

**Testimony of
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Before the
Committee on Finance, U.S. Senate
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"International Aspects of a Climate Change Cap and Trade Program"

Introduction

Good morning Mr. Chairman and distinguished members of the Finance Committee.

Thank you, Chairman Baucus, for your invitation to provide the views of the Environmental Defense Fund on "International Aspects of a Climate Change Cap and Trade Program."

My name is Jennifer Haverkamp, and I am senior counsel at the Environmental Defense Fund (EDF). EDF is a leading national nonprofit organization representing more than 500,000 members. Since 1967, we have linked science, economics and law to create innovative, equitable and cost-effective solutions to society's most urgent environmental problems. EDF is dedicated to protecting the environmental rights of all people, including future generations. The solutions to environmental problems we advocate will be based on science, even when it leads in unfamiliar directions. We have been actively pursuing to solutions to global climate change for over 20 years. Today that effort includes fielding the biggest campaign team of any nonprofit organization to help pass comprehensive climate legislation, and a team of experts who have participated in every climate meeting at the international level since 1992.

As senior counsel, I am responsible for leading EDF's efforts at the intersection of trade and climate change, and coordinating the efforts of its international negotiating team. Prior to coming to EDF, I served for eight years as the Assistant US Trade Representative for Environment and Natural Resources, under both the Clinton and Bush Administrations, among other posts.

The Senate Finance Committee is turning its attention to the important subject of this committee hearing at a critical time.

As EDF's President Fred Krupp told the Environment and Public Works Committee last November, we must pass comprehensive climate legislation now, not next year or two years from now. By waiting we will have lessened our chances of preventing the most dangerous consequences of climate change, we will have raised the costs to the economy, and we will have sent the wrong signal

to developing countries just when they're weighing what obligations to take on in the international negotiations launched in Bali.

As much as I want to impress upon you the urgency of action, I am equally concerned that you hear this: We can do this now. At this point in the debate, you've heard many arguments about why it's impossible for us to act. Chief among them is the argument that the U.S. cannot and must not go forward without having secured caps on emissions from major developing nations. I will use my time before you today to rebut this assertion. The objective of national climate legislation is to create broad-based incentives for a new round of innovation in the economy away from high carbon content products to more efficient and profitable alternatives. We can design a U.S. carbon market that achieves our environmental goals while maintaining a level playing field for our companies and workers competing in the international marketplace and creating new market opportunities. Smart, creative policy design gives us a number of tools—both “carrots” and “sticks”—that will create strong incentives for international action and also give the United States recourse if incentives alone do not prove sufficient.

In my testimony today, I would like to cover the following points:

- why engaging major emitting developing countries is essential to achieving the reductions needed to avoid dangerous environmental consequences;
- why we must pass comprehensive cap-and-trade climate legislation this year;
- how Congress can structure the U.S. carbon market to maximize action by other major emitters, and to ensure that if such nations fail to engage neither our program's environmental effectiveness nor the strength of our economy will be undermined; and
- what we can learn from the experience of the European Union, and what the design of a U.S. carbon market means for our ability to link it with markets in the EU and elsewhere.

A. The Importance of Engaging Major Emitting Developing Countries in the U.S. Carbon Market

Engaging developing countries in cutting their total GHG emissions is essential if the world is to curb climate change. The United States is the world's largest current and historical GHG emitter. Fast-growing developing countries, however, will soon emit more than we do – in fact, in terms of energy sector

emissions, there are indications that China already does.¹ Global warming can't be solved unless both the U.S. and large developing countries cut total GHG emissions.²

The best available scientific evidence indicates that the risk of catastrophic global-scale impacts – like disintegration of the Greenland Ice Sheet, which would eventually raise sea levels by 23 feet – will increase substantially if warming exceeds about 2.2°F above today's temperatures, or 2°C above pre-industrial levels. Greenhouse gases remain in the atmosphere for decades to centuries, trapping heat and accelerating warming. Because emissions vastly exceed uptake by oceans and forests, concentrations – and temperatures – are rising.

Disaggregating a global emissions target into country by country emissions cuts can be done in various ways. But two points are widely agreed: industrialized countries, which are responsible for much of the greenhouse gas pollution currently in the atmosphere, can and should take the lead; and all major emitters in the world, whether industrialized or developing, must participate.

A number of large-emitting developing countries have taken, or are considering, steps to slow the increase in their GHG emissions. And the results of the Bali meeting in December are encouraging: the pre-Kyoto “Berlin mandate” of no commitments for developing countries is no more, replaced for the first time with the possibility of developing countries committing to actions in the course of the newly launched negotiations. But most developing countries are reluctant to take further climate protection steps unless and until the United States does. And most are certainly not likely to take more stringent or faster steps than the U.S. does. What Congress does will be crucial.

¹ CRS Report for Congress, *China-U.S. Relations: Current Issues and Implications for U.S. Policy*, p. 25 (December 21, 2007).

