CGD Policy Brief

Center for Global Development

Global Warming: An Opportunity for Greatness

Global Warming: An Opportunity for Greatness

by David Wheeler

The next president can secure a place in history by mobilizing America to confront climate change, while starting a clean energy revolution that will strengthen American security and create the next wave of economic growth. The president should seize this opportunity because climate change presents a mortal threat: left unchecked, global warming will undermine the hard-won achievements of developing countries, inflict severe damage on the United States and other rich nations, and destabilize so many societies that the international system will be threatened.

The next president will confront this challenge immediately on taking office. Only eleven months after Inauguration Day, the international community will meet in Copenhagen to negotiate the successor to the Kyoto Protocol. The Copenhagen compact will promote a low-carbon future by limiting carbon emissions and supporting development of clean energy sources.

The agreement promises to be a milestone in world history that will involve both developed and developing countries (see Box 1). The participation of both is needed because each side is emitting enough carbon to create an environmental disaster. But to be sustainable, the Copenhagen compact will have to enlist the support of developing countries by aligning itself with their struggle against poverty. Since this struggle cannot succeed without more energy, the compact will have to finance the costly switch from fossil fuels to clean power in developing countries. It will also have to finance adaptation to climate change; this is fair because poor countries that have contributed least to global warming will suffer its harshest impacts. It is also politically necessary because China, India, and other developing countries will not participate without adaptation assistance.

Negotiating such a broad agreement will be daunting, but the president will be able to ride the surge of support that has accompanied greater public understanding of climate change. During the past year, bipartisan legislation for efficient regulation of U.S. greenhouse gas emissions reached the Senate floor; the European Union proposed new emissions regulations that can easily be harmonized with U.S. legislation; China and India acknowledged the need for emissions limits at the United Nations' Bali conference; and the Bush administration accepted the principle of emissions limits and began supporting new multilateral programs to finance clean technology investment, forest conservation, and adaptation to global warming in poor countries.

Box 1. The critical role of developing countries

Developing countries are critical to U.S. engagement at Copenhagen and beyond for two major reasons:

- Developing countries will be hardest hit by global warming because so many are in the tropical belt that will bear the brunt of climate change. The impacts of this change will undermine the global war on poverty by impoverishing millions, expand the range of communicable diseases, and create instability in areas that are critical to America's security. U.S. development efforts over the last eight years—the Africa initiative and the campaigns against malaria and HIV/AIDS—will also be set back enormously.
- Greenhouse gas emissions from developing countries are rising so rapidly that they will soon create a dangerous level of global warming, even if the United States and other rich countries eliminate their carbon emissions entirely.

Global warming has thus bound America's fate to the fate of the developing world. We either prosper together or not at all.

David Wheeler, senior fellow, leads CGD's Confronting Climate Change Initiative to assess the stakes of climate change for developing countries, integrate climate change into development assistance, and use public information disclosure, such as his Carbon Monitoring for Action (CARMA) database of global power-related CO2 emissions, to reduce greenhouse gas pollution. He holds a Ph.D. from the Massachusetts Institute of Technology.

The White House and The World

Each day brings fresh evidence that Americans' well-being is linked to the lives of others around the world as never before. Accelerating advances in technology and the creation of new knowledge offer undreamed-of opportunities. Yet global poverty, inequality, disease and the threat of rapid climate change threaten our hopes. How will the U.S. president elected in November 2008 tackle these global challenges?

The White House and the World: A Global Development Agenda for the Next U.S. President shows how modest changes in U.S. policies could greatly improve the lives of poor people in developing countries, thus fostering greater stability, security, and prosperity globally and at home. Center for Global Development experts offer fresh perspectives and practical advice on trade policy, migration, foreign aid, climate change and more. In an introductory essay, CGD president Nancy Birdsall explains why and how the next U.S. president must lead in the creation of a better, safer world.

The White House and the World Policy Briefs present key facts and recommendations drawn from the book in a succinct form designed for busy people, especially senior policymakers in the executive and legislative branches of government. This brief is drawn from "Global Warming: An Opportunity for Greatness" by CGD senior fellow David Wheeler.

