



## After the Flop in Copenhagen

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### INTRODUCTION

Despite high drama, the United Nations Framework Convention on Climate Change (UNFCCC) conference, held in Copenhagen between December 7 and 18, 2009, ended as a flop.<sup>1</sup> The failure to secure a comprehensive treaty came as no surprise: hopes for the Copenhagen conference to wrap up two years of negotiations with a successor treaty to the Kyoto Protocol had faded long before December.<sup>2</sup> But it was still disappointing that so little was accomplished, especially after President Barack Obama, Premier Wen Jiabao, and over 100 world leaders decided (at the last moment) to join thousands of delegates, environmentalists, and climate activists in Copenhagen. Our own benchmarks for a reasonable outcome from Copenhagen include much greater specificity as to targets, time

paths, and control measures by major emitting countries; more detailed commitments on financial support and conditionality terms for developing countries; and acceptance by all major emitters, whether developed or developing countries, of robust and independent monitoring, reporting, and verification (MRV) standards. We do not place great stress on the legal form of the ultimate agreement, whether a treaty or a political accord or something in between (Werksman and Herbertson 2009), but we do think the sense of obligation must be equivalent between all major emitters. Again, equivalence was not achieved.

A three-page political document known as the “Copenhagen Accord” was originally brokered by the United States together with Brazil, South Africa, India, and China (the so-called “BASIC” countries), with another 20 countries in the supporting cast.<sup>3</sup> Both because the deal was crafted behind closed doors, and because it committed major emitting countries to very little in terms of emission reductions, finance, or technology transfer, it encountered strong opposition from Sudan, Venezuela, Bolivia, and a few other countries. The UNFCCC works by consensus, and the full assemblage of member countries refused to approve the Copenhagen Accord; however, after pleading by the Danish chairman, the member countries agreed to “take note of” the document.<sup>4</sup> In separate decisions, the countries agreed to extend ongoing negotiations under two working groups through their next meetings that will be held in Mexico in December 2010.<sup>5</sup>

3. The full text of the Copenhagen Accord is available at [www.unfccc.int](http://www.unfccc.int). Some 25 countries participated in drafting the accord, largely represented at the head of state level (except for BASIC countries, which were represented at a lower level by their own choice). Algeria and Ethiopia participated on behalf of the African Group, Grenada and the Maldives on behalf of the Alliance of Small Island States (AOSIS) countries, Bangladesh on behalf of less developed countries (LDCs), etc. When the Danish tried to introduce the accord for a formal COP decision, five countries spoke out against it: Saudi Arabia, Sudan, Bolivia, Venezuela, and Nicaragua. Available at [www1.cop15.meta-fusion.com](http://www1.cop15.meta-fusion.com).

4. UNFCCC Executive Secretary Yvo de Boer described the concept of “taking note” as “a way of recognizing that something is there, but not going so far as to directly associate yourself with it.” See Cryderman, Kelly. 2009. Copenhagen winds down with non-binding agreement. *National Post*. (December 19). Available at [www.nationalpost.com](http://www.nationalpost.com).

5. The UNFCCC is taking a two-track approach to design successor regimes

1. The conference is formally known as the 15th Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 15) and the Fifth Session of the Meeting of the Parties to the Kyoto Protocol (CMP 5).

2. At the 13th Conference of the Parties (COP 13) meeting of the UNFCCC in Bali in December 2007, countries agreed to launch a two-year process of negotiations to write a successor accord to the Kyoto Protocol. This negotiating process was scheduled to be concluded at the UNFCCC meetings in Copenhagen in December 2009.

Some leaders characterized the outcome as a meaningful first step toward a future climate treaty, but most commentators painted the accord as a failure both because it is nonbinding and more importantly because it is deliberately short on specifics and vaguely phrased. Fingers were pointed.<sup>6</sup> More fundamentally, it seems doubtful that a UN process, working by consensus, will ever deliver an ambitious and legally binding treaty.

To make things worse, over the past months, climate science came under siege. In the wake of the “climategate” email scandal, scientific evidence used by the 2007 Intergovernmental Panel on Climate Change (IPCC) report—which is considered the climate change “bible”—was revealed to contain flaws. Perhaps most embarrassing, the assertion in the 2007 IPCC report that Himalaya Glaciers would disappear by 2035 was poorly substantiated. The statement that 55 percent of the Netherlands lies below sea level is wrong. Other claims in the report—for example, the adverse impact of climate change on African crop yields and Amazon forests—are being challenged. These revelations triggered a fresh wave of doubt, especially among climate skeptics such as editorial writers in the *Wall Street Journal*. The contemporaneous resignation of UN climate Chief Yvo de Boer served as icing on the cake.

### Copenhagen Frenzy

When the Copenhagen conference was just a few weeks away, hundreds of internal emails hacked from a server used by the Climatic Research Unit (CRU), a prominent British climate research center at the University of East Anglia, were published online. Climate skeptics—a small but vocal minority—seized on the juiciest emails as proof that establishment scientists had smothered disagreement using dirty tricks. The

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to the Kyoto Protocol. The first track covers UNFCCC negotiations to fulfill the Bali Action Plan adopted at the 13th UNFCCC COP meeting held in Indonesia in 2007. This negotiating process is conducted and overseen by the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA). The second track covers the Kyoto Protocol negotiations that focus on further commitments from Annex I parties under the Kyoto Protocol. This process is conducted and overseen by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP). The text of decision x/CP.15 on the AWG-LCA and the text of decision x/CMP.5 on the AWG-KP are available at [www.unfccc.int](http://www.unfccc.int). The Copenhagen Accord endorsed both decisions. The United States is classified as an Annex I party under the UNFCCC. However, because the United States is not a signatory to the Kyoto Protocol, it has formally participated only in the AWG-LCA negotiations, not in the AWG-KP negotiations.

