
Article

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Striking a New Deal on Climate Change

The Bonn accord has given the United States the leverage to rewrite its short-term obligations and to lead the way to a long-term energy revolution.

Eight months after the international community's startling failure in The Hague to agree on how to implement the 1997 Kyoto Protocol on climate change, some 180 national delegations, along with thousands of nongovernmental (NGO) and media representatives, somewhat gloomily reassembled in Bonn in the summer of 2001. Their goal was to revive the nearly defunct draft treaty--with the United States demurring but not interfering. The embattled protocol, with its politically skewed emissions targets (too strong for many industrialized economies in the short term, yet meaningless for mitigating climate change in the long run) was still relevant mainly because, in the words of conference president Jan Pronk of the Netherlands, "it's the only game in town."

To the surprise of most observers, the tedium of procedural maneuvers and bickering over voluminous papers yielded to high drama. Marathon negotiations at the ministerial level, led by Pronk, saw massive concessions by the European Union (EU) to Russia, Japan, Canada, and Australia, whose participation was now, without the involvement of the United States, essential. After two all-night sessions midway through the conference and a final "all or nothing" ultimatum by Pronk, all governments except the onlooking United States reached an unexpected "political agreement." This concise but comprehensive 14-page document, cutting through hundreds of pages of still-disputed text, was intended to provide authoritative political guidance to working-level diplomats, who could now focus in the final four days of the conference on refining technical points. The delegates made further progress, but differences

emerged on several key issues and time ran out.

Although the Financial working group reached agreement, the three other groups--Mechanisms, Compliance, and Land Use-Land Use Change and Forestry--could not complete their work. The maddening complexity of the treaty's "flexible mechanisms" is reflected in nearly 50 tightly drafted pages of detailed rules and procedures on how to mitigate the costs of complying with unrealistic targets through emissions trading and offshore projects. Even more ominous were fundamental objections to the proposed compliance regime raised by Japan and others. Governments will strive to resolve these matters when they reconvene in Marrakech on October 29.

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The Bonn agreement is a tribute to the commitment and tenacity of literally hundreds of officials and NGO representatives who have worked tirelessly since 1995 to design a protocol that could prevent or diminish long-term climate change. Unfortunately, despite all their dedication, the deliberations were colored from the start by the short-term political and economic expediencies of nearly all of the negotiating parties. Like the original Kyoto Protocol, the Bonn meeting produced more of a political drama than a carefully deliberated strategy to address the manifold risks of climate change.

The unsung hero of this drama was indisputably, if inadvertently, President George W. Bush. His proclamations earlier in 2001 that the Kyoto Protocol was "fatally flawed" and that the United States would not ratify it breathed new life into the moribund negotiation process. Nonratification by the United States would seriously threaten the protocol's legal status, because its entry into force requires ratification by nations that accounted for at least 55 percent of total industrialized country emissions in 1990. The U.S. share was more than 36 percent. If Russia alone (17.4 percent) or Japan (8.5 percent) plus one or two smaller countries also hesitated, the Kyoto Protocol could not become international law.

The unexpected unilateral manifesto from Washington electrified foreign ministries and heads of state, not to mention the international media. In a single stroke, the United States managed to focus the entire planet on a hitherto obscure and convoluted piece of diplomatic literature. Before the U.S. declaration, even many of the protocol's original supporters were, privately or publicly, expressing doubts about whether it was workable. By last winter, the unity of the 15-nation EU, the treaty's foremost proponent, was beginning to unravel.

All of this changed in March. European governments closed ranks and, along with Green politicians and environmental groups around the world, interpreted the stark U.S. position as a mortal challenge and an irresponsible repudiation of the seriousness of climate change. Accumulated resentments about other U.S. actions, from bioengineered soybeans to missile defense, also played a role. The temptation to defy the United States by reaching a compromise in Bonn--any kind of compromise--proved unexpectedly irresistible. The Iranian ambassador, speaking for the Group of 77 and China, aptly labelled the Bonn agreement as "a triumph of multilateralism over unilateralism."

Diplomatic prizes

The award for diplomatic agility at Bonn unquestionably goes to Japan, Australia, and Canada, which managed to lull the Bush administration into believing that they would not ratify Kyoto without the United States. They then proceeded to extract major concessions from the Europeans as the price for their ratification, while also enhancing their environmental credentials.

Cashing in on their new indispensability, these nations succeeded where the United States previously had failed and substantially diluted the Kyoto emissions-reduction targets. They also reversed the previously adamant EU insistence on a high percentage standard for domestic emissions reductions versus offshore compliance through the flexible mechanisms. They prevailed in greatly increasing the extent to which carbon absorption by land and forest sinks could offset their targets, both through their own domestic land and through forest management and forestry projects in developing countries. Thanks to this adroit diplomacy, preliminary estimates indicate that Japan's presumptive 6 percent emissions reduction can now shrink to an effective 1 percent, and the Canadians will be able to transform their original 6 percent reduction target into a 5 percent increase.

