

**Summary of Testimony of David D. Doniger, Climate Center Policy Director, Natural Resources Defense Council, February 28, 2008**

- The science is clear: Global warming has started and the time for taking effective action is very short. To avoid a further increase in global average temperatures greater than 2°F, global emissions need to be cut in half by 2050.
- All major emitters must participate, but the world's richest countries – with the highest per capita and historical emissions and the most technological and financial resources – must lead by starting to reduce emissions now and by 80 percent by 2050. Delay makes everything harder. A slow start condemns us to a crash finish.
- The U.S. must lead again. Early enactment of a U.S. cap and trade program is the single most important step we can take to unlock the global negotiating gridlock of the past decade.
- Big emerging economies showed unprecedented willingness in Bali to negotiate “measurable, reportable, and verifiable actions.” China, for example, is already taking significant steps to improve energy efficiency, deploy renewables, and dampen greenhouse gas emissions growth.
- Substantial sectoral commitments from these countries can be achieved in the post-Bali international negotiations. But success depends on U.S. willingness to join other industrial countries in reducing our own emissions, and in offering clean technology assistance, help to reduce deforestation, and help for adaptation in the most vulnerable countries.
- There are ample tools for addressing competitiveness concerns, which in proper combination can also contribute to engaging other countries. The IBEW/AEP proposal for import allowance purchases has two attractive attributes. It would give the Executive Branch additional diplomatic leverage during the initial period of multilateral and bilateral negotiations with other countries for agreement on comparable actions. It also would provide an equalizer later on, should those negotiations not succeed with one or more important trading partners.
- There are risks both to the success of the climate treaty talks and under the WTO, however, if this proposal is put into effect too early. Fortunately, Congress can address legitimate competitiveness concerns in the early years by allocating allowances or auction revenues to specific industries that demonstrate their disadvantage because of domestic carbon control requirements. This can be accomplished with less than 10 percent of all allowances, and should be conditioned on maintaining domestic employment, and phased out in 2020.
- Free allocations will not be needed beyond 2020 because by then competitive issues will have been resolved either by international negotiations or by triggering the import allowance purchase requirement.
- U.S. cap and trade legislation also needs to provide stable long-term support for clean technology deployment, reduction of deforestation, and adaptation in the most vulnerable countries. These are essential elements to the success of the post-Bali climate treaty negotiations.

**Testimony of David D. Doniger  
Policy Director, Climate Center  
Natural Resources Defense Council**

**Hearing on Climate Change: Competitiveness Concerns  
and Prospects for Engaging Developing Countries**

**Committee on Energy and Commerce  
Subcommittee on Energy and Air Quality  
United States House of Representatives**

**February 28, 2008**

Thank you, Chairman Dingell and Chairman Boucher, for the opportunity to testify today on behalf of the Natural Resources Defense Council (NRDC). My name is David Doniger and I am a senior attorney at NRDC and the policy director of our Climate Center. NRDC is a national, nonprofit organization of scientists, lawyers and environmental specialists founded in 1970, dedicated to protecting public health and the environment, with more than 1.2 million members and online activists nationwide and offices in New York, Washington, Los Angeles and San Francisco, Chicago, and Beijing. During the 1990s, I served in the Environmental Protection Agency and as member of the U.S. delegation to the global warming treaty negotiations over the Kyoto Protocol and its implementing rules.

NRDC appreciates the committee's commitment to producing global warming legislation. The committee's first White Paper very constructively outlined the major features of cap-and-trade legislation and acknowledged the need to reduce CO<sub>2</sub> and other global warming pollution by as much as 80 percent by mid-century. The second White Paper, which is the subject of today's hearing, addresses the twin objectives of engaging developing countries and addressing competitiveness concerns. My testimony addresses the discussion questions posed in the White Paper.

In NRDC's view, these objectives of engaging developing countries and addressing competitiveness concerns can be met effectively with a combination of measures, both carrots and sticks, that include but go beyond the alternatives examined in the White Paper. In this testimony, I will explore the broader set of measures that NRDC believes are needed to engage developing countries and address competitiveness concerns, and how those should fit into domestic cap-and-trade legislation.