6. For example, the British Climate Secretary Ed Miliband accused China, Sudan, Bolivia, and some Latin American countries of trying to hijack the UN climate summit and “hold the world to ransom” in order to block a binding deal. See Vidal, John. 2009. Ed Miliband: China tried to hijack Copenhagen climate deal. *Guardian*. (December 20). Available at [www.guardian.co.uk](http://www.guardian.co.uk).

“climategate” scandal did nothing good for the global atmosphere—though it had little impact on negotiations within Copenhagen. As the emails showed, lively scientific disagreement rages as to whether climate change is indeed happening, and if so whether it can be attributed to human activity. The strong argument for success at Copenhagen was never that anthropogenic climate change is proven beyond doubt, but rather that the severe risks associated with global warming warrant significant “insurance payments” through limits on greenhouse gas (GHG) emissions. On that basis, the Copenhagen negotiators sought to address several thorny questions.

### Whither the Kyoto Protocol?

A challenging question that occupied lots of time and energy was whether the Kyoto Protocol should be retained as a foundation stone or instead be buried and forgotten. Many countries—especially developing countries—want to retain the basic structure of the Kyoto Protocol because it lays primary responsibility for action at the doorstep of developed countries. In opposition, the United States and a few other developed countries insist on a departure from the current legal framework in which international obligations apply only to them.

Among several draft texts that were tabled, two proposals gained the most attention. The disputes surrounding these proposals illustrate the huge division between countries on the fundamental legal framework for any future international climate agreement.

Early in the Copenhagen talks, a leaked draft document, the so-called “Danish text,” prepared by the Danish government in consultation with a few other developed countries, infuriated developing countries. It was interpreted as a means of sidelining the United Nations and forcing developing countries to agree to specific emission targets.<sup>7</sup> While experts

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7. The Danish text, dated November 27, 2009, that was leaked to the *Guardian* states that: “The developing country Parties, except the least developed countries, which may contribute at their own discretion, commit to nationally appropriate mitigation actions, including actions supported and enabled by technology, financing, and capacity building. The developing countries’ individual mitigation action could in aggregate yield a [Y percent] deviation in [2020] from business as usual and yielding their collective emissions peak before [20XX] and decline thereafter.” The Danish text that was leaked to the *Guardian* is available at <http://www.guardian.co.uk/environment/datablog/2009/dec/08/copenhagen-climate-summit-text-danish-wordle>. Another *Guardian* article also reported some details of a confidential analysis of the Danish text by developing countries. In their opinion, the text would: “Force developing countries to agree to specific emission cuts and measures that were not part of the original UN agreement; Divide poor countries further by creating a new category of developing countries called ‘the most vulnerable’; Weaken the UN’s role in handling climate finance; Not allow poor countries to emit more than 1.44 tonnes of carbon per person by 2050, while allowing

warned against an overreaction to this sketchy document, since it was just one of many proposals drafted by different groups of countries, the “Danish text” was seen by members of the Group of 77 (G-77) as an unacceptable departure from principles agreed under the Kyoto Protocol and the Bali Action Plan.

**The best feature of the Copenhagen Accord, brokered by the United States with the support of Brazil, South Africa, India, and China (the “BASIC” countries), is that it put the signatures of several major emitting countries on the same piece of paper.**

Splits were witnessed not only between developed and developing countries but also among developing countries. Reflecting concerns of the most vulnerable countries, Tuvalu, a small Pacific island, proposed a new deal that embraced tougher targets—for example, limiting global atmospheric CO<sub>2</sub> concentrations to 350 parts per million (ppm) and global temperature rise to 1.5 degrees Celsius above preindustrial level—and require the major developing countries to accept legally binding obligations by amending the Kyoto Protocol. The Tuvalu proposal was backed by the Alliance of Small Island States (AOSIS), some African countries, and most members of the G-77. While this ambitious initiative was blocked by large developing countries, notably China, India, and Saudi Arabia, it is meaningful that small countries spoke up for their own interests, even as the G-77 forum plus China, numbering about 130 developing countries, was working to establish a common negotiating position.<sup>8</sup> Taukiei Kitara, head of Tuvalu’s delegation, acknowledged that the proposal marked the first serious rift in the previously united front between the G-77 and China.<sup>9</sup> The proposal calls for binding commitments from major developing countries, starting with China, India, and Brazil—meaning that the Kyoto principle of “common but differentiated responsibilities” is to be interpreted differently for major and minor emitters among developing coun-

rich countries to emit 2.67 tonnes.” See Vidal, John. 2009. Copenhagen climate summit in disarray after ‘Danish text’ leak. *Guardian*. (December 8). Available at [www.guardian.co.uk](http://www.guardian.co.uk).

8. The Group of 77 (G-77 that was established in 1964 with 77 developing countries signatories now has 130 member countries.

9. See “Copenhagen climate summit: Cracks appear in consensus of developing nation bloc,” *Telegraph*, December 9, 2009 (available at <http://www.telegraph.co.uk>).

tries (Hufbauer and Kim 2009a). The Tuvalu initiative implies an important departure from the traditional dichotomy that divides the world into just two groups, developing and developed countries, and imposes few obligations on members of the developing country group.<sup>10</sup>

Amid the chaotic negotiations and fundamental disagreement on the legal framework for a post-Kyoto deal, on the last day of negotiations, the heads of five states—President Barack Obama of the United States, Premier Wen Jiabao of China, Prime Minister Manmohan Singh of India, President Luiz Inácio Lula da Silva of Brazil and President Jacob Zuma of South Africa—sat together to salvage the conference with a document, the so-called Copenhagen Accord. Unfortunately the accord is so lacking in substance that it can only be characterized as a small step toward meaningful limits on GHG emissions.

