A Tale of Two Architectures:
The Once and Future U.N. Climate Change Regime[1]

Daniel Bodansky
Sandra Day O'Connor College of Law
Arizona State University
Draft: March 7, 2011

Abstract

International agreements vary widely in the latitude that they give participating states. Some take a top-down approach, defining particular policies and measures that parties must undertake. Others adopt a more bottom-up approach, allowing each participating state to define its own commitments unilaterally. In the climate change regime, the Kyoto Protocol reflects a top-down approach. Although it gives states freedom in how they implement their commitments, it does not give them similar flexibility in defining the form, nature and content of their commitments. Going forward, the climate change regime faces a choice: continue down the road blazed by Kyoto, or shift to a more bottom-up architecture, focusing on

[1] This article draws on the author's previous work, including *Targets and Timetables: Good Policy but Bad Politics? in* ARCHITECTURES FOR AGREEMENT: ADDRESSING GLOBAL CLIMATE CHANGE IN THE POST KYOTO WORLD (Joseph E. Aldy & Robert N. Stavins, eds., Cambridge Univ. Press 2007); *The Future of Climate Governance: Creating a More Flexible Architecture*, in CLIMATE FINANCE: REGULATORY AND FUNDING STRATEGIES FOR CLIMATE CHANGE AND GLOBAL DEVELOPMENT 48 (Richard Stewart, Benedict Kingsbury & Bryce Rudyk eds. 2010); *The Copenhagen Climate Change Conference: A Postmortem*, 104 AM. J. INT'L L. 230 (2010); *The International Climate Change Regime: The Road from Copenhagen* (Harvard Project on International Climate Agreements, Oct. 2010), and THE EVOLUTION OF INTERNATIONAL REGIMES: IMPLICATIONS FOR CLIMATE CHANGE (with Elliot Diringer) (Pew Center on Global Climate Change, Dec. 2010). The author is thankful for very helpful comments from Elliot Diringer and Susan Biniaz.

> *nationally-defined measures. Although the Copenhagen Accord and Cancun Agreements in theory leave this question open, they embrace a bottom-up approach, allowing countries to make national pledges unilaterally. This bottom-up, incremental approach makes sense politically, in order to provide time for countries to learn from experience and to develop trust in the system. Although it is unlikely, in itself, to produce the necessary level of emissions cuts, it represents a useful step forward, by unblocking an apparently stalemated process and by helping to build a foundation for stronger action in the future.*

Ever since the Kyoto Protocol's entry into force in 2005, the central question facing the United Nations climate change regime has been what to do after 2012, when the Kyoto Protocol's initial limits on greenhouse gas emissions expire. When states negotiated the Kyoto Protocol more than a decade ago, their intent was to establish an enduring policy architecture, consisting of internationally-defined, legally-binding emissions reduction targets, combined with market mechanisms such as emissions trading to achieve those targets. Although the Kyoto Protocol itself set targets for only a five-year commitment period running from 2008-2012, the expectation was that this first commitment period would be followed by a second commitment period, a third, and so on, indefinitely into the future.

But relatively few countries – representing only about a quarter of global carbon dioxide emissions – have been willing to accept internationally-defined emissions reduction targets under the Kyoto Protocol.[2] And even some of these, such as Japan, Russia, and Canada, seem unwilling to continue down the Kyoto path. The other main emitters – most notably the United States, China, and India – have never

[2] Although the Kyoto Protocol now has 193 parties, it establishes emissions targets for only 38 countries (plus the United States, which has not ratified the Protocol).

accepted that they should be subject to emissions targets established from the top-down, through international negotiations. Instead, they have preferred to address the climate change problem, if at all, from the bottom up, through nationally-determined policies such as efficiency standards and technology initiatives.

Going forward, the climate change regime thus faces a choice: continue down the road blazed by Kyoto, or shift to a more bottom-up architecture, focusing on nationally-defined measures. Countries differ widely about these two policy architectures. The European Union would prefer to stick with the Kyoto architecture, but broadened so as to encompass the emissions of the other major economies – in particular, the United States and China. The big developing countries would like developed countries to accept a second round of emissions targets under the Kyoto Protocol, but are unwilling to do so themselves. Meanwhile, the United States does not appear to care one way or the other whether the countries with Kyoto targets negotiate a second commitment period for themselves, and has instead focused on advancing a more bottom-up architecture to which it could subscribe.