## **I. Slow Start Means Crash Finish**

This committee has held productive hearings on the science of global warming and the need for action. Almost every day we learn more about the ways that global warming is already affecting our planet. The Nobel prize-winning Intergovernmental Panel on Climate Change (IPCC) concluded last year that the warming of the earth is "unequivocal" and that, with 90 percent certainty, human activities are causing most of the observed warming. The IPCC found that 11 of the last 12 years are among the dozen hottest years on record. Temperatures in the Arctic have already risen far more than the global average. Satellite pictures show that summertime Arctic ice has declined by 40 percent since 1979 (Figure 1). The Greenland and West Antarctic ice sheets are melting at accelerating rates. Rising sea surface temperatures correlate strongly with increases in the number of Category 4 and 5 hurricanes. Wildfires, floods and droughts are predicted to increase as global warming continues unabated. Our oceans are warming and becoming more acidic. Everywhere one looks, the impacts of a disrupted climate are confronting us.



Figure 1. ARCTIC MELTDOWN – Arctic summer sea-ice extent in 1979 and 2007 (source: NASA)

Time is very short. Scientists warn that we will suffer devastating damages if we let global average temperatures rise by more than another 2 degrees Fahrenheit. A Union of Concerned Scientists (UCS) analysis has shown that to keep open a better-than-even chance of avoiding this greater-than-2°F temperature increase, global emissions need to be cut in half by 2050.<sup>1</sup> While all major emitters must participate, the world’s richest countries – with per capita and historical emissions far higher than developing nations and with the most technological and financial resources – must lead and must do the most. The U.S. and other developed nations need to start reducing emissions now and reduce them on the order of 80 percent by 2050.

The cost of delay is very high. The UCS report shows that we can achieve an 80 percent reduction by 2050 by cutting emissions on average by about 4% per year. But if we delay and emissions continue growing at or near the business-as-usual trajectory for another 10 years, the job will become much harder. In that case, the necessary annual

<sup>1</sup> Union of Concerned Scientists, “How to Avoid Dangerous Climate Change: A Target for U.S. Emissions Reductions,” [http://www.ucsusa.org/assets/documents/global\\_warming/emissions-target-report.pdf](http://www.ucsusa.org/assets/documents/global_warming/emissions-target-report.pdf).

emission reduction rate doubles to 8% per year (Figure 2). In short, a slow start means a crash finish, with steeper and more disruptive cuts in emissions required for each year of delay.

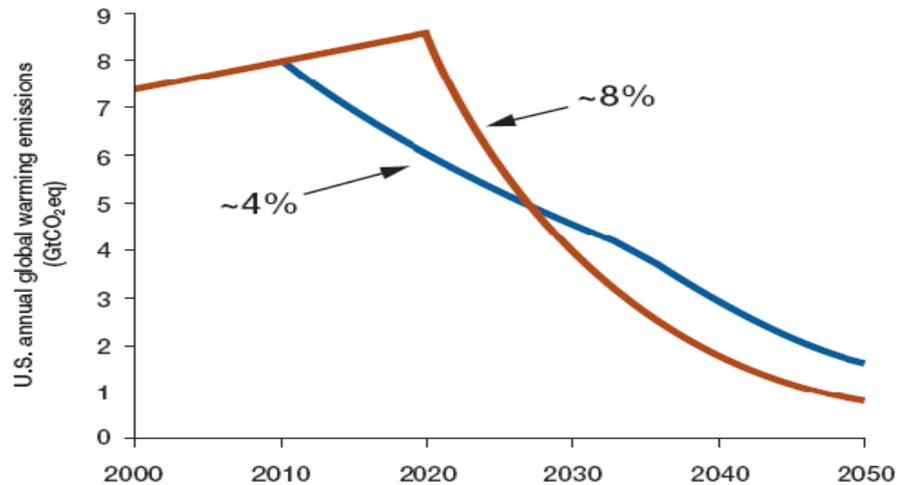


Figure 2: Slow Start Means Crash Finish (source: Union of Concerned Scientists)

Keeping additional warming below another 2°F is very challenging. It cannot be done without the cooperation of both the countries of the industrial North and the countries of the emerging South. But it can be done. And if the United States has a claim to leadership in the 21<sup>st</sup> century, we must be instrumental in forging the necessary coalition between North and South.

## II. The U.S. Must Lead Again.

Toward that end, early enactment of U.S. legislation establishing a declining cap for our country's global warming pollution is the single most important step we can take to unlock the global negotiating gridlock of the past decade. In Bali, other countries, including the big emerging economies, showed unprecedented willingness to take measurable action, but success in the international negotiations culminating in

Copenhagen in late 2009 depends on demonstrating our willingness to join other industrial countries in reducing our own emissions.

