, 2001b). Second, some European states may restrict themselves in ways that go beyond the regime, including capping the amount of hot air

credits they will allow themselves to apply towards their targets (David G. Victor, personal communication, 9 August 2002). Despite these caveats, hot air credits are likely to reduce significantly the attractiveness and price of project-based credits.

Project baselines pose problems that have more direct impacts on compliance, particularly the determination of non-compliance. Assessing the credits that a JI project (ERUs), CDM project (CERs) or sequestration project (RMUs) should receive requires very specific baselining. Credit assignment requires comparing emissions produced by the project to a baseline scenario 'that reasonably represents the anthropogenic emissions by sources or anthropogenic removals by sinks of GHGs that would occur in the absence of the proposed project'.¹⁰ This task is analytically and empirically complex. The CDM Executive Board must approve methods for defining project boundaries and baselines, develop monitoring and evaluating procedures and accredit operational entities charged with those tasks, and maintain the registry of CDM projects and credits. Operational entities will approve the baseline and monitoring plans included in project design documents.¹¹ That will require clear definitions of project boundaries, i.e. the activities, area and time period to be considered part of the project, so that actual emissions for those activities, that area and that time period can be monitored and counterfactual emissions estimated. Defining projects and monitoring emissions are difficult but necessary elements in identifying reductions caused by the project, and therefore in determining the credits the project should receive.

Baselining engages 'the fundamental problem of causal inference' (King et al, 1994), the fact that we can never truly know what would have happened otherwise, and therefore can never be sure how much a given project reduced emissions. Any project has myriad, equally plausible counterfactual scenarios, each of which implies very different emission credits. Both overestimating and underestimating credit levels reduces the regime's ability to encourage emission reductions. The incentive to buy credits by funding JI, CDM and sink projects depends on the usefulness of those credits in fulfilling climate regime obligations at less cost than through emission projects undertaken at home. Excessively conservative baselines underestimate credits, reducing the incentives to fund such projects. Excessively liberal baselines overestimate credits, increasing participation in projects that are given more credits than they actually produce. Actors will have incentives for strategic behaviour aimed at establishing higher baseline emissions and therefore greater credit for a project. These and many other problems have been recognized and discussed in efforts to design systems to estimate counterfactual emissions, measure actual emissions and compare the two, in order to identify ways that mitigate, even if they do not eliminate, these problems. In practical terms, baselines and monitoring procedures that are flawed from theoretical perspectives may nonetheless be accurate enough that project participants, the regime secretariat and other contracting parties will accept them as appropriate bases for granting credits.

Compliance mechanisms and procedures

The Marrakesh Accords provided interim closure in developing procedures to encourage compliance in the short term and maximize emission reductions in the

longer term. These procedures involve verifying and reviewing behaviours and emissions, facilitating compliance prior to the end of the first commitment period, sanctioning non-compliance with inventory and reporting requirements prior to the end of the first commitment period, and sanctioning non-compliance with targets after the end of the first commitment period.

Monitoring and verification

The climate regime's obligations adopt an economic efficiency (rather than 'command and control') approach, which defines compliance in terms of results states must achieve rather than actions they must take. The first step in evaluating compliance involves monitoring and verification. Collecting extensive and high quality behavioural and environmental information is important not only to validate whether actors deserve credit for reductions, but to learn more about human impacts on the climate and how best to reduce those impacts.

Under the climate regime, countries are required to develop national emission inventory systems, use those systems to provide annual inventories, and have both the system and the annual inventories verified by Expert Review Teams (see Chapter 2 by Ulfstein and Werksman and Chapter 4 by Berntsen and associates). Nominally, compliance requires only monitoring 'anthropogenic emissions by sources and removal by sinks'. In practice, however, major components of most countries' inventories will not be based on direct measurements of gases. Instead, they will estimate emissions and removals by applying emission rates to measurements of relevant activities. Methane emission levels may be based on counts of livestock by type multiplied by emissions per livestock type, and hectares of rice cultivation multiplied by emissions per hectare. Transport-related CO₂ emission levels seem likely to be based on consumption of different fuels multiplied by fuel-specific emission factors. Regardless of whether emissions are based on such calculations or direct measurements, the broader goals of the regime require monitoring both behaviours and emissions to better understand how variation in emissions depends on the type of, and conditions under which, policies and activities are undertaken.

