

**INTERNATIONAL ASPECTS OF A  
CARBON CAP AND TRADE PROGRAM**

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**HEARING**

BEFORE THE

**COMMITTEE ON FINANCE**

**UNITED STATES SENATE**

**ONE HUNDRED TENTH CONGRESS**

SECOND SESSION

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FEBRUARY 14, 2008  
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# CONTENTS

## OPENING STATEMENTS

	Page
Baucus, Hon. Max, a U.S. Senator from Montana, chairman, Committee on Finance .....	1
Grassley, Hon. Chuck, a U.S. Senator from Iowa .....	2

## CONGRESSIONAL WITNESS

Specter, Hon. Arlen, a U.S. Senator from Pennsylvania .....	3
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## WITNESSES

Haverkamp, Jennifer, senior counsel, Environmental Defense Fund, Washington, DC .....	6
Breehey, Abraham, assistant director of government affairs, International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers, Fairfax, VA .....	8
Kristiansen, Kjell Olav, director, advisory services, Point Carbon North America, Washington, DC .....	10
Mirza, Ruksana, vice president, environmental and government affairs, Holcim, Inc., Waltham, MA .....	12

## ALPHABETICAL LISTING AND APPENDIX MATERIAL

Baucus, Hon. Max: Opening statement .....	1
Breehey, Abraham: Testimony .....	8
Prepared statement with attachments .....	25
Grassley, Hon. Chuck: Opening statement .....	2
Haverkamp, Jennifer: Testimony .....	6
Prepared statement with attachments .....	47
Kristiansen, Kjell Olav: Testimony .....	10
Prepared statement .....	75
Mirza, Ruksana: Testimony .....	12
Prepared statement .....	87
Responses to questions from committee members .....	95
Roberts, Hon. Pat: Prepared statement .....	103
Specter, Hon. Arlen: Testimony .....	3
Prepared statement .....	104



## INTERNATIONAL ASPECTS OF A CARBON CAP AND TRADE PROGRAM

THURSDAY, FEBRUARY 14, 2008

U.S. SENATE,  
COMMITTEE ON FINANCE,  
*Washington, DC.*

The hearing was convened, pursuant to notice, at 10:10 a.m., in room SD-215, Dirksen Senate Office Building, Hon. Max Baucus (chairman of the committee) presiding.

Present: Senators Bingaman, Salazar, and Grassley.

### **OPENING STATEMENT OF HON. MAX BAUCUS, A U.S. SENATOR FROM MONTANA, CHAIRMAN, COMMITTEE ON FINANCE**

The CHAIRMAN. The hearing will come to order.

The conservationist, Aldo Leopold, author of "A Sand County Almanac," said: "We shall never achieve harmony with land any more than we shall achieve absolute justice or liberty. . . . The important thing is not to achieve, but to strive."

We may not achieve the perfect response to climate change, but we must strive to address those elements of climate change that stem from human activity. I applaud those Senators, including Senator Bingaman of this committee, and Senator Specter, who has joined us today, who have striven to address this goal in their legislative proposals. I believe it is a moral imperative to deal with climate change. We all have the basic duty to leave this world to our children in better shape than we found it.

As we address climate change, we must also strive to do so in harmony with economic growth. Establishing a cap on carbon emissions has the potential to affect the American economy. It could raise costs, especially for energy-intensive industries like aluminum and cement. We must strive to minimize the competitive disadvantage that these costs will place on America, and we can do that by encouraging other countries to commit to their own carbon reductions. In that way we can level the regulatory playing field, and in that way we can reduce the incentive for American manufacturers to move their operations and jobs overseas.

Pending legislation attempts to safeguard American economic competitiveness through measures taken at the border. For instance, proposals require importers to buy carbon allowances for products imported from countries that have not made commitments to reduce greenhouse gases. Our trading partners are watching these proposals carefully. Our challenge is to craft border measures in a manner that both meets our domestic priorities and respects international trade rules.

Likewise, we can preserve American economic competitiveness by reducing compliance costs for Americans. As we design the American carbon market, we must provide opportunities for American industries to buy carbon allowances wherever they are available, not only in the United States.

At the end of the day, climate change is a global problem. It requires a global solution. The solution that we develop must also provide incentives for emerging economies like China, India, Brazil, and others to join our efforts. Their economies compete with ours, and they cannot enjoy a free ride while we bear the cost.

I thank today's witnesses for helping us to consider ways to address climate change through a carbon cap and trade program. I hope that they will give us their ideas about how we can learn from others' experience to achieve the most efficient emissions reductions for our industries and encourage our trading partners to join in our efforts.

Today's hearing is the first of several that this committee will hold on climate change. Today we will cover trade and international carbon markets. At future hearings we will address tax issues related to the sale and allocation of carbon allowances. So let us learn about the trade implications of the cap and trade system, and let us strive to achieve greater harmony with the land. Let us seek ways to do so that also achieve harmony with a prosperous America.

Senator Grassley?

**OPENING STATEMENT OF HON. CHUCK GRASSLEY,  
A U.S. SENATOR FROM IOWA**

Senator GRASSLEY. There is a lot of consideration, as we all know, and a lot of activity in other committees of Congress about the question of whether or not it is appropriate to create a carbon capture and trading program in the United States. It is a worldwide discussion as well. Of course, that broader discussion is not the subject of today's hearing, so I do not intend to address any specific policy prescriptions on that point.

Today we will be focusing on a very narrow question, or at least a more narrow question, which is, when we do go down that road, what are some of the international issues that we will need to confront? This committee, being involved in trade issues, is very concerned about that.

I could give examples like, what considerations would we need to take into account in terms of our obligations under the World Trade Organization. We can hear about the experience in the European Union in administering its own cap and trade programs. If the European Union encountered problems with this program, then we should know about them, and we will find out about them.

So I cannot talk about a policy other than the narrow policies of trade at this point, so I thank our witnesses for coming, traveling here to be with us to help us understand this as we help other committees formulate policy in the area of cleaning up our environment, global warming, and climate change.

The CHAIRMAN. Thank you, Senator Grassley.

We are now honored to have with us the Senator from Pennsylvania, Senator Specter. I know he, Senator Bingaman, and others

have thought long and hard about these complex questions, and we are very honored to have you here, Senator. We would appreciate the advice you want to give this committee.

**STATEMENT OF HON. ARLEN SPECTER,  
A U.S. SENATOR FROM PENNSYLVANIA**

Senator SPECTER. Thank you, Mr. Chairman. I am grateful for the opportunity afforded by the Chairman and the committee to testify briefly this morning on this important issue.

I have been asked to appear here in my capacity as vice chairman of the Steel Caucus. There is considerable concern in the steel industry, and many industries, about what legislation on climate change would do to the competitiveness of U.S. products.

We start with the proposition that GATT requires that important products must receive no less favorable treatment than domestic products. In article 20, it is provided as long as measures are not arbitrary or unjustifiably discriminatory between countries or restrictions on trade.

I would urge the committee to take a close look at what has been proposed by the American Electric Power and Electrical Workers Union, which has been included in the so-called Bingaman-Specter bill, and subsequently in a bill addressing similar issues in the Lieberman-Warner bill. It is my judgment—our judgment—that the restrictions to require imports by the year 2020 to have credits to account for the carbon which they will emit is fair treatment. Candidly, I have some concern that there ought to be an extended window between the imposition of requirements on U.S. products contrasted with imports.

We may find that that window will further harm the environment because it will send products made in the United States, which have less carbon emissions, back to foreign sources which have higher carbon emissions if they can be produced at a cheaper rate and take away business from U.S. production which has a lower carbon content.

But at a minimum, there ought to be the same carbon requirements applied to imports as applied to domestic product. It is a very basic and fundamental proposition because, if not, there will be a major competitive disadvantage to American products. If the legislation does not account for this, it is going to be hard to get support.

We do not have support from the steel industry, for example. We have had substantial support in many quarters to what Senator Bingaman and I have proposed, and now what Senator Lieberman and Senator Warner proposed. But in order to get public acceptance of legislation on climate change, we are going to have to demonstrate that we are not at a competitive disadvantage; it is just that fundamental.

Of course, the Finance Committee is a powerful committee generally, but with jurisdiction on international trade, when this committee speaks to address this issue and make sure that there is not a disadvantage to U.S. production and that it is consistent with GATT, that will have a considerable impact in informing the American public and American industry that they will not be discriminated against. Once assured that they will not be discriminated

against, they will be more inclined to accept the restrictions that Bingaman-Specter or Warner-Lieberman imposes.

I know you are busy, and when you grant 5 minutes—I have had some experience as chairman—I know you like to have a minute yielded back. But I would ask unanimous consent that the full text of my statement be included in the record, because I only gave an abbreviated summary.

The CHAIRMAN. Without objection.

[The prepared statement of Senator Specter appears in the appendix.]

Senator SPECTER. I would be glad to respond to questions. As I always say, I would be glad not to respond to questions. [Laughter.]

The CHAIRMAN. Well, Senator, in honor of your enlightenment, I want to thank you very much for coming before this committee.

Senator GRASSLEY. Could you wait just a second, Senator Specter? Because both you and the Chairman brought up the global impacts and taking this into consideration. I am just taking off on a position you had of the impact on the rest of the economy and the global competition we have.

I think one of the major problems we have here among the hundred of us, or among the 535 of us, is that there are a lot of members of Congress who are very inconsistent in maybe legitimately being concerned about the transfer of jobs overseas by some of our manufacturers particularly, but now it is happening in the IT and service industries as well.

I think it is inconsistent that some people complain about jobs leaving the United States, and argue at the same time that we can solve this problem just by focusing on the United States. It has to be solved on a worldwide basis. The second-largest economy in the world and the number-one emitter of CO<sub>2</sub> into the environment being China, it cannot be left out of it.

They are making an argument that they need a 30-year phase-in because of the fact that they are presumably still developing. But if you are the second-largest economy in the world and we are having all of our manufacturing jobs go to China, and we are going to put more burden on our industry from the standpoint of the environment, the same people cannot be complaining about jobs going overseas. They ought to be working with us to make sure that China is included and not find some excuse to exclude China and fall for the propaganda of the Chinese Government at this point.

Senator SPECTER. Senator Grassley, if we were to give China a 30-year phase-in process, that would phase out American industry. There would not be any left.

Senator GRASSLEY. Yes.

Senator SPECTER. Phase in China, phase out the United States. We are not going to do that. That is why we ought to structure the legislation so that their steel imports, illustratively, have the same burdens on carbon emissions which ours do. We ought to do that sooner rather than later.

Careful consideration ought to be given to how long they need to accommodate that, but they ought to be paying the piper just as we are. You cannot solve the problem of global warming by the United States alone, or by the so-called developed countries alone.



China is a major factor, and they have to belly up to the bar like all the rest of us.

If they don't, we have to structure our loss so that their imports have the same costs as ours do. Then we're not at a competitive disadvantage, and then we can legislate on climate change and we can get public support and industry support to do it. But you put your finger on the critical problem.

The CHAIRMAN. Thank you, Senator. I have a question for you, though. I daresay none of the four of us voted for the Kyoto Treaty when it was before the Senate. I think it was 90 something against it, and it was primarily because China and other developing countries were not included.

It is my judgment we have come to the point in American world history where climate change is now being accepted. It is a fact that humans are contributing to the climate change. We are not the total source, but certainly contributing. It has also been accepted, I think, generally, that we have an obligation, as members of Congress, to try to do something about it even though China is dragging its feet.

First of all, I will give you my view and then ask you the degree to which you agree. My view is, we as the United States must, nevertheless, lead. We must lead, as much as possible, the effort in the world to address climate change. The Europeans do have their cap and trade system. It has lots of problems, but at least it is a start.

We in the United States are attempting to enact our own version of cap and trade. Hopefully it is more thought through and it is more effective. But at the same time, while we are leading—and it is my judgment that the United States must lead, we must not just wait for the rest of the world, we must lead—we must lead in a way that assures that other countries are also contributing to the solution.

As you basically said in your statement, China has to pay the piper, too. We just cannot be alone in addressing climate change. But my basic question is, do you agree, even with all the problems, even though China will soon be the world's biggest carbon emitter, that we still have an obligation to lead our country and other countries to find a global solution?

Senator SPECTER. I do agree with that, Mr. Chairman. I think our leadership can be accomplished, still maintaining adequate concerns for U.S. production. We can do that by saying the same restrictions will be imposed on Chinese imports which are being borne by U.S. production. But I do think we ought to take the lead, but we ought not to commit economic suicide in the process. We face a very major threat from China, beyond any question. If we allow them to run roughshod over us, we're not going to have any steel industry, or any glass industry, or any industry. They are on all fronts.

But we are not going to be able to lead and get the American people behind Specter-Bingaman or Warner-Lieberman unless the United States is treated fairly. So, as an indispensable ingredient in leadership, you see to it that it is fair and equitable. We have the standards in the WTO, and we can comply with them and still maintain our own industrial base and lead the Chinese, tough as that is.

The CHAIRMAN. Thank you, Senator, very much for your very, very strong contribution.

Senator Bingaman?

Senator BINGAMAN. I just wanted to compliment Senator Specter for his work on this issue. It is a pleasure to work with him on our legislation. We are just at the very beginning of this debate here in the Senate. The issue will be on the Senate floor, we believe, here in the next 2 or 3 months. Senator Specter's strong role in helping with this legislation and moving the issue forward is a major contributor. Thank you.