For this reason, enacting domestic cap-and-trade legislation would contribute very powerfully to success of these international negotiations. Conversely, failure to enact domestic legislation would reduce our credibility and our leverage in those negotiations.

U.S. legislation should include specific steps to encourage developing countries to take action, including measures to help deploy clean technology and reduce deforestation in developing countries and to assist the most vulnerable countries cope with climate change impacts that we can no longer avoid. I'll return to these elements later in this testimony.

While Congress must do its part on new legislation, success in the post-Bali negotiations will require a totally different diplomatic strategy from the next U.S. president. Success will require elevating global warming to the top tier of American foreign policy objectives. It will be necessary to link other foreign policy priorities with our major trading partners, both developed and developing, to making real progress on global warming. The fundamental element of credibility, however, is that we must take responsibility for reducing our own global warming pollution.

### **III. Reasonable Goals for Developing Country Actions**

In Bali last December, we saw evidence that China, India, Brazil, South Africa, and other large developing countries will negotiate actions to slow their own emissions growth if the U.S. joins other wealthy nations in cutting emission and offers tangible help in the three areas I just mentioned: clean technology deployment, forest protection, and adaptation. They agreed to negotiate “measurable, verifiable, reportable” actions.

This is a big change from the developing countries' prior stance, adopted in Berlin in 1995, against any new commitments for developing countries. But in Bali, the "Berlin Wall" came down.

There is a short list of developing countries that contribute significantly to global emissions. As the White Paper notes, some 15 developed and developing countries account for 80 percent of world emissions: The U.S., the European Union (counted as one), China, Japan, Russia, India, Brazil, Canada, South Korea, Mexico, Indonesia, Australia, Ukraine, Iran, and South Africa. But among the big emerging economies, there are very substantial differences. For example, the India's total and per capita emissions are much smaller than China's. Brazil's and Indonesia's primary contribution to emissions comes from deforestation rather than industrial emissions. These differences needed to be recognized.

It is also important to recognize that while their emissions are growing rapidly, some big developing countries are already taking significant domestic measures to change their emission trends. China, for instance, acknowledges the science and the need for action. The National Climate Change Programme released by China's State Council in June 2007 acknowledges that global warming will have significant negative impacts on China in the form of crop failures, flooding, droughts, sea level rise and the greater incidence of disease, forest fires and extreme weather events. The National Climate Change Programme states China's "strategic goal" of making "significant achievements in controlling greenhouse gas emissions" through (1) energy conservation and efficiency, (2) renewable energy and nuclear energy, (3) reduction of industrial nitrous oxide

emissions, (4) reduction of agricultural methane emissions, and (5) increasing forest and other carbon sinks.

China's most recent Five-Year plan (2006-2010) sets an ambitious target for a 20% reduction in energy consumption per unit GDP by 2010. The country has set renewable energy targets to produce 15 percent of the country's primary energy through renewable sources by 2020. China "Top 1,000 Energy-Consuming Enterprises Program" requires the country's largest enterprises to sign energy conservation agreements with local governments. China's vehicle fuel economy standards are already more stringent than our new CAFE standards for 2020.<sup>2</sup>

Perhaps most interesting for today's hearing: To reduce domestic energy use and pollution, China has even established special *export* tariffs to discourage exports of products such as cement, iron and steel. According to the World Resources Institute, the export tariff on steel equates to \$50 per ton.

To be sure, these domestic policies are grounded as much or more in China's economic and energy policies. Chinese experts admit to difficulties in meeting their energy efficiency targets, given the pace of growth in some industries such as steel. Obviously, China and the other big rapidly developing countries need to do much more to slow and eventually reverse the growth of their global warming pollution. But it is important to recognize the steps already being taken.

In the future, we must move well beyond the only international measure currently applicable in developing countries: the Clean Development Mechanism (CDM) under the Kyoto Protocol. This is a mechanism for investors to earn emissions credits through

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<sup>2</sup> For more on China's recent actions, see Center for Clean Air Policy, "Greenhouse Gas Emissions Overview for China: Clearing up Misconceptions and Misinformation," <http://www.ccap.org/international/China%20Myth.pdf>.

project-based emission reductions. The CDM is subject to several key criticisms. At best, it provides a one-ton reduction in a developing country's emissions for each one-ton credit (or "offset") that is created for use in an industrial country. But experience indicates that a significant percentage of the actions being awarded credit are business-as-usual activities that would have happened anyway and thus are not generating additional reductions equal to the emissions credit being awarded. In short, under the CDM we may actually be losing ground.