To date, the U.N. climate change negotiations have failed to resolve this fundamental debate about the regime's long-term architecture. The 2009 Copenhagen Accord sets forth a bottom-up architecture based on national pledges, and the 2010 Cancun Agreements brought this approach into the official UNFCCC process. But both agreements are explicitly without prejudice to the long-term architecture of the regime, and leave open the possibility of a second commitment period under the Kyoto Protocol (although the prospects for negotiating such an extension appear slim). So the battle over policy architectures will continue at this year's climate conference in Durban, South Africa, and most likely in 2012 at the Rio+20 conference in Rio de Janeiro.

This paper explores the development of the climate change regime, the recent meetings in Copenhagen and Cancun, and the options for a long-term architecture going forward.

The Origins of the U.N. Climate Change Regime

Although international agreements generally involve negotiations – and all ultimately depend on state consent – they vary widely in the latitude that they give participating countries. Some take a top-down approach, defining particular policies and measures that parties must undertake. Others adopt a more bottom-up approach, allowing each participating state to define its own commitments. In the environmental realm, the Convention on International Trade in Endangered Species (CITES)[3] illustrates the top-down approach. It prescribes which species to protect and how to do so (through a permitting system for imports and exports). Similarly, the international oil pollution treaty (MARPOL) prescribes very specific rules regarding the construction, design and performance of oil tankers.[4] Conversely, the US-Canada Air Quality Agreement illustrates a more bottom-up approach, largely codifying in an international agreement the domestic air pollution programs of the two participating states.[5] Similarly, the Ramsar Convention on wetlands encourages countries to promote the conservation and "wise use" of wetlands,[6] but gives countries broad discretion to determine the policies and measures that they will use to do so.

In the development of the international climate change regime, the top-down approach adopted by the Montreal Protocol on Substances that Deplete the Ozone Layer[7] initially served as a major inspiration for many countries. The basic regulatory approach of the Montreal Protocol is to impose quantitative limits on national production and consumption of ozone-depleting substances (ODS). Originally, the Montreal Protocol

[3] Convention on International Trade in Endangered Species of Flora and Fauna, adopted March 2, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243.
[4] International Convention for the Prevention of Pollution from Ships, Annex I, adopted Nov. 2, 1973, 34 U.S.T. 3407, amended by Protocol of 1978, adopted Feb. 17, 1978, 1340 U.N.T.S. 61.
[5] Agreement on Air Quality, adopted March 13, 1991, 30 I.L.M. 676.
[6] Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, art. 3(1), 996 U.N.T.S. 246.
[7] Adopted Sept. 16, 1987, 1552 U.N.T.S. 3.

required parties to freeze and then reduce by half their consumption and production of CFCs, the principal ODS.[8] But through a series of adjustments and amendments, these targets have been progressively ratcheted up, and now require the complete phase-out of most ozone-depleting substances.[9]

At the time the climate change issue emerged onto the international agenda in the late 1980s, the ink was barely dry on the Montreal Protocol.[10] Canada hosted the first major international conference on climate change in Toronto in June 1988,[11] less than a year after the Montreal Protocol's adoption, and the U.N. General Assembly adopted its first resolution on climate change that fall.[12] Given the Montreal Protocol's perceived success, many not surprisingly viewed it as a model for the climate change issue and proposed using the same regulatory approach – that is, internationally-negotiated, economy-wide targets and timetables. The 1988 Toronto Conference recommended establishing a global emissions reduction target of 20%,[13] and the following year, the Noordwijk Conference recommended that developed countries stabilize their greenhouse gas emissions "as soon as possible."[14]

---

[8] Id. art. 2.

[9] UNITED NATIONS ENVIRONMENT PROGRAMME, HANDBOOK FOR THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEPLETE THE OZONE LAYER (7th ed. 2006).

[10] For the early history of the UN climate change regime, see generally Daniel Bodansky, *Prologue to the Climate Change Convention*, in, NEGOTIATING CLIMATE CHANGE: THE INSIDE STORY OF THE RIO CONVENTION (Irving Mintzer & J.A. Leonard, eds., Cambridge Univ. Pres. 1994).