² “Even if emissions from developed regions . . . could be reduced to zero in 2050, the rest of the world would still need to cut emissions by 40% from BAU [business as usual] to stabilize at 550 ppm CO₂e. For 450 ppm CO₂e, this rises to almost 80%.” The economics of climate change: the Stern review / [study conducted by] Nicholas Stern. Published/Created: Cambridge, UK ; New York: Cambridge University Press, 2007, Chapter 8. The full report can be accessed here at: http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm

B. Three Key Steps Congress Can Take To Engage Developing Countries

We are confident that major emitting developing countries can be persuaded to do their fair share. To this end we have identified three key steps Congress can take to maximize the incentives for other large emitters to participate, and to ensure that if such nations fail to engage, neither America's environment nor her competitiveness will be jeopardized. The three steps are:

(1) Enact a strong cap on total U.S. emissions, with no escape hatch, this year;

(2) Use the power of access to the U.S. carbon market as a "carrot" to encourage other nations to cap and cut emissions; and

(3) As a backstop to ensure that the environmental effectiveness of America's program is not undermined by imports of products from uncapped nations, require that imports of GHG-intensive products from those nations be accompanied by qualified emission reductions.

Before I turn to a detailed discussion of each of these steps, I want to briefly flag one other crucial aspect of this legislation with regard to developing countries: the inclusion of provisions to fund international adaptation. Climate change will have its most profound impacts on the world's poorest peoples – the very individuals who have made the smallest contribution to the problem. It is only right that America help them cope with the impacts of climate change, given our historic and continuing releases of GHGs. The bill as it now stands contains provisions that are an important albeit limited step in this direction.

(1) Enact a strong cap on total U.S. emissions, with no escape hatch, this year

By passing the Lieberman-Warner Climate Security Act, Congress will have taken this first key step. Lieberman-Warner uses the time-proven mechanism of cap-and-trade, setting a strong cap on emissions while affording regulated entities the flexibility to meet their caps with the lowest cost emission reductions possible.³

There is no time for delay

There are a host of compelling reasons -- scientific, economic, and diplomatic -- why we need to pass legislation this year.

Federal inaction on domestic greenhouse gas (GHG) reductions has compromised our ability to demand action from other nations. If the wealthiest nation on earth does not act to control greenhouse gases, how can we expect

³ For a detailed description of the cap and trade regulatory mechanism, see attachment.

developing nations with large populations living under the international poverty line to act? An immediate first step toward reaching a global solution is to enact strong domestic legislation to reduce U.S. emissions that shows the world that the U.S. is committed to doing its share. Once we act we will have greater leverage with other major emitting nations, and greater justification for taking actions to keep our economy strong. With the Bali Action Plan setting a two year deadline for reaching a new climate agreement, we need to demonstrate to the world now, not after Copenhagen in 2009, what the U.S. is willing to do, if we are to have any expectation of major developing countries making serious commitments in the UN negotiating process.

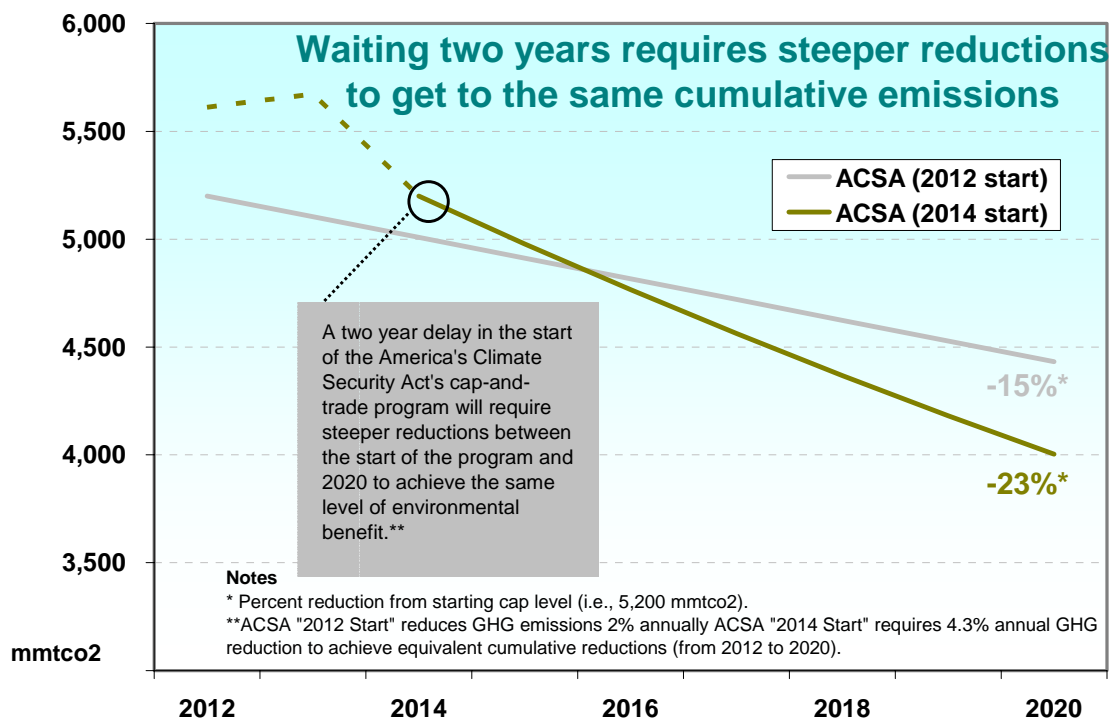
Yet another reason to act now is to maximize our industries' and workers' chances of benefitting from the low carbon economy of the future. International carbon markets offer great potential for innovative U.S. companies to sell low-emitting technologies and processes. Congress should move swiftly to enact a cap-and-trade system, in order to open opportunities for U.S. firms in global carbon markets, and to avoid having U.S. firms miss out on carbon market participation. "Carbon market participation" refers not only to emerging global market for carbon reductions, but also to the market for low-carbon technologies and services that is emerging as the world turns to the next generation of energy technologies.