Senator SPECTER. Well, thank you, Senator Bingaman, for those nice comments.

Mr. Chairman, Senator Baucus, thank you for letting me appear. It is always nice to be with my classmate of 1980. We do not get together too often.

The CHAIRMAN. Thank you, Senator, very much. I appreciate that.

Now I am pleased to announce our panel of witnesses. First, Jennifer Haverkamp, who is chief counsel for the Environmental Defense Fund and a former Assistant U.S. Trade Representative for Environment and Natural Resources.

Next, Abraham Breehey, the assistant director for government affairs for the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers.

Next, Mr. Kjell Olav Kristiansen, the director of advisory services at Point Carbon North America, a carbon market analysis firm.

Finally, we welcome Ms. Ruksana Mirza, vice president for environmental and government affairs for Holcim, a global manufacturer of cement and other building products.

Welcome, everybody. Thank you very much for coming before our committee to give us the benefit of your expertise. We will begin with you, Ms. Haverkamp. I might remind everybody, 5 minutes oral; written testimony automatically included.

**STATEMENT OF JENNIFER HAVERKAMP, SENIOR COUNSEL,  
ENVIRONMENTAL DEFENSE FUND, WASHINGTON, DC**

Ms. HAVERKAMP. Good morning. Thank you, Mr. Chairman and distinguished members of the Finance Committee. I am Jennifer Haverkamp, senior counsel at Environmental Defense Fund.

Chairman Baucus and Ranking Member Grassley, thank you for holding this hearing. The Finance Committee has a crucial role to play in getting market-based policy design right, and we are very pleased to see you starting that process. Thanks also to Senator Specter for his remarks and for his commitment to enacting an effective climate program that brings in all major emitters. The leadership represented in this room today is inspiring.

Here are three key steps Congress can take to engage major developing nations in cutting their total greenhouse gas emissions to ensure that, if those nations do not engage, neither our programs' environmental effectiveness nor the strength of our economy will be undermined, and to do this consistent with our WTO obligations.

My written testimony also addresses how cap and trade can reduce compliance costs experienced in the European Union's carbon

market and our support for adaptation funding for the poorest countries.

First, we must cap and trade our own emissions. Congress should pass the Lieberman-Warner Climate Security Act this year. Federal inaction has compromised our ability to demand action from other nations, and every year we delay steepens the path of reductions needed to avoid serious environmental consequences and costs. Just 2 years of delay requires us to reduce emissions twice as fast in order to reach the same levels by 2020.

In the absence of a clear market signal on carbon, our industries will continue to watch from the sidelines as foreign competitors move to create the new low-carbon technologies of the future. We must unleash our companies to start doing what they do best: innovate. To do that, we must enact mandatory emissions caps.

The second key step is to use access to the U.S. carbon markets as a carrot to encourage other nations to cut and curb their emissions. Other nations' interest in gaining access to our carbon market, which is likely to be the largest in the world, gives us valuable leverage to encourage them to cap and trade.

My testimony lays out three leverage points. Here is one: to let tropical forest nations participate in our carbon market with credits earned by reducing deforestation. Forest destruction emits about as much as all the fossil fuel burned in the U.S. After us and China, the world's third and fourth biggest emitters are rain forest countries. But there is no carbon market today in which rain forest nations can earn carbon credits for reducing these emissions, so these nations have little incentive to keep their forests standing.

We urge you to structure the U.S. carbon market to compensate developing countries if they reduce their rate of deforestation nationwide below a historical baseline. The Lieberman-Warner bill takes the first important step in this direction, but it should be expanded significantly.

The third step: enact a backstop to make sure that imports of high-carbon products from uncapped nations do not undermine America's program. Congress should consider requiring importers of greenhouse gas intensive products from major emitting uncapped nations to tender emissions allowances or offsets as a condition of import, just as if the products had been produced here at home. This would serve as a backstop, there if we need it—that is if negotiations or national actions do not meet the serious emission limits—but ideally never invoked.

As you heard previously, the various versions of this approach have been included in both the Lieberman-Warner and the Bingaman-Specter bills. This can be done in a way that preserves the integrity of our cap and trade program, encourages other nations to join that program, and is consistent with our WTO obligations. Lieberman-Warner's title 6, 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.

This committee is right to be asking questions about WTO compliance. Only the WTO members can definitively interpret the agreements, of course. But of the proposals currently on the table, only title 6 type provisions stand a very good chance of surviving

a WTO challenge. It imposes comparable obligations on domestic entities and importers consistent with national treatment.

Should a WTO panel disagree, which as you know is always a possibility, strong arguments can be made that it qualifies for the WTO's environment exceptions. Questions have arisen about title 6's time gap between when U.S. companies must obtain allowances and when importers must. There may well be ways to shrink that gap and reasonable arguments for doing so. We do not, however, believe that it can be eliminated entirely.

For one thing, the importer's obligation must be based on the U.S. emitter's actual performance, which must first be measured and verified and the foreign country then given fair notice to comply. These three steps, capping U.S. emissions, using access to our carbon market as leverage, and enacting a backstop can engage developing countries while maintaining our economic strength.

Thank you for your attention. I look forward to your questions.

The CHAIRMAN. That was very good. It was only 4 minutes. [Laughter.]

Ms. HAVERKAMP. Do I get more?

The CHAIRMAN. And very succinct, to the point, and very helpful. Thank you very much.

[The prepared statement of Ms. Haverkamp appears in the appendix.]

The CHAIRMAN. Mr. Breehey?

**STATEMENT OF ABRAHAM BREEHEY, ASSISTANT DIRECTOR OF GOVERNMENT AFFAIRS, INTERNATIONAL BROTHERHOOD OF BOILERMAKERS, IRON SHIP BUILDERS, BLACKSMITHS, FORGERS, AND HELPERS, FAIRFAX, VA**

Mr. BREEHEY. Good morning, Chairman Baucus, Senator Grassley, Senator Bingaman. My name is Abraham Breehey, and I serve as assistant director of government affairs for the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers.

Our union represents workers in the manufacturing, construction, and ship building industries. On behalf of our president, Newton Jones, and our members across the country, we really appreciate the opportunity to express our views on this important topic.

Our union and others in the labor movement have longstanding concerns about the impact of policies designed to reduce our Nation's greenhouse gas emissions on the competitiveness of our economy and workers, particularly those whose work relates to manufacturing of energy-intensive products. However, we are committed to finding a solution that protects American workers while allowing the United States to demonstrate much-needed global leadership on this pressing environmental challenge.

In 1997, the delegates to the 22nd convention of the AFL-CIO affirmed very clear objectives on the issue of climate change. They included assuring environmental repair of the carbon dioxide concentration problem with the formal participation of the entire international community, committed to mutually agreed upon, binding solutions; protecting the industrial base of the U.S. with no movement of jobs or pollution to other countries; and providing a just

transition so that no American worker loses economic ground in our pursuit of more sustainable global practices.

A decade later, our goals remain the same; however, climate science makes increasingly clear that we delay reducing greenhouse gas emissions at our own peril. Our union believes there are potentially effective ways to ensure carbon mitigation policies do not place American workers at a further disadvantage in the global economy. Congress should seek to make certain that necessary and environmentally responsible action on the issue of climate change is not yet another reason why domestic industries relocate their production offshore, as so many already have in search of low-wage workers.

While there are other well-intentioned proposals to address the issue of competitiveness, we believe the proposal of the International Brotherhood of Electrical Workers and American Electric Power that was incorporated into the legislation introduced by Senators Bingaman and Specter and later into Senator Lieberman and Warner's legislation and that the Boilermakers and other unions have endorsed, we believe that is the best approach. We have a few remaining concerns about the provision as it is currently drafted, and I will offer some suggestions for improving them later in my testimony. However, they form the framework for sound and effective policy.

The international provisions of S. 2191 and S. 1766 seek to avoid the negative trade impacts of a domestic cap and trade program by requiring importers of bulk, energy-intensive primary goods to purchase allowances to cover the emissions associated with their production. Failure to do so would disqualify the entry of these products from importing into the United States.

We believe it is appropriate in terms of establishing a level playing field for American producers, and within our rights under the WTO, to apply this requirement on covered imports from a country that is not taking comparable action. The price of international reserve allowances would be pegged to the price of domestic allowances, assuring the close association between the cost of compliance for both foreign and domestic producers.

While I am not an expert on trade law, I have attached to my testimony a detailed analysis supporting the conclusion that such a requirement is fully in compliance with our obligations under the WTO.

We believe there are two primary reasons why this approach is the best mechanism to avoid the negative trade impacts of domestic climate change legislation. First, it could potentially provide valuable leverage to U.S. climate negotiators in their efforts to establish a global framework that includes other major emitters.

We are hopeful that when our trading partners know that the price of their exports headed for U.S. shores would be adjusted by the cost of its carbon content, they would recognize that there are no benefits to be gained from further delay.

As pressure mounts for truly global action on climate change, including commitments from the fastest-growing nations in the developing world, the leverage provided by the International Reserve Allowance requirement increases.

Second, and no less importantly, this requirement is consistent with the environmental goals of domestic climate action. We agree with the Stern review that climate change is the greatest and widest-ranging market failure ever seen, and the International Reserve Allowance requirement helps address this market failure in the context of a global economy without weakening or short-circuiting domestic efforts.

However, we believe that timely application of the international requirement is essential to its effectiveness. As drafted, S. 2191 requires importers of greenhouse gas-intensive goods to hold and submit allowances starting in 2020, while domestic regulations take effect in 2012.

American workers and businesses cannot afford to wait 8 years for the playing field to be leveled, and we believe the mechanism can, and should be, triggered soon after the implementation of a domestic program. Assuming that starts in 2012, we believe the requirement should be triggered no later than 2015.

In addition, we believe Congress should clarify what exactly constitutes comparable action on the part of other major emitters. We recognize the differentiated responsibilities and respective capabilities of developing countries to reduce their emissions while pursuing necessary economic development and alleviating poverty; however, comparable action must mean more than token gestures and statements of good faith. Efforts undertaken by major emitters in the developing world should be real, measurable, and verifiable to be considered comparable.

We also believe that the international provisions included in this legislation serve the interests of American workers but also reflect the political reality confronting the Senate as it seeks to address this issue and enact comprehensive mandatory legislation. As you know, the Senate unanimously voted against unilateral U.S. action when it adopted the Byrd-Hagel resolution. The labor movement strongly supported that resolution.

However, like so many members of the Senate, we recognized that the longer we wait the more difficult and expensive that action will be. We believe that imposing an international requirement on energy-intensive imports is the best mechanism for achieving the policy objectives reflected in the Byrd-Hagel resolution.

Thank you very much for your consideration of our views on this matter, and I look forward to your questions.

The CHAIRMAN. Thank you, Mr. Breehey, very much.

[The prepared statement of Mr. Breehey appears in the appendix.]

The CHAIRMAN. Mr. Kristiansen?

**STATEMENT OF KJELL OLAV KRISTIANSSEN, DIRECTOR, ADVISORY SERVICES, POINT CARBON NORTH AMERICA, WASHINGTON, DC**

Mr. KRISTIANSSEN. Thank you, Mr. Chairman and distinguished members of the committee, for this opportunity to testify before you today on behalf of Point Carbon. My name is Kjell Olav Kristiansen. I am director of advisory services at Point Carbon. Point Carbon is a global provider of news and nonpartisan research analysis and advisory services on the carbon and energy markets.

The United States is facing important choices about how to define a cap and trade scheme, and your decisions will have significant impact on the cost for you as consumers, on the cost for you as industry, and consequently on the competitiveness of U.S. industry.

Knowing the importance of these choices, we can look towards the European Union and learn from the 3 years of experience in setting up and running an emission trading system for carbon dioxide. While this market functioned well during the first year and a half, it experienced a sudden price collapse when it became apparent that the market was over-supplied with allowances.

The generous allocation of allowances was caused predominantly by lack of reliable emissions data. The most important lesson from the first phase of the EU scheme is that there must be a scarcity of allowances in the market to maintain a carbon price, which of course is needed to send the signal to reduce emissions.

So it is critically important to set a proper cap to achieve the desired emissions reduction. Despite this experience, the pilot phase of this scheme has developed a lot of knowledge, infrastructure, and financial instruments necessary to embark on the next stage of the program.

The EU now has verified emissions data, and the allocations proposed by the member states have been curbed to create the needed scarcity in the market. Phase 2 of the scheme is now developing well, with allowances trading in the \$30 range.

My next point is that the European Union allows emitters to use carbon offsets for reduction projects in developing countries. Because of the low cost of these reductions, they offer European companies an attractive option to reduce compliance costs. Studies for the Intergovernmental Panel on Climate Change show that the potential for reducing greenhouse gas emissions in non-OECD countries is twice as high as within OECD nations.

As the Congress considers creating a national cap and trade system which may place restrictions on the use of international offsets, it is important to remember the costs and benefits of such restrictions. Restricting the use of global offsets would have the benefit of increasing investment in domestic emissions reductions. However, such limits would also make it more expensive for the U.S. economy to achieve its emissions reduction goals. These limits would likely place U.S. businesses at a competitive disadvantage with respect to global peers with lower emissions.

Another reason to allow offsets is that they may prove to be indispensable to reach the short- to mid-term reduction targets that are now being discussed. We believe that the mid- to long-term targets are feasible with a combination of various non-emitting technologies, clean fuels, energy efficiency, and carbon capture and storage.