The range of behaviours that emit or sequester GHGs precludes making general claims about the ease of monitoring (Morlot, 1998). In some cases, such as power plant emissions, relevant activities (amount of coal or oil burned) and environmental results (amount of CO₂ emitted) are relatively easy to monitor. In others, such as deforestation, relevant behaviours may be relatively easy to monitor (satellite surveillance of net changes in forest cover) but it may be more difficult to identify corresponding emissions because of problems in modelling carbon release. In yet other cases, even relevant behaviours may be difficult to monitor, as with determining the number of methane-producing livestock being grazed or levels of GHG-emitting military activities that governments have incentives to keep secret. The climate regime will need to develop mechanisms for evaluating, providing feedback on and making recommendations or even requirements for the models states use in estimating emissions from behavioural measurements.

Review

Evaluating national-level compliance requires comparing the emissions information countries provide, however created, to the valid AAUs, ERUs, CERs and RMUs they hold. Since states will know what this review process will entail before submitting their emission inventories, the reviews themselves seem unlikely to 'catch' states in violation of their commitments (Victor et al, 1998b). States seem likely to enter the review stage using one of four strategies: they will have brought themselves into compliance by ensuring they have requisite emission credits; they will have constructed inventories that successfully misrepresent their actual emissions so they appear to be in compliance; they will acknowledge that they are out of compliance and seek to receive assistance in coming into compliance; or they will acknowledge that they are out of compliance and decide to accept or ignore whatever formal or informal sanctions may be imposed. Misrepresentation seems the least probable of these outcomes.

Thus, implementation reviews seem unlikely to uncover non-compliance. They may nonetheless contribute to the compliance process. They may identify why a particular state failed to comply and thereby identify more general factors that hinder or facilitate compliance. The justifications and explanations of a state's non-compliance and the evaluation of those justifications by other parties are likely to contribute to learning by the regime and other states about which policies are effective at reducing or sequestering emissions and under what conditions. Reviews may entail discussions about whether national governments, local governments, private actors, unexpected economic shocks or natural forces are responsible for any shortfalls; whether shortfalls reflect failures of policy or implementation; and whether intention, incapacity or inadvertence was the major cause of the shortfall. Review procedures will also need to identify or develop methodologies for addressing the many cases in which monitoring efforts face inherent difficulties in identifying which actors, if any, were responsible for a shortfall. Thus, it may be easy to identify those responsible for high emission rates from the power sector but far more difficult to identify those responsible for high emission rates due to deforestation or methane production.

In contrast to assessments of national-level compliance, project-level compliance explicitly requires reviewing both behaviours and emissions. Reductions or sequestration can only be shown to be additional if actual emissions, project-related behaviours and non-project factors (both human behaviours and environmental conditions) that influence emission/sequestration levels are observed or estimated. Projects are likely to be of four types: 'successes', in which participants' actions reduced or sequestered emissions; 'good faith efforts', in which participants' actions would have reduced or sequestered emissions were it not for other factors; 'coincidental compliers', in which reductions or sequestration occurred in spite of participants' actions or failures to act; and 'failures', in which participants' actions or failures to act caused the project not to produce reductions or sequestration. High-quality baselining systems should distinguish most, if not all, successes from coincidental compliers, so long as they identify changes in factors that influence project performance but change after initial baselines are agreed upon, such as

economic growth rates or weather patterns. In a world in which other factors are never held constant, this is no easy task. It requires large amounts of accurate information about a large range of human behaviours and environmental conditions, as well as methodologies for converting that information into politically compelling assessments of which actors should be rewarded and which should be sanctioned.