The world is not waiting for the United States to make up its mind about whether or not to embrace a low-carbon economy. Last year, Chinese power developers unveiled the world's first permanent mag-lev wind generator at an expo in Beijing. The mag-lev generator is expected to boost wind energy generating capacity by 20%, and is able to create electricity at much slower wind speeds than traditional technology. Suzlon, an indigenous Indian company, wasn't on the list of top-10 wind turbine manufacturers in 2002 but passed Siemens of Germany in 2005 to become the fifth-largest producer by installed capacity. The company recently opened a plant in Pipestone, MN, where it supplies turbines to a wind farm operated by Deere and Company. Suzlon recently acquired Hansen Transmissions, a Belgian gearbox manufacturer. Suzlon's CEO believes that wind will remain competitive and desirable so long as oil remains above \$40 per barrel.

It's also worth noting that Ford Motor Company announced last year that it was investing \$1 billion in the UK auto industry, to build "green" cars for the European market. The news was hailed in Britain as a much-needed shot in the arm for its manufacturing industry. Ford intends to build a Ford Focus there that is capable of achieving 70 mpg. The United States has always been on the leading edge of change, but in the absence of a clear market signal on carbon, our industries will watch from the sidelines as foreign competitor rush to fill a gap.

Finally, passing climate legislation this year is the best way to protect our economy because every year of delay steepens the path of reductions needed to

avoid serious environmental consequences and costs. If the legislation is enacted and takes effect in 2012, the emissions caps would result in an annual reduction of emissions of just under 2% per year and, for covered sources, arrive at a reduction of 15% below current levels by 2020. But just two years of delay – holding everything else constant – has major consequences. As the diagram below demonstrates, in order obtain the same amount of cumulative emissions by 2020 (and with climate change, it is the cumulative emissions that matter), a two-year delay will require that emissions fall by 4.3% every year – over twice as quickly! Instead of a reduction of 15% in the annual emissions for the year 2020, two years of delay means 2020 emissions have to be reduced by 23% – just to get to the same place.⁴



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Intensity targets and price cap escape hatches, which “bust” the emissions cap and distort the carbon market, must be avoided

If, instead of a strong cap and trade regime, Congress litters the program with "intensity targets" that don't cut total emissions, and with "safety valves" that

⁴ The data used to derive this chart is the national allowance account for the years 2012 - 2020 from the introduced version of S.2191. The emissions growth from 2005 to 2013 is assumed to be 1.1% (which is an average of the 2004 and 2005 rate <http://www.epa.gov/climatechange/emissions/downloads06/07ES.pdf>).

are really escape hatches, it will break the market incentives that hold such potential to drive innovation. Moreover, if the world's strongest economy rejects meaningful action, we have every reason to expect America's trade competitors to put the same or bigger loopholes into their programs – driving global emissions higher.

Some have proposed that instead of capping America's total emissions, Congress should adopt "intensity" targets (limiting U.S. GHG emissions per unit of economic output). It is critical to understand that because intensity targets only limit emissions per unit of economic output, *intensity targets allow total emissions to keep on growing* as economic output increases. This approach would prevent the U.S. from linking up to international carbon markets built on the cap-and-trade design template, such as the EU's Emissions Trading System (EU-ETS) or those being developed in other nations. Moreover, intensity targets would set an environmentally bad precedent for developing countries and make it impossible for us to rein in global emissions. Even if fast-growing developing countries adopted as-stringent intensity targets (which is unlikely), their rapid economic growth would mean that their overall emissions would be allowed to rise rapidly, swamping our overall emissions reductions and foreclosing safe climate levels. It's more likely that at least some of our trade competitors would respond to Congress's adoption of intensity targets by adopting even softer intensity targets for their own economies, allowing even more rapid emissions increases.

Another problematic proposal is that Congress adopt price controls (which some have dubbed a "safety valve"), such that if the price of carbon in our market rises above a certain number of dollars per ton, then government prints more allowances for sale to industry at the controlled price.

In effect, by printing more allowances and selling them at a fixed price, Congress would be giving U.S. industry a "pay-to-pollute" pass that would let any company emit as much GHG as it wants, provided that it paid the fixed price. This is a cap-buster. Were Congress to adopt such a measure, the EU regulation governing links between the EU carbon market and other nations' emissions trading systems would expressly prohibit America from linking to the EU's market. That Directive only allows linkage with other nations having mandatory absolute caps on emissions – a test that the "safety valve" would fail.⁵ Other nations with cap-and-trade programs would likely follow suit.

⁵ See also the EU's impact assessment of proposed revisions to the ETS: "Poorly-designed linking of systems can reduce their environmental effectiveness by negatively affecting the total reductions to be reached. Price caps in one system, for example, may increase the risk of higher emissions throughout the linked system as in practice the price cap comes to apply for both systems." *Impact Assessment accompanying Proposal for a Directive of the European Parliament and of the Council Amending Directive 2003/87/EC so as to improve and extend the EU greenhouse gas emission allowance trading system, January 23, 2008*, at http://ec.europa.eu/environment/climat/emission/pdf/com_2008_16_ia_en.pdf .