On the other hand, it is too much to expect that countries such as China, India, and others will adopt full-scale national caps in the next five or ten years. In some cases, they could not do so even if they wanted to, because they do not yet have the sophisticated and reliable information systems and regulatory systems to account for energy use and emissions that we take for granted here in the U.S. Paradoxically, China's central government does not have effective regulatory control over all economic activity occurring in the regions. Developing the necessary information and regulatory systems is a priority for Beijing, but it will take time.

In the meantime, however, substantial progress can be made at the sectoral level, or in certain regions, to reduce and eventually reverse emissions growth in key industries. Ideas such as sectoral targets are taking hold. The best approach, in our opinion, is to shift towards a sectoral approach, and discontinue the project-level approach. As discussed above, on a project-by-project basis it has proven impossible to screen out projects that would have taken place anyway and credit only those that take place only because of the availability of credits. On the other hand, China or other countries could negotiate agreed-upon "stretch targets" on a sectoral basis for their steel, electricity, or

other sectors. The initial “stretch” would be funded by a combination of internal resources and international assistance – something I return to at the end of this testimony. If the country out-performed its target – that is, if emissions were reduced below that target – then credits could be issued through emissions trading mechanisms. It might be appropriate to discount those credits, to give less than 1-for-1 credit, so as to assure that every transaction reduces overall global emissions.

The negotiations started in Bali will develop these ideas as important “measurable, reportable, and verifiable” actions by developing countries. But getting agreement on these measures will require the U.S. and other industrial countries to take the lead by controlling their own emissions, to offer technology deployment assistance, and to expand existing carbon markets.

#### **IV. Effective Domestic Tools for Addressing Competitiveness and Promoting Engagement**

With this preface, let me now turn to the mechanisms reviewed in the White Paper for addressing competitiveness concerns. The White Paper focuses on the risk that U.S. domestic legislation could expose some industries to competitive disadvantage if comparable actions are not taken by competing industries in other countries. NRDC believes there are ample tools for neutralizing this concern – tools which in proper combination can also contribute to engaging other countries.

Not all of these tools, however, were considered in the White Paper. Specifically, the White Paper acknowledges that it did not consider the role that allowance allocations can play in addressing competitiveness in the initial years of the program. If used with

care to avoid over-compensation and windfalls, this can be an important additional tool for this purpose. More on this in a moment.

*The IBEW/AEP Proposal.* Of the three alternatives reviewed in the White Paper, NRDC sees the most potential in the IBEW/AEP proposal to require importers of certain energy-intensive primary products such as steel, cement, pulp and paper, aluminum, or chemicals to purchase emissions allowances at the border. The import allowance purchase proposal – a version of which is contained in S. 2191 (Lieberman-Warner) and S. 1766 (Bingaman-Specter) – focuses on our largest trading partners, which are also the largest contributors to global warming pollution. The proposal requires the President to negotiate with those key countries over an initial period to reach agreement on comparable actions to reduce emissions that are appropriate taking into account those countries’ economic circumstances. For countries where agreement on comparable actions cannot be reached through multilateral or bilateral negotiations, the proposal provides for the President to require importers of the covered products to purchase emissions allowances at rates that level the playing field.

The IBEW/AEP proposal thus has two attractive attributes. It would give the Executive Branch additional diplomatic leverage during the initial period of multilateral and bilateral negotiations with other countries for agreement on comparable actions. It also would provide an equalizer later on, should those negotiations not succeed with one or more important trading partners.

Some have expressed concern with the definition of “comparable action” in the IBEW/AEP proposal. While the definition could be refined, in NRDC’s opinion it states an essential concept without excessive rigidity. For reasons I already described, it is not

practical to set a “one-size-fits-all” rule, for example, that each country must adopt a cap-and-trade program at this stage. Furthermore, WTO rules require some latitude to take into account national economic circumstances.

