Post-Kyoto? Post-Bush?
Towards an effective ‘climate coalition of the willing’

PETER CHRISTOFF

Climate change is the most important global environmental problem we face today. Europe’s fiercer summers, the vanishing Arctic ice-cap, the thawing tundra, Antartica’s collapsing ice-sheets and glacier retreat together indicate trends and changes even more worrisome than those predicted in 2001. Then, widely accepted projections made by the Intergovernmental Panel on Climate Change (IPCC) suggested increases in average global temperatures of between 1.4 and 5.8 degrees Celsius by 2100 following a business-as-usual emissions scenario.\(^1\) Climate scientists are now revising these estimates upwards and considering the possibility of even greater shifts in climate occurring before the end of this century.\(^2\) There is a growing gulf between what they recognize as the need for urgent, effective action against global warming and the views of those policy-makers who, being poorly informed about the consequences of their caution, believe there is still time for delay.\(^3\)

The aim of the United Nations Framework Convention on Climate Change (UNFCCC) is to ‘prevent dangerous anthropogenic interference with the climate system’ (article 2). The Kyoto Protocol was established in 1997 to begin to meet this aim. This article initially provides a preliminary assessment of the Protocol’s performance. The first section briefly considers the concepts of effectiveness, compliance and legitimacy, which are then employed to assess the Protocol’s progress. The next section describes Kyoto’s performance to date and highlights

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\(^1\) IPCC (Intergovernmental Panel on Climate Change), *Climate Change 2001: the synthesis report* (Cambridge: Cambridge University Press, 2001). There is growing agreement that a global temperature increase of more than 2 degrees above pre-industrial levels will have serious ecological, social and economic consequences.


significant effectiveness, compliance and legitimacy deficits—deficits that have been used by others to claim that Kyoto either has already failed or is on the path to failure. I argue, however, that a more nuanced interpretation of the Protocol’s progress is needed. The third and fourth sections of the article outline the Protocol’s requirements for compliance and suggest reasons for the current compliance deficit. In response, I then suggest that it may be more fruitful to shift the focus of negotiations over the second Kyoto commitment period away from attempts to re-engage the United States and towards building a stronger ‘culture of compliance’, specifically by enhancing measures to reward and sanction Kyoto’s current participants and by expanding the Protocol’s Annex B to include the emerging major emitters, China, India and Brazil.

**Effectiveness, compliance and legitimacy**

The performance of the UN climate regime, and of the Kyoto Protocol in particular, should be assessed using a multivariate approach that recognizes how regime effectiveness, compliance and legitimacy are intertwined. Attempts to develop measures of regime compliance or effectiveness have usually concentrated on empirical indicators of changes in physical outputs, institutional design or social behaviour and have often focused on only one or two of such measures.

Such approaches often are too narrow and may not predict performance against other equally valid measures. So, for instance, a regime may seem to be ‘goal-effective’ if it is able to meet its own internal targets. Or it may be ‘relatively effective’ if it leads to the creation of institutions that improve overall capacity to confront the problem concerned, when tested against the outcomes that would result if there were no action at all. Nevertheless it may still fail to be ‘problem-effective’ if it does not resolve the issue it was set up to tackle. Similarly, unless normative effectiveness—the regime’s ability to meet requirements of ‘rightness’, for instance in relation to issues of distributional justice—is considered, one may have little sense of how the regime’s moral legitimacy may fare in the longer term. It also can be argued that the choice of which specific measures of effectiveness are emphasized and how is itself a highly political act, which can determine (construct) the success or failure of the regime concerned. In all, therefore, interpretations of effectiveness should be inclusive and nuanced.

Similarly, regime compliance is readily revealed as a simple label for a complex combination of behaviours through which some states meet targets or goals after rigorous planning and intervention while others inadvertently perform well (or badly) as a result of unintended economic or other factors. Underlying the bald statistics of performance lie questions about which influences contributed in part or whole to such an outcome, sector by sector and state by state. Compliance may

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5 Too little time has elapsed since the Kyoto Protocol came into force, and since its various mechanisms (such as emissions trading) were deployed, for it to be possible to comment here on more than the first three of the six measures discussed in that paper. (See Christoff, ‘Compliance’, p. 14.)
result from external inducements, threats or sanctions. A ‘culture of compliance’ may be assisted or inhibited by the sophistication of domestic and international institutional capacity, the level and nature of economic activity, and positive or negative pressure from domestic civil society. In other words, interpreting compliance or non-compliance also requires analytical subtlety if predictions are to be made about longer-term regime performance.

Finally, there is the matter of regime legitimacy. Depending on which measures of effectiveness and compliance are prioritized, and how compliance and non-compliance are understood, a regime may be constructed and represented as a success-in-the-making or a failure or something in between—and its legitimacy enhanced or undermined accordingly. Among the cluster of factors that contribute to an environmental regime’s authority or social standing, several stand out. These include—but are not confined to—scientific legitimacy (where authority is derived from a consensus primarily among expert scientific groups about the problem that the regime is established to confront); formal (‘legal’ or ‘ratification’) legitimacy, indicated by levels of formal state support (e.g. treaty ratification); normative (‘moral’) legitimacy, relating to the fairness with which the regime tackles its problem and the outcomes it delivers to its participants and all those affected by the problem concerned; and ‘pragmatic’ legitimacy—the authority a regime derives from being seen as the best practical means for solving the problem it confronts. These aspects are considered briefly in the following section.

Performing Kyoto: the story so far

Under the Kyoto Protocol, the 38 industrialized countries listed in Annex I of the UNFCCC agreed to reduce their collective greenhouse gas (GHG) emissions by approximately 5 per cent below 1990 levels by the end of the Protocol’s first five-year commitment period (2008–2012). The Protocol was further refined and redefined through subsequent conferences of the parties (COPs) before it finally came into force in February 2005. The fact of its coming into force, and its various mechanisms (including its emissions trading market), offer hope for its and our future. Nevertheless, from its inception Kyoto has been criticized as weak, ‘economically inefficient and politically impractical’, counterproductive, or irrelevant to the task of tackling global warming. Detractors have pointed to likely problems both of effectiveness and of compliance. Depending on how one reads the current data and constructs interpretations of ‘effectiveness’, such criticisms may be seen as prescient or premature.

At present, at an optimistic stretch, it is still possible to argue that the Protocol might achieve its first commitment period targets (see figure 1). In other words, it might yet be ‘goal-effective’. To quote a recent UN report on its performance:

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Total aggregate GHG emissions without emissions/removals form the LULUCF sector for Annex 1 Parties as a whole declined by 5.9 per cent (6.5 per cent including LULUCF) over the period 1990–2003. Total aggregate emissions for the 14 Parties with economies in transition (EIT Parties) have decreased by 39.6 per cent (45.2 per cent including LULUCF), but eight of these Parties reported increasing CO2 emissions in recent years. Emissions from other Annex 1 Parties as a whole increased by 9.2 per cent (12.4 per cent including LULUCF).

Viewed from another angle, however, many of the contributions to this result do not arise from deliberate actions taken by states aiming at compliance but are the consequence of inadvertent developments, such as economic restructuring and downturn. They are not ‘additional’, to use the Protocol’s term, but incidental. As a result, many more than half of Kyoto’s 38 Annex B Parties—including most of those currently meeting their targets—may be regarded as being in breach of the requirements of Article 3.2 that, by 2005, each party will have made ‘demonstrable progress towards meeting their commitments under the Protocol’, if progress is taken to mean deliberate and successful policy intervention.