### The Copenhagen Accord

The best feature of the Copenhagen Accord is that it put the signatures of several major emitting countries on the same piece of paper. At this juncture, the list of all countries that have assented to the accord has not been published, but it remains open for signature, and the total list of signatories will probably be published within a few months. However, since the Copenhagen conference concluded a two-year negotiating process that was supposed to end in hard commitments at least by all major emitters, the accord (even with lots of signatures) can only be characterized as the beginning of a long process.

To its credit, the Copenhagen Accord does reiterate the core elements envisaged in the Bali Action Plan: financial support, technology transfer, reducing emissions from deforestation and degradation (REDD), and obligations for measurement, reporting, and verification (MRV). The accord adds to this list a cap on the permitted rise in the average global temperature of 2 degrees Celsius above the preindustrial level (the current average global temperature is 0.74 degrees Celsius above the preindustrial baseline). But the accord is vaguely phrased and awfully short on specifics. Specifics in earlier versions of the Copenhagen Accord, but scrapped in the drafting process, included a timeline for reaching a binding agreement by the end of 2010 and hard targets for the global reduction in GHG emissions (50 percent cut by 2050 for all countries and 80 percent cut for developed countries). Reportedly, both features were vetoed by China and India.

10. UK Climate Minister Ed Miliband noted in his *Guardian* article that “the old order of developed versus developing has been replaced by more interesting alliances.” See “The road from Copenhagen” Ed Miliband, *Guardian*, December 20, 2009 (available at [www.guardian.co.uk](http://www.guardian.co.uk)).

On December 19, 2009, the draft agreed by the United States and four BASIC countries was presented to all UNFCCC delegations for their approval. What these five countries got was not approval but stinging rebukes. Lumumba Di-Aping, a Sudanese diplomat representing the G-77, denounced the accord by likening it to “the holocaust.”<sup>11</sup> Displaying her

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bleeding palm to grab attention, the Venezuelan delegate asserted that international agreements cannot be imposed by a small and exclusive group.<sup>12</sup> Amidst the storm of criticism, the Copenhagen conference could only agree to “take note” of the accord.

Following is a short assessment of core elements envisaged in the Copenhagen Accord.

### The 2 Degrees Celsius Cap

The Copenhagen Accord agrees to limit the rise of global average temperature to 2 degrees Celsius above the average preindustrial level. The accord states: “We agree that deep cuts in global emissions are required according to science, and as documented by the [Intergovernmental Panel on Climate Change] IPCC Fourth Assessment Report, with a view to reduce global emissions so as to hold the increase in global temperature below 2 degrees Celsius, and take action to meet this objective consistent with science and on the basis of equity...”

While reaching agreement on the 2 degrees Celsius cap was certainly important, and a benchmark widely endorsed by experts as insurance against catastrophic effects, the cap did not go beyond what leaders had already agreed at the Group of Eight (G-8) Summit and the Major Economies Forum (convened in the sidelines of the G-8 Summit), in L'Aquila,

Italy, in July 2009. Moreover, in terms of specific targets for reducing GHG emissions, the accord fell short of what G-8 Summit leaders had agreed.<sup>13</sup>

The 2 degrees Celsius cap must be counted as a major achievement, since it will be a daunting task—on the current trajectory of GHG emissions—to limit the average temperature rise to 2 degrees Celsius above preindustrial levels. The average temperature has already risen by 0.74 degrees Celsius over the past 100 years, with most of the warming occurring in the past 50 years (IPCC 2007a). The abundance of atmospheric CO<sub>2</sub> has increased to about 380 ppm in 2005 compared with approximately 280 ppm in the preindustrial period. Many studies predict that, in the absence of concerted action, the level of GHG concentrations (mainly but not entirely CO<sub>2</sub>) will reach 550 ppm by 2050, almost double the preindustrial level, and that this concentration will force the average temperature to rise between 2 degrees Celsius to 5 degrees Celsius.<sup>14</sup>

To stay within the 2 degrees Celsius cap, it seems essential to establish both mid-term and long-term global emission targets. Disappointingly, the Copenhagen Accord did not set collective hard targets, even though such targets were apparently in the text of earlier drafts. The IPCC (2007b) recommended that, to stabilize GHG concentrations at 450 ppm, Annex I parties (developed countries) should reduce their collective GHG emissions by 25 to 40 percent below 1990 levels by 2020 and by 80 to 95 percent by 2050. These targets have been prominently promoted by some countries and experts. Moreover, to stabilize GHG concentrations in the atmosphere, annual emissions should reach a peak level within this century and then begin a steady decline. However, the accord only vaguely speaks about a timeline for peak emissions, stating that “We should cooperate in achieving the peaking of global and national emissions as soon as possible.”<sup>15</sup>

13. The G-8 leaders agreed that the increase in the global average temperature should not exceed the 2 degrees Celsius above the preindustrial level. As an action measure, the G-8 leaders declared that GHG emissions should be cut by 80 percent for developed countries and by 50 percent for all countries by 2050, compared with levels in 1990 (or a more recent year). While 17 leaders at the Major Economies Forum (MEF) agreed on the 2 degrees Celsius cap and promised further talks on global targets, they refused to endorse a 2050 target, due to resistance from developing countries. The full text of the communiqué of the 2009 G-8 Summit is available at [www.g8italia2009.it](http://www.g8italia2009.it).