The regime clearly seeks to build a transparent and accurate system of international monitoring, reporting, verification and review of emissions and behaviour. Its success depends not only on the initial structure and methodologies of those systems, but also on the incentives created to improve those systems over time. An important tension exists, however, between the desire for an accurate reporting system and the use of information from that system in determinations of non-compliance and application of sanctions by the Enforcement Branch of the Compliance Committee. States and non-state participants in JI, CDM and RMU projects know that the reductions or sequestrations they are credited with depend on actual emissions reported. They therefore have incentives to provide or withhold information, promote or oppose certain methodologies, and argue and negotiate over baselines and emissions in ways that maximize their reductions or sequestrations. How strong those incentives are depends on the response those actors expect for non-compliance and whatever supports and rewards are given for providing accurate information, especially if that information identifies non-compliance.

Facilitating compliance

The regime's creation of a Facilitative Branch under the Compliance Committee represents only one element of a broader strategy based on facilitating compliance rather than deterring non-compliance. The regime relies largely on 'compliance management' while coupling it with some elements of an 'enforcement' approach (Chayes and Chayes, 1995; Chayes et al, 1995; Downs et al, 1996). The decision at Kyoto to allow states to choose their own targets, including ones that allowed for increases over 1990 levels, was a political necessity but does facilitate compliance. The flexibility mechanisms of emissions trading, JI and CDM projects, the use of sinks and RMUs, and the ability to bank emission units further increase the ways states can meet their targets while reducing the costs of doing so. Perhaps the largest provision facilitating compliance involves the 'additional period for fulfilling commitments'. This 'true-up' period allows states to acquire AAUs, ERUs, CERs and RMUs up until 100 days after completion of the expert review of inventories for the commitment period, a deadline that translates into over two years in which states can make up any shortfall (Michaelowa, 2001).¹² These provisions collectively make it much easier for states to comply, in part by reducing the need for behavioural change.

When states seem unlikely to comply, the regime has adopted a system 'to avoid confrontation, to be transparent' and to eschew sanctions in favour of cooperative measures.¹³ The Facilitative Branch seeks to encourage Annex I parties to work with developing, non-Annex I parties in implementing their commitments, and to facilitate compliance by Annex I parties with building national inventory systems and meeting their targets. The Facilitative Branch can provide, or foster the provision by others of,

advice, financial and technical assistance, and technology transfer and capacity building.¹⁴ Developing countries involved in CDM projects or seeking to develop their inventory systems seem the most likely to make use of the Facilitative Branch, although Annex I countries that face unexpected difficulties may also do so. The success of such capacity building will depend on how many parties are committed to the regime's success, since only those struggling states that support the regime will request assistance and only those that support the regime will provide the financial and technological assistance envisioned. Unfortunately, historical experience suggests that funding, whether required of governments under the regime or volunteered by NGOs, is likely to fall short of that needed to create robust assistance programmes (Keohane and Levy, 1996; Victor and Salt, 1994, p15).

The regime has not delineated mechanisms to reward overcompliance and innovation. Since current emission reduction targets fall far short of what most scientists consider necessary to avert climate change, significant progress requires incentives for exceeding current targets and for undertaking risky projects that provide uncertain, but potentially large, reductions at low cost. At present, although the regime facilitates compliance, it has developed few mechanisms to reward those who go the next step, such as public awards, white lists, access to financial mechanisms or reduced project verification requirements.

Enforcement

The regime also seeks to discourage non-compliance through mechanisms that include, but extend significantly beyond, the activities of the Enforcement Branch. At the project level, the incentives to discourage false credits will depend largely on the market's ability to distinguish (and discount the price of) false credits from those more likely to be assessed as valid. Governments may find the most salient reasons to comply involve the political criticism they receive from their own citizens, the media or other governments of failing to comply with a regime that has made compliance both easy and cheap.