Some have expressed concern that that the import allowance purchase requirement would not “kick in” soon enough and have recommended that the start date of 2020, as proposed in S. 2191 and S. 1766, should be moved up by as much as five years. While NRDC is sympathetic to the motivation for this proposal, there are important countervailing considerations grounded in both the climate treaty negotiations and World Trade Organization (WTO) concerns. Resorting to the import allowance purchase requirement too quickly will only inflame passions in the post-Bali global warming talks, diverting the parties from their current positive attitudes and towards retrenchment and recrimination. Resorting to this tool too quickly will also raise the risk of a successful challenge under the WTO, which calls for a period of good faith negotiation before imposing such a measure.

*Allowance Allocations.* Fortunately, advancing the start date is not necessary because there is another tool available for “leveling the playing field” in the early years when the U.S. is negotiating comparable actions abroad. This can be done by allocating some allowances or auction revenue on a temporary basis to specific industries that demonstrate their vulnerability to competitive disadvantage.

NRDC does not suggest the use of free allowances or auction revenues lightly. We believe the emissions allowances created by a national cap and trade program are a public trust and should be put to public purposes, not private windfalls. A case can be made consistent with this principle, however, for a limited and temporary amount of free

allocation or auction revenue to prevent job losses in specific vulnerable industries while multilateral negotiations are underway to reach agreement with key trading parties on measurable, verifiable, and reportable actions, and during a reasonable start-up period for implementing those actions.

If subject to appropriate criteria, this approach would not require a large fraction of the total allowance pool even at the outset, and it can be phased out over the first decade. Direct emissions from primary manufacturing industries account for only about 15 percent of total U.S. emissions, and only a subset of those manufacturing industries can demonstrate vulnerability to competitive disadvantage as domestic emission limits take effect. A relatively small list of industries is commonly mentioned: iron and steel, cement, glass, pulp and paper, chemicals. Only certain subcategories of these industries are significantly challenged by foreign competition and significantly affected by the cost of meeting carbon limits. NRDC believes that with appropriate criteria and thresholds it would take well under 10 percent of the allowance pool to offset the fraction of costs that these vulnerable industrial subcategories cannot recoup in the marketplace. If appropriate criteria are followed, windfalls can be avoided.

Free allocations or auction revenue will not be needed for this purpose after 2020. During the intervening years the Executive Branch will be negotiating with key trading partners, both in the global climate treaty talks and bilaterally, for agreement on comparable actions to reduce their growing emissions. Where those efforts succeed, the basis for competitiveness concerns will be resolved. And where those efforts do not succeed, the President would level the playing field by invoking the emissions allowance purchase requirement for importers of the covered products.

Any free allowances or auction revenues allocated for these purposes must be structured to reward investments in energy and process efficiency and in maintaining production and employment here in the United States. It would be ineffective and wrong to grandfather those allowances without conditions. Doing so would allow firms to “take the money and run” by moving production overseas. Unconditional grandfathering could protect or even overcompensate shareholders, but would not protect workers or the environment, as shifting production to countries without emission limits would result in “leakage” of some of the environmental benefits of a domestic emission cap. This problem can be avoided by making allocations to energy-intensive firms contingent on maintaining domestic employment (as is done in S.2191) or by making allocations proportional to domestic production of energy-intensive goods (as has been proposed by some manufacturers). As mentioned, such allocations should also be tied to making investments to increase the energy efficiency or reduce the process emissions of domestic facilities.

Some have suggested that this approach might account for the competitive impacts from the costs of reducing direct process emissions but not from the increased costs of energy sources (such as electricity) whose carbon emissions are regulated. This question cannot be addressed without first working out the general allowance distribution system. It will be important to assure that no entities – manufacturers, electric power generators, or others – reaps windfall profits from the allowance allocation system at the expense of consumers.

***WTO Considerations.*** While I do not claim to be a WTO legal expert, based on my review of legal arguments made for and against the IBEW/AEP proposal, I believe

the proposal is defensible under the WTO, provided sufficient time is allowed, and sufficient effort is made, to negotiate agreements on emissions mitigation actions. The proposal does not call for treating like products of domestic and foreign manufacture unequally. And if necessary, the proposal has a reasonable justification in the public health and environmental exceptions sanctioned by the WTO. Countries are permitted to take reasonable measures to prevent the depletion of exhaustible natural resources and to protect the lives and health of humans, animals, and plants. Plainly, the capacity of the atmosphere to absorb carbon dioxide without adverse impacts is an exhaustible natural resource. So are our coastlines, forests, water supplies, and other natural resources threatened by climate change. And a myriad of public health and ecosystem impacts are also threatened by climate change.