[11] *Proceedings of the World Conference on the Changing Atmosphere: Implications for Global Security*, Toronto, June 27-30, 1988, WMO/OMM Doc. 710 (1989).

[12] Protection of Global Climate for Present and Future Generations of Mankind, G.A. Res. 53, U.N. GAOR, 43d Sess., Supp. No. 49, at 133, U.N. Doc. A/43/49 (1988).

[13] *Proceedings of the World Conference on the Changing Atmosphere: Implications for Global Security*, Toronto, June 27-30, 1988, WMO/OMM Doc. 710 (1989). Although the Toronto Conference was sponsored by the Canadian government, it was non-governmental in character, and the government officials who attended did so in their personal capacity.

[14] Noordwijk Declaration on Atmospheric Pollution and Climate Change, Nov. 7, 1989, 12 Int'l Envtl. Rep. (BNA) 624 (Dec. 13, 1989). In contrast to the Toronto Conference, the Noordwijk Conference was intergovernmental in character.

From the start, Western European countries were the biggest proponents of quantitative targets and timetables to limit greenhouse gas emissions, while the United States, Japan and the Soviet Union voiced skepticism. In Noordwijk, European states were successful in including an emissions stabilization target, but American, Japanese and Soviet opposition prevented the inclusion of any timetable for achieving that target. Instead, the Noordwijk Declaration merely noted the view of "many" industrialized countries that stabilization should be achieved "as a first step at the latest by the year 2000."[15]

The same battle was fought again two years later during the negotiation of the U.N. Framework Convention on Climate Change (UNFCCC),[16] with a similar result. The European Community pushed for the inclusion of targets and timetables to limit greenhouse gas emissions, while the United States argued that states should focus instead on developing national programs and strategies consisting of concrete policy measures. Ultimately, the UNFCCC included aspects of both approaches. Article 4.1 reflects a bottom-up approach, requiring all parties to develop (and report on) national policies and measures to combat climate change – a version of what was referred to, during the negotiations, as "pledge and review." Meanwhile, Article 4.2 reflects a top-down model, setting forth a non-binding aim for developed countries to return their emissions to 1990 levels by the year 2000.[17] In essence, the history of the U.N. climate change regime ever since has consisted of variations on these two themes.

---

[15] *Id.*

[16] United Nations Framework Convention on Climate Change, adopted May 9, 1992, 1771 U.N.T.S. 107.

[17] *See generally* Bodansky, *The United Nations Framework Convention on Climate Change: A Commentary*, 18 YALE J. INT'L L. 451, 508-17 (1993). Interestingly, the bottom-up requirements of Article 4.1 were legally-binding, while the top-down target in Article 4.2 was not, illustrating that the issue of top-down vs. bottom-up is distinct from that of legally-binding vs. non-legally-binding. Reflecting the principle of common but differentiated responsibilities and respective capabilities (CBDR), the bottom-up requirements of Article 4.1 are common obligations of all parties, while the top-down aim of Article 4.2 is a differentiated provision limited to developed countries.

The Kyoto Protocol: The Ascendance of the Top-Down Approach

The Kyoto Protocol negotiations marked the ascendance, at least temporarily, of the targets-and-timetables approach. In 1995, at the first Conference of the Parties of the UNFCCC (COP-1), states decided to initiate a new round of negotiations, aimed at defining quantitative emission limitation and reduction objectives (QELROs) for developed countries – in other words, emissions targets.[18] The negotiating mandate initially left open whether the targets would be legally binding – that is why they were described as "objectives." But the following year at COP-2, U.S. negotiators acceded to E.U. demands that the targets under negotiation would be legally binding.[19]

The Kyoto Protocol was adopted in 1987 and establishes emissions limitation targets for each developed country (listed in Annex B), defined as a specified percentage relative to 1990 emissions levels. The targets cover a basket of six greenhouse gases, apply (with only a few limited exceptions)[20] on an economy-wide basis, and cover a five-year commitment period, running from 2008-2012.[21]

The Kyoto Protocol is widely touted for its flexibility. Rather than requiring states to adopt particular policies and measures such as efficiency standards, the Kyoto emissions targets give states freedom in deciding how to reduce emissions and (to a limited degree) where and when to do so. It includes "flexibility mechanisms" such as emissions

[18] Berlin Mandate: Review of the Adequacy of Article 4(2)(a) and (b) of the Convention, Dec. 1/CP.1, *in* COP-1 Report, U.N. Doc FCCC/CP/1995/7/Add.1, at 4.