14. In climate change modeling and projections, the concept of “climate sensitivity” is critical. This parameter measures how climate responds to sustained radiative forcing, defined as the amount of global average surface warming following a doubling of carbon dioxide concentrations. The 1990 IPCC TAR (third assessment report) estimated climate sensitivity in the range of 1.5 degrees Celsius to 4.5 degrees Celsius with a best estimate of 2.5 degrees Celsius. Later, the 2007 IPCC fourth assessment report raised its estimated range of climate sensitivity to 2 degrees Celsius to 4.5 degrees Celsius, with a best estimate of about 3 degrees Celsius.

15. For example, the IPCC (2007a) estimated that the stabilization of CO<sub>2</sub> concentration at 350 to 400 ppm (GHG concentration at 445 to 490 ppm)

11. See Lean, Geoffrey. 2009. Copenhagen: a world at war over its future. *Telegraph*. (December 21). Available at [www.telegraph.co.uk](http://www.telegraph.co.uk).

12. See Vidal, John, and Jonathan Watts. 2009. Copenhagen: The last-ditch drama that saved the deal from collapse. *Guardian*. (December 20). Available at [www.guardian.co.uk](http://www.guardian.co.uk).



Instead of setting collective mid-term and long-term targets, the accord asks Annex I Parties to submit individually or jointly quantified economywide emissions targets for the year 2020, using the format of Appendix I attached to

**Under the Copenhagen Accord, developed countries agreed to provide new and additional resources, reaching collectively \$30 billion for the period 2010–12 to support mitigation and adaptation activities of developing countries.**

the accord, while it asks non-Annex I parties to list voluntary pledges reciting mitigation actions, using the format of Appendix II. The initial deadline for both submissions—which is “flexible” according to the UNFCCC—was January 31, 2010.<sup>16</sup> Meeting the deadline, about 10 Annex I Parties (including the European Union as a group) and 20 non-Annex I Parties submitted their emissions reduction plans to the UNFCCC. Many of the targets and actions submitted by countries relating to the Copenhagen Accord have closely resembled what they put forward before heading to Copenhagen but with some conditionality attached to national pledges. Plans of major emitting countries inscribed in Appendices of the Copenhagen Accord are following:

*Appendix I for Annex I Parties (quantified economywide emissions targets for 2020)*<sup>17</sup>

- The United States: an emissions cut in the range of 17 percent from 2005 levels “in conformity with anticipated US energy and climate legislation”;
- Canada: a 17 percent cut from 2005 levels, which is “to be

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will require CO<sub>2</sub> emissions to peak by 2015.

16. UNFCCC Executive Secretary Yvo de Boer later described the January 31 deadline as a “soft” deadline. He said, “I do not expect everyone to meet the deadline. Countries are not being asked if they want to adhere... but to indicate if they want to be associated [with the Copenhagen accord].” See Vidal, John. 2010. UN drops deadline for countries to state climate change targets. *Guardian*. (January 20). Available at [www.guardian.co.uk](http://www.guardian.co.uk).

17. Information provided by Annex I Parties relating to Appendix I of the Copenhagen Accord is available at <http://unfccc.int/home/items/5264.php>. As of February 1, 2010, the list of Annex I parties that have submitted their plans to the UNFCCC includes: Australia, Canada, Croatia, the European Union, Japan, Kazakhstan, New Zealand, Norway, Russia Federation, and the United States.

aligned with the final economywide emissions target of the United States in enacted legislation”;

- Japan: a 25 percent cut from 1990 levels which is premised on “the establishment of a fair and effective international framework” involving all major economies;
- The European Union: a 20 percent cut from 1990 levels and possible 30 percent cut if other developed countries commit to “comparable emission reductions” and developing countries contribute adequately;

*Appendix II for non-Annex I Parties (nationally appropriate mitigation actions of developing country parties)*<sup>18</sup>

- China: 40 to 45 percent cut in carbon intensity (CO<sub>2</sub> emissions per unit of GDP) from 2005 levels by 2020, and increase in the share of non-fossil fuels in primary energy consumption to around 15 percent by 2020 and in forest coverage;
- India: 20 to 25 percent cut in carbon intensity from 2005 levels by 2020;
- South Africa: a 34 percent cut from business-as-usual (BAU) levels by 2020;
- Brazil: 36 to 39 percent cut from BAU levels by 2020.

According to Levin and Bradley (2010) of the World Resources Institute, pledges made by Annex I Parties under the Copenhagen Accord amount to overall 12 to 19 percent reduction of emissions below 1990 levels by 2020.<sup>19</sup> They fall far short of the range of emissions reduction—25 to 40 percent—that the IPCC have called for in order to stabilize concentrations of CO<sub>2</sub>e at 450 ppm. Levin and Bradley also added that if the pledges are not increased, the additional reductions required between 2020 and 2050 would be significant, with emissions dropping roughly 2.5 percent annually to reach a goal of 80 percent below 1990 levels by 2050.

The structure of the Copenhagen Accord differs in an

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18. Information provided by non-Annex I Parties relating to Appendix II of the Copenhagen Accord is available at <http://unfccc.int/home/items/5265.php>. As of February 1, 2010, the list of non-Annex I parties that have submitted their plans to the UNFCCC includes: Brazil, China, Costa Rica, Ethiopia, Georgia, India, Indonesia, Israel, Jordan, Macedonia, Madagascar, Maldives, Marshall Islands, Moldova, Morocco, Republic of Congo, Republic of Korea, Singapore, Sierra Leone, and South Africa.