The greatest challenge may be the lack of flexibility in the system, in the energy system, to break this increasing trend in emissions. In this case, we believe that offsets can function as an important safety valve or a transitional remedy against very excessive carbon pricing.

Lastly, I would like to discuss the economic benefits of linking a domestic cap and trade program with other similar schemes. As

markets grow bigger, they become more efficient. Direct linking between a U.S. trading program and the EU scheme would create a mutually beneficial larger market, which would increase choice, improve market liquidity, decrease price volatility, and equalize competitive disparities. We believe a U.S. program can be successfully linked with existing international programs.

Distinguished members of the committee, the United States invented emissions trading with the creation of the successful acid rain program in the 1990s. The U.S. was instrumental in making offsets in global trading a key component of the Kyoto protocol. The EU then adopted these concepts successfully in its greenhouse gas cap and trade program.

As we now embark on defining what will become the world's largest emission market, we can reap the benefits of these innovative concepts and the experiences that have been gained, and we can create a program that will reach the target and minimize costs to consumers and to the U.S. industry. Again, thank you for this opportunity to appear before you today. I will look forward to your questions.

The CHAIRMAN. Thank you, sir, very much.

[The prepared statement of Mr. Kristiansen appears in the appendix.]

The CHAIRMAN. Ms. Mirza?

**STATEMENT OF RUKSANA MIRZA, VICE PRESIDENT, ENVIRONMENTAL AND GOVERNMENT AFFAIRS, HOLCIM, INC., WALTHAM, MA**

Ms. MIRZA. Good morning, Chairman Baucus, Ranking Member Grassley, and members of the committee. It is a privilege to appear before you today. My name is Ruksana Mirza, and I am the vice president of environmental and government affairs at Holcim U.S., Inc.

Holcim U.S. is a subsidiary of Holcim Limited, a global company with operations in over 70 countries, including 27 facilities in 10 countries operating under the European Union emission trading system.

Mr. Chairman, I am proud to inform the committee that we have facilities that employ many of your constituents. In addition to our plants in Three Forks, MT and Mason City, IA, we have operations in Colorado, Michigan, Utah, New York, and Massachusetts.

Cement is the key ingredient in concrete, the world's most prevalent and versatile building material. The cement industry has several characteristics that make it particularly susceptible to leakage of emissions. First, while cement is energy-intensive to produce, it is an inexpensive commodity that sells at only about \$90 a ton. Second, over the next few decades the demand for cement is expected to grow by over 40 percent. Third, production of cement is highly capital-intensive. Costs imposed only on the U.S. cement industry are likely to discourage the investment needed to meet domestic demand.

Holcim supports responsible climate legislation, and our proposal seeks to prevent leakage of carbon emissions by creating a level playing field between domestic producers and importers. We believe that importers should be included in the scope of a domestic



cap and trade program and subject to the same rights and the same obligations as domestic producers, including the obligation to monitor, report, and verify emissions, and to surrender and trade allowances. Such a system would effectively prevent carbon leakage and place domestic production and importers on an equal footing.

Through the importer, exporting installations would face the same carbon efficiency objectives and also have the same business opportunities as domestic producers. This system of equal rights and equal obligations is clearly non-discriminatory and is, therefore, compatible with WTO rules. This, in turn, would allow the measure to take effect at the same time as a domestic cap and trade program.

In the European Union, allowances are currently allocated to domestic installations based on historical emissions. The perverse result of this method of allocation is that our most inefficient plants in the European Union have received the highest number of allowances. Holcim believes that the allocation of allowances should be based on a performance benchmark. This would reward efficient users and provide an incentive to modernize equipment.

I raise this issue today, Mr. Chairman, because we believe benchmarking is the method of allocation that would most easily allow for equal treatment of domestic production and imports.

Current EU rules do not explicitly address leakage and defer the issue of competitiveness to member countries. They, in turn, have primarily addressed it by granting installations a higher proportion of allowances. Moving forward to 2013 and beyond, however, the European Commission has recognized the need for an equalization system to put domestic production and imports on a comparable footing.

In conclusion, Mr. Chairman, we urge the committee to address the issue of leakage of emissions through the adoption of a system of equal rights and equal obligations. We believe that such a system would be compatible with WTO rules, making it possible for leakage protection measures to take effect simultaneously with a domestic program.

We further believe that these measures should remain in effect until exporting nations have taken comparable action within a global climate protection framework.

Thank you, Mr. Chairman. I am happy to respond to questions.

The CHAIRMAN. Thank you, Ms. Mirza.

[The prepared statement of Ms. Mirza appears in the appendix.]

The CHAIRMAN. If I can, a question for you is, how do we make sure the border provisions are, if not bulletproof, very sound and will clearly withstand a WTO challenge and/or flexibility in whatever we have to adjust to WTO rulings?

Your thoughts on what can be done to shore up the firmness, if you will, of the border provision that requires companies to purchase allowances from companies overseas, or for a company overseas to show that it has had a comparable program. But the basic question is, anything we do has to conform with national treatment, MFN, clearly. But what else can we do to kind of help ensure that we have a program that is solid and makes sense, and if it is challenged, the challenges would likely be unsuccessful?

Ms. HAVERKAMP. Thank you. I will give a shot at that. Starting, as I said, though, first, we cannot be bulletproof. I wouldn't want to try to predict today.

The CHAIRMAN. But as bulletproof as we can.

Ms. HAVERKAMP. All right. I think, as I said in my testimony, that title 6 comes pretty close, and possibly a couple things that we might want to look at more closely. One, is the question of the international emissions allowances, because domestic entities—one thing I think that is good about the provision is that it gives the importers a choice of whether to purchase the international emission allowance or to purchase allowances on the open market, in other words, from other countries' cap and trade programs.

One question, though, is in terms of trying to make bulletproof the environmental objective of these provisions so that they satisfy the environmental exceptions of the WTO, would be seeing whether there is anything to do with the international emissions allowances so that they in fact represent a cap and that there is not an unlimited amount that then could be produced for however many imports that came in.

The CHAIRMAN. Mr. Kristiansen, how do we set the allowances to get sufficient scarcity? Say we need to have good data to know what emissions rates are, something the Europeans did not do very well. You mentioned the scarcity issue, prices collapsed. How do we get scarcity?

Mr. KRISTIANSEN. I would say that the United States is in a much better position to define a cap and trade scheme based on several years' of experience with air quality control legislation, and you have a very good emissions tracking system in the U.S., so you have a better understanding of emissions history and numbers. So, from that perspective, you are better off. Basically you have to know where you are to know where you are going; so, we know where we are.

The CHAIRMAN. Do we know well enough where we are?

Mr. KRISTIANSEN. I think you have a good understanding of the emissions, but you have to understand, in terms of setting a cap, you have to understand what are the possibilities, what does it cost to reduce emissions in different industries. How much can be reduced? What is the availability of technology and when will technology be available, so how fast can we reduce?

Based on those assessments, you can set a realistic progression in reducing emissions, and you can have a realistic view on what it would cost. That is basically what we need to understand. We need to understand accurately how emissions are related with costs and with the technology development.

The CHAIRMAN. The Europeans did not have enough data?

Mr. KRISTIANSEN. We did not have, in Europe, the amount of data available to set that cap appropriately. Emissions data was invited from the emitters themselves. In a scheme where basically you will be given allowances for free and you know that you will be given allowances for free, you have an incentive to exaggerate your emissions.

The CHAIRMAN. What are they doing differently under phase two?

Mr. KRISTIANSEN. Well, in phase two, first of all they have very fine emissions data from 2005, which was the first time they had a bottom-up measurement of emissions on an installation level. So they knew exactly the benchmark or the baseline from which to design the next phase.

The CHAIRMAN. My time has expired. But under the Clean Air Act, allowances were set. There was a big question of whether that would work. The general feeling, I think, is that it has worked very well. What lessons are there under emissions trade and so forth that can be applied here, or is that such a different animal that it really does not have—

Mr. KRISTIANSEN. Well, the issue with the acid rain scheme was that, in a way, the solution was to put a scrubber at the tail-end of a coal plant at a manageable cost, and the issues related to carbon dioxide are more complex and more costly for emitters.

While, generally, the experience from the acid rain scheme was that, as a policy instrument, it enabled us to reach emissions reduction faster and at a lower cost than other instruments, we believe the mechanics are the same and the same incentives will apply in the CO<sub>2</sub> cap and trade scheme. That is why cap and trade is, we believe, the best policy instrument to deal with emissions.

The CHAIRMAN. Much better than a carbon tax?

Mr. KRISTIANSEN. We believe that cap and trade is better than a carbon tax because it presents us with more options. Basically, an emitter in the tax scheme will have the options of paying the tax or reducing its emissions, and it will reduce its emissions to the point that it is cheaper than paying the tax. But in a cap and trade scheme, you have the option also to go outside the scope of the scheme and invest in emissions reductions elsewhere, and you can create big capital flows that can lead to reductions.

The CHAIRMAN. Thank you. Thank you.

Senator Grassley?

Senator GRASSLEY. Thank you, Mr. Chairman.

Ms. Haverkamp, if we wanted to defend a cap and trade program at the WTO, is it essential that we try to negotiate an international agreement before we applied for the programmed imports? In your testimony, I think you said we should do it. My question is, do we have to do it?

Ms. HAVERKAMP. Thank you. The WTO itself does not require that there be international negotiations, but, based on the Shrimp-Turtle case, if you do have international negotiations with some countries, you need to be making the good-faith effort to negotiate with all. So that is the source of the obligation. In terms of the timing, the negotiations do not have to be completed before, I do not think, these provisions would kick in, but I think you do want to allow plenty of time for the international negotiating process to work, and again to show that as a general matter the WTO favors measures that are the least trade restrictive. I think the idea would be to negotiate international agreements where these countries have capped their own emissions fully, so that is another reason you want to allow time for the international negotiation.

Senator GRASSLEY. Just a slight diversion from that question. In your testimony, you had mentioned the possibility of negotiating bilateral carbon market access agreements as a fall-back to the mul-

tilateral agreement. You suggested that these types of agreements could help us defend a cap and trade program at the WTO. Explain further. For example, are you suggesting that we need to negotiate a bilateral agreement with the European Union if that would help us defend against the WTO challenge by China?

Ms. HAVERKAMP. I think that the idea of the bilateral negotiations is several. One is, in case the international negotiations, multilateral negotiations in the U.N., take a very long time or do not reach a successful conclusion, these bilateral negotiations are a way of showing that we are still trying to achieve the less trade-restrictive way of getting to the environmental objective.

As far as whether a bilateral with the EU would help with a challenge from China, I definitely would have to think a little bit more about that, but I think that there would be many other reasons, as you heard from the Point Carbon witness, for why we ought to try to have a bilateral agreement with the EU.

Senator GRASSLEY. Well, let me invite you, since you maybe need to give it some thought, to submit additional comments in writing.

Ms. HAVERKAMP. I would be very pleased to do that.

Senator GRASSLEY. Ms. Mirza, in your testimony you discussed the need to apply any cap and trade programs in the United States to imports. Are there any other lessons from your participation in the European cap and trade program that you think we should keep in mind here in the United States?

Ms. MIRZA. I think one of the things that is clear to us from my experience in the European Union is that significant reductions from the energy-intensive sector cannot really be realized in the absence of a system that equalizes domestic production and imports. I think the European Commission themselves recognize this now.

Senator GRASSLEY. And “equalize” meaning with international competition?

Ms. MIRZA. That is right.

Senator GRASSLEY. Also to you, some have suggested that any U.S. cap and trade program should impose tariffs on imports from countries without equivalent systems. Could you explain why you prefer your concept of equal rights and equal opportunities as an alternative to the imposition of tariffs?

Ms. MIRZA. We believe, Senator, that the system of equal rights and equal obligations, because it is non-discriminatory, is more likely to be able to withstand a challenge under WTO rules than a system of tariffs.

Senator GRASSLEY. All right.

Mr. Kristiansen, you noted in your testimony that phase three of the European Union’s cap and trade program will include a preference for offsets that originate in least-developed countries. Can you explain the reason behind this aspect of the European Union system? I think, also, you heard the discussion we had with Senator Specter. Could you work that discussion into your answer?

Mr. KRISTIANSEN. My belief, from reading their explanation and the new proposal from the Commission—basically it is a proposal from the Commission that has not been subject to political discussions in the EU—is that they are restricting this now, also, based on the same questions we are discussing here today.

This is a way to provide an incentive for the advanced developing countries to take on commitments and caps, and that they will, for the time being, reserve the right for the least-developed countries to generate credits. They do say, however, that if they are able to get wider international agreement with the United States and with the large, advanced developing countries, they would be willing to lift that restriction.

Senator GRASSLEY. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator.

Senator Bingaman?

Senator BINGAMAN. Thank you very much for having the hearing, Mr. Chairman. Thanks to all the witnesses.

Let me start with a question for Mr. Breehey. Is that the correct pronunciation?

Mr. BREEHEY. Yes, sir.

Senator BINGAMAN. Mr. Breehey, what is the appropriate amount of time, in your view, both from a WTO perspective but also just trying to be realistic about the length of time it will take particularly a developing country, to put in place an adequate cap and trade system? We are taking our own sweet time here in the United States trying to figure out how to do this, and now we are saying, okay, all you developing countries, we want you to hurry up and speed this up.

I mean, in the legislation that Senator Specter and I have introduced, we do call for this to be done by 2020 by developing countries or by other countries, or we would have the right at that time to begin to require some emission allowances if people wanted to continue importing into our markets.