For an emissions market to develop, there must be at least some governments committed to complying with their commitments and willing to promulgate corresponding domestic policies that pass these incentives on to subnational actors. These incentives to acquire credits will translate into a demand for credits only if those offering AAUs, ERUs, CERs or RMUs can convince potential buyers that those credits have value, i.e. that they are backed by real emission reductions or sequestration (Victor, 2001b, p22). Given the 90 per cent commitment period reserve, both corporations complying with domestic regulations and countries trying to fulfil national obligations must ensure that the credits they acquire will cover their emission obligations. Beyond the formal cancellation of credits, public and political sanctions for knowingly engaging in bogus transactions are also likely. Wary buyers are likely to require those undertaking projects to provide information reassuring them of credit validity prior to purchase, and to reward those that build reputations for high-quality projects and credits. This should, in turn, create a market in which false credits are distinguishable, harder to market and hence discouraged.

At the project level, sanctioning will require cancelling credits. The operational entities and the CDM Executive Board can be expected to reduce or revoke credits from projects that cannot demonstrate real reductions or sequestration corresponding to the project design. Despite the somewhat adversarial relationship of the verifying operational entities and the project participants, the former should be able to use the ability to provide or withhold credits to acquire data and information necessary to adequately validate credits. Project participants that do not want to monitor and report adequately will also build a reputation for not being forthcoming, making it more difficult for them to market those credits that they can get validated.

Operational entities will face difficulties in deciding whether to validate projects involving the coincidental compliers and good faith efforts mentioned earlier. Cancelling the credits of good faith efforts (e.g., a well-implemented reforestation project destroyed by a flood, drought or fire) has the virtue of ensuring that credits are backed by real reductions or sequestration, but punishes actions that reasonably could have been expected to produce such credits. The opposite problem is raised by projects of coincidental compliance (e.g., emission reductions from a plant that switched to a lower-emission fuel type which, after the project plan had been submitted, actually became cheaper than alternative fuels). Since the reductions were achieved by the planned activity, how should the fact that they were cost-free and would have occurred anyway (although this seemed unlikely when the project was approved) be taken into account? The CDM Executive Board and the operational entities will need to decide whether reductions from a project will be certified based on the actual behaviours of project participants or contracted behaviours. Even with buyer liability, buyers are likely to press for validation of credits in which contracted behaviour was carried out, regardless of actual emissions produced. As the regime develops procedures for allocating responsibility for project credit validation, it will need to consider how those procedures influence not only the actors involved in the case at hand but also the willingness of other actors considering undertaking such projects and trades in the future.

At the national level, the Enforcement Branch itself is entrusted with determining whether a state is in compliance, and taking action to urge it to come into compliance if it is not. Actions coming before the Enforcement Branch seem likely to be few, since the emissions trading market may develop in ways so that most states at risk for being sanctioned will either acquire credits during the true-up period or withdraw from the regime. Actions may come before the Enforcement Branch if concerns arise that a country's inventory system is susceptible to manipulation, but such issues will most likely be raised earlier in the Facilitative Branch, with the country seeking to respond to those concerns or rejecting treaty commitments outright. Despite the variety of sanctions available under the Marrakesh Accords, none seem likely to be used. Making participation in the flexibility mechanisms contingent on compliance with monitoring and reporting provisions will encourage states committed to the regime to develop strong inventory and reporting systems, but will have little influence on less committed actors. The regime's responses to non-compliance with targets appear somewhat harsher on paper but, like most sanctions in environmental agreements, seem unlikely to be used for several reasons. First, potential sanctioners will likely be deterred from imposing sanctions because of the political

costs of accusing other states and of undermining a sense of common purpose in the regime (Axelrod and Keohane, 1986). Second, once the Enforcement Branch identifies a state as non-compliant it is mandated to demand the country provide a compliance plan, stop its sales of emissions credits, and make up 130 per cent of its shortfall in the next commitment period. Given the mandatory nature of these sanctions, the locus of contention will shift to the stage of calculating emissions and estimating (and re-estimating) baselines to avoid finding a country in non-compliance in the first place. Third, requiring states to make up 130 per cent of their shortfall in the second commitment period will lead those who expect to be found in non-compliance to make their emissions reduction targets for the second commitment period sufficiently small so as to not be burdensome.