19. This assessment is based on pledges submitted by Annex I Parties (namely Australia, Canada, the European Union, Japan, New Zealand, Norway, Russia, the United States) under the Copenhagen Accord as well as pledges by Belarus and Ukraine, which were expected to associate them with the accord soon.

important way from the Kyoto Protocol. Kyoto announced a collective target—an average reduction in GHG emissions of 5.2 percent from the 1990 level by 2012—and then allocated specific targets to individual Annex I parties. By contrast, the Copenhagen negotiations resulted in a bottom-up accord, since few countries came to the conference ready to have their own policy determined by the tug-and-haul of international negotiations leading to legally binding targets.<sup>20</sup> At this juncture it appears that Copenhagen entirely depends on the success of future agreements to earn a favorable grade in the history books. And in our judgment, future agreements will not succeed where Copenhagen failed unless the structure and dynamics of future climate negotiations are radically revamped.

The accord calls for a review of national implementation measures by 2015. The review will also reconsider the long-term temperature cap of 2 degrees Celsius, and instead perhaps set a cap of 1.5 degrees Celsius. This aspect of the review was designed to provide comfort to small island states, along with African and Latin American countries, which collectively called for negotiations leading to a 1.5 degrees Celsius cap.

### Financial Support

Under the Copenhagen Accord, developed countries agreed to provide new and additional resources, reaching collectively \$30 billion for the period 2010–12 to support mitigation and adaptation activities of developing countries. Provided that developing countries undertake meaningful mitigation action, with transparency as to the results, the developed countries also committed to a goal of mobilizing jointly \$100 billion a year by 2020, to address the needs of developing countries. The accord calls for the establishment of a Copenhagen Green Climate Fund as one funding channel and a “High Level Panel” to examine ways of meeting the 2020 finance goal of \$100 billion a year.

The sums mentioned fall well short of what developing countries have asked (though, of course, their demands contain a generous margin for negotiation). Developing countries insist that developed countries should set aside a “climate fund” (our term) equivalent to between 0.5 and 1 percent of their annual GDP to assist the mitigation and adaptation efforts of developing countries. In current dollar terms, this would amount to between \$200 billion to \$400 billion annually for all 30 Organization for Economic Cooperation and

Development (OECD) members.<sup>21</sup> These figures, of course, contain a generous margin for negotiation, and remain to be supported by detailed cost and damage assessments. Equally important, in sizing up the potential magnitude of financial support, is a comparison with the level of bilateral official development assistance (ODA) from 23 OECD members: around \$85 billion in 2008. In previous papers, we suggested that an annual “climate fund” more than twice the size of current bilateral ODA seems remote, though such figures are prominent (Hufbauer and Kim 2009a and 2010 forthcoming). We also suggested that large-scale financial support will only come if it is tightly connected to significant GHG reduction in major developing countries, verified by rigorous measurement, reporting, and verification (MRV) standards (Hufbauer and Kim 2009b). Our suggestions seem to have been borne out by the Copenhagen Accord. The Copenhagen Accord acknowledged the importance of MRV in relation to mitigation action and finance. We discuss this aspect further in the next section.

The accord is vague as to criteria for supplying and allocating funding. It states that: “Funding for adaptation will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing states, and Africa” and funding for \$100 billion per year by 2020 will come from “a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance.” Despite two years of prior negotiations, the delegations meeting in Copenhagen had not reached agreement on criteria for spending climate money or the sources of finance. At Copenhagen, George Soros proposed that special drawing rights allocated to developed countries be tapped as one source of finance, but this proposal, like others, remains to be thrashed out in future negotiations.<sup>22</sup>

### Measurement, Reporting, and Verification (MRV)

The Copenhagen Accord does not address MRV issues separately, but rather in the context of mitigation action and financial support. The Copenhagen Accord recognizes that emissions reductions and financing by developed countries will be measured, reported, and verified in accordance with guidelines adopted by the Conference of Parties (COP). For non-Annex I parties, mitigation actions will be subject to their own domestic MRV standards, but non-Annex I parties are

20. This appraisal is based on an email exchange with Trevor Houser, a former senior advisor to US special envoy on climate change.

21. According to the OECD, in 2008 the total GDP for all 30 OECD member countries was \$40,014 billion (at current prices and purchasing power parities).

22. The Soros proposal can be found at [www.europeanclimate.org](http://www.europeanclimate.org).

asked to communicate information on the implementation of their actions through National Communications, “with provisions for international consultations and analysis under clearly defined guidelines that will ensure that national sovereignty is respected.”

In climate talks, MRV has been a thorny issue between developed and developing countries. Under the current UNFCCC and the Kyoto Protocol, MRV requirements substantially differ between Annex I and non-Annex I parties: they are stringent for Annex I parties, but weaker for non-Annex I parties. At Copenhagen, negotiators from the United States and some developed countries urged that voluntary actions by developing countries should be independently measured, reported, and verified. China and India refused. The compromise in the accord was to call for “international consultation and analysis” of emissions and domestic mitigation actions by developing countries.<sup>23</sup>

The accord also calls for a registry to report nationally appropriate mitigation actions (NAMAs) for countries that are seeking international support, along with relevant technology, finance, and capacity building measures. Supported NAMAs will be subject to international measurement, reporting, and verification in accordance with guidelines adopted by the COP.