[19] Geneva Ministerial Declaration, para. 8, *in* COP-2 Report, U.N. Doc. FCCC/CP/1996/15/Add.1, at 70, 73.

[20] The Kyoto targets do not include emissions from international shipping and aviation (usually referred to as “international bunkers”). In a separate decision adopted in Kyoto, the parties assigned these emissions to the U.N. specialized agencies with substantive competence, the International Maritime Organization for ship-based emissions, and the International Civil Aviation Organization (ICAO) in the case of aircraft emissions. Methodological Issues Related to the Kyoto Protocol, Dec. 2/CP.3, U.N. Doc. FCCC/CP/1997/7/Add.1, at 31.

[21] Kyoto Protocol to the UNFCCC, art. 3, Dec. 10, 1997, 2303 U.N.T.S. 138.

trading[22] and the Clean Development Mechanism,[23] which allow states to reduce emissions wherever the reductions are cheapest. And its multi-year commitment period and provision for banking of unused credits[24] give states flexibility about when they reduce emissions.

But although the Kyoto Protocol gives states freedom in how they *implement* their commitments, it does not give them similar flexibility in *defining* the form and nature of their commitments. Instead, the Protocol prescribes a single type of international commitment (fixed emissions targets, which countries must achieve regardless of changing economic conditions and other national priorities), the scope of those targets (economy-wide), the gases covered (a basket of six greenhouse gases), and the international offsets that can count towards meeting those targets (certified emission reductions created through the collective decision-making procedures of the Clean Development Mechanism). Moreover, although each country has its own national target (E.U. countries, for example, have a -8% target, Japan a -6% target, and Australia a +8% target),[25] these national targets were defined through a process of international negotiations rather than determined by each country unilaterally,[26] and are subject to detailed international accounting rules to determine whether a country has complied.

Copenhagen and Cancun: The Bottom-Up Approach Strikes Back

The Kyoto Protocol was a considerable achievement, but it has two significant limitations. First, the states willing to accept Kyoto-style emissions targets represent only about a quarter of global greenhouse gas emissions. The United States, which accounts for roughly 25% of

[22] Id. art. 17.
[23] Id. art. 12.
[24] Id. art. 3(13).
[25] The individual national targets are set forth in Annex B of the Protocol.
[26] As a result, under international pressure to get a deal, the United States accepted a minus 7% target in Kyoto, as opposed to the stabilization target that was, in theory, the U.S. "bottom line" going into the meeting.

global emissions, has refused to join Kyoto, and the Kyoto Protocol – reflecting the principle of common but differentiated responsibilities and respective capabilities – does not establish any emissions limitation commitments for developing countries such as China, which has now surpassed the United States as the world's biggest emitter. Second, the Protocol, in its present form, sets targets for only a five-year commitment period running from 2008-2012. Emissions in 2013 and thereafter are currently unregulated.

Following the adoption of the Kyoto Protocol in 1997, states spent an additional four years negotiating the rules for how the Protocol would work,[27] paving the way for the ratification and eventual entry into force of the Protocol in 2005. But, as soon as this process was completed, attention shifted to the problem of what to do after 2012, when the Protocol's first commitment period expires. Should the countries that have Kyoto targets agree to a second round of targets for the post-2012 period,[28] and, if so, should a new agreement be adopted for countries without Kyoto targets, including the United States and China? Or should a single new agreement be adopted that replaces the Kyoto Protocol and is more comprehensive in scope, addressing the emissions of both developed and developing countries?[29] And, more generally, should a post-2012 climate regime continue the top-down architecture of Kyoto or adopt a more bottom-up approach?