Six years out from 2012—but also, of course, before the first commitment period has even officially begun—only 17 Annex B countries can be said to be on track to meet their emission targets (see figure 2 and table 1). Of these, 12 are post-communist states that have undergone significant economic contraction during

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7 LULUCF = land use, land-use change and forestry.
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Figure 2: Change in Annex 1 Parties’ GHG emissions, excluding LULUCF (1990–2003)

Source: FCCC/SBI 2005, fig. 4, at p. 12.
Table 1: Kyoto Protocol: national emissions targets and compliance projections

<table>
<thead>
<tr>
<th>Country</th>
<th>Kyoto target (2012), %</th>
<th>Likely to comply?</th>
<th>Likely compliance deliberate (D) or accidental (A)?</th>
<th>Annual emissions (million tonnes), 2004</th>
<th>Increase/decrease against 1990 emission baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU-15 b</td>
<td>−8</td>
<td>NO</td>
<td></td>
<td></td>
<td>Decrease of 0.9% in total GHG emissions 1990–2004, but increase of 1.8% 2002–2004c</td>
</tr>
<tr>
<td>Austria</td>
<td>−13</td>
<td>NO</td>
<td></td>
<td>91.3</td>
<td>Increase of 15.7% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Belgium</td>
<td>−7.5</td>
<td>NO</td>
<td></td>
<td>147.9</td>
<td>Increase of 0.7% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Denmark</td>
<td>−21</td>
<td>NO</td>
<td></td>
<td>68.1</td>
<td>Increase of 1.8% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Finland</td>
<td>0</td>
<td>NO</td>
<td></td>
<td>81.4</td>
<td>Increase of 14.5% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>France</td>
<td>0</td>
<td>YES? D?</td>
<td></td>
<td>562.6</td>
<td>Decrease of 0.8% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Germany</td>
<td>−21</td>
<td>YES? D</td>
<td></td>
<td>1015.3</td>
<td>Decrease of 17.5% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Greece</td>
<td>+25</td>
<td>YES? A</td>
<td></td>
<td>137.6</td>
<td>Increase of 23.9% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Ireland</td>
<td>+13</td>
<td>NO</td>
<td></td>
<td>68.5</td>
<td>Increase of 22.7% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Italy</td>
<td>−6.5</td>
<td>NO</td>
<td></td>
<td>582.5</td>
<td>Increase of 12.3% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>−28</td>
<td>NO</td>
<td></td>
<td>12.7</td>
<td>Decrease of 0.3% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Netherlands</td>
<td>−6</td>
<td>NO</td>
<td></td>
<td>217.8</td>
<td>Increase of 1.6% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Portugal</td>
<td>+27</td>
<td>NO</td>
<td></td>
<td>84.5</td>
<td>Increase of 41% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>Spain</td>
<td>+15</td>
<td>NO</td>
<td></td>
<td>427.9</td>
<td>Increase of 47.9% in total GHG emissions 1990–2004c</td>
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<tr>
<td>Sweden</td>
<td>+4</td>
<td>YES D</td>
<td></td>
<td>69.9</td>
<td>Decrease of 3.6% in total GHG emissions 1990–2004c</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>−12.5</td>
<td>YES D</td>
<td></td>
<td>659.3</td>
<td>Decrease of 14.1% in total GHG emissions 1990–2043c</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>−8%</td>
<td>YES A</td>
<td></td>
<td>147.1</td>
<td>Decrease of 43.6% in total GHG emissions 1990–1999d More recent data are unavailable.</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>−8%</td>
<td>YES A</td>
<td></td>
<td></td>
<td>Decrease of 25.1% in total GHG emissions 1990–2004c, e</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Estonia</td>
<td>-8%</td>
<td>YES</td>
<td>A</td>
<td>21.3 Decrease of 50.0% in total GHG emissions 1990–2005&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>-8%</td>
<td>YES</td>
<td>A</td>
<td>10.7 Decrease of 58.5% in total GHG emissions 1990–2004&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>-8%</td>
<td>NO</td>
<td></td>
<td>Increase of 5.3% in total GHG emissions 1990–2003&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Lithuania</td>
<td>-8%</td>
<td>YES</td>
<td>A</td>
<td>20.3 Decrease of 60.1% in total GHG emissions 1990–2004&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Monaco</td>
<td>-8%</td>
<td>NO</td>
<td></td>
<td>Monaco’s third national communication to the UNFCCC indicated an increase in emissions of approximately 25% (to 1999).&lt;sup&gt;g&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>-8%</td>
<td>YES</td>
<td>A</td>
<td>Decrease of 66.2% in total GHG emissions 1990–2003&lt;sup&gt;h&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td>-8%</td>
<td>YES?</td>
<td>A</td>
<td>51.0 Decrease of 30.3% in total GHG emissions 1990–2004&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Slovenia</td>
<td>-8%</td>
<td>NO</td>
<td></td>
<td>20.1 Decrease of 0.8% in total GHG emissions 1990–2004&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>-8%</td>
<td>NO</td>
<td></td>
<td>Decrease of 0.4% in total GHG emissions 1990–2003&lt;sup&gt;l&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>-7%</td>
<td>NO</td>
<td></td>
<td>The US has rejected the Protocol and the target assigned it in 1997. Its emissions have grown by 13% since 1990.&lt;sup&gt;j&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>-6%</td>
<td>NO</td>
<td></td>
<td>Increase of 24% in total GHG emissions 1990–2003&lt;sup&gt;k&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>-6%</td>
<td>YES</td>
<td>A</td>
<td>83.1 Decrease of 32.0% in total GHG emissions 1990–2004&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>-6%</td>
<td>NO</td>
<td></td>
<td>Increase of 12.8% in total GHG emissions 1990–2003&lt;sup&gt;l&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>-6%</td>
<td>YES</td>
<td>A</td>
<td>386.4 Decrease of 31.6% in total GHG emissions 1990–2004&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>-5%</td>
<td>YES?</td>
<td>A</td>
<td>Decrease of 45% in total GHG emissions 1990–1995, strongly affected by the Balkan War. Increase of 5% per annum is noted in the most recent report (2001). Data more recent than 1995 are unavailable&lt;sup&gt;m&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>0</td>
<td>NO</td>
<td></td>
<td>Increase of 22.5% in total GHG emissions 1990–2003&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Russian Federation</td>
<td>0</td>
<td>YES?</td>
<td>A</td>
<td>Decrease of 38.4% in total GHG emissions 1990–1999.&lt;sup&gt;o&lt;/sup&gt; Data covering emissions since 1999 are not available.</td>
<td></td>
</tr>
</tbody>
</table>
Ukraine experienced significant economic decline during the first part of the 1990s, and reported a major decrease in energy use. There are no current data to indicate current status.

<table>
<thead>
<tr>
<th>Country</th>
<th>Change</th>
<th>Status</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>+1%</td>
<td>NO</td>
<td>Increase of 22.5% in total GHG emissions 1990–2003, including approximately 2% in 2002–2003(^p)</td>
</tr>
<tr>
<td>Australia</td>
<td>+8%</td>
<td>NO?</td>
<td>Increase of 1.1% in total GHG emissions 1990–2003, but substantial increases in energy-related emissions have been masked by inclusion of LU factors which are no longer available. Total emissions are projected to rise by 10% over the next decade.</td>
</tr>
<tr>
<td>Iceland</td>
<td>+10%</td>
<td>NO?</td>
<td>Increase of 7% in total GHG emissions 1990–2000(^q) More recent data are unavailable.</td>
</tr>
</tbody>
</table>

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\(a\) Assessment based on latest national reports.  
\(b\) The EU’s 15 member states share the EU ‘bubble’ target in a differentiated manner. The EU has agreed internally to meet its Kyoto Protocol target, but this agreement varies from the targets allocated under the KP and involves a higher total reduction of \(-10\%\). See Grubb and Vrolijk 2000.\(^{[?]}\)  
\(g\) Principauté de Monaco, *Quatrième communication nationale de la Principauté de Monaco concernant la Convention Cadre des Nations Unies sur les Changements Climatiques 2001*, 2005, p. 5.  
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the past decade—states referred to by the UNFCCC as ‘EITs’ or ‘economies in transition’, or ‘countries that are undergoing a transition to a market economy’ in Annex B of the Protocol. Apart from the Russian Federation, Poland and Ukraine, these are small or medium-sized economies: their collective contribution to emissions would in any case be small. Their ‘compliance’ is accidental.

The remaining five include the European Union’s (EU) largest emitters (France, Germany, and the United Kingdom) and also Greece and Sweden. Only two of these five have achieved or are now approaching their targets largely by using domestic emissions reduction measures. The UK’s performance to date mainly reflects the ancillary impacts of shifting its stationary energy sector away from reliance on coal and towards gas during the 1980s and 1990s. However, the UK has recently adopted a range of policies that should further significantly improve its already strong emissions reduction performance. Sweden, too, is likely to achieve a result better than that demanded under Kyoto as a result of deliberate policy effort.