But more fundamentally, what kind of leadership-by-example would this safety valve show to developing nations? Some would be tempted to adopt their own safety valve, patterned on ours. That would mean even more pollution coming from fast-growing developing countries, and could discourage investment and freeze American low-carbon technologies and high-efficiency products out of those nations' markets.

Finally, we simply don't need a safety valve to control costs. The real danger is not that the costs of abatement will be too high – every serious study, and a now-substantial body of experience with the Acid Rain Program, teaches that market-based policies applied to reasonable goals deliver huge environmental benefits at manageable costs. And economic analyses tell us clearly that success on climate change is within our reach.

EDF has surveyed the economic literature and compared analytical results on the legislative proposals made to Congress to date. The government's own estimates, along with those from MIT and others, show that the predicted cost of a cap and trade program similar to the Lieberman-Warner bill is small. What do we mean by small? This: if we don't do a thing about climate change, the US economy is predicted to be worth about \$26 trillion on New Year's Day in 2030. Under an aggressive climate policy, the economy will reach that point somewhere between February and July of that same year! And in the meantime, we will have initiated the cuts in pollution we need to hold off the worst impacts of warming.

I also want to mention that McKinsey Company, one of the world's foremost business consulting firms, has released a first-ever study that spells out, in clear terms, the technological options on the table to fight global warming and what they cost. McKinsey's conclusion, which I recommend to you, is that with technologies in the pipeline today, and the lifestyles we enjoy today, we can make the cuts we need to at very little cost; in fact, under McKinsey's analysis, cost-saving emissions reductions opportunities roughly cancel out all emissions reductions technologies costing up to \$50 per ton. But McKinsey says that to take advantage of these opportunities, we need to act now, before the building of more retrograde buildings and infrastructure wipes out our ability to do this the easy way.

No, instead of costs, the real danger is that despite the best of intentions, we will have squandered our best chance at staving off dangerous climate change by investing in a solution that utterly fails to achieve the needed environmental end and in fact forecloses vital options to protect the climate. To guard against this danger, Congress should refrain from enacting carbon market price controls.

(2) Use the power of access to the U.S. carbon market as a “carrot” to encourage other nations to cap and cut emissions.

Our carbon market is likely to be the largest in the world. Other nations' interest in gaining access to our carbon market -- for carbon finance, and to sell us reductions -- will give Congress leverage, just as in any other market access negotiation. Here are three ways Congress could use the power of carbon market access to create incentives that encourage other nations -- even recalcitrant ones -- to cap and cut emissions:

a. Congress could offer emission "premiums" for countries that sign up to emissions caps early.

Congress has the ability to set terms for US carbon market access, and make access conditional on the adoption of emissions caps. The Lieberman-Warner America's Climate Security Act envisions this already, by requiring that foreign tons used for compliance with the U.S. emissions cap come from capped nations that adopt a program of similar stringency to our own. This language allows for some latitude in interpretation; consistent with the objective of stabilizing the climate at safe levels, Congress could offer, or could direct the Executive Branch to offer, such countries the opportunity to choose different base years, or different cap levels, for their cap-and-trade systems. A precedent for this approach can be seen in the Kyoto Protocol's carbon market, which holds most emitters to a 1990 base year for their cap and trade programs, but which allows nations like Hungary and Poland, that were undergoing the transition to a market economy, the opportunity to select earlier base years, when their emissions were higher. Because the atmospheric space for such "premiums" is limited, Congress could establish, or direct the Executive Branch to establish, a "first-come, first-served" approach to recognition of foreign cap-and-trade programs, whereby the U.S., when allowing its carbon market to link to nations with comparable programs, would afford a degree of flexibility to the programs that are adopted soonest in major developing nations.

b. Congress should offer tropical forest nations opportunities to participate in a U.S. cap and trade market.

Well-designed carbon markets should offer developing countries incentives to reduce tropical deforestation as part of their contribution to lowering global GHG emissions. In our world today, the destruction of forests -- principally in the tropics -- emits massive amounts of carbon dioxide: approximately 20% of global greenhouse gas emissions, or roughly as much each year as all the CO₂ emitted by all the fossil energy consumed in the United States. When forest carbon emissions are included, the third and fourth largest emitters of GHGs in the world are Indonesia (#3) and Brazil (#4).

We are encouraged that the Bali Action Plan, by including consideration of avoided deforestation and market mechanisms as a means of reducing emissions, creates the possibility that the next climate agreement will correct the Kyoto Protocol's serious omission in this regard. However, there is much to help reduce deforestation that can and should be done now as part of the U.S. cap and trade regime.