The likelihood of a successful WTO challenge would increase, however, if we impose an import allowance purchase requirement too quickly. As explained above, WTO concerns argue for good faith negotiations to try to reach agreements that would obviate the imposition of the requirement. If we unrealistically truncate the period for such an effort, we will increase our WTO exposure. And as I mentioned, if we resort to this approach too quickly, we risk inflaming the climate treaty talks themselves, making agreements on comparable action much harder to reach. If free allocations are used to address competitiveness in the early years, then it would be unnecessary, and potentially counterproductive, to start the import allowance purchase requirement earlier.

This is an area where we might take a useful lesson from the European Union. The EU has raised the possibility of imposing a border allowance adjustment, but more recently has put the question on hold at least until after 2012. The European Commission

has proposed using temporary free allocations to address competitiveness concerns in the interim. Their aim is to facilitate the post-Bali negotiations while keeping the possibility of border measures still visible in the background as a last resort. I believe including the IBEW/AEP proposal in domestic legislation can serve the same function with the same useful balance – but not if it is imposed prematurely.

The IBEW/AEP proposal, of course, is not perfect and is not written in stone. NRDC looks forward to working with the Committee and other stakeholders on the development of these trade-related provisions.

## **V. Other Proposals**

*Globally Uniform Performance Standards.* The White Paper reviews a proposal, supported principally by some in the steel industry, for setting a globally uniform allowable emissions rate per unit of certain energy-intensive products. In NRDC's view, this proposal does not meet either environmental or economic objectives. First and foremost, the proposal would exempt domestic steel and other manufacturing industries from our national emissions cap. While the emissions of other U.S. industries would be capped and reduced, the total emissions from U.S. products covered by such standards could increase without limit. This fails the fundamental environmental test. We cannot stave off the worst effects of global warming unless the U.S. and other industrial nations with the highest per person emission rates and the largest historical emissions contribution take the lead by capping and reducing their emissions. We need to set the example that developing countries will later join. There is an important role for performance standards for key products and industries in such a program – as crucial complements to, not substitutes for, the overall emissions cap.

The proposal is also fundamentally unfair to other sectors of the economy. If emissions from steelmaking or other industries are allowed to keep growing, other industries will have to make even greater emission cuts.

It is also unlikely that nations will agree to uniform performance standards for specific products around the world. As a technical matter, it would be extremely difficult to determine how much carbon dioxide is associated with specific steel or chemical products from particular countries. And as the White Paper notes, it may be a WTO requirement to recognize legitimate variation in such performance standards based on the economic circumstances of developing countries. It is a reasonable and necessary objective to achieve significant changes over the next decade in the emissions trends of key sectors in rapidly developing countries. But differences between national circumstances make it unreasonable to insist on meeting uniform standards in all countries.

***Carbon Market Access Conditions.*** The White Paper summarizes proposals from the Environmental Defense Fund (EDF) to encourage meaningful actions in other countries through the terms on which we allow other countries access to the U.S. carbon market. Measures outlined include offering better carbon trading terms to countries that establish emissions caps early, and discounting project-based emissions credits from countries without caps.

NRDC believes these are useful proposals to supplement other approaches. Given the urgency of global warming, we will need to use the full range of our diplomatic, economic, and trade tools to encourage sufficient engagement by developing countries. Conditions on access to our carbon markets can contribute to this objective. I have

already described proposals to shift towards a system of “stretch” targets for key sectors within a country, and away from the current project-level approach embodied in the CDM. U.S. legislation could encourage this approach in defining the conditions for access to our carbon markets.

## **VI. Carrots as Well as Sticks**

The White Paper acknowledges the need for U.S. legislation to offer carrots as well as sticks. In addition to limiting our own emissions, domestic legislation should include several other components beyond those reviewed in the White Paper that NRDC believes are critical to engaging developing countries.

In the Bali Action Plan the U.S. recognized that reaching agreement on measurable, verifiable, and reportable developing country actions will require agreement on technical and financial assistance to help those countries deploy clean energy technology, cut tropical deforestation, and adapt to unavoidable climate impacts. There are ways to offer this assistance that are in our direct commercial, environmental, and humanitarian interest – that enlarge markets for U.S. firms’ clean technology and that avoid costly ecological and humanitarian tragedies.