By contrast, France continues to rely for its outcomes on its established nuclear industry, which produces most of its electricity, rather than on policy innovation. Recent growth in national emissions suggest that France may not meet its 2012 target. Germany, which engaged in significant policy innovation to reduce emissions under the Schroeder SDP–Green government, also ‘benefited’ greatly from the emissions reduction that resulted from reunification in 1989 and subsequent industrial restructuring of the former East Germany. Under the Merkel government, however, political commitment to implement policies to meet Germany’s emissions reduction targets seems to be waning. Greece’s compliance seems accidental: it largely lacks domestic emissions controls and its emissions are growing at a rate that will see it exceed its target by 2012.

In all, the EU-15 seem unlikely to meet their collective target without buying ‘hot air’ from Russia (see figure 3). Similar problems abound among the major emitters outside the EU: Japan, with target emissions reduction of 6 per cent, is likely to increase its total emissions from 1990 by over 10 per cent; Canada too will exceed its target (see figure 4). All this indicates a substantial emerging compliance problem.

The performance to date of most Annex 1 states clearly represents a major emerging test of the Protocol’s goal-effectiveness and one that, at present, it looks likely to fail. Moreover, if one frames the Kyoto Protocol as a major instrument for realizing the central target of the UNFCCC, namely the stabilization of atmospheric GHGs at ecologically safe levels, then—with its overall best possible outcome of a reduction of less than 1 per cent of total global emissions—it is also

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Figure 3: Total EU-15 GHG emissions in relation to the Kyoto target

Notes: The linear target path provides a measure of how close the EU-15 emissions in 2004 are to a linear path of emissions reductions from 1990 to the Kyoto target for 2008–2012, assuming that only domestic measures will be used. Therefore, it does not deliver a measure of (possible) compliance of the EU-15 with its GHG targets in 2008–2012, but aims at evaluating overall EU-15 GHG emissions in 2004.


Figure 4: Total aggregate greenhouse gas emissions of individual Annex 1 Parties, excluding LULUCF (1990–2003)

Source: FCCC/SBI 2005, Figure 3b, at p. ii.
in deficit in terms of its ‘problem-effectiveness’. How it has performed in terms of ‘relative effectiveness’ is still impossible to say. This impending outcome is even more disturbing given that the target for the first commitment period is slight, that the effort required to achieve it is relatively small, and that the laggard states include many that are well equipped to reduce emissions. (The detailed task of analysing each ‘non-compliant’ state’s reasons for its performance is beyond the capacity of this article.)

How seriously one views these problems depends on how one sees the process of regime construction. If, despite the urgent need to reduce global emissions rapidly, one sees the initial commitment period as being primarily about ‘first steps’—about the establishment, testing and fine-tuning of a framework that will facilitate more substantial emissions reductions in the future—then charges of goal- and problem-ineffectiveness can be seen to be premature and greatly (and often maliciously) overstated.

Nevertheless, climate regime performance during this period is also crucial to the development of trust between North and South, based on a demonstration that those nations with collective responsibility for the bulk of historical and current emissions, and better able to bear the economic burden of adjustment, are prepared to lead the process of emissions reduction. Just as the future cooperation of developing countries will be enhanced by early signs of effective action by developed countries, failure to meet first commitment period targets will damage that prospect.

These early problems of compliance and effectiveness can be said to hint at an emergent legitimacy crisis for the Protocol. Opinion polls in developed countries show that the Kyoto Protocol currently enjoys a high level of public support as an institution aimed at coordinating mitigation internationally and (perhaps less clearly) for the way it burdens developed countries ahead of developing ones with the task of making initial steps. The Protocol currently is both ‘pragmatically’ and ‘morally’ legitimate. Moreover, the Protocol also benefits from a high level of formal (‘legal’) legitimacy in the international domain, in so far as it now has been ratified by 163 states.

However, over time, given further deterioration in climate conditions and trends, it is possible that heightened public and state perceptions of Kyoto’s persistent lack of goal-effectiveness and its limited problem-effectiveness could erode its ‘pragmatic’ and ‘institutional’ legitimacy. This would encourage some states to defect to an alternative approach or institution if one emerged, and lead to the Protocol’s collapse—an outcome actively sought by some of its antagonists (in particular, the current US administration). Alternatively, and more probably, such a legitimacy crisis could lead to an intensifying contest between supporters of stronger action under the existing framework and the inactive states—resulting

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in a clash that might lead to a strengthening of both domestic and international climate policy institutions and a toughening of state regulatory activity over the next decade.

The Kyoto Protocol’s compliance requirements

Before briefly discussing how we got into this fix, it is worth reviewing the history of how the Protocol’s targets were determined and its current compliance requirements.

To date, emission reduction targets have been set only for those industrialized states named in Annex I of the UNFCCC and Annex B of the Kyoto Protocol. These lists were agreed according to the rationale that these industrialized states could rightly be regarded as having the ‘responsibility, capacity and potential’ to mitigate first.15 There is, however, an unstated hope or expectation that other parties (developing countries) will also adopt targets in later commitment periods. In this sense, the framing of the Protocol followed an approach that rests between that suggested by regime ‘evolutionists’ and that suggested by ‘transformationalists’ and some political economists.16 The UNFCCC is a regime that has developed ‘serially’, first with broad objectives and principles, then with goals and targets initially applied only to some (industrialized) states. Its approach is based on the moral logic of concentrating first on those states that are both the greatest beneficiaries of historical fossil fuel use and currently the major contributors to climate change. The process by which targets were established under the Kyoto Protocol reflects a ‘soft’ evolutionist strategy that favours the retention of recalcitrant states at the expense of strong initial targets or significant enforcement measures,17 and focuses on ‘learning by doing’ in the hope that over time this will lead to the creation of a ‘coalition of the environmentally willing’.

Developing Kyoto’s compliance measures

Compliance has been a major and contentious issue during the Protocol’s evolution.18 At COP-4, in Buenos Aires in 1998, a joint working group was established to develop a compliance system to be agreed at COP-6, at The Hague in 2000, and the elements of the Protocol related to compliance were to be ready for adoption

15 On these three criteria, see Hermann Ott et al., North–South dialogue on equity in the greenhouse: a proposal for an adequate and equitable global climate agreement (Escheborn: Deutsche Gesellschaft für Technische Zusammenarbeit Gmbh, 2004), p. 3.
16 See Christoff, ‘Compliance’.
17 On how Australia achieved its extraordinary Kyoto target of +8%, see Peter Christoff, ‘Policy autism or double-edged dismissiveness? Australia’s climate policy under the Howard government’, Global Change, Peace and Security 17: 1, 2005, pp. 29–44.
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at the first meeting of the parties (MOP). (The Protocol was, at that stage, expected to enter into force in 2000.) At COP-6, however, the parties were unable to agree on the package of decisions under the ‘Buenos Aires Plan of Action’, which included items on compliance. The outstanding issues on compliance included what the consequences of non-compliance should be, and who should sit on the Compliance Committee. As with other unresolved issues, the negotiating texts on compliance were forwarded to the resumed session of COP-6, in Bonn in 2000, for further consideration. There, they were adopted as part of the Bonn Agreements on the Implementation of the Buenos Aires Plan of Action. Work on compliance procedures and mechanisms continued at Bonn but was not finalized at that meeting. Outstanding points and the draft decision were forwarded to COP-7 (Marrakesh) in 2001 for further elaboration, completion and adoption.¹⁹

Determination of the more detailed and contentious compliance issues and measures, the establishment of various boards and committees required to oversee implementation of aspects of the Protocol, and more formal negotiations of the contents of a second commitment period²⁰ were deferred for another five years, until the first meeting of the parties (COP/MOP-1) in Montreal in 2005. Among the many disputed issues that affected the discussion about effectiveness and compliance were the nature of the mechanisms to be adopted, and also the issue of ‘supplementarity’—the extent to which developed countries would be able to ‘buy emissions’ from other countries and thereby meet targets without taking substantial domestic action to effect genuine emissions reductions.²¹

Current compliance mechanisms

In summary, the Kyoto Protocol’s compliance mechanisms are as follows. Article 2 outlines a range of actions and measures necessary for parties to meet its requirements.²² Further, it notes the procedures needed to monitor compliance, and establishes three major mechanisms for meeting targets: Joint Implementation (JI), the Clean Development Mechanism (CDM) to generate credits for projects