In 1995, at the first meeting of the parties to the Kyoto Protocol (CMP-1), states launched a process to negotiate a new round of commitments under the Protocol. Two years later, the UNFCCC parties

---

[27] These rules are set forth in the Marrakech Accords, FCCC/CP/2001/13, which were adopted in 2001 at COP-7.

[28] Although Article 3(9) of the Protocol – which provides that "commitments for subsequent periods for Parties included in Annex I shall be established in amendments to Annex B to this Protocol" – could be read as requiring that Annex I countries agree to new commitments for the post-2012 period, it had a more limited purpose, namely to specify the required method for adopting new commitments (i.e., through amendments to Annex B).

[29] *See* Daniel Bodansky, *Legal Form of a New Climate Agreement: Avenues and Options* (Pew Center on Global Climate Change, Apr. 2009).

adopted the Bali Action Plan, which launched a parallel track under the Convention to address the post-2012 period, encompassing all aspects of the climate change issue: mitigation, adaptation, finance and technology.[30] The Copenhagen climate conference, held in December 2009, was originally intended as the end point of these parallel negotiating tracks, and many expected it to produce a new legal agreement (or agreements) addressing the post-2012 period – a view reflected in the unofficial slogan of the conference, "Seal the deal." The already sky-high expectations were only heightened by the decision by more than one hundred heads of state to attend, including President Obama and the leaders of China, India, Brazil, South Africa, Japan, the United Kingdom, France and Germany. Thus, when states failed to reach agreement on a new legal instrument, "Hopenhagen" became seen as "Nopenhagen" by many disillusioned participants and commentators.[31]

But the Copenhagen meeting was far from the flop often portrayed. Although it failed to adopt a legally-binding treaty, it did produce the Copenhagen Accord, a political agreement negotiated by the leaders of more than twenty-five countries in the closing hours of the meeting.[32] Inelegant and extremely brief, the Copenhagen Accord nevertheless addresses all of the main elements under negotiation, including mitigation, adaptation, finance, technology, forestry, and verification. Among its key elements, it:

- sets a long-term aspirational goal of limiting temperature rise to no more than 2° C;
- establishes a process for recording the mitigation targets and actions to be implemented by developed and developing countries (which the principal countries had put forward prior to the meeting);

---

[30] Bali Action Plan, Dec. 1/CP.13, Dec. 14-15, 2007, *in* COP-13 Report, U.N. Doc. FCCC/CP/2007/6/Add.1, at 3.

[31] *See generally* Daniel Bodansky, *The Copenhagen Climate Change Conference: A Postmortem*, 104 AM. J. INT'L L. 230 (2010).

[32] Copenhagen Accord, Dec. 18, 2009, *in* COP-15 Report, U.N. Doc. FCCC/CP/2009/11/Add.1.

- puts significant new money on the table for climate change mitigation and adaptation by developing countries, including "fast start" money for the 2010-2012 period "approaching" $30 billion and a goal of mobilizing $100 billion per year by 2020;
- provides for "international consultation and analysis" of all developing country mitigation actions, plus fuller monitoring, reporting, and verification (MRV) of those actions that receive international support and of developed country targets and financing.

The Copenhagen Accord embraces a fundamentally different architecture than the Kyoto Protocol. Rather than defining emissions targets from the top down through international negotiations, the Copenhagen Accord establishes a bottom-up process that allows each party to define its own commitments and actions unilaterally. The Accord specifies that developed countries will put forward national emissions targets in the 2020 timeframe, but allows each party to determine its own target level, base year, and accounting rules. Meanwhile, developing countries have even greater latitude in formulating nationally appropriate mitigation actions (NAMAs).[33]

Of course, in accepting the Copenhagen Accord, states already knew each other's pledges, since these had been announced prior to the meeting. And there was a strong expectation that states would stick by these pre-meeting pledges when it came time to record their targets and actions internationally – an expectation that was, in fact, fulfilled. But, consistent with the bottom-up approach, the Copenhagen Accord simply accepted states' pledges, rather than subjecting them to international negotiations in an effort to develop stronger commitments, as had been the case in Kyoto.

