

"Post-Kyoto Architecture: Toward an L20?"

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Climate Change at the L20? Overview of the Issues

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This meeting is one of several in a project: “**Toward an L20¹?**”. The project aims to stimulate debate on possible roles for a forum of the heads of state of 20 key industrialized, developing and reforming countries. The L20 does not currently exist, but the concept is gathering steam because it offers the prospect of an institution that can help to resolve issues that have proved intractable for existing ministerial fora and summits. The L20, like G8, offers an opportunity for tradeoffs among environmental, energy and finance issues and the commitment to politically difficult options only available at the level of national leaders. By involving key developing countries the L20 would be broader than the G8 and thus better suited for problems of global scope.

We focus on whether, if created, the L20 should include the problem of climate change on its agenda. (Other meetings are examining trade, health, and terrorism—among other ills and opportunities of globalization.) The September 20-21 workshop will focus on three practical matters:

- (i) An assessment of whether climate change is an issue that should be on the agenda of the L20;
- (ii) The architecture of attractive policies and decisions that leaders in an L20 process could endorse and pursue;
- (iii) A roadmap to key design issues that would be important for the L20 process as a whole if the process were to include climate change as one of a handful of key issues that it would address in its first years of operation.

¹ The G20 Finance Ministers includes the G8, Argentina, Australia, Brazil, China, India, Indonesia, Korea, Mexico, Russia, Saudi Arabia, South Africa and Turkey. To avoid confusion, the “L20” refers to a potential grouping of the Leaders from these 20 countries.

We also invite comments on the composition of the L20, the impact on existing fora such as the G8 and the UN, the best means to engage the major powers, and opportunities for civil society to participate in any future solutions to these global problems. Our intent is to stimulate a global dialogue on both the substantive and systemic recommendations. In the short term, we hope to identify win-win outcomes for the climate change issue and provide insights on how to gain multilateral agreement.

We examine climate change because the international effort on this important topic merits new direction and vigor. Despite mounting evidence and consensus that humans are causing shifts in the climate regime—with varied but possibly severe consequences—the policy response remains fragmented and ineffective.

For some nations, the Kyoto Protocol (“Kyoto”) remains the foundation for policy; notably, the European Union is creating a new emission trading system along with many other emission controls with the goal of implementing the Kyoto commitments. But the United States remains outside the Kyoto system with no binding limits, and many observers question whether even the Kyoto adherents will abide by their limits. China, the world's second largest emitter along with all other developing countries has accepted no limit on emissions. Canada, which in 2002 ratified the Kyoto Protocol and published its National Plan for meeting its Kyoto targets, has yet to attain agreement from the provinces or to produce legislation pursuant to its obligations. India and a few of the developing nations are actively participating in Kyoto's Clean Development Mechanism (“CDM”), the keystone of current efforts to promise investment in exchange for efforts in developing countries to control emissions; yet the CDM's rules have proved cumbersome. The CDM record has proved uninspiring; the United Nations Framework Convention on Climate Change (“UNFCCC”) had approved only 75 projects as of March 2004². Absent the CDM, however, there are no credible mechanisms for engaging developing countries, although they will soon account for half the world's emissions of the greenhouse gases that cause global warming.

² While the 75 projects are spread over 26 countries, 2 countries – Brazil and India – are hosting 27 of the 75 projects” representing 55% of the Certified Emission Reductions. www.cdmwatch.org

The participants in a hypothetical L20 face choices on three dimensions—reflected in the agenda for the September 20-21 workshop and introduced here. First we introduce the principles that could guide an effort to address climate change through the L20. Second, we explore the tradeoffs in setting of goals and choosing policy instruments. Third, we focus on the special challenges in engaging developing countries. At the end of this essay—and at the close of the meeting—we revisit the L20 concept and pose questions about its attractiveness for key countries and its appropriateness as a venue for addressing the issue of global climate change.