²⁰ Acrimonious discussions of the possible goals of the second commitment period began at COP-10 (Buenos Aires) in 2004, which took place after Russia’s ratification but before the KP came into force early in 2005.
²¹ As a consequence, the Marrakesh Accord included in its preamble the statement that ‘the use of the mechanisms of the KP shall be supplemental to domestic action and that domestic action shall thus constitute a significant element of the effort made by each Party included in Annex I to meet its quantified emission limitation and reduction commitments under Article 3, paragraph 1’ (Decision 15/CP7, FCCC/CP/2001/13/Add.2).
²² The UNFCCC includes several measures to assist states to comply with its requirements. These measures also ‘frame’ those of the Kyoto Protocol. Most importantly, articles 4 and 12 require parties to the convention to submit annual national GHG inventory reports using a common format. Such reporting is critical for determining performance, and for encouraging compliance using the threat of public shaming. In addition, article 13 establishes an instrument known as the Multilateral Consultative Process (MCP), which institutionalizes a consultative mechanism to handle questions relating to the implementation of the treaty. However, it is aimed more at assisting parties with achieving compliance and at guaranteeing the efficiency and effectiveness of the treaty than at providing a monitoring, dispute resolution or enforcement function. See Daniel Bodansky, ‘United Nations Framework Convention on Climate Change: a commentary’, Yale Journal of International Law 18, 1993, pp. 451–559; Mar Campins Eritja, Xavier Fernandez Pons and Laura Huici Sancho, ‘Compliance mechanisms in the Framework Convention on Climate Change and the Kyoto Protocol’, Revue de Droit 34, 2004, pp. 51–105.
in non-Annex B (developing) countries, and emissions trading (ET). It also defines what can and cannot be included by nations as measures for meeting their targets. Of particular concern here is the use of specific measures such as carbon sinks (forests, soils, geo-sequestration) to meet set targets.

Article 3 defines emissions reduction targets for parties (developed nations) listed in Annex B, to be met over the first commitment period. While the Protocol encourages emissions trading between states, Article 6, on ‘supplementarity’, indicates that states cannot use such measures as the primary means to meet their basic target commitments: ‘The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.’23 (However, after extensive argument, caps on such acquisitions were not defined and remain—critically—vague.) Article 7 contains a series of reporting requirements necessary to indicate compliance with the Protocol’s basic requirements, outlined in Article 3. These increase pressure to comply by requiring parties to open the record of their performance to public scrutiny.

Other procedural obligations include:

- the creation of national emissions inventories, starting with the base year 1990 (Articles 3(4), 10(a));
- the establishment of a national system for estimating GHG emissions from sources and their removal by sinks, by 2007 (Article 5);
- reporting on compliance with the quantitative emissions reduction obligations (targets) agreed at COP-3 in Kyoto (Article 7); and
- ensuring that JI and CDM projects meet methodological requirements outlined for assessment and reporting (Articles 5(1), 5(2), 7).

Under the Protocol, each party must also provide information about annual aggregate national emissions, calculated in conformity with rules defined under the Protocol relating to sinks and sequestration. Verification procedures are established in Articles 3, 4, and 7, and the actual work is undertaken by the review teams of SUBSTA (Subsidiary Body for Scientific and Technical Advice). An appeals procedure has been defined under Article 18, through text generated and adopted at COP-7 (Marrakesh, 2001).

Together, these articles define the Protocol’s compliance requirements. A great deal of emphasis is placed on encouraging appropriate performance and compliance via transparency (effective monitoring and reporting) and the adoption of market-based mechanisms such as those embodied in JI, CDM and ET, rather than adversarial forms of coercion and the direct application of sanctions (of which there are few).

The UNFCCC’s own account of the Protocol’s now active compliance regime (its bodies and processes) states that it ‘is among the most comprehensive and rigorous in the international arena’ and ‘makes up the “teeth” of the Kyoto Protocol, facilitating, promoting and enforcing adherence to the Protocol’s commitments’.24

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23 Kyoto Protocol, Article 6.1(d).
Towards an effective ‘climate coalition of the willing’

The compliance regime consists of a Compliance Committee made up of two branches: a Facilitative Branch and an Enforcement Branch …

The requirement that use of the flexibility mechanisms be ‘supplemental’ to domestic action, for example, is under the purview of the Facilitative Branch, as is the commitment of Annex I Parties to strive to minimize adverse impacts on developing countries. The Facilitative Branch also provides ‘early warning’ of cases where a Party is in danger of not complying with its emission targets. In response to problems, the Facilitative Branch can make recommendations and also mobilize financial and technical resources to help Parties comply.

The Enforcement Branch, for its part, is responsible for determining whether an Annex I Party is not complying with its emission target or reporting requirements, or has lost its eligibility to participate in the mechanisms. It can also decide whether to adjust a Party’s inventory or correct the compilation and accounting database, in the event of a dispute between a Party and the expert review team.

In the case of compliance with emission targets, Annex I Parties are granted 100 days after the expert review of their final annual emissions inventory has finished to make up any shortfall in compliance (e.g. by acquiring AAUs, CERs, ERUs or RMUs through emissions trading). If, at the end of this period, a Party’s emissions are still greater than its assigned amount, it must make up the difference in the second commitment period, plus a penalty of 30%. It will also be barred from ‘selling’ under emissions trading and, within three months, it must develop a compliance action plan detailing the action it will take to make sure that its target is met in the next commitment period.

Any Party not complying with reporting requirements must develop a similar plan and Parties that are found not to meet the criteria for participating in the mechanisms will have their eligibility withdrawn …

A Party may request, either through an expert review team or directly to the Enforcement Branch, to have its eligibility restored if it believes it has rectified the problem and is again meeting the relevant criteria.

Appeals against a final decision may be made to the Conference of the Parties serving as the Meeting of the Parties only in the case of decisions of the Enforcement Branch relating to the emission target if the Party believes it has been denied due process.25

The drafts of the first annual reports of the Compliance Committee’s two branches are due in the latter part of 2006 and will be released publicly in 2007: it is interesting to speculate how, and with what urgency and force, they will articulate and respond to the concerns already noted above.

Obstacles to effectiveness and compliance, threats to legitimacy

Successive negotiations have weakened the Kyoto Protocol’s targets and its likely performance, effectiveness and (possibly) legitimacy, during and beyond the first commitment period. The initial negotiation and agreement of the Protocol in 1997, and definition of its details at subsequent COPs, involved a very substantial softening of positions in order to bring reluctant parties into the fold. Not only did the United States achieve its aim of including emissions trading as a mechanism,

but carbon sinks—vigorously sought by the Umbrella Group and strongly resisted by the EU—were also incorporated and lavishly allocated to Australia to prevent its defection at Kyoto, and then to Canada and Russia as part of the so-called Bonn compromise.

Babiker et al. and other writers argue that the negotiations between COP-3 and COP-6, and the shifts in definition and the inclusion of Article 3.4 sinks, reduced the requirements for actual emission reductions by Annex B countries from a cut of 18 per cent from 2000 levels to between a net cut 'of about 1 per cent relative to no policy' and a 9 per cent growth in net emissions from 2000 levels. The Bonn compromise involved giving 54 million metric tonnes of carbon (MtC) to Canada, Japan and Russia, whose hands in negotiations, in terms of ratification and bringing the Protocol into force, were further strengthened by the US defection. The final text adopted at Marrakesh granted Russia a further 15.4 million MtC, adding to the substantial allocation of 'hot air' during the first commitment period. This turned the stricter requirements of the Protocol of 1997 back towards the looser and weaker ones of the Framework Convention as expressed in clause 4.2 (b).

In other words, these amendments served to weaken the Protocol’s effectiveness as an instrument of immediate emissions reduction. However, by also lowering the costs of, and therefore the pressures for, abatement they increased the ease of compliance and, indirectly, the formal legitimacy of the Protocol by enhancing its support among Annex B countries (other than the US), encouraging Russia to ratify, and eventually bringing it into force.