If issues come before the Enforcement Branch, the problems of determining actual emission levels are likely to involve uncertainty rather than 'cheating'. Emission inventory systems are likely to be inaccurate and uncertain because of inherent measurement difficulties and a failure to dedicate adequate resources, rather than because of efforts to cheat. Thus, systems are more likely to lack data of sufficient quality to make a determination of non-compliance. Such data as the Enforcement Branch can acquire are likely to raise the question of what constitutes non-compliance. Since the 'actual emissions' numbers will almost certainly involve a mean estimate and corresponding confidence band, the question will be whether the mean, the 95 per cent confidence band or some other reference point should be used. If states seem likely to be found in non-compliance, they are likely to claim either that their higher emissions were due to large economic factors that prevented efforts they did make from being effective, or that they could not afford the credits necessary to come into compliance. Especially for states that took actions and expended resources that could reasonably have been expected to reduce emissions by a given amount, claims that they should be treated as if they complied are likely to prove compelling to other states and the Expert Review Teams.

The regime's short-term influence: Altering the logic of consequences

Negotiators have developed obligations, compliance mechanisms and procedures to encourage climate-protecting activities that actors would not otherwise undertake. The mechanisms invoke a logic of consequences, seeking to alter behaviour by altering the incentives actors face. In the short term, the success of these mechanisms can be evaluated against two different, but equally important, standards. First, will they induce significant behavioural change? That is, will they lead to lower GHG emissions than would have occurred otherwise? Second, will they promote compliance? Will most states have sufficient valid emission units to cover their actual emissions? It is tempting to view the former standard as the only relevant standard. Indeed, since climate change will be slowed only if emissions are reduced or sequestration increased, compliance without significant behaviour change would seem to have little value. Yet, precisely because averting climate change will require decades, indeed centuries, of social management, the ultimate contribution of the regime's

compliance mechanisms during the first commitment period may stem as much from their ability to establish norms against climate-changing behaviours as from their ability to alter behaviour. Compliance that reflects significant behavioural change is certainly preferable to compliance that does not. Yet, although the current regime seems likely to create more compliance than behaviour change, that compliance may well help establish climate protection norms that make it preferable to non-compliance, even non-compliance with more stringent rules.

In predicting the short-term influence of the regime, it seems appropriate to adopt a 'logic of consequences' model, assuming that actors choose behaviours by evaluating the relative costs and benefits of the alternatives available to them in a context in which their values and normative commitments can be treated as fixed. In the short term, the regime can increase the costs (or decrease the benefits) of non-compliance and non-participation while decreasing the costs (or increasing the benefits) of compliance. However, the underlying values of actors, which determine how those costs and benefits are weighed, are unlikely to change in the short term. Given this, it helps to estimate the responses to the regime by categorizing actors into four groups: committed, contingent, resistant and intransigent. Committed states are 'leader' states whose polities are already committed to a norm of taking action to avert climate change and whose choices are relatively insensitive to the costs and benefits the regime seeks to manipulate (Sprinz and Vaahoranta, 1994). Contingent states are those that have not fully accepted such a norm but believe that action is probably warranted, depending both on the extent of action by other states and on their beliefs about the likelihood of, and harm from, climate change. Resistant states are those, the US being the most notable current example, that have rejected the norm that they should take action based on a view that the economic costs of action exceed the environmental benefits. Intransigent states are laggards or draggers who completely reject the norm that they should take action and whose behaviour has little to do with the costs and benefits the regime can manipulate. The regime was formed, and is largely populated, by an alliance of committed and contingent states. Some resistant states may have joined the regime, either because they sought the political benefits of membership and do not face significant obligations, or because their calculus of costs and benefits have changed since they joined and they have not yet withdrawn. Intransigent states can be assumed to have refused to join the regime from the outset.