The White House and the World Policy Briefs were made possible by the Connect US Fund of the Tides Foundation, by Edward Scott Jr., the chairman of CGD's board, and by others whose unrestricted funding makes such collaborative and cross-cutting work possible.

With these elements in place, the president can rapidly develop a negotiating package for Copenhagen that commands strong bipartisan support. He can also make a powerful argument that the compact will promote U.S. economic and security interests. It will increase prosperity by exploiting America's comparative advantage in clean energy, which is based on the most plentiful and diverse renewable energy resources in the world. And by reducing the country's dependence on imported oil, the compact will broaden the options for U.S. foreign policy. Equally important, leadership at Copenhagen and strong promotion of the international transition to clean energy will revive confidence in America's commitment to responsible global governance.

I Preparation for Copenhagen: legislative measures to reduce carbon emissions

The president's first task will be to rally the American people behind the climate change agenda. His inaugural address should communicate four key messages:

- Climate change is potentially fatal for the United States and the world.
- We're all in this together—both developed and developing countries—as sources and victims of the problem.
- The scale of the problem is unprecedented, and nothing less than full international mobilization will solve it.
- The problem can be solved, and we have the skills and resources to mount a successful assault on global warming.

The president's second task will be a legislative initiative that builds domestic support and global credibility. The following specific legislative measures, addressing U.S. and global emissions, should be included.

1. Mandatory public reporting of carbon emissions by all significant U.S. emitters

This is essential for credibility and monitoring of outcomes, both domestically and internationally. It will also provide public and private interest groups with additional levers to influence emitters' behavior. The program can be rapidly implemented by combining and expanding two current programs: the U.S. Environmental Protection Agency's Emissions and Generation Resource Integrated Database (eGRID), which publicly reports carbon emissions from thousands of power plants in the United States, and the Climate Registry, a national voluntary program that collects and publicly reports greenhouse gas emissions data from businesses and municipalities.

2. A mandatory program to reduce U.S. emissions in keeping with America's share of an ambitious international effort

Because there will be only eleven months until Copenhagen, the emphasis should be on rapid adoption of a program that has already been vetted by Congress. The most likely candidate will be a modified version of the Warner-Lieberman America's Climate Security Act, which has bipartisan Senate support but has not attracted sufficient votes for enactment. To secure passage, the next cap-and-trade bill should address concerns about cost increases for working families. The simplest, most effective approach would be to compensate for higher energy bills with equal per-capita payments to all Americans from the revenues obtained by auctioning emissions permits. The enacted legislation should minimize start-up delays and maximize the percentage of emitters covered, the percentage of emissions permits auctioned, and the reductions in emissions required by 2020.

3. Earmarking of revenues from the auction of emissions permits for three initiatives covering the United States and developing countries

Under the conservative assumption that the initial emissions permit auction price will be $15 per ton of carbon dioxide, a cap-and-trade program similar to America's Climate Security Act will generate about $45 billion in auction revenues per year. This can be allocated for the following three purposes (with adjustments if the price is greater or less than $15 per ton):

(i) Adjustment assistance for severely affected U.S. workers and businesses in fossil-fuel sectors (particularly coal). Adjustment assistance could be funded at $5 billion initially.

(ii) Support for the U.S. clean energy program. U.S. scientists, engineers, and leading venture capitalists keenly await action from the next president, convinced that he can launch a clean energy revolution without delay. A promising Solar Grand Plan, for which all the technologies already exist, would require $10 billion a year (see Box 2).

The program to promote clean technologies should focus on developing the nation's clean energy infrastructure, promoting energy-efficient buildings and vehicles, and financing targeted research and development. The program could also guarantee financial rewards for private clean technology developers who deliver proven, replicable, and scalable designs.