We have asked leading scholars and practitioners to explore particular issues in the papers that follow. We have sought a diversity of ideas, but to keep focus we have asked the authors to imagine an L20 session focused on this issue in late 2005 or 2006. What domestic and international actions could comprise the L20's communiqué? What could leaders commit for action at home, and what initiatives for international cooperation need their support?

I. Principles and Structures

The problem of global warming is caused by the buildup of greenhouse gases in the atmosphere over long periods of time—centuries for carbon dioxide, the main greenhouse gas, and decades for methane, which is a strong greenhouse gas but accounts for only a few percent of total greenhouse warming caused by humans. Emissions anywhere on the planet mix globally. Mindful of these physical characteristics of the climate problem, the papers by Stavins and Stewart explore the principles that should guide the effort. We focus here on three principles.

An effective solution, they argue, must make provision for expanded participation with time. One of the central tests for whether climate change is appropriate for the L20 is whether the smaller, leaders' level forum offers better opportunities for engaging key countries than the current approach, which relies almost exclusively on the highly multilateral United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. Stewart suggests the need to build a more flexible polylateral regime and argues that the L20 is well-suited for the task; Stavins underscores that whether or not the L20 chooses to address this issue,

the principle of wider participation must be met. We return to this issue in our discussion of developing countries.

A second important principle is the need for a long-term focus. However, the experience with Article 2 of the UNFCCC—which sets the goal of “prevent[ing] dangerous anthropogenic interference with the climate system”—reveals the difficulty of putting the principle of useful goal-setting into practice. Nobody knows the meaning of “dangerous” because the science is far from complete; indeed, the true dangers of stressing a chaotic system like the climate probably fall into the realm of the “unknowable”—they are not merely uncertain but cannot be assessed fully with scientific tools that are conceivable today. Moreover, “dangerous” probably varies with the beholder. North Europeans fear the wiggle of vital heat-bearing ocean currents; Bangladeshis surely do not welcome higher sea levels. But Russians and Canadians might embrace warmer winters; Russia’s gas and oil could be easier to export if Arctic seas were not so ice-bound.

Should the setting of goals be on the L20’s agenda? One advantage of a long-term goal is that it will offer a compass and means of setting milestones; for this reason, Stewart and many others advocate the setting of such goals. However, such attempts should be mindful that it is difficult to make credible commitments to long-term goals—circumstances and interests change, and goals set at one moment can be undone a short time later. Indeed, few international treaties set binding and clear long-term goals; most, rather, set vague standards (as in Article 2) for which it is easy to assure compliance.³ In addition, it may prove hard to gain agreement on the goal. Many nations that are keen to slow global warming have attempted to set a goal of limiting greenhouse gas concentrations to 550 parts per million (ppm) of CO₂ (about twice the pre-industrial level), but that number is arbitrary and hard to defend. Others have sought to limit the rise in average global temperature—for example to 2 or 2.5 degrees centigrade above current levels, which corresponds loosely with the 550 ppm goal for CO₂.

A third principle advocated by Stavins and Stewart is the need for sensitivity to cost. Both argue that a global cap and trade system is the best way to satisfy that principle; other

³ For example, The Universal Declaration of Human Rights.

authors, as we will see, suggest a plethora of alternatives. We argue that cost is important not simply because it is improper to waste resources. Rather, cost matters because it is a measure of effort, and no regime will survive if it requires efforts that far exceed what a society is willing to pay.

These three principles—expanding participation, a long-term orientation, and attention to cost—help guide the architecture for effective efforts to address the climate problem, including a possible venture into this issue by the L20.

II. Commitments and Instruments

International institutions aid cooperation by offering governments ways to make commitments. They aid in building confidence so that each nation's commitment can exceed what it would promise on its own. They offer collective institutions for monitoring performance, learning from the past, and charting better futures. How might members of the L20 express their commitments? We address this issue generically here, and in the next section we focus on the special issue of engaging developing countries.