Beyond these historical considerations, several additional problems hinder the Protocol. First, there is its failure to include some of the planet’s largest GHG emitters, and the political and economic effects that flow from this ‘lack’. In 2001 President George W. Bush announced that the United States was withdrawing from further involvement in the Kyoto Protocol, and would refuse to ratify it or abide by the targets negotiated at Kyoto, ostensibly ‘because it exempts 80 per cent of the world, including major population centers such as China and India, from

26 The Umbrella Group is a loose coalition of non-EU developed countries. It is usually comprised of Australia, Canada, Iceland, Japan, New Zealand, the Russian Federation, Ukraine and the United States.
27 Special conditions awarded to Australia in 1997 enabled it to include net positive emissions effects from (previously achieved) reductions in land clearing, thereby adding some 19% to its real emissions target. See Clive Hamilton and L. Vellen, ‘Land-use change in Australia and the Kyoto Protocol’, Environmental Science and Policy 2, 1999, pp. 145–52; also Christoff, ‘Policy autism or double-edged dismissiveness’.
29 The Kyoto Protocol could come into force only once ratified by at least 55 parties to the UNFCCC, incorporating Annex I parties (predominantly industrialized countries) accounting in total for at least 55% of the total carbon dioxide emissions for 1990 from that group. The withdrawal of the US (with 36% of Annex B, or 25% of global, emissions) early in 2001, following George W. Bush’s election, meant that either Japan (with 8.5% of Annex B) or Russia (with 7.4% of Annex B) had effective veto over the Protocol’s fate as international law. Japan ratified in June 2002 and Russia late in 2004. The Protocol came into force on 16 Feb. 2005. In attempting to wreck the treaty by pulling out, the US had in fact galvanized the remaining, previously vacillating states into finding an accord. Indeed, Richard Benedick argues (tongue firmly in cheek) that George W. Bush is in fact the unsung hero of the Protocol. As of 27 Feb. 2006, 162 states and regional economic integration organizations had deposited instruments of ratifications, accessions, approvals or acceptances.
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compliance, and would cause serious harm to the US economy’.\textsuperscript{30} The defection of the US removed the world’s largest GHG emitter from the Protocol’s regulatory ambit.

This defection, intended to wreck the Protocol, has had four consequences. First, it caused other countries to rally to the Protocol’s defence. Second, it strengthened the capacity of other parties to the Protocol to renegotiate abatement targets in their favour and further to weaken the Protocol’s real outcomes. Third, from that point on the US stance has overshadowed negotiations over the Protocol’s future, making them more cautious in substance as negotiators try to reengage the United States to restore the Protocol’s ‘scope’ and effectiveness. Finally, in a practical sense, the absence of the United States also substantially distorts (by lowering) the price of carbon in the emerging international emissions trading market and reduces that market’s efficiency as a policy tool.\textsuperscript{31}

The reasons why developing countries were not assigned emissions reduction targets revolved around arguments about environmental justice, the substantial responsibility of established industrialized countries for current atmospheric levels of GHGs, and developing countries’ concern to protect their right to develop their living standards towards parity with the West. This understanding was captured in the notion of common but differentiated responsibilities enshrined in Article 3.1 of the UNFCCC, repeated in the Berlin Mandate and embedded in the Kyoto Protocol in 1997. The G77–China bloc, led by China, has consequently strongly resisted the articulation of even voluntary emissions reduction targets for developing countries.

However, this bloc is an association of increasingly diverse and divergent interests. Indeed, China, India and Brazil stand out as major emitters among the developing countries, and as emergent regional and global industrial and political forces. Moreover, it is expected that total emissions by non-Annex 1 countries will outstrip those of Annex 1 countries between 2015 and 2020. China’s emissions will contribute significantly to this growth. It is estimated that its total national carbon dioxide emissions, which ranked second in the world after those of the United States in 1995, will by 2020 have increased by around fivefold in the period since 1990,\textsuperscript{32} and by the same date its per capita energy consumption will match the current global average.\textsuperscript{33} China would then account for one-third of total global GHG emissions between 1990 and 2020.\textsuperscript{34}


There is growing moral pressure on developing countries to commit to future targets while also pursuing legitimate development goals. As Harris and Yu write, ‘while the rich states have produced the bulk of greenhouse pollutants so far, they did not know they were producing global warming until the 1980s. In contrast, at the outset of its own massive economic expansion, China knows that it is causing harm to the global atmosphere’.  

The United States’ resistance to participation in the Kyoto process most clearly relates to its ambition to remain the global hegemon and its recognition that these emergent states will—or in the case of China, already do—represent a major challenge to its own political and economic status. The Bush administration still holds to the logic of the Byrd–Hagel Resolution, which early in 1997 rejected exemption of developing country parties from the Kyoto agreement, stating that ‘the proposals under negotiation...could result in serious harm to the United States economy, including serious job loss, trade disadvantages, increased energy and consumer costs, or any combination thereof’.  China’s refusal to accept emissions constraints to date probably reflects similar anxieties—but in this case about Kyoto being used as a tool to contain its development at a time when economic growth is critical to domestic political stability and to China’s influence internationally. Both these concerns need to be addressed.

The establishment of the Asia–Pacific Partnership on Clean Development and Climate (APPCDC) may be seen as part of this power play. Created by the United States, supported by Australia, and with China, India, Japan and South Korea as its additional partners, the pact promotes technology transfer as the means for tackling GHG emissions. Two agendas are in play here. The United States is attempting to establish an alternative targetless climate framework, and thereby entice the emergent major emitters to support this approach in preference to Kyoto. The emergent emitters are seeking assistance from wherever they can, with no strings attached. That the pact is barely funded suggests it will meet no one’s aims. Nevertheless, it is a warning that regional agreements generated outside the Kyoto framework may yet undermine the regime and lead, in the longer term, to its failure.

Second, cost-efficiency problems associated with current targets pose an additional source of vulnerability for the Protocol. These problems include those associated with policy decisions about early mitigation or abatement activity and with the choice of policy instruments in a still uncertain environment, which may then impose significant costs unevenly between sectors or nations. They also include problems with placing a full value on uncertain future events such as species extinction, future economic losses and social disruption, the costs of yet-to-occur catastrophic events and infrastructural impacts, and so on. From a rationalist, cost–benefit perspective, therefore, these arrangements create severe

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35 Harris and Yu, ‘Environmental change’, p. 57.
36 The Byrd–Hagel Resolution was passed by the United States Senate with a 95–0 vote, 105th Congress, 1st Session, S.Res.98.
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‘free rider incentives’. While several major emitting states free-ride outside the corral of the Protocol’s target-meeting states, they stand to benefit materially in the short term, while those inside—such as the EU states—may stand to lose. The incentive for individual states to fail to comply fully, or to violate agreed arrangements, or to defect, or not to participate—to remain ‘outside’ the corral—is therefore substantially enhanced. Other factors, such as institutional incapacity, industry resistance and so on, are also potential contributors to what is necessarily a multifactorial analysis of compliance and compliance failure, and such a brew of factors and effects may explain why so many developed countries that are listed in Annex B are performing so poorly at present. Nevertheless, some of these problems or obstacles to compliance are minimized, to an extent, by having more parties active in the regime.

The changing geopolitical and ecopolitical context

Two major shifts in the geopolitical and ecopolitical context of climate regime politics are also worth considering here. First, the argument promoted by oil- and gas-exporting countries, that fossil fuels offer the most cost-effective energy option, is increasingly being undermined by rising fuel prices. Over the past decade, increasing—and increasingly mainstream—attention has been paid to the arguments advanced by resource strategists that the global volume of cheap oil is finite, is largely known, and is now either at the peak of its supply (hence ‘peak oil’) or actually declining at a time when global demand continues to increase at a rate of some 2–3 per cent per annum. The consequences of this phenomenon include growing geopolitical tensions over remaining oil supplies and, over the past two years, volatile and rising oil prices. Countries and industry sectors heavily dependent on oil are greatly disadvantaged in this context, which strongly favours those states able to make (or already making) a rapid transition to alternative and cheaper fuel sources. This phenomenon is propelling shifts—including in the United States—in domestic political support towards energy conservation and fuel replacement measures and alternative and renewable fuels, and stimulating renewed interest in the problems of (oil) resource security.

Second, the political and economic parameters of domestic and international debates over global warming are being reset by ‘ecological blow-back’. Exceptionally severe flooding of the Rhine and Danube in 2002, the lethal summer heatwave in France, England and Italy during 2003, unprecedented forest fires in 2004 in Portugal, Spain, Greece and the United States, Hurricane Katrina in 2005, further major flooding of the Danube and serious water shortages in most major cities in Australia in 2006 can be coupled with recent data showing that the global extent of droughts is increasing, that melting of polar ice-caps and glaciers is accelerating, that 1998 and now 2005 have been the two hottest years on record and that the intensity of tropical cyclones is increasing. International reporting of these events and facts is contributing to a further intensification of public concern over global warming. Accompanied by escalating costs, property damage and lost productivity—borne
by the insurance sector and by governments required to provide repair and relief—
these developments have also encouraged the growth of new industry alliances
(and alliances between industry groups and environmental and social organiza-
tions) lobbying for stronger national regulatory responses, mitigation and adapta-
tion policies, and other forms of government assistance and action.