I think you said, Senator Specter expressed the view, that maybe that is too long a time. What is the right length of time? We are not putting any obligation on the U.S. if we were to adopt the Lieberman-Warner bill or the Bingaman-Specter bill. We would not be starting any obligation on U.S. firms until 2012. When should obligations be imposed on others?

Mr. BREEHEY. Well, first, let me say thank you again for including those provisions in your legislation. We think that was an important first step to start this conversation. Both with regard to ensuring the effectiveness of the provision and withstanding a challenge under the WTO, we think it would be appropriate to accelerate the imposition of this requirement on major trading partners from 2020, as you included in your bill, to perhaps 2015, assuming that the U.S. program would start in 2012—so, 3 years—to allow us time for further negotiations with our trading partners.

We believe there are about 30 that the U.S. would be required to negotiate with, and that would also provide adequate time to demonstrate the effectiveness of the U.S. cap and ensure that we meet the standard of comparability that is required.

Senator BINGAMAN. All right.

Let me ask about the appropriateness of including Clean Development Mechanism (CDM) credits as part of a U.S. cap and trade system. I think, Ms. Haverkamp, as I understand your testimony, you say that that is an all right thing to do, as long as the countries from which people are obtaining these credits are capped,

have caps on their emissions as well. Is that what I understand your position to be?

Ms. HAVERKAMP. That is the direction that we think the policy should go. Right now, CDM credits come from countries that do not have caps. Therefore, while they are a good way for getting the developing countries to control their emissions, they do not represent overall global emissions, because a reduction there means that a company in the U.S. can emit more.

The goal I think we would have is to look for ways to put a multiplier on CDM emissions so that, over some not terribly long period of time, they are phased out of our program unless those countries have a cap in place.

Now, the kind of international credits that we think are particularly valuable, as I mentioned, are the forest credits. If a country takes a national historic baseline on their emissions and gets credit only for deforestation below that, then those in fact represent genuine emissions reduction.

Senator BINGAMAN. Mr. Kristiansen, I would be interested in your view. You make a strong plea here for us allowing offsets in anything we do as a sort of a safety valve that would allow us to meet aggressive short-term goals, as I understand it. How does that square with what you think we ought to do on CDM? What is your thought on that? Maybe tell us also your views on the way Europe has treated the CDM issue.

Mr. KRISTIANSEN. I can start by explaining that the European Emission Trading Scheme accepts CDM credits as a compliance option. There are quantitative limitations on how much emitters can use, but basically it has become the most important source of emissions reductions for the EU ETS, and it has created a very significant flow of capital to developing countries, and also a lot of projects in reducing emissions in developing countries.

We do understand that accepting offsets will mean that actually you can increase emissions at home while you reduce emissions in the developing countries. The point is, this is a true emission reduction caused by the cap and trade scheme, and what is most important is that you get this emission reduction at a much lower cost.

That is very significant because it gives emitters in the U.S. and in Europe a way to comply with their obligations at a much lower cost than reducing emissions at home. So it is a win-win. It is good for the emitters and it is good for the environment, because it gives us an opportunity to reduce more emissions.

The CHAIRMAN. Thank you, Senator.

Senator Salazar?

Senator SALAZAR. Thank you very much, Senator Baucus. Let me first say this is a very important hearing, and I appreciate the leadership that Senator Baucus has taken on this issue.

The goal, I think, is one that we understand, that we have to do something with global warming before we end up frying our planet. That is something that we need to take action on. We have these dialogues around the country. I have these dialogues with people in my State. What I hear back from them is, we are not ready to do it now. We should go ahead and take a look at the issue of glob-

al warming this year perhaps, and then next year move forward to pass legislation on global warming.

The rationale for that is essentially the subject matter of this hearing, which is, you cannot do this alone. Global warming is a planetary issue and, given the emissions we have coming out of China and India and other places, how is it that the United States can move forward with its global warming legislation on its own this year?

So I guess my question to all of you is, this is an issue which I believe will probably be on the floor of the U.S. Senate some time over the next several months. Is this something that we should wait for until we have a new President, a new administration, taking a different look at trying to put together the international accords that will make an effective global warming initiative drill, or is this something that you think we ought to try to get across through legislative effort this year in 2008?

So, Jennifer, if we can start with you, why don't each of you just take about a minute to respond to that question. Should we use this year as a year of learning or should we use this year as a year to try to get a good global warming bill across the finish line?

Ms. HAVERKAMP. Thank you very much for that question. We feel strongly that we need to use this year to get the bill across the finish line for some of these reasons. One is, the longer we wait, the steeper the path we have to take to get to the ultimate emissions level that we consider safe to avoid serious consequences. There is a graph in my testimony that shows that the rate basically has to double to get us where we need to if we wait even just 2 years.

Also, this is a very critical next 2 years in the international negotiations. Developing countries are deciding right now in those negotiations what kind of commitments they will take in this process, and they need to see leadership from the United States. We have not until now, and we cannot continue to play chicken with waiting for which country will take leadership first. Thank you.

Senator SALAZAR. Mr. Breehey?

Mr. BREEHEY. Frankly, Senator, I wish I had the opportunity to go first. I will give a similar answer to Jennifer. I think that if the Senate can come together to reach bipartisan consensus on a bill this year, we believe they should. The longer we wait, the more it is going to cost.

Certainly we wish we had more time for technology to develop, particularly much-needed technology for carbon capture and sequestration from coal-fired power generation, but we do not necessarily have that time. We believe investment in vital carbon-saving technology should be accelerated. But a bill should be passed as soon as possible.

We also believe that, as Jennifer indicated, a bill passed by the U.S. Congress and signed by the President would demonstrate to the rest of the world that the United States takes its obligation seriously and would perhaps accelerate negotiations towards a truly global agreement that includes the major emitters in the developing world, particularly China and India.

Senator SALAZAR. Mr. Kristiansen?

Mr. KRISTIANSEN. I can add to that, it is critically important to get a good bill. This is legislation that will shape the way the en-

ergy sector is going to look in the next decades, perhaps, and it will give incentives to investors to make the right choices. In the current bills there are some features we think could be better, but it is important from our perspective that you get agreement.

I think it is such a significant issue, climate change and legislation. If you have bipartisan support for the bill, then you get robust legislation that will not be subject to the 4-year cycle discussions. It is so significant that you have a good bill for which there is wide agreement. Thank you.

Senator SALAZAR. Ms. Mirza?

Ms. MIRZA. Senator, Holcim supports responsible, timely legislation. We think it can be done. It can be done properly. We think the U.S. can take a leadership position on this, and should take a leadership position on this. We would, however, like to see the time taken to make sure that this is done appropriately, including addressing some of the issues we have discussed today on the competitiveness issues.

Senator SALAZAR. Thank you very much.

The CHAIRMAN. Thank you, Senator.

To the four of you, you advocate leadership, you advocate that the United States move forward responsibly. Let us take the bill that was passed out of the Environment and Public Works Committee, the Lieberman-Warner bill. That is our operating hypothesis here. That bill is going to go to the floor. What changes would you make? And I am not asking for detailed changes, but just, is there something in that bill that has to be addressed before it is passed this year?

Let me go down the line here. Ms. Haverkamp?

Ms. HAVERKAMP. I guess one thing I would consider is strengthening the scientific review provisions so that, as we go forward, if we get new science or realize that we could change the bill in ways to achieve the desired result sooner, better, that it is easy to do that.

The CHAIRMAN. All right.

Mr. Breehey?

Mr. BREEHEY. Sir, I think most of the labor movement would agree that there are a few things that we would certainly like to see included in Lieberman-Warner that are not currently. First, we believe the cost containment provisions should be strengthened to some degree. One of the reasons why so many of us supported Senator Bingaman's legislation was the inclusion of a price cap on emissions allowances.

The CHAIRMAN. Is that called an escape valve or the price cap? Price cap.

Mr. BREEHEY. Technology accelerator payments. But we recognized that there are some concerns about how that would work. We hope that there could be some further exploration of—

The CHAIRMAN. The basic point is that it is not fatally flawed, but it can be improved?

Mr. BREEHEY. We think so. We would also advocate for the inclusion of a program that would assist workers that might be displaced under a carbon-regulated economy.

The CHAIRMAN. All right. Good.

Mr. Kristiansen?



Mr. KRISTIANSEN. The current bill does not allow for import of global offsets, and we would like to see that change. It is not necessary to curtail the global carbon market and to reduce U.S. emitters' options and possibilities to take advantage of low-cost reductions. That can be done by other means, for instance, the border adjustment tariffs that have been introduced and discussed.

Second, the allocation discussion. Right now, the bill creates disparities in competition between natural gas and coal-powered generators, because natural gas is regulated upstream at the point of the fuel supply, while coal plants are regulated at the emission source. So, while coal plants get free allocations, natural gas plants do not get allocations. That creates a situation you would like to avoid. What we would like to achieve is to have cleaner production of power and intensify cleaner production sources. Thank you.

The CHAIRMAN. Ms. Mirza?

Ms. MIRZA. I would like to support what Mr. Kristiansen said with respect to offsets. I think the Lieberman-Warner bill sets out some very aggressive targets for reduction. For industry to be able to comply with them, I think we need to make the maximum use of flexibility mechanisms such as international offsets. So, that is one thing that we would like to see.

The other thing would be a greater, perhaps, consideration of the predicament of energy-intensive industries, ensuring an equitable allocation system for energy-intensive industries.

The CHAIRMAN. What do we do here in this country to encourage other countries to come along and do the right thing? Let us take China. What is the best leverage we have, what is the best encouragement that we have? What carrots, what sticks might we have to help other countries come along? As we enact our cap and trade system, we are trying to do the right thing.

We have the border provisions to encourage other countries. Is that sufficient? What else should we do? How does that fit in with what is going on in Bali, for example? How do we get other countries to participate so we have a global solution here? What is the best way? This bill is not sufficient, really, but how much do you think it will help in what else we need to do? I will go backwards this time. Ms. Mirza, you are first.

Ms. MIRZA. I think the issue of access to our market. I mean, that is, I think, a huge incentive. It was brought out in some of the testimony we have heard today. That relates directly to how we treat imports. I think that is at the center of it. I think creating a carbon signal where developing countries, other major emitters, have an incentive to produce efficiently. If they produce efficiently, they are able to benefit from that. I think that is the main encouragement.

The CHAIRMAN. Mr. Kristiansen?

Mr. KRISTIANSEN. That is a hard question.

The CHAIRMAN. That is why I asked.

Mr. KRISTIANSEN. The border adjustment tariffs that have been proposed, I think, would be very effective. That is a stick. A carrot could be to let them remain in the global carbon market, trade with them in terms of carbon credits.

The CHAIRMAN. All right.

I do not know. What is going on with Bali? What are the next international steps in climate change? Yes?

Mr. KRISTIANSEN. The Bali negotiations gave a negotiation mandate to arrive at a new global agreement, hopefully within 2 years. These discussions, I assume, will take place during the course of those years.

The CHAIRMAN. Mr. Breehey, what is the best way to encourage other countries to join in here?

Mr. BREEHEY. We believe that the mechanism that I discussed in my testimony, the international reserve allowance, is the appropriate stick. While some folks in the administration have indicated their resistance to it, we also know that the U.S. chief climate negotiator, in fact, used this requirement in some negotiations that took place. It was pretty widely reported in the press.

It is our understanding that some of our major trading partners took notice when that was put on the table. We are hopeful that the effectiveness of that requirement could be so strong that it would never need to take effect, that it would provide the incentive necessary for folks to come to the table and negotiate before the trigger would ever happen. So, we prefer that as the approach.

The CHAIRMAN. Ms. Haverkamp?

Ms. HAVERKAMP. To be honest, I think the best thing we can do is pass our bill soon and have a strong cap and trade program ourselves, because that gives us the authority to go to the Chinese and others and say, it is your turn. It also significantly gives other developing countries the latitude to place leverage on the major emitting developing countries. The small island states and others see that this problem is going to hurt them, and the larger countries are also seeing that they have to be part of the solution. But it is hard for the rest of the world to leverage those countries until the United States is in a better place.

The CHAIRMAN. I would agree with that. People around the world still look to the United States to lead. We have that obligation and responsibility, and we have that opportunity. If we lead, theoretically we can lead well, lead in the right way, set the right tone. I think I very much agree with it. I just would encourage all of us to do what we can to help make that happen.

One of you mentioned, and it might have been you, Ms. Haverkamp, about the waiting period between requiring U.S. allowances on the one hand and requiring international allowances on the other. Is that not going to hurt American industry, a waiting period?

Ms. HAVERKAMP. Well, I think it depends on what the entire package looks like. I think we want to have a waiting period as short as we need for the whole range of purposes that the waiting period serves, but there are other things that can be done to help address the competitiveness concerns of our country during the waiting period.

The CHAIRMAN. Such as?

Ms. HAVERKAMP. One, I think, is to look at the allowance allocation. Are there things that we ought to be doing for severely affected U.S. companies during that gap period?

The CHAIRMAN. All right.

Ms. HAVERKAMP. And there are also just many other provisions in a cap and trade system that will lower the compliance costs for our companies, the banking and borrowing provisions, things like that.

The CHAIRMAN. We have a border program. How do we measure comparability with other countries, whether another country's actions are comparable or not? Mr. Kristiansen, your answer to that?

Mr. KRISTIANSEN. I am not sure I am the right person to answer that.