Conversely, the 15 EU members share a special award for flexibility, in recognition of their magnanimous expansion of horizons for the protocol's flexible mechanisms and sinks. European governments hailed the success of their "rescue effort," and even the normally rowdy European environmental groups maintained a discreet silence in the face of the previously unthinkable concessions that had to be made. Said one NGO observer: "Better to have a weak agreement than no agreement at all."

In reality, the Europeans were forced to come to grips with the unrealistic targets that they and the NGOs had demanded for others during the final hours of the Kyoto Protocol negotiations in 1997. Under the EU's ingenious joint fulfillment clause, their common 8 percent reduction target was only possible because 1990 was selected as the base year. This was an

optimal year for the EU, because Germany's emissions were bloated from reunification with the wasteful East, which would soon collapse, and the United Kingdom was starting to switch to natural gas as a means of breaking the political power of the coal miners' unions. Indeed, thanks to the weight of Germany and the United Kingdom, 7 of the 15 EU members (including France and Sweden) can, within the EU "bubble," maintain or even increase their emissions.

The award for suspense goes to the Russians for their heart-stopping attempt to reopen the Bonn agreement after the ministers had departed, thus delaying its adoption for nearly two days. Russia eventually joined the consensus but made it clear that it deserves an even bigger allowance for its forest management, thus adding to the "hot air" that it could eventually sell under the emissions trading system. To entice Russia, the EU hinted that some of its members might be in the market for emissions credits. But with the absence of the United States, which would have been the biggest market for emissions credits, and with Japan's problems now largely solved by generous new sink allowances, the financial incentive for early ratification by Russia may prove less than overwhelming. In any event, the Russian grumbling left the impression that they could not yet be taken for granted, thus casting an additional shadow over Marrakech.

The developing countries earned an award for outstanding consistency, having achieved their longstanding, overriding objective of avoiding any meaningful commitments at all, even though their emissions will

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surpass those of the industrialized world in a few years. Although they were not able to secure mandatory quotas for new and additional aid from the North, they obtained pledges from the EU, Canada, and others of \$410 million annually in new climate-related assistance by 2005. A major and dubious concession to the South was an agreement to grant developing nations, who have no commitments, a decisive role in the protocol's compliance system, assessing and enforcing the commitments of industrialized countries.

The developing nations also succeeded in formalizing three new funds and several new aid channels through the Global Environment Facility and other sources. Scattered throughout the draft financial decisions for Marrakech are long lists of desirable aid activities. Indeed, the general atmosphere in Bonn was strongly aid-oriented. EU spokespeople appealed for "equity and solidarity with developing countries," and aid ministries were heavily represented on European delegations. Conference president

Pronk was for many years the Netherlands aid minister and remains a prominent proponent of financial transfers to the South.

Finally, the politeness award goes to the U.S. delegation, which scrupulously abstained from obstructive tactics that could have thwarted the Bonn result. Although Under Secretary of State Paula Dobriansky reaffirmed that the United States would not ratify the Kyoto Protocol because it is "not sound policy" and "not workable for the United States," she nevertheless praised the work of the Bonn negotiators and said that the United States would not try to stop other nations from moving forward. Pronk cut short heckling of the statement and graciously thanked the United States for its "constructive role."

The Marrakech bazaar

At the Marrakech Conference of Parties, delegations will attempt to resolve numerous remaining nontrivial differences. They will then move to adopt decisions that would establish specific rules for implementing the protocol. It is hoped that this will clear the path for relatively rapid ratification by enough industrialized nations to enable the treaty to become law in 2002, the 10th anniversary of the Rio de Janeiro Earth Summit and of the signing of the UN Framework Convention on Climate Change. Further delay could undermine the political will in many countries to take the tough domestic measures necessary to realize the Kyoto targets looming in the 2008-2012 period. Notwithstanding the good intentions of their diplomats, however, the probability of early ratification by Russia, Japan, Australia, and Canada is likely to be tested in the coming months by domestic politics.

Based on informal conversations in Bonn with well-placed officials, I believe it is possible for the United States to negotiate for itself more equitable terms than in the original, hastily conceived 1997 protocol. Because of lingering concerns over ratification by Russia and Japan, the United States has formidable negotiating leverage at this point, a fact that has not escaped the attention of Congress. On August 1, the Senate Foreign Relations Committee voted 19 to 0 to urge President Bush to return to the bargaining table with specific proposals for internationally binding commitments for reducing greenhouse gas emissions.