Such trends will continue and may yet overwhelm the still widespread percep-
tion that climate-related crises, along with the economic and social benefits of
adaptation and mitigation, reside in the distant future, while the political and
economic costs of substantial early engagement remain high. As public opinion
swings towards support for early action, some of the political, economic and social
impediments to it may also begin to dissolve. There are signs that the twin pressures
of rising oil prices and instability in the Middle East are already encouraging such
a transformation in US opinion and politics, leading to a focus on policy to reduce
fossil fuel resource vulnerability. One can envision greater US cooperation with
the international climate regime and its lead actors if US policy-makers and the
American public come to acknowledge the urgency of climate change as a policy
issue and also to accept that America’s power as a global actor can be decoupled
from its dependency on fossil fuels without damaging its economy. However,
although this shift in attitude seems to be occurring at the subnational level in the
US,\textsuperscript{38} it unlikely to occur at the national level under the Bush administration, nor
is there any clear guarantee that its successor will be markedly more progressive.

\textbf{Abandon America, annex China?}

The survival of the multilateral climate regime is essential for effective global
action against global warming. Bilateral or limited regional agreements cannot
successfully replace this arrangement. Therefore it is vital to retain and improve
the Kyoto Protocol. In other words, future negotiations must aim to be ‘post-Bush’
but not ‘post-Kyoto’ in their intent. If my analysis of the current weaknesses of
the Protocol and of the emerging geopolitical and ecopolitical context is accepted,
then it may also be accepted that several related moves to improve the Kyoto
Protocol’s effectiveness, compliance and legitimacy during its second commitment
period might be fruitful.

Solutions need not only to address existing deficits, but also to bring some if
not all of the heavy emitters currently outside the Kyoto tent into it, in order
to overcome the drag on the Protocol’s effectiveness that their absence creates.
Paradoxically, the effectiveness, compliance and legitimacy of the Protocol may
be improved by shifting away from attempts to re-engage the United States
and towards developing a framework and ‘culture of compliance’ that actively
includes the ‘emergent major emitters’, China, India and Brazil. Solutions also
need to address the debate over an optimal path for reducing CO$_2$ emissions. More
ambitious targets negotiated for the second commitment period would in part
involve improving rewards and sanctions to assist states to lower emissions while

penalizing more heavily those states that fail to comply with their emissions reduction targets. (This article is unable to deal with this aspect of the subject in any detail.)

Expanding the ‘climate coalition of the willing’: reconstructing Annex B

To date, if the United States’ absence remains the paramount concern, it appears that the future of Kyoto hinges on a choice between inclusiveness, at the cost of weakening the Protocol further, and a stronger Protocol but a potentially fragmented climate regime. Are these really the only options? During the past two COPs, discussions over the future of the Protocol in its second commitment period have leaned towards the first option, with negotiators trying to draw the United States back into the Kyoto fold. However, pursuing agreements in the hope of re-engaging the US may yet again merely lead to weaker outcomes (weaker targets and mechanisms) without, again, any guarantee the US will stay to play ball. EU negotiators in particular should accept at face value the Bush administration’s clearly articulated and often-stated position that the United States rejects, and is hostile to, Kyoto. Instead, the primary aim of negotiations around a second commitment period should focus on defining tougher targets (in line with emerging scientific data and associated timelines). A secondary aim should be to extend the ‘climate coalition of the willing’ to effect greater coverage of global emissions, and to provide stronger mechanisms to enable parties to meet such commitments.

Twenty national emitters are responsible for over 80 per cent of global emissions (see table 2). Yet only a little more than half of these are currently in Annex B. Specifically, to address the problem of the Protocol’s scope, negotiations should seek to strengthen the ‘climate coalition of the willing’ by bringing additional ‘top emitters’ into the Kyoto cool room. This should not involve weakening its targets in order to woo the US (and Australia), but on the contrary should take the form of expanding the group of ratifying Annex B states39 to include the leading developing country emitters, Brazil, China and India.

In pursuing such a strategy for the second commitment period, it is possibly better to accept a few defections or absences—including, if necessary, those of the high-emitting United States and Australia—and even to ‘abandon’ other low-emitting, persistently non-complying current Annex B states, if these outcomes are more than offset by improvements in the effectiveness of the Protocol in giving it greater emissions coverage and stronger targets than a more inclusive, consensual approach might produce. This toughening (and possible tightening) accords with one persuasive line of theoretical thinking about regime compliance and evolution.40

Indeed, there are several reasons why this approach of ‘annexing’ emergent major emitters—which still maintains the evolutionary strategy used to construct

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39 In other words, Annex B notably minus the United States and Australia.
makes sense and may succeed. Such an expansion of Annex B would increase Kyoto’s ‘coverage’ from some 28 per cent to roughly half of total global emissions. This would increase the economic strength of the Protocol (and its ‘pragmatic legitimacy’), directly addressing one source of problems with economic efficiency: its significantly increased market for carbon would increase the adherence of its contributors.

But agreement to extend Annex B (or to create a new annex) would come at a price. The new states, understandably, would demand considerable additional assistance to enable them to be engaged while also improving real living standards. The accession of the three countries named above would likely require a package

80.7

Table 2: Top 20 national GHG emitters (2003)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Aggregate emissions, 2003 (Gg CO₂ equiv.), without LULUCF</th>
<th>% of aggregate of top 20 states’ emissions</th>
<th>Approximate % of total global emissions (2003)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>6,893,813</td>
<td>31.0</td>
<td>25.0</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>4,057,306</td>
<td>18.2</td>
<td>14.7</td>
</tr>
<tr>
<td>3</td>
<td>Japan</td>
<td>1,339,130</td>
<td>6.0</td>
<td>4.8</td>
</tr>
<tr>
<td>4</td>
<td>India</td>
<td>1,214,248</td>
<td>5.5</td>
<td>4.4</td>
</tr>
<tr>
<td>5</td>
<td>Russian Federation</td>
<td>1,100,000</td>
<td>4.9</td>
<td>4.0</td>
</tr>
<tr>
<td>6</td>
<td>Germany</td>
<td>1,017,511</td>
<td>4.6</td>
<td>3.7</td>
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<td>7</td>
<td>Canada</td>
<td>740,214</td>
<td>3.3</td>
<td>2.7</td>
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<td>8</td>
<td>Brazil</td>
<td>658,976</td>
<td>3.0</td>
<td>2.4</td>
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<td>9</td>
<td>United Kingdom</td>
<td>651,090</td>
<td>2.9</td>
<td>2.36</td>
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<td>10</td>
<td>Italy</td>
<td>569,756</td>
<td>2.6</td>
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<td>11</td>
<td>France</td>
<td>557,169</td>
<td>2.5</td>
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<td>12</td>
<td>Ukraine</td>
<td>527,065</td>
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<td>13</td>
<td>Australia</td>
<td>515,230</td>
<td>2.3</td>
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<td>14</td>
<td>Spain</td>
<td>402,287</td>
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<tr>
<td>15</td>
<td>Iran</td>
<td>385,433</td>
<td>1.7</td>
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<tr>
<td>16</td>
<td>Mexico</td>
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<td>17</td>
<td>South Africa</td>
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<td>18</td>
<td>Indonesia</td>
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<tr>
<td>19</td>
<td>South Korea</td>
<td>289,458</td>
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<tr>
<td>20</td>
<td>Argentina</td>
<td>263,879</td>
<td>1.2</td>
<td>0.97</td>
</tr>
</tbody>
</table>
Towards an effective ‘climate coalition of the willing’

of assistance including substantial initial economic and emissions growth targets (including ‘business as usual’ [BAU] targets) for the second commitment period, and possibly for the subsequent period as well), very significant technological transfers (via a super-sized and well-coordinated version of the CDM—something very unlike the poorly funded alternative of the US-led APPCDC), and, along with incorporation into the Kyoto emissions market, a substantial allocation of carbon credits in order to assist the ‘accession states’ to meet their (ultimately capped) emissions targets.