The CHAIRMAN. Anybody who wants to take a crack at it.

Mr. KRISTIANSEN. Comparable action in relation to abandoning the border—

The CHAIRMAN. Comparable action. Abandoning the borders. If we do not implement this border provision because other countries' actions are comparable, and we buy steel from that country.

Mr. KRISTIANSEN. Well, I think it's a split position. I mean, at what point do you consider the restrictions imposed by another country to be adequately stringent or acceptable?

The CHAIRMAN. That is the question, yes. That is the question.

Mr. KRISTIANSEN. So, I mean, you can look at it from what kind of cost the system imposes on the different industries and how their competitive positions are evolving.

The CHAIRMAN. Mr. Breehey, I think you might have mentioned that in your statement.

Mr. BREEHEY. Yes, sir. We feel like that is one of the critical questions that still needs further fleshing out and answering. The standard that was acknowledged in the Bali negotiation was this idea of real, measurable, and verifiable. We think verifiability is essential, ensuring that the reductions are absolute and that they frankly are not fudged in any way.

We know, if we are talking about China, there are laws on the books in China that are not enforced. Minimum wage, for example. We need to ensure that, if they impose domestic regulations, that they are enforced. How do we see to it that they are and that they are putting similar burdens on Chinese producers as we would put on American producers? It is a tough question. We hope that some folks can take a hard look at it and figure out just how we make that happen.

The CHAIRMAN. Thank you very much.

Before I adjourn this, does anybody want to say something that should have been said, or did somebody say something that has to be addressed? [No response.]

The CHAIRMAN. Maybe I should ask the audience. [Laughter.] I am not going to go that far. [Laughter.]

Thank you very, very much. This could well be the most important issue of our time, climate change. It is very, very important that we address this very aggressively, but also that we address it very seriously. You are all doing a great job on both counts, aggressively and seriously. Thank you very, very much.

The hearing is adjourned.

[Whereupon, at 11:26 a.m., the hearing was concluded.]



# **A P P E N D I X**

## **ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD**

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**TESTIMONY OF  
ABRAHAM F. BREEHEY  
ASSISTANT DIRECTOR OF GOVERNMENT AFFAIRS,  
INTERNATIONAL BROTHERHOOD OF BOILERMAKERS, IRON SHIP  
BUILDERS, BLACKSMITHS, FORGERS AND HELPERS (AFL-CIO)  
BEFORE THE  
UNITED STATES SENATE COMMITTEE ON FINANCE  
FEBRUARY 14, 2008**

Good morning, Chairman Baucus, Senator Grassley, and Members of the Committee. My name is Abraham Breehey and I serve as the Assistant Director of Government Affairs for the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers. The Boilermakers Union represents workers in the manufacturing and construction sectors. On behalf of our members, I greatly appreciate the opportunity to express our views on this important topic.

Our union and others in the labor movement have longstanding concerns about the impact of policies designed to reduce our nation's greenhouse gas emissions on the competitiveness of our economy and workers, particularly those whose work relates to the manufacturing of energy-intensive products. However, we are committed to finding a solution that protects American workers while allowing the United States to demonstrate much needed global leadership on this pressing environmental challenge.

In 1997, the delegates to the Twenty-Second Convention of the AFL-CIO affirmed very clear objectives on the issue of climate change. They included assuring environmental repair of the carbon dioxide concentration problem with the formal participation of the entire international community committed to a mutually agreed upon, binding solution; protecting the industrial base of the United States with no movement of jobs or pollution to other countries because of perverse incentives resulting from a flawed

international agreement; and providing a just transition so that no American worker loses economic ground in our pursuit of more sustainable global practices.

A decade later, our goals remain the same. However, climate science makes it increasingly clear that we delay reducing greenhouse gas emissions at our own peril. Our union believes there are potentially effective ways to ensure that carbon mitigation policies do not place American workers at a further disadvantage in the global economy, while maintaining leverage on major emitters in the developing world to join us. At the very least, we must ensure that their delay does not undermine our efforts.

Congress should seek to make certain that necessary and environmentally responsible action on the issue of climate change is not yet another reason why domestic industries relocate their production off-shore, as so many have already in search of low-wage workers. It serves neither the goals of the labor movement, nor the environment goal of reducing greenhouse gas emissions, if the American industrial base and the emissions that result from industrial processes shifts to nations that have resisted carbon restrictions. Domestic reduction efforts should be coupled with a global strategy.

Effective climate change policies by the United States must recognize that we cannot solve this problem alone. According to the International Energy Agency, global CO<sub>2</sub> emissions related to energy production will increase by 57% from 2005-2030. Developing countries will account for more than 75% of this increase. China's CO<sub>2</sub> emissions are the fastest growing in the world and they have surpassed the United States as the leading annual emitter. Including provisions in a domestic greenhouse gas reduction policy that encourage major trading partners in the developing world to join us in a global agreement or internalize the cost of greenhouse gas emissions in their exports to the U.S. makes both environmental and economic sense.

While there are other well-intentioned proposals to address the issue of competitiveness, we believe the proposal of the International Brotherhood of Electrical Workers and American Electric Power that was incorporated into the legislation

introduced by Senators Bingaman and Specter, and Senators Lieberman and Warner is the best approach. To be clear, we have a few remaining concerns about the provisions as currently included in S. 2191 and S. 1766, and I will offer some suggestions for improving them later in my testimony. However, these provisions form the framework for a sound and effective policy.

The international provisions of S. 2191 and S. 1766 seek to avoid the negative trade impacts of a domestic cap-and-trade program by requiring importers of bulk energy intensive primary goods to purchase “allowances” to cover the emissions associated with their production. Failure to do so would disqualify the entry of these products from import into the United States.

It is appropriate in terms of establishing a level playing field for American producers and within our rights under the World Trade Organization (WTO) to apply this requirement on certain covered imports – including iron, steel, aluminum, cement, glass, and paper – from a country that has not taken comparable action. The international reserve allowance requirement would correspond to the greenhouse gases emitted when the imported goods were produced in the country of origin, with an adjustment ratio to account for allowances allocated at no cost to domestic producers. The price of international reserve allowances would be pegged to the price for domestic allowances, assuring the close association between the cost of compliance for both foreign and domestic producers. While I am not an expert on trade law, I have attached to my testimony a detailed analysis supporting the conclusion that such a requirement is fully in compliance with the requirements of the WTO (Appendix A).

As proposed in the Lieberman-Warner Climate Security Act and the Bingaman-Specter Low Carbon Economy Act, the United States would commence good faith efforts to negotiate with all major greenhouse gas emitters – consistent with our obligations under the WTO – immediately following enactment of domestic cap-and-trade legislation. Upon the implementation of the U.S. cap-and-trade program, the Administration would begin an interagency review process to determine which, if any,

major emitters have failed to take comparable steps. This determination requires the President to quantify the annual emissions reductions achieved by the United States under the domestic program, and compare those reductions to emissions from other major emitters. This process is based on results, not the policy design a particular country may choose to implement. Following that determination, energy-intensive primary goods imported into the United States from a major emitting nation that has not taken comparable action would be required to account for the “carbon footprint” of those imports through the purchase of international reserve allowances or an allowance distributed by another foreign country pursuant to a cap-and-trade program that represents comparable action.

While this requirement would apply to imports from the nations in the developing world that have not taken comparable action, the provisions are focused only on those that contribute substantially to global emissions and are not intended to hinder development in the world’s poorest countries. Least developed nations and those whose greenhouse gas emissions are below a *de minimis* percentage of global emissions would not be bound by this requirement.

Our union believes there are two primary reasons the “international reserve allowance” requirement is the best mechanism to avoid negative impacts on the U.S. competitiveness. First, it could potentially provide valuable leverage to U.S. climate negotiators in their efforts to establish a global framework that includes other major emitting nations. We are hopeful that when our major trading partners know that the price of their exports headed for U.S. shores would be adjusted by the cost of its carbon content, they would recognize that there are no benefits to be gained from further delay. In fact, if utilized effectively by climate negotiators, these provisions might never take effect. Indeed, it is our hope that a global framework is reached that includes all the major emitters in the developing world and these provisions are never triggered. As pressure mounts for truly global action on climate change, including commitments from the fastest growing nations in the developing world, the leverage provided by the international reserve allowance requirement increases.



Second, and no less importantly, this requirement is consistent with the environmental goals of domestic climate action. We agree with the statement included in the Stern Review that climate change “is the greatest and widest-ranging market failure ever seen.” The international reserve allowance requirement helps address this market failure in the context of a global economy without weakening or short-circuiting domestic efforts. It is time to account for the significant negative externality of carbon emissions in both domestic and foreign products. International reserve allowances are separate from those allocated under the domestic program. The use of such allowances will not increase the U.S. emissions cap or undermine our own environmental goals and they can only be used for meeting the requirements that would apply to imported covered energy-intensive goods.

However, we believe the timely application of an international requirement is essential to its effectiveness. As drafted, the provisions of S. 2191 require importers of greenhouse gas intensive goods to hold and submit allowances starting in 2020, while domestic regulations would take effect in 2012. American workers and firms cannot afford to wait eight years for the playing field to be leveled. We believe this mechanism can and must be triggered soon after the implementation of a domestic cap-and-trade program. We believe the requirement should be triggered no later than 2015, if not sooner, recognizing the need for an interagency review process, and a determination on whether nations are taking action comparable to the United States.

In addition, we believe Congress should clarify what exactly constitutes “comparable action” on the part of other major emitters. We recognize the differentiated responsibilities and respective capabilities of developing countries to reduce their carbon emissions, while pursuing necessary economic development and alleviating poverty. However, “comparable action” must mean more than token gestures or statements of good faith. Efforts undertaken by major emitters in the developing world must be real, measurable, and verifiable in order to be considered comparable.

We believe that the international provisions included in the Lieberman-Warner and Bingaman-Specter bills serve the interests of American workers, but also reflect the political reality confronting efforts to enact comprehensive, mandatory climate change legislation. As you know, in 1997, the Senate unanimously voted against unilateral U.S. action to cap domestic emissions when it adopted the Byrd-Hagel resolution. That resolution stated that no treaty mandating greenhouse gas reduction commitments should be ratified unless it required developing countries to reduce their emissions within the same time frame. The labor movement strongly supported this resolution. However, like so many Members of the Senate, we recognize that the longer we wait to act, the more difficult – and expensive – that action will be. The importance of effective provisions to encourage action from China, India, and other fast developing countries can not be understated. The Boilermakers Union believes that imposing an allowance requirement on energy intensive imports is the best mechanism for achieving the policy objectives reflected in the Byrd-Hagel resolution.

Thank you very much for your consideration of my views on this matter. I look forward to answering any questions you might have.

**APPENDIX A**

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JANUARY 25, 2008

**WTO Analysis of  
 International Provisions of U.S. Climate Change Legislation**

The United States Congress is contemplating legislation that would impose a mandatory cap-and-trade program for U.S. greenhouse gas (GHG) emissions. This legislation must also provide leverage to ensure that emissions in other countries, particularly rapidly developing countries such as China or India, do not undermine these efforts to protect the environment. To provide effective leverage, the U.S. legislation must be compliant with the Agreement Establishing the World Trade Organization (WTO). To that end, the International Brotherhood of Electrical Workers (IBEW) and American Electric Power (AEP) have proposed that the United States impose an allowance requirement on imports of carbon-intensive goods from countries that fail to take action on GHG emissions comparable to that of the United States.<sup>1</sup> Counsel for AEP has prepared the following legal analysis on the WTO-consistency of such a requirement.

**I. Summary**

Where governments take action to address environmental protection, WTO law favors doing so through consensual and multilateral procedures, rather than unilateral trade measures. However:

- if the United States made **good faith efforts** to negotiate with **all** nations on a non-discriminatory basis but was unable to reach agreement on procedures to reduce greenhouse gas emissions, then
- the United States could **require imports** of goods to be accompanied (electronically) by emissions **allowances**,
- in the context of a broader requirement that **domestic producers** have emission allowances.

<sup>1</sup> A summary of the IBEW-AEP proposal is attached.

Analyzing the WTO-consistency of an allowance requirement on imports is a two-step process: (1) is the requirement, as a measure, **consistent** with the relevant obligations of the WTO, and if not; (2) is it covered by a WTO **exception**?

One could argue that an allowance requirement on imports should be considered as part of the overall U.S. cap-and-trade program. As such, it would be consistent with the WTO national treatment obligation set forth in GATT Article III:4, because it would be administered to accord imported goods treatment no less favorable than the treatment accorded "like" domestic goods. If the allowance requirement on imports were not considered as part of domestic regulation, then it would be governed by the obligations set forth in GATT Article XI or II regarding border measures. Even if the measure were not consistent with applicable WTO obligations, however, the allowance requirement would be covered by the WTO exception set forth in GATT Article XX(g) for measures relating to the conservation of exhaustible natural resources or the exception set forth in GATT Article XX(b) for measures relating to the protection of human, animal or plant life or health. The allowance requirement, under which allowances submitted with imports would be retired from further use, just as allowances assigned to domestic production would be, is closely related to the conservation objective of the overall climate change program. It is also an important part of a comprehensive regulatory scheme that is apt to cause substantial benefits to health and life.