Although the Copenhagen Accord suggests a significant reorientation of the climate change regime, its status coming out of Copenhagen was unclear. On the one hand, it had been adopted by the leaders of all of the world's major economies, giving it considerable weight. On the other

[33] Id. paras. 4-5.

hand, when it was brought back to the formal conference of the parties in the waning hours of the meeting, the conference could agree only to "take note" of it, rather than to adopt it, due to objections from a handful of countries led by Sudan, Venezuela and Bolivia.[34] As a result, the Accord had no official status within the UNFCCC process and some argued that the UNFCCC secretariat should not even record the national pledges that were made in spring 2010 on its official web site.

Given this situation, the decisions adopted in December 2010 at the Cancun Conference were a signal accomplishment. The Cancun Agreements not only brought the various elements of the Copenhagen Accord into the UNFCCC process, but elaborated the Accord's three-page text into thirty pages of decision language.[35] Key elements of the decisions include:

- a reiteration of the long term goal of limiting temperature increase to 2° C;
- anchoring of the emissions targets and actions pledged pursuant to the Copenhagen Accord in the UNFCCC process, through inclusion in two "INF" (information) documents – one for emissions targets to be implemented by developed countries, the other for NAMAs to be implemented by developing countries;
- establishment of a registry for listing NAMAs for which developing countries are seeking international support;
- establishment of the Green Climate Fund, which will be managed by a 24-member board of directors and administered for the first three years by the World Bank;
- reiteration of the collective commitment in Copenhagen by developed countries to provide an amount approaching $30 billion in fast start financing for the 2010-2013 period, balanced between mitigation and adaptation, as well as of the longer-term

[34] Dec. 2/CP.15 (Dec. 18-19, 2009), *in* COP-15 Report, U.N. Doc. FCCC/CP/2009/11/Add. 1, at 4.

[35] Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention, Dec. 1/CP.16, *in* COP-16 Report, U.N. Doc. …

goal of mobilizing $100 billion per year by 2020, a "significant portion" of which should flow through the newly-established Green Climate Fund;

- elaboration of the process of international consultation and analysis of developing country mitigation actions, including that it will be performed by the Subsidiary Body on Implementation (SBI) of the UNFCCC;
- establishment of a new technology mechanism to facilitate technology development and transfer;
- establishment of a framework for reducing emissions from deforestation and forest degradation (REDD);
- adoption of the Cancun Adaptation Framework.

Some commentators, in comparing Copenhagen and Cancun, have contrasted the "Chihuahua that roared" with the "Great Dane that whimpered."[36] But these differing assessments reflect differences not so much in the outcomes of the two meetings than in the advance expectations. Many expected Copenhagen to adopt a new set of legally-binding emissions targets, á la Kyoto, so the non-binding Copenhagen Accord was a major disappointment. In contrast, expectations for Cancun were rock bottom, so an outcome that reiterated and elaborated the Copenhagen Accord was seen as a big win.

This is not to diminish the significance of the Cancun conference. Success was uncertain until the very last, and was a testament to the skill of the Mexican chair, Foreign Minister Patricia Espinosa, who did a masterful job both in creating a negotiating atmosphere in which countries had confidence, and in putting pressure on Venezuela and its allies not to torpedo the meeting. In the end, when only Bolivia objected to the adoption of the text, Espinosa was able simply to note the Bolivian objection and then gavel through the decision to widespread applause.[37]

---

[36] Richard Black, *The Chihuahua that Roared* (BBC Dec. 11, 2010).

[37] The Cancun outcome was also helped by two other factors: first, a widespread fear that, if Cancun failed, this would discredit the entire UNFCCC process, and second, the

Comparing the Top-Down and the Bottom-Up Approaches

Although negotiations under both the Kyoto and Convention tracks are still ongoing (thus leaving open the possibility of a new top-down agreement that extends, complements or replaces the Kyoto Protocol), the Cancun Agreements legitimized for now the bottom-up process launched by the Copenhagen Accord. Thus far, more than 80 countries, including all of the world's major economies, have made specific national mitigation pledges, which have been recorded by the UNFCCC secretariat.[38]

Will the bottom-up approach reflected in the Copenhagen/Cancun agreements prove sufficient, either as is or as part of a new legal agreement? Or is a top-down, target-based approach like the Kyoto Protocol needed to address the climate change problem?