These emission credits would need to be bought, and this acquisition would in effect comprise a significant transfer of wealth from the other Annex B countries ratifying Kyoto (with contributions to be determined according to a formula not defined here). Such a transfer would have the ancillary effect of boosting, supporting and stabilizing the price of carbon, a matter of some current concern. Funds for the acquisition of such credits could derive, in part, from an EU- or Annex B-wide tax on windfall profits resulting from rising oil prices, such as has been mooted in Europe.

Does ‘buying in’ the three emergent major emitters contradict the underlying intent of having an Annex B (and erode the Protocol’s normative legitimacy) by concentrating resources and assistance on those developing states that are already doing well (relatively speaking) in terms of economic growth, and away from those states that need it more in overall development terms? In answer, one can argue that the proposed climate-related transfers remain focused on the task of limiting and reducing global emissions. They should not be seen as ‘development aid with a thermostat attached’. In addition, the states concerned include two of the world’s most populous countries: assistance in raising living standards of all their inhabitants in an ecologically sustainable manner would improve the quality of life of more than 2.5 billion people—over one-third of the planet’s population. Further, China and India are highly vulnerable to climate impacts on agriculture and water—an added incentive to their participation and further justification for this initiative.

Considered in another light, and depending on the rules by which it conducted itself, such an expanded ‘climate coalition’ would strengthen the moral legitimacy and political capacity of the climate regime. Inclusion of the three fastest-growing, highest-emitting developing countries would maintain (but also modify) implementation of UNFCCC’s equity principle, as reflected in Article 3.1 on ‘common but differentiated responsibility’, as it still would not require targets for

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42 By initially concentrating on perhaps only one sector—such as electricity generation.


44 On oil windfall taxes, see http://www.euractiv.com/en/energy/juncker-calls-windfall-tax-big-oil/article-154994, accessed 9 May 2006. As this tax could add to inflationary pressures already resulting from oil price hikes, its implementation would necessarily require ameliorative measures to the rate of increase of oil prices.
most developing countries in the second commitment period or beyond. (It might be said this approach seeks to balance the tension between the sovereign right of developing countries to improve material conditions for their inhabitants and the demands of sustainability that now require all states, and individuals, to accept responsibility for the ecological and social consequences of their GHG emissions for future generations). The participation of these three states in Annex B would enhance their moral stature as leading members of the international community. Finally, these additions would also increase the pressure upon self-exiling developed countries like the United States and Australia to support Kyoto, by undermining their claims that the Protocol is ineffective and morally illegitimate because it fails to cover a substantial part of the planet’s population and emissions. Under these circumstances, and given the changing ecopolitical context, it is possible that the outcome would be both a strengthening of the Protocol and a resolution of the current fragmentation of the climate regime.

Creating a ‘culture of compliance’

How, then, might this proposal be supported and the Kyoto Protocol’s performance improved? Some theorists consider that treaties require credible and forceful deterrents and sanctions, and these views have been brought to bear specifically on the climate regime. However, as discussions of compliance and non-compliance indicate, there can be multiple sources of good or bad performance, and punitive measures are rarely sufficient or necessarily effective. Bearing in mind that, for the most part, compliance failures are inadvertent rather than deliberate, responses must be shaped and targeted using more detailed information about the reasons for failure, and this suggests a range of possible approaches and a more discriminating system to respond to different types of non-compliance. It is difficult, at this early stage of the implementation of the first commitment period (before it has even officially begun), to comment on reasons for compliance or non-compliance, state by state. Such an essential analysis should follow from the first reports of the UNFCCC Compliance Committee. Any suggestions made here, therefore, are necessarily tentative. How does one intervene to change or avert the evolution of a culture of non-compliance when its first signs are appearing, and convert it into a culture of cooperation? The answer is likely to rest in a revised mixture of positive reinforcements and increased penalties.

Direct assistance In particular, assistance to developing countries joining Annex B (or a new Annex C) must be appropriate as well as significant—emphasizing the economic benefits of compliance by providing transfers and other incentives to

45 See note 28 above.
46 e.g. Downs et al., ‘Managing the evolution of multilateralism’.
47 Abram Chayes and Antonia Chayes, ‘On compliance’, International Organization 47: 2, Spring 1993, pp. 175–205 at p. 188.
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encourage them to participate in the target-framed regime. (A version of how this might work has been outlined above.) While this involves an additional burden of costs to be shared among the wealthier Annex B states, it would underpin the price of carbon in those states and therefore also have domestic benefits. Fund transfers are rarely used in implementing multilateral environmental agreements because they are seen to be open to misrepresentation of needs by states, are frequently under-funded and neglected by donor countries where a centralized fund is involved, and are also prone to compliance problems in the donor–recipient relationship. In-kind transfers of technology and skills are less susceptible to these problems. The allocation of carbon credits accompanied by an agreement about targets—which is, effectively, a transfer of wealth from North to South, or from wealthier North to poorer North—lies somewhere between these two approaches.

Institutional reinforcement One of the biggest problems facing the climate change regime—and most other international environmental agreements—is the absence of domestic and international agencies and processes that can coordinate action and, if required, enforce it. Recent national annual reports to the UNFCCC suggest that institutional reinforcement of the regime is necessary in several ways. First, whole-of-government and cross-sectoral policy goals usually suffer from inefficiencies and institutional and policy duplication where there is not a single major office/institution with responsibility for policy coordination or implementation. In addition, there are many states (both within and outside Annex B) that lack the capacity to assess compliance effectively and accurately. Overcoming these problems requires the establishment of a robust and effective regulatory system for compliance review, involving specific procedures for expert assessment of performance, certification, and penalties for compliance failures, as well as one capable of ensuring coordinated policy implementation. Most states lack some element of this specification.

At present there is also an understandable level of duplication between policy instruments, reflecting political and other considerations. Although carbon taxes are relatively efficient measures for achieving emissions reductions, they are now commonly supplanted or overshadowed by other measures, such as emissions trading, grants and subsidies. Where these measures coexist, it is often without significant coordination across the basket of instruments. A systematic review of the functioning of these parallel systems is required—certainly once the EU’s ET system has been consolidated.

Second, although it is an ambitious proposal, an international agency dedicated to coordinating the establishment and implementation of a global carbon tax and facilitating international emissions trading should be considered. As a matter of principle with regard to equality of impacts and increased efficiency, ‘a uniform emissions tax ensures that marginal abatement costs are equalized across countries;

50 For the United Kingdom, see Dieter Helm, ‘Climate-change policy: a survey’, in Helm, ed., Climate-change policy, pp. 11–29 at p. 28.
sequential temporal adjustments of the tax rate ensure that discounted marginal abatement costs equalize across time'. Tradable permit systems are already designed with these conditions of spatial and temporal reach in mind.

Third, government agencies and private sector actors opposed to early action on climate change have generally manipulated public anxiety by promulgating inflated estimates of the costs of such action compared to its benefits. The Secretariat of the UNFCCC needs to develop a standardized methodology for assessing such costs and benefits, and possibly authorize its application by an accredited external agency (perhaps the OECD). Such assessments would need to include aspects systematically ignored by most current estimates, by including comparative assessments of the costs of adaptation and infrastructural and ecological damage (broadly defined) associated with BAU, late action and early action, as well as estimates of the economic benefits of early action.

**Strengthening sanctions**  It is a delicate balancing act successfully to toughen emissions targets without encouraging further non-compliance or defections, and at the same time toughen sanctions on states that might not comply or that have already defected. In 1999, an OECD working paper on compliance and the climate change regime identified growing interest during early negotiations in establishing a robust compliance system for the Kyoto Protocol. Parties brought forward proposals for ‘mandatory’ and ‘binding’ procedures that would impose significant penalties. These proposals recognized that the climate regime needed legal weight, a means for including all parties, and both incentives (carrots) and robust measures (sticks) to ensure compliance with a toughening regime. However, the final approach is much weaker than originally sought by some. As Jacquemont notes, the Protocol ‘corresponds to a trend, which can be seen in multilateral environmental agreements, that procedures to secure compliance should not be confrontational and punitive, but should rather consist of cooperative remedial and facilitative measures that address the causes of non-compliance’.