U.S. diplomacy could now build on concessions already secured by Japan et al. Everything can be considered open for revision: base year, timetable, targets, and sinks. One can conceive of a new, tailor-made protocol article applying to the "special circumstances" of the United States. In actuality, the arbitrary numerical targets negotiated in Kyoto bore no relation to either scientific or economic realities. Why, for example, was Russia allocated 100 percent of its 1990 emissions, when its emissions had already fallen to 70 percent of that level and no one believed they would rise back

by 2008-2012? (Answer: in order to artificially create emissions credits that Russia could sell to other industrialized countries that had difficulty meeting their own arbitrary targets.)

For example, what is so sacred about 1990 as the base year against which to measure U.S. emissions reductions, except for the fact that it conferred a huge bonanza on the EU and the collapsed former Communist states? When the Kyoto Protocol was signed in 1997, most of the latter countries were already far below their 1990 emissions, whereas the United States, with its buoyant economy and growing population, was much higher. The successful 1987 Montreal Protocol on protecting the ozone layer selected the immediately preceding year as a reference point, which might suggest 1996 as an appropriate base for Kyoto. The year 2000, which was the target year for the Framework Convention, is an equally plausible starting point. With some dashing diplomacy, some earnest pre-Marrakech consultations with allies, and some creative language crafting, the United States could rejoin the Kyoto process on new conditions that would ensure no unmanageable burdens for the U.S. economy.

It would be desirable for the United States to abandon its unaccustomed outsider role, if for no other reason than to improve its position for constructively influencing future climate negotiations. But merely playing the Kyoto game will not be sufficient. It is possible, even likely, that the Kyoto Protocol, with its dozens of interlinked commitments and clauses and its pages of complicated and often ambiguous regulations and definitions, will turn out to be unworkable. Although Kyoto was intended as the first step in a global process, it remains essentially a short-term perspective on a century-scale problem. If the world's political leaders are serious about confronting climate change, they should stop trying to earn green laurels by posturing over 5 or 8 percent short-term targets and cast their gaze further into the future.

Stabilizing atmospheric concentrations of greenhouse gases at nonthreatening levels--the ultimate objective of the Framework Convention already ratified by the United States and virtually every other nation--will require steep reductions in carbon dioxide emissions later in this century that are far greater than the aspirations of Kyoto. Because of the substantial fixed costs and long lifetimes of investments in the power, transport, and industrial sectors, such reductions will not come easily. They cannot be achieved by greater use of existing nonfossil alternatives (although this is important in the near term) or by innovation as usual. Better light bulbs simply won't do the trick.

Serious global climate change can be averted only if, first, we develop a new generation of cost-effective technologies that dramatically reduce dependence on fossil fuels and/or that capture and sequester carbon; and

second, key developing nations curtail their rapidly rising emissions. Fortunately, the two conditions are interrelated: As the first is attained, the second will follow. The Montreal Protocol demonstrated that technology provides an irresistible incentive for developing countries to accept commitments. What is needed now is a farsighted strategic vision that explicitly addresses issues of technology research, development, and diffusion, aimed at nothing less than a technological revolution in energy production and consumption.

A technology strategy is credible only if it does not become an invitation to delay. Four elements are needed for an effective post-Kyoto U.S. plan of action.

Start reducing emissions. Regardless of whether the Kyoto Protocol enters into force or the United States ratifies it, the United States should start down its own path of reducing emissions. Indeed, Senators Robert Byrd (D-W.Va.) and Ted Stevens (R-Alaska) recently introduced bipartisan legislation that would require President Bush to set interim reduction targets and would authorize major new funding for relevant energy research and development. A modest initial domestic cap-and-trade system, similar to the programs that successfully reduced sulfur dioxide and chlorofluorocarbon (CFC) emissions, would send a message to industry and to other nations that the United States takes the problem seriously.

Other policies and measures to stimulate emissions reductions could be coordinated with differing constellations of like-minded nations (depending on the measure) and not necessarily enshrined in a global treaty. It should be

The industrialized countries should become serious about expeditiously transferring new energy-related technologies to the developing world.

possible to break out of the megaconference mold and open parallel negotiations; one need not negotiate on all subjects with all countries. It is worth noting that only 21 nations (11 industrialized, 10 developing) account for 80 percent of global emissions. Recall also that the first international action on the ozone front was not a reduction target or formal treaty, but rather a loosely coordinated agreement in the late 1970s that involved just a few countries, including the United States. The banning of CFCs in aerosol spray cans by these governments resulted in a 30 percent drop in CFC consumption globally and paved the way for the targets of the Montreal Protocol a decade later. The ozone experience taught us that policy measures can lead the way by stimulating technology and that targets are effective only when they are challenging to industry but not unrealistic.