Most policy discussion has focused on targets that take the form of a binding cap on emissions. Caps, it is thought, will deliver certain benefits for the environment (i.e., a known limit on emissions). Many of the papers that follow embrace this option, which is widely known and discussed (see Stavins, Stewart, and Peterson & Oppenheimer). Binding caps fit well with the instrument of emission trading as caps can be divided into smaller quotas that, if traded, offer a market-based means of encouraging society to find the least-cost way to meet the overall cap.

Caps are not the only option. Targets could be set in terms of emission intensity—that is, emissions normalized for the size of the economy, an idea that has been especially advanced by the Bush administration. The U.S. economy grew much more rapidly in the late 1990s than most experts had anticipated, and as U.S. emissions rose with the blooming economy the goals of Kyoto became ever-further out of America's reach. An intensity measure could help focus policy on the long-term aspiration of separating emissions from economic growth while not putting the

two into conflict during the shorter five- and ten-year periods that are relevant for design of international treaties and commitments. The disadvantage of this approach is that an emission intensity target does not deliver a specific level of emissions reduction. (A further disadvantage for the target set by the Bush administration—an 18% reduction in emission intensity over a decade—is that it probably does not deliver emissions at a level that would be different from the normal process of “decarbonization” in the U.S. economy.) The paper by Pizer examines this issue in more depth. He shows that, except for the United States, intensity targets do not leave most countries less exposed to unexpected gyrations in their level of commitment. Other instruments are needed if nations want to ensure that the level of effort that is required does not exceed their willingness to pay.

Emission caps and intensity targets could be made more sensitive to cost through the adoption of a “safety valve” mechanism. That option, introduced by Morgenstern, involves countries creating emission trading systems that include a promise to issue additional permits if the marginal cost of reducing emissions exceeds a pre-announced price. This approach would assure firms that the cost of compliance would never rise above a certain level—a guarantee that will eliminate the danger that an inviolable cap could force an excessive cost on a wary society. Indeed, as Morgenstern notes, the climate system is largely insensitive to the exact level of emissions because carbon dioxide (the main human cause of global warming) accumulates slowly in the atmosphere. The damage from global warming depends mainly on that accumulation rather than the particular level of emissions in any year (or even any decade). The cost of action, however, is extremely sensitive to the exact cap on emissions. If the cap is too tight then firms will be forced to shut plant and equipment prematurely—a huge economic and political cost for little environmental benefit. Such unexpectedly high costs partly explain the U.S. exit from Kyoto. By eliminating the danger that compliance will become excessively costly, a safety valve mechanism could stimulate some efforts to slow the accumulation of emissions over time.

Opponents of the safety valve see it as a free ride for emitters. The question of particular relevance for our September meeting is whether the L20 forum offers particular opportunities for testing the safety valve and crafting commitments among a limited number of countries that

would allow some (or all) to deploy the mechanism in an effort to assure themselves that the cost of addressing climate change would not be excessive.

So far, we have examined commitments that would be codified in terms of emissions or (as with the safety valve) a hybrid of emissions and effort. That is not the only way. Other international institutions focus on policies and measures—for example, WTO accession agreements focus on a complex package of commitments that the new member agrees to undertake. Could the L20 create a forum for working out similar packages? The paper by Purvis focuses on one collection of policies and measures to illustrate the general point: commitments to promote renewable energy and advanced technology.

If all these efforts—whether caps with safety valves or complex packages of policies and measures—are merely different ways to codify commitments according to a nation’s willingness to bear a burden, why not simplify the task and focus on the burden itself? The paper by Cooper answers that question by advocating a carbon tax. Countries could agree on the level of the tax (i.e., the level of effort and cost they are willing to bear), offering the prospect that tax levels could be fine-tuned to allow adjustment for different perceptions of the severity of the problem and willingness to pay. Disadvantages from this approach include the possible extreme difficulty in enforcing compliance as countries adopt various countervailing measures that could blunt the effect of their taxes—though this problem could be offset if additional rules were adopted to limit such measures, much as the WTO contains rules that discipline national tax policies. Creating such a tax regime could be very complicated and politically sensitive. Perhaps the L20 is an appropriate forum to commission a process to work out the details for working out the details before a carbon tax system is applied more widely.