The relevant WTO provisions are included in an Appendix attached to this memorandum, and the following chart illustrates the results of the WTO analysis:

WTO ANALYSIS	ALLOWANCE REQUIREMENT ON IMPORTS
<b>1. Is measure consistent with WTO obligations?</b>	
(a) Issue	<b>Either</b> it is considered as a border measure . . .
- Applicable provisions	GATT Articles II or XI
- Outcome	Not WTO-consistent if the measure imposes charges in excess of scheduled duties or border restrictions.
(b) Issue	. . . or it is judged as part of internal regulation
- Applicable provision	GATT Article III
- Outcome	WTO consistent if judged in the context of overall domestic regulation, affords national treatment, <i>i.e.</i> , treatment to imported goods no less favorable than that accorded to "like" domestic goods
<b>2. If the measure is not WTO consistent, then is measure covered by a WTO exception?</b>	
(a) Issue	<b>Either</b> measure relates to the conservation of exhaustible natural resources . .

- Applicable provision	GATT Article XX(g)
- Outcome	Yes, it is closely related to the objective of conservation
(b) Issue	<b>Or</b> measure is necessary to the protection of human, animal or plant life or health . . .
- Applicable provision	GATT Article XX(b)
- Outcome	Yes, even though in the short term it may be difficult to isolate the contribution of a single measure to reducing climate change, it is part of a comprehensive regulatory scheme that is apt to induce sustainable change.
(c) Issue	<b>And</b> the measure applied in a manner that does not arbitrarily or unjustifiably discriminate between countries where the same conditions prevail, or is not a disguised restriction on trade.
- Applicable provision	Article XX chapeau
- Outcome	Yes, focusing on top emitting countries, and only those that had not addressed GHG emissions, would be justified because of clear link to GHG emission reduction goals; the measure is flexible and not "capricious" or "random" and the rationale for discrimination relates to the policy objective.
<b>3. Result?</b>	<b>YES, MEASURE IS PERMISSIBLE UNDER WTO RULES</b>

## II. Description of Measure

The domestic context for GHG-related trade measures would be a **cap-and-trade program** under which the U.S. Government would determine a **quantitative cap** for GHG emissions, and establish quantitative **emission allowances**, the sum of which would equal the U.S. GHG emissions cap. This system would be modeled on the EPA's existing U.S. cap-and-trade program in its Acid Rain Program,<sup>2</sup> with some differences. The government would issue electronic allowance certificates (each with a unique serial number for tracking and safeguards against counterfeiting) to show the amount of GHG emissions allowed. The certificates could then be transferred or sold in an **allowances market**. A firm emitting more GHGs than its existing allowances would permit would need to procure additional allowances or would be penalized for exceeding its allowances. All firms generating GHGs would have to continually monitor and report their emissions.

A domestic cap-and-trade program, implemented without measures to address GHG emissions from outside the United States, would be ineffectual in addressing the full range of GHG emissions affecting the environment. An allowance requirement imposed on imports would help to secure the environmental benefits of the overall program.

<sup>2</sup> Described at <http://pubweb.epa.gov/air/clearskies/captrade.html>, last visited January 25, 2008.

Under the IBEW-AEP proposal, the U.S. Government would **negotiate** with GHG emitting countries to secure internationally agreed disciplines on GHG emissions. After U.S. implementing regulations were promulgated, the U.S. Government would begin to measure on an annual basis the reduction of GHG emissions in sectors under the U.S. cap and use those data to determine whether and to what extent key sectors in other countries had taken comparable action. The determination would be based, therefore, on the impact on GHG emissions rather than the precise form of the regulatory program used to achieve those effects. The U.S. Government would focus its determination on those countries that contribute most to global GHG emissions – least developed countries and countries with less than a *de minimis* volume of GHG emissions would be excluded.

If the U.S. Government determined that a country did not take comparable action, then an importer of certain goods from that country would be required to provide allowances to the U.S. Government corresponding to the GHGs emitted when the imported goods were produced in the country of origin. The U.S. Government would use an **adjustment factor** in setting the number of allowances required for imported goods. This adjustment factor would reflect the portion of allowances that domestic producers receive at no cost in relation to the allowances that domestic producers procure by auction. The adjustment factor would also reflect the conditions prevailing in different countries.

Which imported goods would be subject to the requirement? The scope of imported goods subject to the allowances requirement could be set to match as nearly as possible the scope of the domestic requirement. Thus, if the requirement were to apply only to the production of **carbon-intensive goods**, or only to "upstream" rather than "downstream" products, then the scope of imports covered by the requirement could be set accordingly. This contributes to ensuring non-discriminatory treatment of imports.

What would be the source of these certificates? Under one approach, importers would secure allowances from the normal supply of allowances made available for U.S. entities to satisfy their obligations under the U.S. cap-and-trade system. Thus, importers could obtain U.S. emissions allowances from the producer/exporter or brokers operating generally in the marketplace. Alternatively, the U.S. Government could establish a separate (unlimited) supply of allowances that would only be used by importers. Finally, the U.S. Government could **permit importers to satisfy their obligations using allowances (and credits) generated under the cap-and-trade systems of other countries**. The Bingaman-Specter and Lieberman-Warner bills combine the last two approaches.

### III. Is the Measure Compliant with U.S. International Obligations?

In order to effectively persuade major newly industrializing economies to participate in GHG reduction, U.S. legislation must be permissible under WTO rules.<sup>3</sup> Two key principles of WTO law are germane to assessing the WTO legality of measures that could be used as part of a cap-and-trade program:

- each WTO Member government must obey its market access commitments on import tariffs, and cannot otherwise block imports (GATT Articles II, XI);
- it also may not use its domestic taxes, or **any** domestic regulations, so as to discriminate in favor of domestic goods compared to like imported products, or in favor of imported goods from one foreign country rather than another (GATT Articles I, III).

In accordance with these principles, the legal status of a measure under the GATT may be different depending on whether it is a border measure or whether it is an internal measure enforced at the border. GATT Article II:1(b) prohibits new import charges, and Article XI:1 prohibits bans or quantitative restrictions on imports. A measure that comes under either GATT article would likely be WTO-inconsistent. However, under GATT Article III, a WTO Member is entitled to regulate all products that are sold in its market provided that internal regulation does not afford protection to domestic over imported goods.

Thus, notwithstanding the prohibitions embedded in Articles XI:1 and II:1(b), a restrictive internal regulation (such as a residue limitation or product ban) or a prohibitive internal excise tax can be enforced on imports at the border, and be judged under GATT Article III, rather than Articles XI or II. In other words, the border-enforced internal measure would be completely GATT-consistent as long as it is non-discriminatory. The Note to Article III shows how the GATT draws the line between border measures and border-enforced internal measures. The Note identifies two issues that must be considered: does the tax, charge or regulatory requirement apply **both** to an imported product and to the like domestic product, and is it collected or enforced "at the time or point of importation"? The stated policy purpose of a measure is not relevant, nor is its categorization by domestic law.<sup>4</sup>

The following analysis examines whether the allowance requirement on imports is consistent with the WTO market access commitments and non-discrimination obligations for trade in goods. GATT law considers the regulation of imported goods either as a border measure, or as part of an overall program of internal regulation, but not both. There are good arguments that the allowance requirement is best understood as part of internal regulation, but it is a very close question. We review both sets of arguments below.

<sup>3</sup> We focus here only on WTO rules, as the WTO Agreement is the only agreement that binds both the United States and major countries of concern to Congress. Other U.S. treaties would also apply to climate change legislation, but the basic principles would not differ.

<sup>4</sup> *EC – Regulation on Imports of Parts and Components*, GATT BISD 35S/37 (1990), paras. 5.6-5.7

### A. Consistency with WTO Market Access Commitments

To simplify this analysis, we consider an allowance requirement as it applies to a hypothetical ton of steel produced and exported from Country X and a "like" ton of steel (*i.e.*, same physical characteristics and uses) produced in the United States. Of course, actual trading patterns may be more complex, involving multi-stage processing across borders, and some imported products are not produced in the United States.

As stated above, Articles II:1(b) and XI:1 are the GATT provisions that are relevant in assessing whether an allowance requirement on imports is a border measure, and as such, whether it is consistent with the WTO **market access** commitments of the United States. First, GATT Article II:1(b) prohibits the imposition of any new extra charges or surcharges on products that are subject to tariff concessions—and close to 100 percent of U.S. imports are now under such concessions. If the allowance requirement program mandated that only importers—as opposed to importers and domestic producers—buy allowance certificates or pay an extra charge, it would constitute a new border charge, and as such, it would violate GATT Article II:1(b). Second, GATT Article XI:1 prohibits any border measure restricting imports other than duties, taxes or other charges. By requiring that importers present allowance certificates as a condition for importation, the allowance requirement program could cause a decrease in the volume of imports. As a result, the program would constitute a border measure that imposes a quantitative limitation on imports in violation of GATT Article XI:1.

If the allowance requirement on imports is a border measure under either GATT Article II or Article XI, it will not be consistent with the WTO market access commitments of the United States. To have a chance of surviving WTO scrutiny at this first level of analysis, the allowance requirement must be justifiable as an internal measure that falls in line with the WTO non-discrimination obligations of the United States.

### B. Consistency with WTO Non-Discrimination Obligations

GATT Article III is the most important provision, for the purposes of this analysis, embodying the non-discrimination principle of the WTO.

In contrast to the interpretation described above, the United States could argue that the allowances requirement should be considered an internal regulation subject to the national treatment obligation set forth in GATT Article III:4. To ensure compliance with Article III:4, the United States could adjust the scope of imported goods covered by the allowances requirement, and the number of allowances required to be submitted for particular imported goods. A WTO dispute settlement panel might point out, however, that the allowances program is a regulation on U.S. **producers**, whereas, the allowances requirement on imports is a regulation on imported **products**. On that basis, the Note to Article III might rule out classifying the allowances requirement on imports as an internal regulation subject to Article III.<sup>5</sup> But the United States could

<sup>5</sup> The distinction between a regulation of U.S. *producers* and a regulation of imported *products* is based on the product-process doctrine. Under the doctrine, the line is not drawn between regulations of



respond that the scope of Article III has been interpreted more flexibly than a hard-and-fast, line-drawing exercise would permit. For example, a measure, such as this one, regulating whether and how products, including domestic products, can be sold constitutes an internal regulation for purposes of Article III.

As an internal regulation, the allowance requirement on imports would be subject to GATT Article III:4, under which the United States must accord to imported products "treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use." A note to Article III provides that "[a]ny internal tax or other internal charge, or any law, regulation or requirement . . . which applies to an imported product and to the like domestic product and is collected or enforced in the case of the imported product at the time or point of importation, is nevertheless to be regarded as an internal tax or other internal charge, or a law, regulation or requirement . . . and is accordingly subject to the provisions of Article III."<sup>6</sup> When an internal tax (such as VAT or an excise tax) is collected on imports at the border, that is called a *border tax adjustment*.

These provisions mean that if the U.S. imposes a regulation (such as the EPA's rules on gasoline composition under the Clean Air Act), the regulation must treat imported products no less favorably than like U.S. products. The internal U.S. measure can be enforced on imports at the border, but it must not discriminate against imports. In determining whether a measure discriminates against imports, WTO panels look to its effect on the conditions of competition between the domestic product and imported like products.<sup>7</sup>

Finally, there are two more non-discrimination requirements in the GATT that would be relevant. The most-favored nation (MFN) clause in GATT Article I:1 prohibits discrimination between foreign sources of supply. The MFN clause applies to border charges of any kind, to internal taxes or regulations, and to border enforcement of internal taxes or regulations. Under Article I:1, whenever a WTO Member grants an advantage, favor, privilege or immunity to a product from any country, it must accord that advantage, favor, privilege or immunity to the like product of any WTO Member. In addition, GATT Article XIII requires non-discriminatory application of any quantitative restrictions on imports.

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products on the one hand and regulations of producers and production processes on the other. Rather, it is drawn between regulations of products and regulations of producers and production processes that affect characteristics of the product on the one hand, and regulations of producers and production processes that do **not** affect characteristics of a product on the other. See Robert Hudec, *The Product-Process Doctrine in GATT/WTO Jurisprudence* in M. Bronckers and R. Quick, eds., *NEW DIRECTIONS IN INTERNATIONAL ECONOMIC LAW*, 187, 191-92.

<sup>6</sup> GATT, Note *Ad Article III*. The "Ad Notes" to the GATT have coequal status with the main GATT text.

<sup>7</sup> The focus on "conditions of competition" is a consistent theme in cases applying GATT Article III since 1957; as one example, see *Korea – Measures Affecting Imports of Fresh, Chilled and Frozen Beef* ("Korea – Beef"), WT/DS161/AB/R, WT/DS169/AB/R, 11 December 2000, at para. 135, finding that treatment no less favorable under Article III "means...according *conditions of competition* no less favourable to the imported product than to the like domestic product."

If all imported steel from any foreign country were equally subject to the allowances program and received equal treatment, then the measure would be consistent with Article I:1. If an imported ton of steel from Country X were subject to the allowances measure but a “like” ton of steel from Country Y were not (for example because Country Y has a different set of arrangements with the U.S. to meet the objectives of GHG emission reduction), then it would raise questions under GATT Article I:1. However, the United States could argue that, under GATT Article I:1, it is entitled to impose conditions on the importation of products, provided that those conditions apply in the same way to imported products from all sources.<sup>8</sup> The United States could exclude from the allowance requirement of imports from WTO Members whose GHG emissions are below a *de minimis* threshold, which would capture most of the WTO Members that are considered by the United Nations to be least-developed countries.<sup>9</sup> With respect to the largest GHG emitting countries, the United States might point out that the climate change-related objective is the same, but the treatment of Country X and Country Y steel differs because the objective is being met in different ways. The Appellate Body might consider this argument under GATT Article I:1, just as it has in cases applying GATT Article III:4.<sup>10</sup> However, this would be a novel argument in relation to Article I:1, and textual differences between Articles I and III would need to be taken into account in applying this argument to Article I.