How might we expect states in these groups to respond to the regime's compliance system in the first commitment period? Committed states are unilateralists whose choice to comply has little to do with the regime's flexibility mechanisms. They are nonetheless influenced by the effect of the regime's provisions on the costs of compliance. By reducing costs, the regime's flexibility encourages these states to take more domestic action than required, to make more behavioural change than required, and even, perhaps, to overcomply by reducing emissions below their targets. Lower costs allow these states to contribute more to averting climate change for whatever financial expenditure they were committed to making. These states are the ones most likely to provide financial and technical assistance, to fund JI and CDM projects in an effort to build capacity as well as commitment to the regime in

other states, and to follow the spirit of the regime's rules that trading and acquisition of emission units 'be supplemental to domestic actions' (Art 6(1)(d) and 17).

The regime's flexibility is likely to have its largest effect on contingent states. Relative to what would have happened without these mechanisms, many more contingent states are likely to comply, since the mechanisms allow countries to meet many of their targets through trading in credits likely to be quite cheap (Michaelowa, 2001). Because contingent states want to comply so long as enough others do and it is not too costly, the true-up period is likely to prove particularly influential. During that period they will have considerably more information than at present regarding how many other states have complied, what they did to comply, how much credits cost and the risks of climate change. This information clarifies the material and social costs of complying and not complying. And, if the response of committed states is strong, the costs of complying are likely to be less and those of not complying greater, making contingent states more likely to comply. Unlike the committed states, however, they will be more likely to minimize their compliance costs, engaging in more 'empty' compliance. They are more likely to acquire credits or reduce emissions only as required and urge a liberal interpretation of the requirement that trading 'be supplemental to domestic action'. They are less likely to provide financial and technical assistance, develop accurate and reliable inventory systems, and ensure emission credits are backed by real reductions. In short, contingent states will tend to follow the letter rather than the spirit of the agreement.

Resistant states are unlikely to respond to the flexibility mechanisms in the short term. These states start by assuming that compliance will be costly and that non-participation and non-compliance will have few costs. Since most resistant states will not be parties, formal compliance mechanisms cannot be applied. Like contingent states, resistant states are sensitive to new information. Those that are parties will be likely to withdraw if their initial assumptions regarding the costs of compliance prove true. However, if the decision to not participate proves to entail significant domestic or international political costs and compliance proves to be relatively easy and cheap, these states may revise their decisions. They may join the regime or comply with it, or they may remain outside the regime while reducing emissions or even acquiring credits which, were they a member, would constitute movement toward compliance. Intransigent states, however, are as dedicated to opposing the regime as committed states are to supporting it. Although this does not seem like a large group at present, such a group may grow in future commitment periods as the incidence of the costs of averting climate change become clear. Thus, oil-exporting states may increasingly oppose the regime if most member states comply by reducing oil consumption.

This analysis suggests that, in the short term, the incorporation of flexibility into the regime is likely to lead to high levels of compliance without frequent use of the enforcement provisions that have been so carefully developed (Downs et al, 1996). These high compliance rates will reflect compliance coupled with significant behavioural change by committed states, compliance with far less behavioural change by contingent states, and the unwillingness of resistant and intransigent states to become or remain parties to the treaty and its requirements. The regime's flexibility mechanisms encourage greater behavioural changes by committed states, will encourage

greater compliance by contingent states even if not accompanied by significant behavioural change, and may induce resistant states to reevaluate their position vis-à-vis the climate regime.

The regime's long-term influence: Altering the logic of appropriateness

The climate regime's short-term influence is likely to be rather limited, since committed states would have taken much of the action anyway and contingent states are likely to comply through relatively minimal action and small expenditures to acquire credits. Yet these small near-term contributions to averting climate change may provide a foundation for long-term success at attracting participation, encouraging compliance and reducing GHG emissions. Flexible mechanisms that alter the logic of consequences in the short term may foster a broader social transformation in the logic of appropriateness surrounding efforts to protect the global climate. Changing behaviours by altering the logic of appropriateness, i.e. by altering the norms and values that inform the behaviours people and states choose, involves indirect and long-term processes. To the extent that climate regime components initiate social processes that provide sustained support for climate-protecting norms and values, their influence is likely to be positive and may well be considerable, however hard it may be to isolate analytically.