Were Congress to structure the U.S. carbon market to compensate developing countries for emission reductions that lower their rate of deforestation nation-wide, below a historical baseline, Congress could strengthen those nations' climate and biodiversity protection efforts and create a model for engaging developing countries broadly. Doing so can also make good economic sense: A range of estimates indicate that the cost of forest protection in some parts of the world is far less than the cost per ton of more expensive means of reducing CO₂ emissions given today's technologies.⁶ Consequently, opening America's carbon market to these tons could significantly reduce U.S. companies' compliance costs in the near term, and provide an important bridge strategy while technology innovations are developing that will drive down the costs of CO₂ control in the energy sector in the future. On the other hand, if the world waits a decade or two to create powerful incentives for compensating those who protect tropical forests, the forests – and the approximately 300 billion tons of carbon they hold – will already be gone.⁷

We believe that carbon market compensation for tropical countries that stop or reduce deforestation is a critical component of a U.S. cap and trade regime. We welcome Lieberman-Warner's provisions allocating 2.5% of the total U.S. emissions allowances for international forest carbon activities, though we believe the proportion should be higher. We would also like to see the provision that allows covered facilities to meet up to 15% of their compliance obligations with international allowances be amended to include international forest carbon activities. As a general matter, however, quality should be more important than quantity in determining market access. Congress should also direct the Executive Branch, working with tropical forest nations, to assist developing countries in establishing the infrastructure and institutions needed to transparently measure and monitor emissions from deforestation; to implement and enforce forest conservation measures; and to ensure that market-based compensation redounds to the benefit of local forest communities.

^{6 6} Intergovernmental Panel on Climate Change, *Climate Change 2007: Mitigation of Climate Change, Summary for Policymakers* (4 May 2007), page 21. Published on the Internet at: (<http://www.ipcc.ch/SPM040507.pdf>). Nicholas Stern, *The Economics of Climate Change: The Stern Review* (October 2006), page 537 ("The Stern Review: The Economics of Climate Change").

Nepstad, D., B. Soares Filho *et al.*, 2007. The Costs and Benefits of Reducing Carbon Emissions from Deforestation and Forest Degradation in the Brazilian Amazon. (www.whrc.org/BaliReports/).

⁷ For more regarding compensated reduction for avoided deforestation, see attachment.

c. To move nations toward national GHG programs, Congress could restrict access to our carbon market for credits earned in nations that don't cap their emissions.

While Kyoto caps industrialized nations' emissions, it allows developing countries to earn emission credits from individual projects, even if those countries haven't capped emissions, and to sell those credits to entities in developed countries to use in complying with their caps. These are known as CDM projects, from Kyoto's "Clean Development Mechanism." The CDM has given participating countries valuable experience, on a project-by-project basis, with reducing GHG emissions. But overall, those projects don't reduce emissions nation-wide, and they don't contribute to global emission reductions. That is because under the CDM, an emission reduction earned in a developing country can be credited to an industrialized country's emissions account, but no corresponding debit is made from the developing nation's emissions account, since its emissions are uncapped. The net result of the CDM transaction is to keep emissions at the same levels they would have been had emissions continued to increase unabated in the developing country, even while the industrialized country is still able to use CDM credits to meet its target.

But the science is clear: The climate can only be stabilized if there is effective emissions abatement in both industrialized and developing countries. Consequently, to achieve the global emissions reductions needed, all major emitting nations should eventually graduate from CDM projects toward national GHG management programs. Let me stress "eventually" – we recognize the value these projects currently represent to the countries that have them.

We understand that Lieberman-Warner as reported out of the EPW committee does not specifically include CDM credits, and states that, to be allowable, foreign credits must come from a capped country. If Congress decides to open the U.S. carbon market to credits earned in major emitting uncapped nations, it should do so in a way that contributes to reducing overall global emissions. Congress could bridge this gap by, for example, imposing progressively tighter limits on major emitting countries' credit sales until such time as they cap their total emissions. It could apply a mandatory "multiplier" to project-based carbon credits from uncapped nations. Under the multiplier approach, Congress would require U.S. emitters to tender such credits on a 1.1:1, or 1.5:1, or even 2:1 basis for compliance with their domestic emissions caps. The additional tons of credits generated by the multiplier could then be permanently retired from the system, thereby ensuring that such projects deliver globally real reductions.

(3) As a backstop to ensure that the environmental effectiveness of America's program is not undermined by imports of products from

uncapped nations, require that imports of GHG-intensive products from those nations be accompanied by qualified emission reductions.

A suite of tools for engaging other nations, including those described above, is incomplete without provisions to ensure that America's climate protection efforts are not undermined by other nations' inaction.

One approach to this component, and which EDF commends to this Committee's consideration, would be to require that imports of GHG-intensive products from major emitting nations that fail to follow America's lead, i.e. that fail to cap and cut emissions, would need to tender emissions allowances or offsets as a condition of import, just as if the products had been produced here at home.

Various versions of this approach have been included in both the Lieberman-Warner and Bingaman-Specter bills. The bills' authors recognize that our domestic greenhouse gas reduction program will move forward in a world grappling with the realities of globalization and its impacts on the US. The USCAP Call for Action recognizes that "U.S. leadership is essential for establishing an equitable and effective international policy framework for robust action by all major emitting countries." At the same time, it notes that "U.S. action to implement mandatory measures and incentives for reducing emissions should not be contingent on simultaneous action by other countries," and that "care should be taken that policies do not merely push emissions from U.S. facilities to overseas plants."

Recognizing that poorer nations might not be able to cap and cut emissions as quickly as the United States, but that we also cannot address the global warming problem effectively unless all major emitting nations do cut emissions, the bill first calls for new international agreements engaging all major emitting nations in cutting their emissions. If negotiation of these new agreements proves unsuccessful, the bill would, after a certain time period, level the environmental and competitiveness playing field by requiring that importers of energy intensive products produced in uncapped nations submit emissions allowances sufficient to cover the emissions incurred by the production of those products abroad.