These requirements seem to reflect strong demands to address the issue of “transparency”—notably demands by the United States. US Secretary of State Clinton and President Obama both emphasized enhanced transparency during their remarks in Copenhagen. When announcing that the United States is willing to make a contribution to a global fund of \$100 billion fund per year, Secretary Clinton stressed that the US offer is conditional on developing countries making their mitigation actions transparent and verified. The accord does not suggest that international MRV requirements apply to all countries, but only to countries that receive international support. Large and successful developing countries, exemplified by China, are unlikely to be subject to MRV requirements, since they can finance mitigation action on their own. Moreover, few developed countries will willingly provide support

23. Under the current UNFCCC and the Kyoto Protocol, Annex I parties are required to submit detailed reports on emissions of all six GHGs annually in accordance with guidelines established by the Intergovernmental Panel on Climate Change (IPCC) and each submission is subject to review by an expert team. At this juncture, the expert teams simply review the methodologies used by the statistical authorities in the Annex I parties, but in the future the teams might enhance the level of scrutiny if resources permit. Non-Annex I parties are required to submit GHG reports only as part of their National Communications, which do not have to meet IPCC guidelines. However, the reports are subject to consideration by international experts. At Copenhagen, developing countries agreed that these reports should be submitted every two years and cover emissions and actions.

to a country (China) that holds foreign exchange reserves in excess of \$2 trillion. China made it clear that it does not expect to be a first candidate for funding even though it will continue to seek funding for other developing countries.<sup>24</sup>

The difference in MRV requirements under the accord left open the important and tricky question as to when border measures can be properly implemented to address climate concerns.<sup>25</sup>

### Reducing Emissions from Deforestation and Degradation (REDD)

One notable element of the Copenhagen Accord was its recognition of the role of REDD activities. Without specifics, the accord states: “We recognize the crucial role of reducing emissions from deforestation and forest degradation and the need to enhance removals of greenhouse gas emissions by forests and agree on the need to provide positive incentives to such actions through the immediate establishment of a mechanism, including REDD-plus, to enable the mobilization of financial resources from developed countries.”<sup>26</sup>

The UNFCCC has recognized the mitigation potential from Land-Use, Land-Use Change and Forestry (LULUCF) activities under both the UNFCCC and the Kyoto Protocol. However, due to various uncertainties, the Kyoto Protocol excluded REDD activities from its offset mechanisms (notably the Clean Development Mechanism, CDM)—but included reforestation and related activity. Given the important role of forests in the global carbon cycle,<sup>27</sup> many developing coun-

24. See Hsu, Angel, and Christopher Kieran. 2009. China in Copenhagen Day 3: Tuvalu raises the bar, China reacts. *Climate Progress*. (December 9). Available at [www.climateprogress.org](http://www.climateprogress.org).

25. Border issues are explored in detail in Hufbauer, Charnovitz, and Kim (2009).

26. REDD refers both to activities to avoid deforestation and forest degradation and to mechanisms to provide incentives for such activities. REDD was introduced as a UNFCCC agenda item when Papua New Guinea and Costa Rica, supported by eight other parties, proposed to accommodate REDD into mechanisms of the UNFCCC at the 11th COP meeting in Montreal in December 2005. Two years later, the Bali Action Plan, adopted at the 13th UNFCCC COP meeting in Indonesia in 2007, called for “policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries.” This comprehensive approach would extend REDD to include “conservation, sustainable management of forests, and enhancement of forest carbon stocks” and is often referred to as REDD-plus (REDD +).

27. The World Bank (2009) estimated that net global deforestation was 7.3 million hectares on an annual average basis between 2000 and 2005, contributing about 5 gigatons of CO<sub>2</sub> a year in emissions. According to the IPCC (2007a), deforestation and degradation accounted for about 17 percent of global GHG emissions in 2004.

tries—especially forest-rich countries—argue that REDD can play an integral role in mitigating climate change and deserves to serve as a channel for needed funds. While a loose consensus has emerged that the climate talks for the post-Kyoto regime should address REDD, many observers are wary about schemes that would reward developing countries for protecting their forests. Put baldly, the concept sounds too much like a bribe not to do bad things. Future climate talks will need to resolve the “moral hazard” issue and draw clear guidelines. One challenge for building a coherent REDD mechanism into the future international climate architecture is to strengthen capacity in developing countries. Among other things, robust MRV standards and enhanced MRV capabilities are essential to gauge carbon emissions and carbon sinks associated with forest activity.

### Technology

Reflecting the contentious character of technology transfer issues, the Copenhagen Accord is awfully short on details. The accord only proposes to establish a technology mechanism to accelerate technology development and transfer for both mitigation and adaptation. Technological innovation holds great appeal since scientific breakthroughs could deliver a huge reduction in GHG emissions at low cost. Developing countries have asserted that technology transfer, either free or on bargain terms, is an essential prerequisite for their own mitigation actions. Developed countries acknowledge the importance of technology transfer, but they emphasize the importance of financial incentives for firms to discover new technology that can limit GHG emissions at reasonable cost. Copenhagen did nothing to narrow the gap between these contending positions.<sup>28</sup>

### Trade Issues

Even though the Copenhagen Accord is silent over trade-related issues, the tension over trade and competitiveness issues was palpable during negotiations. While the United States sought a meaningful agreement that holds accountable large

developing countries, exemplified by China, India, and Brazil, the United States also pushed hard for the right to impose border measures on imports to be included in a draft deal. Jairam Ramesh, the chief negotiator for India, made it clear that India is totally opposed and expressed his intention to bring a case to the WTO if developed countries pursue border measures.<sup>29</sup> In parallel, many developing countries pressed developed countries to renounce any use of border measures as part of their domestic climate policies.<sup>30</sup>

In the US legislative process competitiveness concerns have been dominant, reflecting fears that mandatory programs embraced by developed nations will simply erode their own competitiveness with no reduction in global GHG emissions. The Waxman-Markey bill that was passed in June 2009 contemplates trade restrictions, for the most part to be imposed after 2020, against US trading partners that do not undertake similar climate action. The companion bill debated in the Senate also includes trade measures to address competitiveness concerns.<sup>31</sup>

Wide differences over the potential role of trade measures indicate how remote chances are that, under the UNFCCC process, parties to the post-Kyoto accord will adopt binding rules that define a trade framework. Moreover, the rigid resistance of China and India to legally binding commitments, evidenced throughout the course of Copenhagen talks, will intensify competitive concerns in Washington and perhaps other capital cities. Trade restrictive measures in a US cap-and-trade program now seem all but certain. Other developed countries may follow suit.