The contribution that flexibility mechanisms make to inducing most parties to comply may foster new norms regarding climate-related behaviours. Clearly, policies and programmes that produce real reductions in emissions and innovations in sequestration are important to such a shift. Yet, even where such efforts fail, the social signal sent by states engaging in such efforts reinforces the notion that taking action to avert climate change is the appropriate thing to do. Contingent states may find that compliance, which was initially engaged in because it was easy, over time becomes expected behaviour, deviation from which requires explanation (Young, 1992). When states comply with their targets, they simultaneously affirm the norm held by committed states that taking action to avert climate change is good while undermining claims by resistant states that it is excessively costly. The regime's flexibility also undermines claims of resistant states that the norm is illegitimate because it does not recognize that state's particular circumstances, or that the norm does not apply to its behaviour because it is not capable of complying. If incapacity is often used to defend against accusations of environmental non-compliance (Brown Weiss and Jacobson, 1998), the ability to comply by purchasing relatively cheap credits in a market created for this purpose removes such excuses. Regular meetings of the Conference of the Parties and subsidiary bodies provide opportunities for states to evaluate their progress and learn from others how to meet their commitments at lower cost. The Facilitative Branch provides a forum in which states can request help in meeting their commitments. All these provisions and institutions make it easier for a state to comply and, thereby, make it more difficult for it to claim it should not have to.

Perhaps the largest influence of the regime lies in its effect on how behaviours that contribute to climate change are framed. The Kyoto targets constitute rules 'around which actors' expectations converge' (Krasner, 1983). Although their nominal purpose is to create legal categories of compliant and non-compliant behaviours, their more important effect may be as foundations for social categories of identity. They become the basis for a broader social definition in which those that strive to reduce emissions below 1990 levels are considered 'green' and those that do not are considered 'brown'. Such social definitions need not strictly correspond to the regime's specific provisions. Governments that fall short of their Kyoto commitments may still be considered green if others believe they strived toward those targets. Equally importantly, resistant states may be considered brown whether or not they have accepted the treaty's provisions. The US, or any other country that does not ratify the agreement, can avoid the legal consequences of not reducing its GHG emissions but may not be able to avoid social condemnation by the international community – and perhaps its own polity – for failing to adopt climate-friendly policies. The condemnation of India and Pakistan for their nuclear policies (although neither has joined the Nuclear Nonproliferation Treaty), and of Norway for whaling that is legally compliant with the whaling treaty, illustrates how international norms can simultaneously stem from but not be constrained by the compliance definitions of international legal instruments. These pressures are reinforced by regular meetings of regime bodies (and associated media coverage), as well as by periodic reports from the Intergovernmental Panel on Climate Change (IPCC), other scientific bodies, NGOs, and statements by governments and international bodies about the need to avert climate change. 'Strictly economic decisions' become increasingly viewed as 'economic decisions that contribute to climate change'. 'Economic decisions that contribute to climate change impacts' are increasingly viewed as socially inappropriate.

These processes, if sufficiently widespread, are likely to induce a deep transformation in the values that people, and the states they populate, hold. They will reinforce the convictions of committed states that action to protect the climate is justified and warranted. They will increase the ranks of committed states by convincing at least some contingent states that compliance is the right thing to do even if it is costly, rather than simply when it is less costly than non-compliance. It will cause some resistant states to re-evaluate their assessment of costs and benefits within a context in which climate protection receives greater attention and praise than it does currently, leading them to join the regime during the second commitment period as contingent states. Such a transformation is by no means assured. However, the flexibility mechanisms incorporated into the climate regime help make such a transformation more likely. Whether it occurs will depend on whether the many other determinants of norms collectively foster or impede such a transformation.