#### IV. Applicability of WTO Exceptions

This portion of the analysis focuses on whether any of the general WTO exceptions for trade in goods would permit the United States to maintain the allowance requirement on imports.

Even if a government measure would ordinarily conflict with the market access and non-discrimination provisions of the GATT, the violation may be excused by one of the ten special policy-based exceptions provided in GATT Article XX. These exceptions apply when a measure is taken for particular purposes or under particular circumstances listed in Article XX. To prevent abuse, these exceptions are all subject to two safeguards provided in a general opening clause (“*chapeau*”) to Article XX. The WTO Appellate Body has developed a standard “two-tiered” method for applying Article XX: first, examine whether a measure falls within one of these policy-based exceptions;

<sup>8</sup> Panel Report, *Canada – Certain Measures Affecting the Automotive Industry*, WT/DS139/R, WT/DS142/R, adopted 19 June 2000, modified by Appellate Body Report, WT/DS139/AB/R, WT/DS142/AB/R, DSR 2000:VII, 3043, paras. 10.23-10.24.

<sup>9</sup> Described at <http://www.unctad.org/Templates/Page.asp?intItemID=3618&lang=1>, last visited January 25, 2008.

<sup>10</sup> For instance, in one case, the WTO Appellate Body found that the detrimental effect of a measure on imports may be “explained” – and thereby justified under Article III – “by factors or circumstances unrelated to the foreign origin of the product.” Appellate Body Report, *Dominican Republic – Measures Affecting the Importation and Internal Sale of Cigarettes*, WT/DS302/AB/R, adopted 19 May 2005, at para. 96. To recall, the Appellate Body here was expanding on a line of reasoning it started in *Chile - Alcohol* and *Korea – Beef* in which it found that “[a] formal difference in treatment between imported and like domestic products is...neither necessary, nor sufficient, to show a violation of Article III:4. [Rather, the question is] whether a measure modifies the conditions of competition...to the detriment of imported products.” at para. 137.

second, determine whether it complies with the anti-abuse safeguards in the *chapeau*.<sup>11</sup> The following analysis concentrates on paragraph (g) of Article XX, which has been used in similar situations. Paragraph (b) of Article XX, covering measures “necessary to protect human, animal or plant life or health,” could also apply to the measures described above. The “necessary” condition under paragraph (b) has been interpreted strictly in WTO jurisprudence although the Appellate Body has recently suggested that it should provide additional flexibilities when the measure is part of a comprehensive regulatory scheme or where there is a long-lead time between implementation and the expected result.<sup>12</sup>

#### A. Does an Exception in GATT Article XX Apply?

##### 1. Article XX(g)

Article XX(g) provides an exception for “measures . . . relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.” The United States has already successfully argued in WTO dispute settlement that U.S. import restrictions on shrimp, which are tied to domestic restrictions on shrimp harvesting designed to protect sea turtles, are justified under Article XX(g). Article XX(g) would be the logical focus for justifying any trade measures on climate change that are otherwise inconsistent with GATT’s market access or non-discrimination rules. Under the analysis used in the *US-Shrimp* case, the United States would need to demonstrate that:

- the resources to be protected, e.g., clean air or dry land, are “**exhaustible**,”
- the measures at issue are measures “**relating to**” the conservation of the resource, and
- these measures are “made effective in conjunction with restrictions on domestic production or consumption.”

First, in current circumstances, we believe that a WTO dispute settlement panel would agree that clean air and dry land are “exhaustible natural resources” in the sense of Article XX(g). The panel in *U.S. – Gasoline* explicitly found that clean air is a resource that is natural and capable of depletion, even if it is renewable.<sup>13</sup> Later, in *U.S. – Shrimp*, the Appellate Body stated “[w]e do not believe that ‘exhaustible’ natural resources and ‘renewable’ natural resources are mutually exclusive.”<sup>14</sup> It also found that paragraph (g) must be “read . . . in the light of contemporary concerns of the community of nations about the protection . . . of the environment.”<sup>15</sup> At present, no

<sup>11</sup> Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products* (“*U.S. – Shrimp (AB)*”), WT/DS58/AB/R, 12 October 1998, paras. 118-119 (citing *US – Gasoline* case).

<sup>12</sup> In Appellate Body Report, *Brazil – Measures Affecting Imports of Retreaded Tyres* (“*Brazil – Tyres*”), WT/DS332/AB/R, December 3, 2007 (not yet adopted), at paras. 150-1, 172.

<sup>13</sup> Panel Report, *US – Gasoline*, at para. 6.37

<sup>14</sup> *US – Shrimp (AB)*, at para. 128.

<sup>15</sup> *Id.*, para. 129

concern about the protection of the environment is more important and uniting than the need to reduce GHG emissions, and the fact that the Convention on Climate Change was ratified by all but four UN Members States bears witness to that.<sup>16</sup>

Next, to be a measure "relating to" conservation, the allowance requirement must be crafted to bear a relationship with its stated goals, and must be designed to achieve those goals. Indeed, the Appellate Body has interpreted the phrase "relating to" to mean "primarily aimed at",<sup>17</sup> or evidencing a means and ends relationship.<sup>18</sup> In *U.S. – Gasoline*, the Appellate Body found that the measure at issue permitted "scrutiny and monitoring" of compliance with its environmental objectives. It therefore concluded that the measure, although inconsistent with national treatment, was truly designed to achieve clean air conservation and thus fell within the exception.<sup>19</sup> Likewise, in *U.S. – Shrimp*, the Appellate Body focused on the "design and structure" of the measure at issue and was satisfied to find that the measure was narrow enough in scope that it did not constitute a "simple, blanket prohibition" against importation. Consequently, the measure bore a "close and real relationship" with its stated objectives.<sup>20</sup>

Finally, to show that the allowance requirement program is "made effective in conjunction with restrictions on domestic production or consumption," the U.S. would have to show that if and where a requirement for allowances burdens imports, these allowances also burden domestic goods.<sup>21</sup> This test requires only "even-handedness,"<sup>22</sup> not "equality of treatment."<sup>23</sup> If a measure did not accord less favorable treatment to imports than it did domestic goods, it would not offend Article III, and therefore, would not need to be justified under an exception. On the other hand, a measure that solely burdens imports is not likely to be considered as even-handed, and would not find shelter under paragraph (g).<sup>24</sup> The import component of the allowances program is not intended to impose on foreign producers all or a disproportionate amount of the program's costs—it is intended to achieve appropriate burden-sharing in the shared fight against global warming, ideally through measures negotiated and adopted by governments. And even-handedness, because of the balance it strikes, sets a standard that the United States can meet in crafting climate change legislation.

<sup>16</sup> See Status of Ratification, available at [http://unfccc.int/files/essential\\_background/convention/status\\_of\\_ratification/application/pdf/unfccc\\_ratification\\_22.11.06.pdf](http://unfccc.int/files/essential_background/convention/status_of_ratification/application/pdf/unfccc_ratification_22.11.06.pdf), last visited April 23, 2007.

<sup>17</sup> Appellate Body Report, *US- Gasoline*, WT/DS2/AB/R, 29 April 1996, p. 16, 18-19.

<sup>18</sup> *US – Shrimp (AB)*, at para. 141.

<sup>19</sup> *US – Gasoline (AB)*, p. 19.

<sup>20</sup> *US – Shrimp (AB)*, at para.141.

<sup>21</sup> For example, in *U.S. – Shrimp*, the United States required shrimp trawlers to use turtle excluder devices (TED) to exclude turtles from their nets when fishing in waters that are likely to be turtle habitat. Exporting countries had to demonstrate their use of TEDs in order to be certified to export to the United States. Domestically, the United States required that shrimp trawlers use TEDs and imposed civil and criminal penalties (later changed to civil penalties and monetary sanctions) on offenders. See *U.S. – Shrimp (AB)*, at para. 144.

<sup>22</sup> *U.S. – Gasoline (AB)*, p. 20-21; *US-Shrimp (AB)*, at paras. 144-45.

<sup>23</sup> *U.S. – Gasoline (AB)*, p. 21.

<sup>24</sup> *U.S. – Gasoline (AB)*, p. 21.

An emissions allowances requirement falls within the policy-based exception for conservation in Article XX(g). As discussed above, the United States should encounter no difficulty arguing that clean air or dry land or other environmental resources put at risk by climate change are exhaustible natural resources threatened with depletion by GHG emissions. As for the second element under Article XX(g), "relating to," the Appellate Body has interpreted it in the *U.S. – Gasoline* and *U.S. – Shrimp* cases in a way that leads us to conclude that the United States could satisfy the standard it sets—since the allowances requirement is designed to effectively limit emissions by requiring presentation of allowance certificates.

Lastly, the United States could meet the requirement of even-handedness by applying the allowances requirement to domestic industry and enforcing the domestic program to compel producer reporting and compliance with the emissions caps. No WTO panel will accept a U.S. GHG reduction program that shifts all or a disproportionate part of the burden of GHG reduction to foreign producers, by restricting imports while giving a break to domestic producers. Even-handedness also rules out free rides—the United States must exempt from the allowances requirement all those countries that have adopted meaningful and satisfactory (i.e., comparable) emission reductions. On the other hand, the United States could exempt from coverage countries whose GHG emissions are below some *de minimis* level, as imposition of the allowance requirement to goods of such countries would not contribute to the non-trade policy objective of the program.

## 2. Article XX(b)

Article XX(b) offers an additional defense. It provides an exception for measures that are "necessary to protect human, animal or plant life or health." The United States would need to demonstrate:

- that the *policy* in respect of the measures for which the provision was invoked fell within the range of policies designed to protect human, animal or plant life or health; and
- that the inconsistent measures for which the exception was being invoked were *necessary* to fulfill the policy objective.<sup>25</sup>

First, we believe that a WTO dispute settlement panel would agree that a measure designed to curb climate vulnerability and its resulting effect on the spread and increased susceptibility of populations to disease and death would be a measure to protect human, animal and plant life or health within the meaning of Article XX(b). The World Health Organization has made a number of explicit findings linking climate change to significant public health problems that support this conclusion.<sup>26</sup> The Panel in *U.S. – Gasoline* found that Clean Air Act gasoline standards were designed to protect

<sup>25</sup> Panel Report, *US – Gasoline*, at para. 6.20.

<sup>26</sup> See, e.g., Bulletin of the World Health Organization, *Global Climate Change: Implications for International Public Health Policy* (March 2007), available at: <http://www.who.int/bulletin/volumes/85/3/06-039503/en/index.html>, last visited January 25, 2008.

health and life.<sup>27</sup> Similarly, in *Brazil – Tyres* the Appellate Body found that Article XX(b) is satisfied by a measure to ban the importation of used tires because the accumulation of used tires contributed to the spread of disease and toxic tire fires.<sup>28</sup>

Second, in order to demonstrate that a trade-restrictive measure is “necessary” a country must show “that the measure is apt to make a material contribution to the achievement of its objective.”<sup>29</sup> To this end, the Appellate Body has recognized that “certain complex public health or environmental problems may be tackled only with a comprehensive policy comprising a multiplicity of interacting measures.”<sup>30</sup> As an example of the type of objective that may require a longer time frame to demonstrate a contribution, the Appellate Body noted that “for instance, measures adopted in order to attenuate global warming and climate change, or certain preventive actions to reduce the incidence of diseases that may manifest themselves only after a certain period of time—can only be evaluated with the benefit of time.”

Additionally, where the measure at issue is part of a comprehensive policy, the Appellate Body has noted that “[s]ubstituting one element of this comprehensive policy for another would weaken the policy by reducing the synergies between its components, as well as its total effect.”<sup>31</sup>

An emissions allowance requirement for imports meets these criteria because it is part of a comprehensive policy that has synergies between its components and because it is apt to materially contribute to the reduction of carbon emissions, even if proof of that fact requires the benefit of time to demonstrate.

#### **B. Does the Measure Satisfy the GATT’s Safeguards Against Abuse?**

As discussed above, all of the GATT’s policy-based exceptions are subject to two safeguards provided in a general opening clause (“*chapeau*”) to Article XX. This clause provides that measures that fall within the policy-based exceptions in Article XX may not be **applied in a manner** which would constitute **arbitrary or unjustifiable discrimination** between countries where the same conditions prevail, or a **disguised restriction on international trade**. The issue here is not the substance of a measure, but how it is applied. A WTO panel or the Appellate Body may agree entirely that a measure is a legitimate use of Article XX, but at the same time find that the way this legitimate measure is applied constitutes arbitrary or unjustified discrimination or disguised protectionism.

“Arbitrary or unjustifiable discrimination” in this context is discrimination not between products, but between countries where the same conditions prevail. The discrimination in question can be discrimination between the United States and one or more foreign countries, or it can be discrimination between different foreign countries.

<sup>27</sup> Panel Report, *US – Gasoline*, at para. 6.21.

<sup>28</sup> Appellate Body Report, *Brazil – Tyres*, at para. 136.

<sup>29</sup> Appellate Body Report, *Brazil – Tyres*, at para. 150.

<sup>30</sup> Appellate Body Report, *Brazil – Tyres*, at para. 151.