In thinking about this issue, it is useful initially to distinguish it from the related issue of legal form: whether whatever architecture is adopted will be reflected in a political agreement like the Copenhagen Accord or a legally-binding treaty like the Kyoto Protocol? As the UNFCCC illustrates, a bottom-up architecture can be embodied in a treaty and be legally binding – that is the essence of Article 4.1 of the Convention, which requires countries to develop policies and measures to address climate change. The Obama administration supports this kind of approach. Conversely, a top-down target can be non-legal in character, either because it is contained in a political agreement or because it is phrased in aspirational rather than mandatory terms (as was true of the target set forth in Article 4.2 of the Convention).

Proponents of the top-down approach argue that, absent internationally-negotiated emission targets, states will do very little to

---

fact that states had had a year to digest the Copenhagen Accord, as opposed to the few minutes they were given in Copenhagen itself to decide whether to adopt the Accord.

[38] The national pledges can be found on the UNFCCC website, http://unfccc.int/home/items/5262.php.

combat climate change. As they note, climate change is a classic example of a collective action problem, which can be solved only through cooperative action by all of the world's major emitters.[39] Individual states have little incentive to act unless they are confident that their actions will be reciprocated by others; otherwise, they will simply incur economic costs without getting much environmental benefit. The task of the climate change regime is to ensure reciprocity of effort, by establishing legally-binding commitments for each party and providing some assurance of compliance.

But although this collective action analysis seems correct in theory, it has not done very well in practice in accounting for the behavior of key actors. On the one hand, some actors have pushed forward to reduce their emissions, without waiting for their efforts to be reciprocated by others. In the United States, some states, cities, and businesses have developed their own climate policies, rather than waiting for national or international action.[40] Similarly, the European Union has forged ahead with its emissions trading scheme even though the United States and China lack national emissions targets. And the E.U. seems committed to continuing down this path whether or not there is any international agreement that extends or replaces Kyoto.

On the other hand, developing countries seem unwilling to accept emissions targets defined through international negotiations, even as part of a global deal involving reciprocal actions by all of the world's major emitters. They seem to prefer no deal at all to a deal that would involve their accepting internationally-defined limits on their emissions. And although the Obama Administration professes to support a legally-binding agreement on climate change, it is doubtful that the U.S. Senate would consent to *any* new climate change treaty, much less one with internationally-defined emissions targets, even if it had comparable

---

[39] On collective action problems, *see generally* SCOTT BARRETT, ENVIRONMENT AND STATECRAFT: THE STRATEGY OF ENVIRONMENTAL TREATY-MAKING (Oxford Univ. Press 2003).

[40] For information on state and local efforts within the United States, see www.pewclimate.org/states-regions.

targets for developing countries. Moreover, even the Obama Administration has proposed making national emissions targets subject to national accounting rules, thereby allowing national law to play a role in defining any U.S. emissions target.[41]

What accounts for the reluctance of many states to accept top-down, Kyoto-style targets, even as part of a global deal that required reciprocal actions by others? Perhaps the main reason is that, in many countries, climate change is seen more through a domestic prism than an international one. Climate change implicates virtually every aspect of domestic policy, including industrial, agricultural, energy, transportation, and land-use policy. Hence, it raises huge domestic sensitivities – much more so than any previous environmental issue. Building a domestic coalition to address the problem is enormously complicated as it is, and would be made even more difficult by internationally-negotiated requirements that constrain a state's flexibility. Simply put, for many countries, the costs of emissions targets to national sovereignty outweigh their benefits in ensuring reciprocal emissions reductions by other countries.

A bottom-up approach, in contrast, allows each state to go at its own pace, in its own way. International pledges grow out of, and reflect, domestic policies, rather than being superimposed on them. The role of the international regime is not to define what each state must do, but rather to help generate greater political will by raising the profile of the climate change issue and providing greater transparency.