(iii) Increased U.S. financing for three multilateral initiatives that focus on developing countries. The remaining $30 billion from auction revenue should be allocated as follows (details could be negotiated as part of the Copenhagen compact):

- **The Clean Technology Fund** ($12.5 billion). This fund supports the large-scale deployment of renewable energy to replace fossil fuels in developing countries. The International Energy Agency estimates that an annual $30 billion will be needed to close the incremental cost gap between clean and conventional energy investments.

Box 2. The U.S. Solar Grand Plan

Current solar technology could power the whole United States from a small portion of Nevada (see map). In January 2008, Scientific American presented a Solar Grand Plan that could provide 69 percent of America's electricity and 35 percent of its total energy from solar power by 2050.

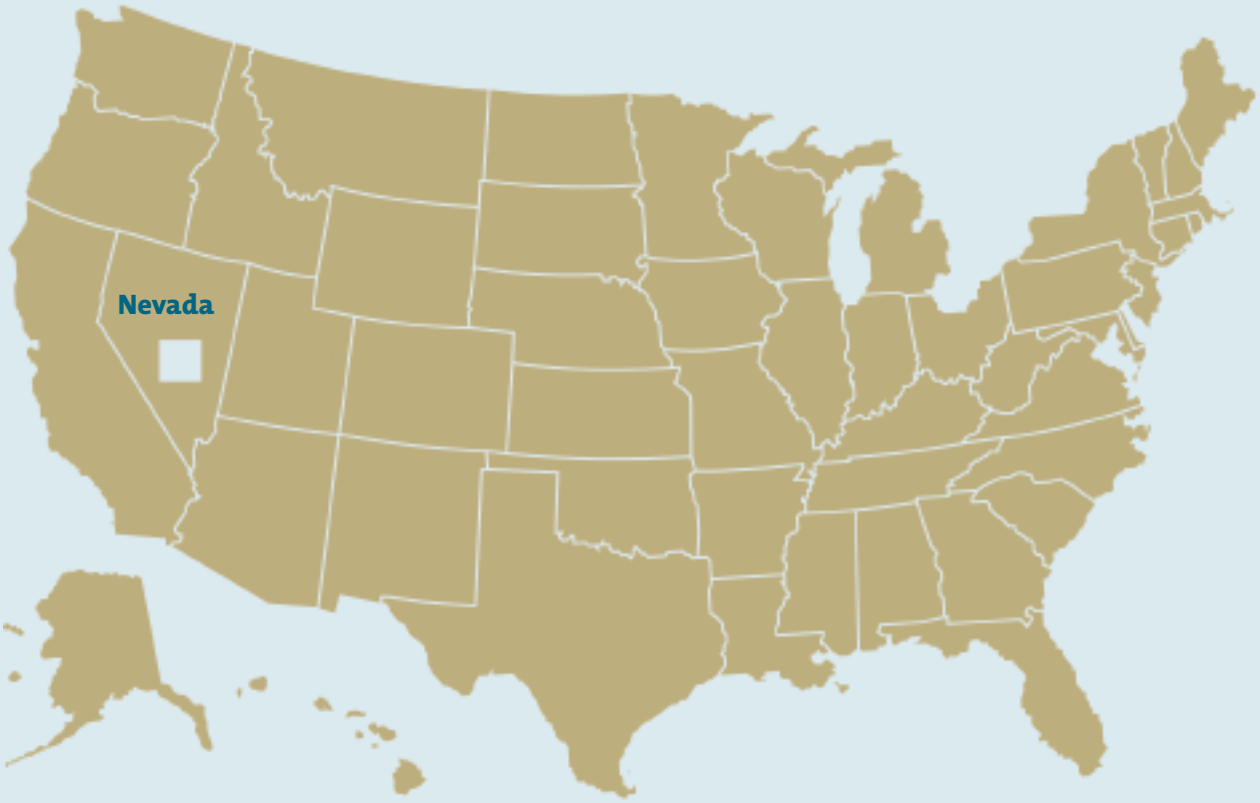
The plan would require federal support of about $400 billion spread over forty years (for comparison, the Iraq war has cost more than $500 billion in only five years). It aims to deliver electricity to consumers for about $0.05 per kilowatt-hour—the same as today's average rate. Parallel development of biofuels, wind, and geothermal resources would provide 100 percent of the nation's electricity and 90 percent of its energy by 2100.