If Congress establishes a cap and trade regime for the United States, as we hope and believe will be the case, a provision along the lines of Title VI of Lieberman-Warner will need to be integrated into such a regime in a way that not only preserves the environmental integrity of the U.S. cap and trade program, but also induces other nations to join that program, and is consistent with America's WTO obligations. We believe that such a provision can be designed into the legislation, and further, that Lieberman-Warner's Title VI, with some minor adjustments, can satisfy these criteria. The main alternatives that have been offered so far – border tax adjustments or carbon intensity standards for imports – do not.

If Congress were to adopt it, a Title VI-type provision would serve as a backstop - there if we need it (that is, if negotiations or national actions don't lead to serious emissions limits for other major emitters), but ideally, never invoked. A border carbon adjustment provision would arm the President with valuable leverage in the international climate negotiations, as officials from the current administration as well as the previous two have acknowledged, most recently during and following the December talks in Bali, Indonesia.

Consistency with the World Trade Organization's Rules

This Committee is right to be asking questions about WTO compliance. It would not make sense to spend months if not years setting up a system that faced a high probability of being struck down.

Recognizing that only the WTO's Contracting Parties and its dispute settlement body can definitively interpret the WTO Agreements, it is our opinion that of the three proposals currently on the table – the border tax adjustment, carbon intensity standards, and a Title VI-type provision – only the Title VI-type provision stands a very good chance of surviving a WTO challenge. If Congress were to adopt a provision along the lines of Title VI that afforded importers the opportunity to meet their border carbon obligation by tendering the same range of allowances and offsets that U.S. emitters can tender, it is likely such a provision would comply with the WTO's core obligation of national treatment. Should that not carry the day, strong arguments can be advanced that such a provision meets the stringent criteria for the Article XX environmental exceptions. Indeed, several aspects of the provisions currently in the Lieberman-Warner bill were based on the text of the environmental exceptions and how they have been interpreted in recent WTO decisions. You can never guarantee, of course, how a dispute settlement panel will come down, especially one that wouldn't be convened until several years from now. But by then any dispute would be heard in a changed international context: the recognition that unless all major emitters participate in capping and cutting carbon emissions, the economies of every nation could be irrevocably altered by global climate change.

An important dimension of WTO compatibility is to provide importers with, to the extent possible, an opportunity to meet the obligations that is commensurate with that being offered to domestic manufacturers. It is thus commendable that Lieberman-Warner's provisions allow importers to submit foreign allowances that otherwise meet the requirements for foreign allowances set for them in Lieberman-Warner, allowing them to purchase allowances on the global market or from other countries' regimes as an alternative to purchasing allowances from the US government from a reserve created for that purpose.

Lieberman-Warner is strengthened by its inclusion of a WTO savings provision that would allow the Executive Branch to modify the international

emissions allowances provisions should they be found to present WTO compliance problems. Congress might want to consider broadening such a provision to ensure other aspects of Title VI could be modified should they be found to be WTO inconsistent.

You will have heard from some constituencies that the time gap between when US companies must obtain allowances and when importers must do so is too great; that the obligation should apply to each at the same time.

While there may well be ways to shrink that gap as currently found in Lieberman-Warner, and reasonable arguments for trying to do so, we do not believe that it can be eliminated entirely, from either an environmental or a WTO perspective. Any reexamination of these provisions should keep in mind the reasons for having a gap: it gives developing countries time to develop and implement national programs; it gives the US a chance to show the world that it is doing something; it gives the provisions' incentives for developing country participation time to operate; and it gives the international negotiating process time to produce results. And, as is important for WTO compliance, the gap gives importers a predictable standard of comparability to meet, by allowing time for the imposition and measurement of U.S. actions against which their actions would be judged. If the backstop provisions are seen as "unreasonable" in timing, they are not likely to be found credible by the WTO or anyone else. The challenge is in finding a time interval that achieves these objectives without compromising U.S. competitiveness or its workers. It is worth remembering that the actual timeline for both domestic entities and importers is determined by such factors as the date of bill passage, date of enactment, and the number of years it takes to complete implementing regulations. It should also be kept in mind that there are other possible ways of addressing an imbalance in the costs of compliance – for instance, how allowances are allocated in the "gap" years.

Speaking of conducting international negotiations—to better implement the element of conducting good faith negotiations with other countries (which is part of the case to be made for WTO compatibility), and to have a fallback should the UNFCCC negotiations run into difficulties, the US could also consider negotiating bilateral carbon market access agreements with developing countries as well as with other emissions trading systems such as the EU ETS. Such agreements could set conditions for bringing their emissions credits into our market that would further encourage them to take steps to curb their emissions or to establish safeguards comparable to our own legislation.

In recognizing that the case for WTO compatibility of Lieberman-Warner Title VI might not be as black and white as this Committee would prefer, it bears noting that it is by far the strongest candidate.

--The carbon intensity standard approach suffers from, among other things, being a process based regulation, which falls into a gray and controversial

area of WTO jurisprudence. To be sure, the U.S. shrimp turtle law ultimately was upheld by the WTO despite being about how shrimp were caught, but that case turned more on compliance with the WTO's GATT Article XX environmental exceptions. A carbon intensity standard – particularly one pegged to U.S. emission levels - would be very difficult to justify under those GATT exceptions. Similarly, such a carbon intensity standard would be difficult to justify if it were instead judged under the Technical Barriers to Trade Agreement, which unfortunately does not include a clear environmental exception.