Both the UNFCCC’s and the Kyoto Protocol’s compliance procedures and mechanisms can arguably be (and have been) described as ‘non-confrontational, forward-looking and non-judicial’. These features of their design are intended to allow for ‘a “socialization” of differences’. They are, some have claimed, a reflection of the diffuse nature of the global problem presented by climate change, with ‘integral’ responsibilities being articulated between the collective parties to the agreement, as befits an international agreement that deals with a global problem,
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as opposed to clear state-to-state reciprocity, and with further acknowledgement of ‘common but differentiated responsibilities’. It is likely that the regime has performed weakly to date partly because of these characteristics. (This is a question for further empirical investigation.) One possible solution, offered here, is to trim Kyoto’s sails to those major emitters that are also likely to be strong supporters of tough targets—in other words, to reduce the focus of the Protocol to those who are likely to ‘want to be good’. This in itself takes the pressure off the use of penalty mechanisms—but not entirely.

Chayes and Chayes have argued that few treaties suffer from deliberate non-compliance, and that therefore the need for real sanctions is slight; compliance depends, they suggest, on a high degree of support for implementation of the treaty concerned among its signatories, achieved via manufactured normative adherence, transparency, assistance and capacity-building (the ‘managerial model’). In addition, they argue that use of sanctions for the enforcement of treaties (the ‘enforcement model’) is more often than not ineffective and their application may undermine the legitimacy of the regime concerned. However, these assumptions have been challenged in relation to international environmental law, with others arguing that in fact non-compliance is frequent and therefore compliance strategies tailored to the needs of participant countries are required.

As noted earlier, COP-7 agreed to a compliance penalty involving the suspension of eligibility to use flexibility mechanisms and a deduction of any first-period shortfall (punitive increased using a multiplier of 1.3, or plus 30 per cent) from any second-period commitment targets. Yet this is a weak penalty: as Babiker et al. comment, it merely amounts to a borrowing provision with an interest rate of 5 per cent per annum. This slight deterrent needs to be ‘beefed up’—perhaps by employing a multiplier of 1.5 or 1.6, or 50–60 per cent. The Protocol already includes provisions for non-compliant states to be excluded from access to the three major flexible mechanisms under the Protocol, ET, JI and the CDM. (Annex B parties that have failed to ratify the Protocol are automatically excluded.) As these mechanisms assist countries to maintain higher levels of domestic emissions by ‘acquiring’ carbon credits from project partnerships, loss of access could be doubly severe for non-compliant states and would result in additional costs for compliance with reduction targets. This sanction is so tough that it is less likely to be applied than if there were gradations of exclusion that mirror gradations of non-compliance.

Strong sanctions also depend on an effective enforcement mechanism—one with power and authority—and this the climate regime currently does not have. Kyoto’s compliance mechanisms may have an impact on small states but are unlikely to deter large non-compliant states with significant domestic markets. Different treaties have different levels of tolerance of non-compliance, and different capacities to withstand non-compliance. As long as the collective benefit outweighs costs, parties

will continue to support a treaty despite non-compliance and defections. But, as Chayes and Chayes indicate, at a certain critical point, a treaty will either thrive or collapse. They note, ‘It seems plausible that treaty regimes are subject to a kind of critical mass phenomenon, so that once defection reaches a certain level, or in the face of particularly egregious violation by a major player, the regime might collapse.’\textsuperscript{57} It is hard to envision effective sanctions that are confined to the climate regime’s mechanisms.

In the case of the international whaling moratorium, cross-issue threats (threatened trade sanctions by the US against Japan, and exclusion from CITES) for a long time successfully encouraged Japanese compliance.\textsuperscript{58} Given the intimate relationship between production/export and emissions, could trade be coupled with or used as a sanctioning instrument for the climate regime? At minimum, states could agree to include certain forms of carbon-related trade embargo as part of their response to other states’ non-compliance.\textsuperscript{59} The nature and level of this reaction could be determined and governed by an agency operating within the UNFCCC framework. Even so, it is acknowledged that smaller, more ecologically and economically vulnerable states have few trade-related powers—tariffs and other capacities—to bring to bear against precisely those economic heavyweights that benefit most from transgression (at present, the United States) and non-involvement (at present, China, India, Brazil). Further examination of options relating to the involvement of stronger institutions for enforcement, including perhaps the WTO, or of precedents such as the strengthening of the European Court of Justice under the Maastricht Treaty and its effect on EU states’ behaviour in a range of issues/domains, is required in relation to institutions and measures—fines, trade sanctions and even World Bank-style intervention—that might be available to the UNFCCC.

All this, of course, fails to consider the other potent source of sanctioning: moral sanctioning and international shaming, embodied in public criticism by other nations and by domestic and international NGOs. In the more recent constructivist literature, greater emphasis has been placed on process and action, with scholars identifying two causal mechanisms associated with the encouragement of compliance: the pressure of social protest/mobilization (the work of local NGOs in cooperation with transnational organizations and networks, and using international mechanisms and domestic political mechanisms to pressure for compliance) and social learning. In the first case, norms are not internalized—merely enforced, and action constrained. As Checkel indicates, this process of what he calls ‘social sanctioning’ and its accompanying explanation tie back to rationalist explanations of behaviour based on costs and benefits of compliance.\textsuperscript{60} Keck and Sikkink have emphasized how, in relation to human rights issues, recalcitrant state

\begin{footnotesize}
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\item \textsuperscript{57} Chayes and Chayes, ‘On compliance’, p. 201.
\item \textsuperscript{58} Chayes and Chayes, ‘On compliance’, p. 203.
\item \textsuperscript{59} The Montreal Protocol on Ozone Depleting Substances provides for trade sanctions directly related to CFC-bearing products. Carbon-related sanctions could, of course, start with exports/imports of fossil fuels, but extend to include any products involving intensive fossil-fuel-related energy use.
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elites have been caught in ‘a vice of transnational and domestic social mobilization’. There may yet be ways of providing formal support for media, NGOs and climate-friendly industry groups to achieve the same effect in this regime.

**Conclusion**

The review of current emissions trends indicates that action is necessary even before the official start of the Kyoto Protocol’s first commitment period, if its targets are to be achieved and a longer-term crisis of the climate regime averted. The underperformance or non-performance of all but five existing Annex B states (even though those five include the powerhouse of the EU) is not easily addressed in the absence of more detailed analyses of the reasons for what appear to be compliance deficits, especially among those Annex B states that were not formerly in the Soviet bloc. This is the next, urgent task.

Checkel is rightly critical of rationalists for whom ‘state compliance stems from state coercion (sometimes), instrumental calculations (always) and incentives—usually material, but possibly sometimes social as well’. But these elements nevertheless all still need to serve as components of a strengthened approach to address some of the problems underlying Kyoto’s emergent deficits. The apparent ineffectiveness of their present combination requires examination and correction, as do the institutional underpinnings of national and international climate policy implementation.

Although offering little in the way of concrete solutions to alleviate the immediate problem confronting the Protocol, this article has proposed an approach that draws attention away from the United States—admittedly the world’s largest, but perhaps also its most recalcitrant emitter—in order to find an alternative path for increasing the Protocol’s political and ecological weight in its next commitment period. A great deal will be required to encourage states like China, India and Brazil—which are collectively equal to, if not more important than, the United States in the climate-related ecological consequences of their actions—to set aside their current resistance to what they regard as interference with their sovereign right to develop and accept emissions targets as part of an internationally cooperative means of leading developing (and developed) nations.

Substantial transfers of wealth and technologies would need to be part of this approach. Use of carbon credits and taxes on windfall oil profits are proposed in order to help fund and facilitate such a transfer. These measures would inevitably place an additional financial (and political) burden on major EU states that are already under strain. Nevertheless, the short-term costs would be amply outweighed by medium-term economic, social and ecological benefits, including through the strengthening of Kyoto carbon markets. Ultimately this would prove a material benefit to both developed and developing states. This approach


would also create a context in which the United States (and Australia) would find it increasingly difficult to remain outside the regulatory ambit of the Protocol. Persuasion and diplomacy would be critical to creating the ground for the necessary shift in opinion in the publics of the developed countries that would have to accept this additional burden, and in the governments and publics of Brazil, China and India. The European Union could play a vital role in throwing its weight behind diplomatic and material efforts to include these countries. The scale and immediacy of the threat of climate change, and the need for substantial emissions reductions to avert a global ecological catastrophe, demand no less.