By tapping an infinite and free source of power, this system would dramatically reduce oil imports, relieve the balance of payments, cut U.S. carbon emissions by 62 percent, and improve air quality. Installing and operating the system would also catalyze an economic boom and generate millions of new jobs.

Programs like the Solar Grand Plan are not science fiction. Such large-scale federal programs have driven American technological and economic development for many years. Examples include nuclear energy, the interstate highway system, the moon landing, and the Internet.

Source: Ken Zweibel, James Mason, and Vasilis Fthenakis, "A Solar Grand Plan: By 2050 Solar Power Could End U.S. Dependence on Foreign Oil and Slash Greenhouse Gas Emissions," Scientific American (January 2008).

Area required to power the entire United States with solar energy



Source: John A. Turner, "A Realizable Renewable Energy Future," Science 285(1999): 687–89.

- **The Forest Carbon Partnership Facility** ($5 billion). This program provides direct payments for forest conservation. The United Nations Framework Convention on Climate Change (UNFCCC) estimates payments at $12 billion annually.
- **The Adaptation Fund** ($12.5 billion). This fund provides support for adaptation to the damaging effects of global warming. Oxfam International estimates an annual funding requirement of $50 billion, while the UNFCCC puts this figure between $28 million and $67 billion.

Of these contributions, $17.5 billion could initially be administered by the World Bank (through the Clean Technology Fund and the Forest Carbon Partnership Facility) and $12.5 billion by the Global Environment Facility (through the Adaptation Fund). With matching funds from other donors, these two institutions will become responsible for much larger grant funds than they have ever administered. This will work only if they operate at the highest standards of transparency, efficiency, and accountability. If they fail, it may be necessary to establish a new institution to administer the funds. The same principles apply to the Clean Development Mechanism (CDM)—international carbon off-sets—which should be renewed at Copenhagen only if clean technologies become the default choice for CDM energy project proposals. Any departure from zero-carbon renewable options would have to be rigorously defended case by case.

II The Copenhagen Compact

Before Copenhagen, emissions control legislation must be enacted to establish U.S. credibility. Without this legislation, the president cannot hope to enlist developed and developing countries in a binding agreement to limit global emissions. Drawing on the successful model of U.S. leadership in the Montreal Protocol, the president should advocate a compact with four principal features:

- Full transparency, with global public reporting of all significant emissions sources along the lines of the proposed U.S. model.
- Country-specific emissions targets, with flexibility to adjust the targets as the science and economics evolve.
- Accountability for commitments, supported by mechanisms for public disclosure of noncompliance and dispute resolution. Formal sanctions should be contemplated only for repeated violations.
- Financing via multilateral institutions for developing countries to switch to renewable energy, preserve forests, and

Global Warming: An Opportunity for Greatness

adapt to climate change, as detailed above. Appropriate technical assistance should also be offered to countries that want to initiate domestic carbon-charge or cap-and-trade programs to provide incentives for emissions reduction.

The president's first two years in office will be spent assembling the policy package, negotiating the compact at Copenhagen, winning Senate ratification, and overseeing the domestic clean energy revolution. The next two years should focus on effective implementation of the domestic and global programs.

An opportunity for greatness

America and the world are now poised for rapid action to limit dangerous carbon emissions. In the United States, recent policy developments have signaled public support for building a low-carbon economy. Internationally, the United States has begun integrating itself into a global movement to promote country-specific emissions limits, clean technology adoption, and adaptation assistance for developing countries. We are at a watershed moment, and the next president has a genuine opportunity for greatness at Copenhagen. Strong, visionary leadership will enable a rapid recovery of America's global stature, deliver greater energy independence, and provide a powerful catalyst for prosperity in the clean energy revolution.

Further Reading

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