Until now, the half-hearted performance of most governments with respect to energy policy measures has not matched their political rhetoric about the urgency of the climate problem. Here is a big opportunity for U.S. leadership, if the political will can be mustered. One example is higher vehicle fuel-efficiency standards, which are certainly feasible, although automakers generally oppose them because of competitive worries. But these concerns could be overcome if the small number of auto-producing nations were convened to negotiate meaningful standards that would apply to most or all. As with the chemical industry in the Montreal Protocol, collaborative research by the auto producers could be encouraged to reach the common goals.

Invest in a technological revolution. The heart of a long-term strategy is to ensure that sufficient and stable funding is made available to achieve the technological revolution. Reaching a critical mass of R&D is basic to fostering technological breakthroughs. Governments cannot stand back and expect that the private sector, with its relatively short time horizon, will make all the required long-term investments. Although credible targets and policy measures can help to stimulate industry's creativity, the scale of the climate/energy challenge requires that the public sector take the lead role.

Given the stakes, energy research arguably merits a degree of public-sector commitment comparable to that devoted not long ago to aerospace and telecommunications. A small carbon tax could raise substantial revenues for funding new technology research. For example, a tax of \$2 per ton of carbon in the United States, representing one-half cent per gallon of gasoline, could generate approximately \$3 billion annually and enable public-sector energy R&D spending to more than double.

Current worldwide investments in energy R&D are clearly inadequate. It is ironic that major industrialized countries blithely signed on to Kyoto targets in 1997 while significantly reducing their investments in energy research and technology during the previous decade. The United States could lead industrialized countries to commit themselves to raising their grossly inadequate level of research by a significant and annually rising percentage of civilian research programs. And they could collaborate in R&D, especially with developing nations and the private sector.

Promoting technology should not be politically difficult because it creates economic growth and job opportunities. The leverage from such research in reducing the costs of addressing climate change makes it an eminently sound investment. Integrated assessment models developed by researchers at Battelle's new Joint Global Change Research Institute suggest that diversified technologies can make a difference of trillions of dollars in the global costs of any given greenhouse gas concentration goal.

Adopt technology-based objectives. Because virtually all carbon in modern energy economies flows through power generation and fuel refining and processing, technology targets could be quite specific in focus. For example, new power plants and refineries built after a certain date could be required either to use renewable energy or to capture and dispose of carbon byproducts. Because these measures would apply to sizable facilities, they are conducive to transparency and monitoring for compliance. An alternative might be to link the requirement for carbon-neutral new facilities with the coming to market of the enabling technologies. This would provide a strong profit incentive for the potential developer of such technologies.

Accelerate technology transfer and joint implementation. Technology development and diffusion around the world were prime factors in the success of the Montreal Protocol, enabling most major countries, both industrialized and developing, to achieve their targets sooner than expected. Governments and industry in the industrialized countries should become serious, as they were in the ozone treaty, about expeditiously transferring new energy-related technologies to the developing world. They should vigorously support indigenous capacity to develop local energy solutions. To provide developing nations with some security, their obligations could be made dependent on the effective transfer of new technologies and the financing of incremental costs, as was done under the Montreal Protocol.

North-South and West-East joint implementation investments make sense from the standpoint of economic efficiency and technology transfer. The Clean Development Mechanism (perhaps the most promising element of the Kyoto Protocol) should be activated to promote greater energy efficiency and expansion of renewable energy in developing nations, rather than providing convenient tree-growing farms to offset business as usual in the North. Industrialized countries could provide climate-relevant assistance as a cost-effective form of foreign aid rather than primarily to earn emissions-offset credits. All of this would probably be far less costly and more productive in the long run than large undirected wealth transfers to buy emissions rights under a trading system.

Although these ideas present undoubted challenges for political will and for diplomacy, I seriously question whether the current course, which has meandered for years, has a better chance of success. Can the United States seize this opportunity to take a leadership role in the post-Kyoto world?

In light of the tragic events of September 11, it may not be realistic to expect that the U.S. government will be able to formulate a comprehensive negotiating strategy, including accompanying consultations with key countries, in time for the Marrakech meeting. This might not be all bad,

because a need to focus on new U.S. positions in Marrakech could distract other nations from resolving remaining important problem areas in the Bonn accord. The amazing complexity of the treaty will preoccupy governments for some time, so proposed new conditions for the United States to join the Kyoto Protocol will probably be gratefully considered by the other parties even in the future. Far more important is that the United States embark on the strategy suggested above, particularly the emissions reductions, in order to establish its credibility as a serious negotiating partner.

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