Climate policy options that are now well advanced in US legislation (and draft legislation in other developed countries) contemplate immediate overt subsidies in the form of free allowances, and quasi-subsidies in the form of sector exemptions, as well as deferred border adjustment mechanisms

28. According to *Inside US Trade*, an earlier version of the draft text on “technology transfer” included some options on intellectual property rights (IPRs). One option was an assertion that developing countries’ existing rights under the WTO to make use of compulsory licensing could be extended to technology related to climate change. Another option was to create a global pool of patents that would ensure access to IPR-protected climate technologies to developing countries “on non-exclusive royalty-free terms.” See Border Measure Ban, IPR Provisions Pose Hurdles For Copenhagen Deal. 2009. *Inside US Trade*. (December 18). (Accessed via subscription.)

29. See Kanter, James. 2009. At Climate Talks, Trade Pressures Mount. *New York Times*. (December 17). Available at [www.nytimes.com](http://www.nytimes.com).

30. The earlier version of the draft agreement developed by AWG-LCA proposed options to address trade related concerns: (1) ban the use of border measures that would restrict imports of carbon-intensive products; (2) merely urge parties to take into account trade-related language in the UNFCCC; or (3) commit parties not to impose measures that constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. See Border Measure Ban, IPR Provisions Pose Hurdles For Copenhagen Deal. 2009. *Inside US Trade*. (December 18). (Accessed via subscription.)

31. In June 2009, the US House of Representatives narrowly passed its energy and climate bill, the *American Clean Energy and Security Act of 2009* (ACESA, also known as the Waxman-Markey bill) and the Senate has been working on the draft bill, the *Clean Energy Jobs and American Power Act* (S. 1733, also known as the Kerry-Boxer bill). Both comprehensive energy and climate bills contain provisions related to energy efficiency and renewable electricity standards, investment in green and clean energy, and a cap-and-trade program to control emissions from major sources.



applied to imports from “nonconforming countries” (our term). These measures, designed to address competitiveness concerns both for exports and imports, will almost certainly discriminate between domestic producers and foreign producers and among different foreign producers. A verbal backlash against the gamut of potential US measures has already been mounting in China and India, suggesting that retaliatory action and WTO challenges are likely.<sup>32</sup>

The WTO has long acknowledged the potential for conflict between its rules and climate policies. However, WTO leaders have been reluctant to confront the challenges that are now plainly on the horizon. Pascal Lamy, director-general of the WTO, has repeatedly expressed his hope that an international agreement on climate change will be forged before the WTO begins work on the WTO compatibility of trade measures related to climate change. In light of the meagre Copenhagen results, this hope now seems forlorn. Lamy has asserted that WTO members do not want a separate Geneva-based WTO negotiation on permissible trade-related climate measures.<sup>33</sup> After Copenhagen, that assertion can be questioned.<sup>34</sup> National legislation with major trade implications now seems destined to run far ahead of international talks.

At the symposium on WTO institutional reforms held on November 30, 2009, Lamy said that he did not see a need for reform in relation to trade-related issues that might arise in the context of action on climate change. Lamy asserted that current WTO agreements and the guidance established by WTO legal decisions are enough to deal with those issues.<sup>35</sup> We disagree. Our book (Hufbauer, Charnovitz, and Kim 2009) examines core positions set forth in the text of the General Agreement on Tariffs and Trade (GATT), the WTO, and the decisions of the GATT panels and WTO Appellate Body. We concluded that existing WTO jurisprudence leaves ample room for conflicting interpretation of the core rules. We believe that latent conflicts would be better resolved by negotiating a new Code of Good Practice than by a long process of WTO litigation.

In our view, the WTO no longer enjoys the luxury of

waiting for the UNFCCC to pronounce. A “head-in-the-sand” approach practically ensures that significant national legislation will be enacted without much guidance from the WTO system—even though, in his recent statement, Lamy said, “the more we move toward a multilateral framework on climate change, the more unilateral trade measures will be difficult to explain.”<sup>36</sup> Once they are enacted, national statutes will be hard to change. Vested interests will quickly build. In our view, WTO leaders should grasp the climate file now, while national legislators are still in the midst of their own deliberations. If the WTO does nothing more than call for a peace clause, that will be constructive. If it launches negotiations pointing toward a code of good practice on climate measures, that will be historic.<sup>37</sup>

### What's Next?

To deliver on their commitments relating to the Copenhagen Accord, Annex I parties are likely to put in place national GHG control programs, based on market mechanisms such as cap-and-trade systems or carbon taxes, along with tougher energy-related standards. The European Union already has its own cap-and-trade system in place, the Emission Trading Scheme (ETS).<sup>38</sup> Despite the disappointing outcome from Copenhagen, many countries will continue to enact GHG controls at the national, provincial, state, and city levels, seeking a path to a low-carbon future. The big question is whether uncoordinated “bottom-up” action will suffice to meet the global 2 degrees Celsius cap and keep the GHG concentration level below the recommended level of 450 ppm.