Conclusion

Will the nations of the world achieve the initial goals they set for themselves in the FCCC and, more importantly, the goals they will need to set to achieve a significant slowing in the rate of climate change? Many years will need to pass before any

serious assessment can be made of that issue. Indeed, the nature of the climate change problem means that the regime will never be able to solve the climate change problem but will, at best, find ways to manage it over time (Clark, 1989). The initial obligations and compliance mechanisms established under the regime appear to have laid a useful foundation for progress in that direction. The enforcement mechanisms seem unlikely to be used frequently. Yet the flexibility granted to governments in when and how to meet their targets seems likely to induce high compliance with first commitment period targets. Some countries will make significant and costly efforts to meet those targets. More states are likely to take advantage of the regime's flexibility to comply without making significant domestic emission reductions, acquiring emission credits that are likely to be quite cheap because of the availability of hot air credits. In the short term, legal compliance with limited behavioural change is likely to produce only small changes in the global trajectory of GHG emissions.

This pessimism is mitigated, however, by two factors. First, some states will respond to the regime's requirements by adopting policies and behaviours that they would not have otherwise adopted. Some new policies to encourage conservation will be tried. Some more efficient technologies for producing and using energy will be developed. Some more climate-attentive approaches to land use, land-use change and forestry will be explored. Although these changes are unlikely to be significant before the end of the first commitment period, they nonetheless will contribute in small but immediate ways to averting climate change and provide the foundation for social learning that can contribute in much greater ways in the future (Social Learning Group 2001a; 2001b).

Second, and far more importantly, creating high compliance with the Kyoto targets (even if it is empty compliance without corresponding behaviour changes) will foster a shift in normative dialogue regarding behaviours that contribute to climate change. Such a shift to climate change behaviours being assessed within a logic of appropriateness is essential if governments and private actors are going to engage in the behaviours needed to avert climate change: behaviours that will, undoubtedly, be costly when measured in strictly material terms. The regime must – and its flexibility mechanisms make it more likely to – progressively convince a wide range of currently hesitant and resistant actors that acting to avert climate change is worthwhile even when the immediate costs of doing so are high. This dynamic social process of reframing climate protection as the only appropriate behaviour will help to establish a regime in which most actors focus on making concerted efforts to prevent climate change, regardless of whether those actions fall short of or go beyond some legal definition of compliance. Thus, the flexibility mechanisms that, at present, appear only to make empty compliance more likely may, over time, initiate social processes that lead to deep-seated normative changes that, in turn, may produce the dramatic, long-term changes in human behaviours that are necessary to avert climate change.

Notes

¹ This chapter is a significantly revised version of 'Institutional Aspects of Implementation, Compliance, and Effectiveness' in Luterbacher, U. and Sprinz, D. (eds 2001) *Internationala*.

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² United Nations Framework Convention on Climate Change, Art 2.

³ Kyoto Protocol, Art 3.

⁴ Marrakesh Accords, Decision 24/CP.7, Annex, Sec XV

⁵ Id, Sec. XIII.

⁶ Marrakesh Accords, Decision 18/CP.7, Annex, para 6.

⁷ Whether the Marrakesh Accords permit unilateral CDM has been a contentious issue. The relevant text is found in Decision 17/CP.7, Sec G, para 40(a): 'The designated operational entity shall: (a) Prior to the submission of the validation report to the executive board, have received from the project participants written approval of voluntary participation from the designated national authority of each Party involved, including confirmation by the host Party that the project activity assists it in achieving sustainable development.'

⁸ Marrakesh Accords, Decision 24/CP.7, Annex, Secs IV and XIV.

⁹ Id, Sec XV.

¹⁰ Marrakesh Accords, Decision 16/CP.7, Annex, Appendix B.

¹¹ Id, Annex, Sec E.

¹² Marrakesh Accords, Decision 24/CP.7, Annex, Sec XIII.

¹³ Id, Sec IV.

¹⁴ Id, Sec XIV.

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