The U.S. currently contributes to these objectives through such means as the Agency for International Development (USAID), but these and other programs are funded very modestly and have to fight for appropriations from year to year. Recently, in conjunction with his Major Economies Meetings, President Bush proposed a fund for clean technology investments in key developing countries, but that proposal is too limited and as yet has no secure source of funding.

This is a problem on two levels. First, the scale of the need is much greater. The International Energy Agency estimates that \$4 trillion dollars will be invested between now and 2030 on global energy infrastructure. We need to tip that investment towards cleaner technology: more energy efficient vehicles, buildings, and equipment, renewable energy sources, and coal with carbon capture and storage. The Stern Review, undertaken for the British government, estimates that an additional \$20-30 billion per year are needed for low-carbon investments in developing countries.<sup>3</sup> The Stern Review also suggests that major progress to stem tropical deforestation (responsible for about 20 percent of global emissions) could be made for about \$5 billion per year.<sup>4</sup> Another estimate, undertaken by the Secretariat of the UN Framework Convention on Climate Change, estimates the need for climate-friendly technology funding to be \$200-\$210 billion in 2030.<sup>5</sup>

In industrial countries, carbon markets created by cap and trade systems will tip the direction of energy investment. But carbon markets cannot do the whole job in developing countries during the next decade, when they will not yet have full-scale cap-and-trade programs. To be sure, key developing countries have increasing sources of their own investment capital. They must contribute to their own cleaner development, but it is not in our interest to insist that they entirely self-finance it. We have a stake in it too. American firms that have pioneered low-carbon technologies will benefit as developing country markets for their technologies grow. And since global warming is a

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<sup>3</sup> Stern Review on the Economics of Climate Change, executive summary at xxiv, [http://www.hm-treasury.gov.uk/media/4/3/Executive\\_Summary.pdf](http://www.hm-treasury.gov.uk/media/4/3/Executive_Summary.pdf)

<sup>4</sup> *Id.* at xxvi.

<sup>5</sup> United Nations Framework Convention on Climate Change, “Investment and Financial Flows to Address Climate Change,” Executive Summary at 6, [http://unfccc.int/files/cooperation\\_and\\_support/financial\\_mechanism/application/pdf/background\\_paper.pdf](http://unfccc.int/files/cooperation_and_support/financial_mechanism/application/pdf/background_paper.pdf)

global problem, we benefit directly from progress limiting carbon emissions in all countries.

A second reason for the U.S. and other industrial countries to provide more support for clean technology deployment and preventing deforestation is to make the global bargain work in the climate treaty negotiations. As I have mentioned, in the Bali Action Plan the U.S. and other industrial countries agreed to negotiate additional support for clean technology, forest protection, and adaptation. We won't be able to close the deal in Copenhagen without substantial commitments in these areas.

Some might say, why not rely on the carbon markets – emissions credit trading – to finance clean development in the developing world. NRDC believes global carbon markets will grow as developing countries transition to sectoral and ultimately national commitments. But we have to prime the pump to get them there. We also need to recall that relying entirely on emissions credits to drive developing country decarbonization would merely result in an equal amount of extra emissions in industrial countries, where the credits would be used. To make actual progress on global emissions, we need a system that lowers emissions trajectories in the South without shifting emissions to the North. This can be done through a combination of self-financing and international support. Carbon markets can then operate on top of that underlying change.

Fortunately, the design of domestic cap and trade legislation offers the opportunity to establish secure stable sources of funding to meet these legitimate needs in the design of domestic cap-and-trade legislation. Toward this end, NRDC recommends that this Committee dedicate a percentage of the emissions allowances created by the domestic legislation to fund international clean technology deployment, reduction of

deforestation, and international adaptation activities. As an example, I note that the Lieberman-Warner bill (S. 2191) would provide funding through the allowance allocation and auction for two of these purposes: reducing tropical deforestation and international adaptation. As S. 2191 goes to the floor, consideration will be given to adding support for international clean technology too.

Providing substantial, stable support for these three items would be high-payoff investments both for their direct results and for their role in encouraging developing countries to take meaningful emission reduction actions.

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Thank you for the opportunity to testify. I am happy to answer any questions that you may have.