--And the second alternative, a border tax adjustment, might be fine from a trade point of view if Congress decided to enact a domestic carbon tax rather than a cap and trade. But because a border tax would simply require importers to pay money, without any assurance that those payments would result in actual emission reductions, it would not be as environmentally effective (and thus less defensible under the WTO's environmental exceptions). Furthermore, if Congress adopted a carbon tax instead of a cap and trade regime, and then required importers to pay the same tax at the border, poorer nations would likely regard such a tax as discriminatory, particularly when they might have low-cost emission reductions available in their own countries. It should be noted that if a border tax were invoked to counterbalance the costs of a domestic regulatory regime other than a tax, that approach would present even greater WTO concerns.

Other ways of cutting costs

While these trade provisions are important, it is also worth keeping in mind that they are by no means the only components of Lieberman-Warner – or of a cap & trade system more generally – that address concerns about price and competitiveness. Indeed, the best argument in favor of cap and trade is that it is a tested and proven mechanism to cut costs and spur innovation. Market incentives employ a whole range of cost management mechanisms that allow companies a wide choice in managing their compliance with emissions limits. In a market-based system, companies can:

- make emissions reductions at their own facilities,
- purchase allowances from other facilities whose cost of reductions are even lower (so much so that they can “over-comply” and sell their excess allowances to others),
- use “banking” and “borrowing” provisions to optimize the timing and pace of emissions reductions relative to real-world business conditions, even while maintaining the overall environmental integrity of the system; and

- make use of international and domestic “offsets,” which are often among the lowest-cost opportunities to reduce emissions, from sources not covered by the emissions cap.

Lieberman-Warner employs all of these tools to help manage cost. The bill also takes a few additional steps:

- Lieberman-Warner establishes a “Carbon Market Executive Board” which is empowered, much like the Federal Reserve is empowered, to make adjustments to carbon market parameters in the event of unanticipated, damaging costs.
- Lieberman-Warner has highly detailed allowance allocation and auction provisions that are designed to address specific concerns about costs to consumers and to a variety of economic actors.
- Lieberman-Warner also provides provisions to spur technological innovation that supplement the market signal provided by the cap and help “jump start” promising technologies.

EDF has long advocated the use of offsets in a cap and trade system, and we recognize the important potential of those offsets that can be generated through carbon-friendly farming and forestry practices. Innovative practices can capitalize on the remarkable ability of farmers and foresters to both reduce emissions of heat trapping gases and actually remove heat-trapping gases from the atmosphere.

In agriculture, farmers are adopting a wide variety of innovative practices that enhance uptake and reduce emissions of greenhouse gases. Nationwide, farmers are adopting innovative cultivation techniques like no-till, growing trees along streambanks, using precision application of fertilizer, choosing cover crops carefully, and embracing many other sensible agricultural practices to make a positive difference in the fight against global warming. In 2006 the National Wheat Growers became the first commodity group to publicly endorse market-based climate action, noting that, “. . . if the climate change issue is to be credibly addressed, it is important that policy makers recognize the real contribution that farmers are now making—and can make on this issue in the future.”

Lieberman-Warner allows companies to meet up to 15 percent of their compliance obligation through offsets, including those from agricultural carbon sequestration. This is an important cost management tool.

C. Lessons to be learned from, and opportunities for linking our carbon market to, the European Union’s Emissions Trading System (EU-ETS)

The European Union's Emissions Trading System (EU-ETS), a cap-and-trade market for cutting global warming pollution that opened on a pilot basis in 2005, went from zero to \$26 billion in just a little over two years. The goal of the pilot phase was to develop experience in advance of the first compliance period, set for 2008-12. Even during its pilot phase, the program spurred innovation and performed better than expected. But it is not perfect. The United States can and should learn from its flaws, and should work with the EU to ensure coordinated outreach to encourage uncapped countries to develop high-integrity cap and trade programs that can link to the U.S. and EU markets. The next couple of years are especially important for coordination, as the EU is finalizing a set of proposed modifications to the ETS that will go into effect for the next commitment period, starting in 2012.

Modeled loosely on the highly successful 1990 U.S. acid rain cap-and-trade program, the EU system caps total carbon dioxide (CO₂) emissions from some 11,500 large power plants, refineries, and other facilities that emit about half Europe's total CO₂ pollution. Under the EU-ETS, every facility must report its emissions annually; limit its emissions to allowable levels; and hold allowances (EUAs) sufficient to cover its emissions. Any facility that cuts emissions below its allowable level can save its surplus EUAs for the future or sell them to other facilities. Facilities whose emissions are higher than allowable levels must either cut emissions or buy allowances.