III. Engaging Developing Countries

While it is widely accepted that industrialized nations must take the lead in controlling emissions—as they, on average, have nearly ten times the per-capita emissions of the populations living in the developing world. But the industrialized nations are unlikely to lead far or fast without a plan for engaging all nations, especially the rapidly ascending economic competitors

such as Brazil, China, India and Mexico. Those competitors, in turn, are unlikely to commit resources to the distant problem of climate change at the expense of immediate development unless they see that their competitors, too, will be expected to contribute to the effort. Devising a strategy for engaging developing countries has proved to be one of the most difficult tasks. The papers suggest that an L20 will consider at least three options.

First, the approach taken in Kyoto could be reinvigorated. The CDM could be made more efficient; efforts could be taken within the EU's emission trading system (and other trading systems as they are devised) to favor credits earned in developing countries. Some countries have demonstrated enthusiasm for the CDM—notably India, which is now the leading source of CDM credits. Programs such as the World Bank's Prototype Carbon Fund that aims to jump-start the CDM could be multiplied in size. This approach—improving on Kyoto's status quo—could be pursued within Kyoto itself, but the L20 could ease the effort as some decisions that are presently locking into the Kyoto architecture could be difficult to change within that highly multilateral framework. Moreover, some changes are not directly leveraged by Kyoto but, instead, require commitments that leaders are more likely to make to each other than through diplomats in the Kyoto system—for example, a decision by the EU to encourage CDM credits. The paper by Peterson and Oppenheimer explores such options.

Second, the Kyoto framework could be expanded so that developing countries accept caps on their emissions—just as in the industrialized world—but the caps could be set with “headroom” for growth. Aldy and Frankel examine that option, and several other authors (e.g., Stewart and Stavins) also support this idea. Aldy and Frankel note that targets for developing countries could be set just below their “business as usual” trajectories to assure that their economic prospects would not be constrained by accepting caps; yet such targets would nonetheless create an incentive for these nations to control their emissions in the most efficient manner through an international emission trading system.

One of the drawbacks in this headroom approach is the difficulty in setting the level of credits. The developing countries do not know, in advance, their level of emissions and thus will demand extra headroom as a hedge against that uncertainty; yet such surpluses could simply

reproduce the problem already faced with Russia in Kyoto—a large headroom yielded a “hot air” of extra permits that might be attractive for Russians to sell but do not represent bona fide reductions. Persuasive answers to these questions may require much more sophisticated capacities for projecting emissions and gathering relevant statistics about economic growth and technology. Would such demanding and potentially invasive tasks be easier to perform in the context of an L20 sub group than in the highly multilateral UNFCCC system? One possible analogy is with OECD, where a limited number of like-minded nations created a strong and competent secretariat that has facilitated cooperation.

Third, one might abandon (or downplay) the effort to create incentives for discrete new projects focused on particular quantified reductions in greenhouse gases. Instead (or in addition), industrialized and developing countries could assemble broad packages of policies that are framed, at the outset, as development initiatives. Within broad development goals they could search the many opportunities for low-carbon pathways—for example, through the construction of gas infrastructures in China. Whereas the CDM’s rules only allow credit for projects that are not economic on their own, this alternative approach—called “development first” by some—would focus on points where carbon-saving and economy-growing opportunities are mutually reinforcing. This approach would avoid the bureaucratic troubles of CDM and the political difficulties of awarding emission credits. A concerted effort to build carbon into mainstream development programs could have much more leverage over real investment patterns. Moreover, within developing countries, ministries charged with development are relatively powerful and can create coherent plans that lead to action while the environmental ministries that often lead CDM projects have little clout. Among the disadvantages is that the outputs of this effort could be difficult to measure, and the system could be extremely complicated to articulate and administer—requiring complex agreements akin, perhaps, to WTO accession packages or IMF Article 4 reviews. The paper by Pan explores such options, using the example of China.