Critics contend that national pledges will be weak, and will not provide enough emissions reductions to prevent dangerous climate change. The national pledges made pursuant to the Copenhagen Accord

[41] The proposed U.S. agreement would allow states to implement their international commitments "in conformity with domestic law." Draft implementing agreement under the Convention prepared by the Government of the United States of America for adoption at the fifteenth session of the Conference of the Parties, U.N. Doc FCCC/CP/2009/8 (6 June 2009). Although the meaning of this language is not altogether clear, it appears to allow countries, through their national legislation, to specify their targets in different ways – for example, with respect to sectoral coverage, base years, or allowable offsets.

seem to bear out this fear. As several analyses indicate, they do not, in fact, put the world on a realistic pathway towards limiting climate change to 2° C, the professed goal of the Accord. [42]

The question, however, is not whether the Copenhagen pledges are adequate – clearly they are not – but rather whether a Kyoto-style agreement would do better. According to collective action theory, states should be willing to do more to combat climate change as part of a legal agreement that provides for reciprocal actions by all of the major emitters. But, apart from the European Union, which has pledged to boost its emissions reduction target from 20% to 30% as part of a global deal,[43] there is little indication that countries feel this way.

Conclusion

Everyone wants to learn from history, so as not to repeat it. But what are the lessons of the Kyoto Protocol? Although opinions differ widely, I believe it suggests the need for a more evolutionary approach to the development of the climate change regime.[44]

Most international regimes do not emerge all at once; they develop gradually. In some cases, regimes start with a relatively small group of countries and, over time, become broader; in others, they start relatively weak and become stronger. And, in some cases, they do both – witness the European human rights system and the international trade regime.

In the long run, unless a technological magic bullet can be found, solving the climate change problem may well require a collective

---

[42] UNITED NATIONS ENVIRONMENT PROGRAMME, THE EMISSIONS GAP REPORT: ARE THE COPENHAGEN ACCORD PLEDGES SUFFICIENT TO LIMIT GLOBAL WARMING TO 2° C OR 1.5° C? – A PRELIMINARY ASSESSMENT (Nov. 2010); Joeri Rogelj *et al.*, "Copenhagen Pledges are Paltry," 464 NATURE 1126-1128 (Apr. 22, 2010).

[43] The EU has pledged to reduce its emissions unilaterally by 20% by 2020. But it has indicated that it would reduce its emissions by 30% as part of a global deal involving reciprocal actions by the other major emitters. For information on European Union climate change policies, see http://ec.europa.eu/clima/policies/brief/eu/index_en.htm.

[44] DANIEL BODANSKY & ELLIOT DIRINGER, THE EVOLUTION OF INTERNATIONAL REGIMES: IMPLICATIONS FOR CLIMATE CHANGE (Pew Center on Global Climate Change, Dec. 2010).

agreement among the key contributors, as proponents of the top-down approach claim. But the Kyoto experience suggests that many states are not yet ready for this solution.

If this assessment is correct, then the climate change regime needs to proceed in a more incremental way, to provide time for countries to learn from experience and to develop trust in the system. The Copenhagen/Cancun agreements establish a process for countries to develop and report on national actions to reduce emissions, and for the international community to review what countries are doing. The agreements also call for a more general review, to be concluded in 2015, to consider the adequacy of the 2^{o} goal and the regime's overall progress in achieving it. If countries' initial experience under the agreements is positive, this could encourage them to strengthen the regime – for example, through more detailed requirements for national pledges or stronger reporting and review procedures, or by incorporating the Copenhagen/Cancun architecture into a legally-binding agreement.

The comparatively weak provisions of the Copenhagen Accord and Cancun Agreements are unlikely, in themselves, to produce the necessary level of emissions cuts to prevent dangerous climate change. For this reason, they need to be complemented by actions in other arenas. The Montreal Protocol, for example, has already made a huge contribution to the climate change issue by accelerating the phase-out of HCFCs,[45] and many states support using it to regulate HFCs, which are currently regulated by the Kyoto Protocol. But the Copenhagen/Cancun agreements represent an important step forward. They have unblocked what appeared to be a stalemated process, and help build a foundation for stronger action in the future.

[45] Guus J.M. Velders et al., *The Importance of the Montreal Protocol in Protecting Climate*, 104 PROC. NATIONAL ACADEMY SCIENCES 4814 (2007); DONALD KANIARU, ED., THE MONTREAL PROTOCOL: CELEBRATING 20 YEARS OF ENVIRONMENTAL PROGRESS—OZONE LAYER AND CLIMATE PROTECTION (2007).