While Europe followed the U.S. acid rain program design in some respects, it fell short in others. Here are some lessons learned from the EU experience, organized around each of six elements EDF regards as essential for successful market-based environmental policy⁸:

Measurement

When the EU initially distributed CO₂ allowances in its pilot program, it departed from the model of the Acid Rain program and gave them to facilities based on the facilities' own forecasts of their pollution growth, since it did not have a historic emissions baseline to use in allocation. But forecasting is an inherently imprecise business and one fraught with strategic behavior. If emissions increase more slowly than forecasted, it leads to excess allowances in the system, as happened during the pilot phase of the EU-ETS. When annual emissions reports showed that companies' actual emissions were less than forecasted, prices tumbled and volume soared. The other reason market prices

⁸ Dudek, D., J. Goffman and A. Peterson, "Market Mechanisms & Global Climate Change: An Analysis of Policy Instruments", Report prepared for the 1998 Trans-Atlantic Dialogues on Market Mechanisms (a project of the German Marshall Fund of the United States, the Pew Center on Global Climate Change, and the Environmental Defense Fund) (Pew Center on Global Climate Change 1998) (available at www.pewclimate.org).

plunged was the lack of banking between the pilot phase and the compliance phase. In response to this experience, the EU tightened the caps for the next phase and, like the U.S. acid rain program, based the caps on historic rather than projected emissions.

Lesson: Congress should establish caps based on actual historical emissions, not forecasts of future emissions.

Consistency

The EU's pilot phase program was too short (2005-2007), as is its first compliance period (2008-2012), and it is now determining new rules for the next period, to begin in 2012. During the pilot phase most allowances were allocated for free, allowing some companies, particularly in the electric power sector, to pass on to consumers the opportunity costs of allowances that the power companies had received for free. It is not clear whether the EU's tax system will harvest this windfall gain. Moreover, the rules governing coverage of industries other than electricity were complicated, with numerous, sometimes hidden, loopholes. The EU has since extended its program to 2020, which creates the needed expectation of serious and consistent reduction requirements. Uncertainty remains about which industries will be covered in the longer term; free allocation v. auction decisions are not final.

Lesson: Congress should establish the U.S. cap-and-trade program for a sufficiently long time horizon – e.g., 20-30 years – to give business certainty and predictability, spur environmental capital investment, and provide economic stability. Congress should clearly specify, prior to the start of the program, the targets, timetables, participants, options for compliance, opportunities for banking, terms of free allocation vs. auction, and taxation of capital gains on allowance sales, and should further specify the procedures, if any, by which changes to these key provisions can be made.

Cap on Total Emissions

The EU wisely capped total emissions rather than intensity, and it rejected the use of a price-based “safety valve.” However, the EU did not apply its cap widely enough. Transportation – particularly automobiles and aviation – were excluded from coverage, and those emissions have continued to rise. In the 2008-2020 period, the EU has maintained its cap on total (absolute) emissions, and does not allow linkage to any system with price caps. The EU has proposed a regulation to expand its system to cover aviation, and it is weighing next steps regarding cars.

Lesson: Congress should resist the temptation to cap emissions intensity rather than total emissions; should omit any price-based “safety valve” that would bust

the emissions cap; and should expand coverage to include the land- and air-transport sectors.

Fungibility

The EU system fails to recognize tradability of domestic offsets. It also is closed to emission reductions in the 20% of global GHG emissions that come from deforestation in the tropics, and limits the use of qualified reductions outside the EU to 10%. The EU is now scrambling to create and expand the ambit for domestic offsets, and the question of tropical forest reductions is unresolved.

Lesson: Congress should ensure that the U.S. cap and trade program allows and encourages robust domestic offsets, and invites participation by tropical forest nations that wish to reduce national level emissions from deforestation. It should also be flexible regarding reductions from qualified sources outside the U.S. These restrictions will otherwise drive up compliance costs.

Compliance

The EU system is generally clear about compliance rules and mechanisms.

Lesson: Congress should establish clear requirements governing the kinds of allowances and credits emitters may tender for compliance, as well as the mechanisms by which emitters will be held to account for any emissions over allowable levels.

Leakage

The EU's system currently does not use incentives and penalties to encourage developing countries to cap their emissions. EU companies can meet up to 10% of their emissions requirements using cheap credits earned in developing countries that have no emission caps. That does not encourage those countries to cap emissions. The EU is, however, considering whether to include a border adjustment mechanism as part of the revisions it is making to the ETS for the next commitment period, starting in 2012. While including nothing in the proposals issued last month, the Commission has proposed revisiting the question following completion of the international negotiations launched in Bali.

Lesson: As set forth above in my testimony, Congress should design the U.S. carbon market so as to create incentives for major developing country emitters to cap and cut emissions; it should encourage the negotiation of international agreements to achieve comparable reductions from America's trading partners; and it should establish a backstop mechanism that can be used to ensure that in the event incentives and agreements do not sufficiently engage other nations, their emissions increases will not undermine the effectiveness of our own emission caps. In undertaking these steps, Congress should reach out to the EU and other capped nations to ensure that each trading bloc's markets offer similar rigor and similar incentives for encouraging large developing nations to join, so as to minimize trade frictions and increase leverage. Moreover, Congress should require linking agreements and periodic review of the consistency of commitments and regulations before allowing emissions trading between the U.S. and other emissions trading systems.

Closing

Congress can craft strong climate legislation that reduces our emissions and encourages developing country actions while ensuring a level playing field for American workers and businesses; these are not mutually exclusive goals. We can get there with a suite of incentives that include carefully designed border carbon adjustment provisions as a backstop.

EDF looks forward to working with Congress to craft a strong climate bill that heeds the scientists' urgent call for action and that maintains the strengths of our American economy.

And I look forward to your questions.

List of Attachments

“Compensated Reduction”

“Why Cap-and-Trade is the preferred policy to address climate change”