The UNFCCC summit to be hosted in Mexico in 2010, like Copenhagen in 2009, aims to produce a binding international agreement. But observers now speculate UN climate talks may follow the fate of the Doha Development Round of trade negotiations that has stalled almost since it was launched in November 2001. As with Doha, the UNFCCC talks will only succeed if the top 15 countries can first broker a deal between themselves.<sup>39</sup>

32. In our book *Global Warming and the World Trading System*, we concluded that grounds exist for challenging Waxman-Markey-type provisions under the terms of the WTO. See Hufbauer, Charnovitz, and Kim (2009). This book provides detailed analysis of key GATT articles, WTO agreements, and the decisions of GATT panels and the WTO Appellate Body with respect to climate policy options under consideration.

33. See Lamy Sees Room for Climate Change Border Measures under WTO Rules. 2009. *Inside US Trade*. July 3. (Accessed via subscription.)

34. See Hufbauer and Kim (2009c) where we argued that compliance mechanisms within the UNFCCC and Kyoto Protocol are not designed to deal with trade issues. The Copenhagen Conference did nothing to change our assessment.

35. See Lamy Sees No Need For WTO Reforms To Tackle Climate Change Issues. 2009. *Inside US Trade*. (December 4). (Accessed via subscription.)

36. See Lamy praises Copenhagen efforts, calls for more to be done. 2009. *WTO News Items*. (December 21). Available at <http://www.wto.org>.

37. Hufbauer and Kim (2009c) explore options for managing future conflict between the existing WTO system and climate policies at national and international levels.

38. The ETS that was launched in 2005 has finished its three-year trial period (Phase I, 2005–07) and has now entered its second period (Phase II 2008–12). The European Parliament in 2008 approved a far-reaching climate action and energy package that will run starting in 2013. The European Union’s so-called 20-20-20 plan envisages a stringent target of reducing GHG emissions at least 20 percent below 1990 levels by 2020 and a 20 percent target share for renewable energies in energy use by 2020.

39. The top 15 GHG emitters (including EU 27 as a group) accounted for

The Copenhagen talks made a clear case that nothing will be accomplished under a consensus procedure that requires assent from 192 member nations. Acknowledging the structural problem, Ban Ki-moon, UN secretary-general, promised that the UN “will consider how to streamline the negotiations process” and toward this end he will establish a high-level panel.<sup>40</sup> In a *New York Times* op-ed, Frank Loy, former under-

**The Copenhagen talks made a clear case that nothing will be accomplished under a consensus procedure that requires assent from 192 member nations.**

secretary of state for Global Affairs and a former US climate negotiator, together with Michael A. Levi, a senior fellow for energy and the environment at the Council on Foreign Relations, argued that marginal actors should not be permitted to block progress. They added that future climate cooperation should be driven by whatever coalitions are best suited to the task—perhaps narrow groups like the Group of 20.<sup>41</sup> In our view, a G-20 approach is most likely to succeed if the major countries can agree on several points:<sup>42</sup>

- the division between them of financial responsibility to the developing countries;
- a commitment to provide public funds if private funds are not forthcoming;
- a template of conditionality and MRV terms for developing countries that receive financial support;
- frequent review of emission control targets and measures, in light of the 2 degrees Celsius cap;
- a pledge to delay the implementation of border adjustments on imports for five years while the major emitters attempt to negotiate a Code of Good Practice within the WTO.

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about 79 percent of total world GHG emissions (excluding land-use change) in 2005. See Climate Analysis Indicators Tool (CAIT) Version 7.0 (Washington, DC: World Resources Institute, 2010).

40. See Harvey, Fiona, Joshua Chaffin, and Harvey Morris. 2009. UN agrees to reform climate process. *Financial Times*. (December 22). Available at [www.ft.com](http://www.ft.com).

41. See Loy, Frank E., and Michael A. Levi. 2009. The Road from Copenhagen. *New York Times*, December 23. Available at [www.nytimes.com](http://www.nytimes.com).

42. The G-20 includes most of top GHG emitting countries and accounted for about 77 percent of total world GHG emissions when including land-use change and about 79 percent when excluding land-use change in 2005. See Climate Analysis Indicators Tool (CAIT) Version 7.0 (Washington, DC: World Resources Institute, 2010).

## Geoengineering in 2020?

If the UNFCCC, or narrower groups, continues to stumble without concluding hard commitments, if GHG concentrations continue their upward trajectory, and if average temperatures continue rising while ice caps continue melting, how will the climate debate look in 2020? A lot of “ifs” pepper this hypothetical question, and the world may turn out much happier. But if cooperative efforts do not turn the GHG corner, and if global warming creates severe hurricanes, widespread drought, and rising sea levels over the next decade, the public debate could turn to geoengineering. By geoengineering, we mean schemes to abate the rise of average temperature, such as by ejecting aerosols (akin to natural volcanic action) into the stratosphere, or salting the oceans with substances that promote the absorption of CO<sub>2</sub>. At that juncture the question will not be which countries should accept what level of mandatory emissions targets. The question will then be who decides whether the promise of geoengineering “solutions” is worth the unknown array of risks. We add this worrisome prospect to other powerful reasons for reconfiguring the UNFCCC process so as to conclude politically binding obligations that embrace all major emitters, and ensure adequate financial support to developing countries, sooner rather than later.<sup>43</sup>

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43. We do not believe that “legally binding” commitments, in the sense of treaty obligations with a hard-edged dispute settlement mechanism (akin to the WTO) will be possible over the next decade. However, we do believe that serious political commitments would go a long way toward achieving the same goals, if they are reinforced by “name and shame” declarations from the international community.

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