IV. From Here to There

Effective responses to the problem of climate change will require attention to the architecture for sustained international cooperation. Developing a strategy for that effort requires

finding ways to engage constructively with the existing architecture that has emerged within the Kyoto system. On the one hand, the L20 offers flexibility that could ease the task of creating new architectures “beyond Kyoto.” Indeed, vested interests have arisen around the Kyoto rules, such as in the CDM. And the highly multilateral Kyoto system may afflict it with too many voices. On the other hand, for many countries “Kyoto” is an important accomplishment that represents the international community’s efforts of more than a decade.

We suggest three alternatives and roles for the L20 in each. First, one could recraft Kyoto so that it focuses on the long term, with long-term goals and a clear plan for involving developing countries. That approach offers the prospect of continuing to call the system “Kyoto” but modifying the effort so that it is more consistent with the long-term and global nature of the climate problem. Such an effort might be pursued within Kyoto, or it might also become an ongoing activity of the L20 itself. Several of the papers presented at the L20 workshop advocate such reforms.

Second, one could completely transform the approach, which is probably necessary if L20 leaders establish a process to choose targets and instruments that are radically different from the emission caps and trading systems envisioned in Kyoto. If a carbon tax is chosen then mechanisms will be needed to compare and possibly harmonize tax approaches across countries—as suggested by Cooper. If alternative policies and measures are selected—as suggested by Purvis—then comparable mechanisms for measuring and comparing levels of effort will be needed. If a broader “climate and development” strategy is pursued in an effort to engage developing countries in more detail—an option explored in the paper by Pan—then a wholly different approach might be needed, with rules and review institutions that are perhaps closer to those of the WTO than of the international environmental treaties that have generally served as precedents for international efforts to address the problem of climate change. The tasks envisioned in this second option will require competent and trusted international institutions—the L20 could create them or, more likely, empower existing institutions to perform the needed tasks.

Third, one could establish multiple tracks for cooperation. This option could include recrafting Kyoto (as in the first option) while also pursuing the most attractive elements of the second option. This would allow for a core group of Kyoto enthusiasts to retain that option while other mechanisms draw in other parties. This approach may appear to be duplicative and inefficient, but it may be necessary if the interests of key countries do not align around a single strategy. This multiple track approach could be comparable to the orchestration of WTO negotiation rounds, during which different line ministries are engaged in parallel negotiations and periodic summits are needed to forge compromises across issues.

These three options are not exhaustive. The best option(s) will depend on the interests of key countries, and we will close the September workshop by refocusing on that issue—asking what several key industrialized and developing countries might think of the proposals that have been put forward for the L20.

V. Questions to Consider:

We close by refocusing on practical questions. First, if there is an L20 meeting held with the climate change issue on the agenda, what is a pragmatic substantive outcome? What decisions at the leaders' level will yield benefits for large, important developing and industrialized countries—such that leaders will be willing to back them at the L20 and beyond?

Second, what are the steps that carry key nations from the present situation to a more effective response to the climate problem brokered inside the L20? In particular:

- What are the specific decisions and actions implied in each of the background papers, and which packages of actions are likely to be most attractive?
- What is the “bumper sticker” that would entice a U.S. Administration to encourage (or allow) inclusion of climate change on the agenda of the L20? The absence of American participation is a strong deterrent to the rest of the world.
- How do we gain support from China, India and other key developing countries?
- How do we catalyze support from civil society, especially as most civil action on climate is focused on Kyoto and its complementary institutions?