<sup>31</sup> Appellate Body Report, *Brazil – Tyres*, at para. 172.

Different treatment of countries is permissible and even appropriate where these countries have objectively different conditions.<sup>32</sup> In practice, this proviso has been interpreted to bar an importing country from using an economic embargo to require its trading partners to adopt "essentially the same comprehensive regulatory program, to achieve a certain policy goal, as that in force within the Member's own territory, *without* taking into account different conditions which may occur in the territories of those other Members."<sup>33</sup>

The ban on arbitrary discrimination has also been interpreted to require that advantages offered to one trading partner must be equally available to other similarly situated trading partners. For instance, in the *US—Shrimp* case, the United States adopted a cooperative approach and negotiated an agreement on sea turtle protection with Caribbean nations, but did not pursue any negotiations with other WTO Members, including nations of the Western Pacific. The Appellate Body found that to avoid arbitrary or unjustifiable discrimination, the United States had to provide all exporting countries similar opportunities to negotiate an international agreement, by engaging in "serious, across-the board negotiations with the objective of concluding bilateral or multilateral agreements" on sea-turtle protection.<sup>34</sup> Nevertheless, although the United States had to make good faith efforts to reach agreements that are comparable from one forum of negotiation to another, its failure to reach comparable agreements did not constitute arbitrary or unjustifiable discrimination.<sup>35</sup>

Additionally, the discrimination must be evaluated based on its rationale rather than its effect.<sup>36</sup> That is, discrimination must have a rational connection to the objective of the measure, as described in one of the separate paragraphs of Article XX.<sup>37</sup>

The transparency and predictability of a measure are also relevant. In the *U.S. – Shrimp* case, the Appellate Body found the "informal" and "casual" nature of the certification process deprived it of basic fairness and due process, tarnished its transparency and predictability, and therefore, rendered it discriminatory in an arbitrary and unjustifiable manner.<sup>38</sup>

<sup>32</sup> For example, in *Brazil – Tyres*, Brazil initially applied an import ban on tires from all origins, but then provided an exemption for tires from MERCOSUR countries. The panel found that the exemption constituted discrimination, but that the discrimination "[did] not seem to be motivated by capricious or unpredictable reasons." It found rather that the discrimination was due "to a ruling within the MERCOSUR framework [with] binding legal effects for Brazil." Panel Report, *Brazil – Tyres*, at para. 7.272. More importantly, the panel found that notwithstanding the ban, retreaded tires from non-MERCOSUR countries were still entering Brazil along with tires from MERCOSUR countries. The panel thus concluded that the discrimination resulting from the ban was arbitrary or unjustifiable under Article XX. Panel Report, *Brazil – Tyres*, at para. 7.306.

<sup>33</sup> *U.S. – Shrimp (AB)*, at para. 163-164; see also para. 177.

<sup>34</sup> *U.S. – Shrimp (AB)*, para. 166.

<sup>35</sup> *U.S. – Shrimp (AB)*, para. 166; Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products: Recourse to Article 21.5 of the DSU by Malaysia ("US – Shrimp (21.5 AB))*, WT/DS58/AB/RW, 22 October 2001, at paras. 122-134.

<sup>36</sup> Appellate Body Report, *Brazil – Tyres*, at para. 229.

<sup>37</sup> Appellate Body Report, *Brazil – Tyres*, at para. 227.

<sup>38</sup> *U.S. – Shrimp (AB)*, at paras. 180-81.

The requirement that the measure not constitute a “disguised restriction on international trade” has been defined as including restrictions that are actually discriminatory but are taken under guise of a legitimate Article XX exception: in effect, a form of stealth protectionism.<sup>39</sup>

As proposed by IBEW-AEP, U.S. climate change legislation would treat imports of products of countries that have *not* taken comparable action on GHG emissions less favorably than imports from a country that have done so. This difference in treatment would be justified under Article XX(g) of the GATT, for the reasons (and under the circumstances) described above. But in that case, the ban on arbitrary discrimination in the opening clause (*chapeau*) of Article XX would require that, if the United States were to negotiate with some countries before imposing the measure, it undertake “serious, across-the board negotiations with the objective of concluding bilateral or multilateral agreements” on GHG reduction, with *all* concerned parties. The United States would not have to reach agreements with these other countries, but it would have to make a non-discriminatory, good faith effort with each one. Second, the United States would have to take its trading partners’ differences in circumstances into account in devising and implementing its measures. Finally, the U.S. measures would have to be implemented with due process and fairness. The IBEW-AEP proposal for U.S. climate change legislation meets these standards.

As we have discussed, the United States would appear to be in a strong position to defend a requirement that importers of goods from a country must present emission allowance certificates to cover the GHG emissions represented by the goods. First, such a measure is clearly linked to the purpose of GHG emissions reduction. Second, this would be a flexible measure adaptable to the circumstances of each exporting country, and therefore devoid of arbitrary or unjustifiable discrimination. Each exporting country would have a choice to implement any GHG emission reduction program as an alternative to forcing importers into presenting allowance certificates, and trading partners would be given a predictable standard in advance with which to achieve compliance. Third, the design, architecture, and structure of such an allowances requirement would demonstrate that the system has no purpose other than to cause the reduction of GHG emissions. Consequently, the *chapeau* of Article XX would pose no obstacle to deployment of a U.S. allowances program to combat climate change.

Attachment

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<sup>39</sup> *U.S. – Gasoline (AB)*, p. 25.



**APPENDIX OF RELEVANT WTO PROVISIONS****1. GATT Article I: General Most-Favored-Nation Treatment**

1. With respect to customs duties and charges of any kind imposed on or in connection with importation or exportation...any advantage, favour, privilege or immunity granted by any [Member] to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other [Members].

**2. GATT Article II: Schedules of Concessions**

1. (a) Each [Member] shall accord to the commerce of the other [Member] treatment no less favorable than that provided for in the appropriate Part of the appropriate Schedule.

(b) The products described in Part I of the Schedule...shall, on their importation into the territory to which the Schedule relates...be exempt from ordinary customs duties in excess of those set forth and provided therein. Such products shall also be exempt from all other duties or charges of any kind imposed on or in connection with the importation in excess of those imposed thereafter by legislation in force in the importing territory on that date.

**3. GATT Article III: National Treatment on Internal Taxation and Regulation**

1. The [Members] recognize that internal taxes and other internal charges, and laws, regulations and requirements affecting the internal sale, offering for sale, purchase, transportation, distribution or use of products, . . . should not be applied to imported or domestic products so as to afford protection to domestic production.

2. The products of the territory of any [Member] imported into the territory of any other [Member] shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products. . . .

4. The products of the territory of any [Member] imported into the territory of any other [Member] shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use. . . .

**4. GATT Note Ad Article III**

Any internal tax or other internal charge, or any law, regulation or requirement of the kind referred to in paragraph 1 which applies to an imported product and to the like domestic product and is collected or enforced in the case of the imported product at the

time or point of importation, is nevertheless to be regarded as an internal tax of other internal charge, or a law, regulation or requirement of the kind referred to in paragraph 1, and is accordingly subject to the provisions of Article III.

**5. GATT Article XI: General Elimination of Quantitative Restrictions**

1. No prohibitions or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licences or other measures, shall be instituted or maintained by any [Member] on the importation of any product of the territory of any other [Member] or on the exportation or sale for export of any product destined for the territory of any other [Member].

**6. GATT Article XIII: Non-Discriminatory Administration of Quantitative Restrictions**

1. No prohibition or restriction shall be applied by any [Member] on the importation of any product of the territory of any other [Member] or on the exportation of any product destined for the territory of any other [Member], unless the importation of the like product of all third countries or the exportation of the like product to all third countries is similarly prohibited or restricted.

**7. GATT Article XX: General Exceptions**

Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any [Member] of measures:

\* \* \*

(b) necessary to protect human, animal or plant life or health;

\* \* \*

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.

Testimony of  
Jennifer Haverkamp, Senior Counsel, Environmental Defense Fund  
Before the  
Committee on Finance, U.S. Senate  
215 Dirksen Senate Office Building  
February 14, 2008

"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.<sup>1</sup> Global warming can't be solved unless both the U.S. and large developing countries cut total GHG emissions.<sup>2</sup>

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.

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

<sup>2</sup> "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 CO<sub>2</sub>e. For 450 ppm CO<sub>2</sub>e, 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](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.<sup>3</sup>

#### *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.

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

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 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.

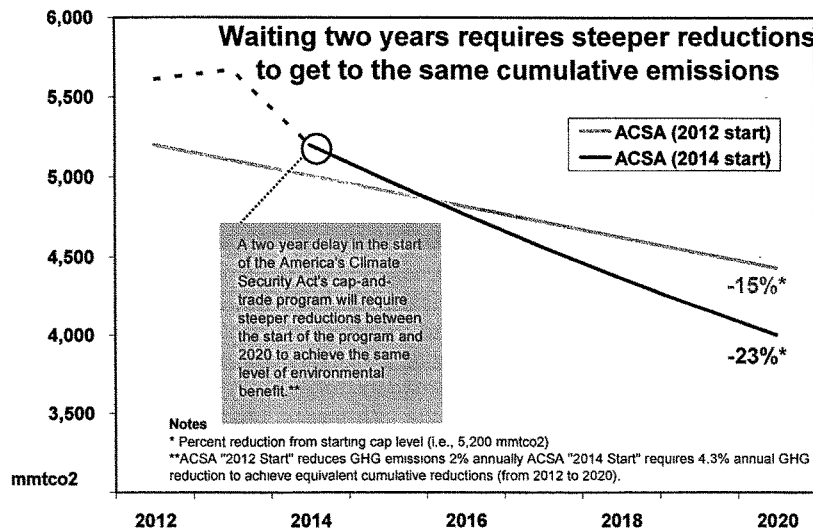
Yet another reason to act now is to maximize our industries' and workers' chances of benefitting from the low carbon economy of the future. International carbon markets offer great potential for innovative U.S. companies to sell low-emitting technologies and processes. Congress should move swiftly to 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.<sup>4</sup>



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<sup>4</sup>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>).



***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 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.<sup>5</sup> Other nations with cap-and-trade programs would likely follow suit.

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

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<sup>5</sup> 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](http://ec.europa.eu/environment/climat/emission/pdf/com_2008_16_ia_en.pdf).

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 CO<sub>2</sub> 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 CO<sub>2</sub> emissions given today's technologies.<sup>6</sup> 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 CO<sub>2</sub> 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.<sup>7</sup>

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<sup>6</sup> 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/](http://www.whrc.org/BaliReports/)).

<sup>7</sup> For more regarding compensated reduction for avoided deforestation, see attachment.

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.

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 (CO<sub>2</sub>) emissions from some 11,500 large power plants, refineries, and other facilities that emit about half Europe's total CO<sub>2</sub> 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 policy<sup>8</sup>:

### ***Measurement***

When the EU initially distributed CO<sub>2</sub> 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 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

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<sup>8</sup> \_\_\_Dudek, D., J. Goffman and A. Petsonk, "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](http://www.pewclimate.org)].

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"

ATTACHMENT : WHY CAP-AND-TRADE IS THE PREFERRED POLICY  
TO ADDRESS CLIMATE CHANGE

## The Cap-and-Trade Experience

### WHY IT IS THE PREFERRED POLICY TO ADDRESS CLIMATE CHANGE.

All serious climate change policy proposals have identified cap-and-trade as the regulatory mechanism of choice. As Congress begins to craft its climate change policy, it is imperative to revisit the reasons why cap-and-trade is the best regulatory mechanism to address the challenge of climate change.

Numerous reports (both federal and state), academic articles, and other publications analyze cap-and-trade policies – past, present and future – and articulate clearly the benefits of such policies. Relevant excerpts from five select sources have been compiled here to exemplify how a well-designed cap-and-trade policy can deliver superior environmental performance and significantly reduce economic costs when compared to conventional regulatory mechanisms. These excerpts also highlight other benefits of cap-and-trade policies, including: how they spur innovation, improve and accelerate compliance, and provide emitters with considerable flexibility.

**Cap-and-trade policies differ from other regulatory systems.** Cap-and-trade is not a three syllable word – it identifies two different components of a policy that, working together, achieve results. The *cap* limits emissions and *trading* lowers compliance costs.

- Cap-and-trade is recommended due to its putting "a clear and specific limit on aggregate emissions and its potential to achieve the emissions-reduction target at lower cost than would otherwise be possible." (MAC (2007), p. 5)
- Cap-and-trade "provides a framework to meet emissions reduction goals at the lowest possible cost...by giving emissions sources the flexibility to find and apply the lowest-cost methods for reducing pollution. Emission sources with low-cost compliance options have an incentive to reduce emissions more than they would under command-and-control regulation." (Ellerman, et al. (2003), p. iii, Executive Summary)

**Cap-and-trade achieves results at lower costs.** Experience shows that, when compared to command-and-control policies, cap-and-trade is more environmentally effective and economically efficient. Cap-and-trade also reduces the informational burden on regulators, lowering administrative costs.



- "Savings under the trading program amounted to 43-55% of expected compliance costs under an alternative regulatory program that imposed a uniform emission standard." (MAC (2007), p. 7)
- The Acid Rain Program, achieved "...savings of over 65% compared to a policy that might have forced post-combustion controls (scrubbers) to achieve the same level of emissions." (MAC (2007), p. 7)
- "In the long run, allowance trading may achieve cost savings of \$700-\$800 million per year compared to an 'enlightened' command and control program characterized by a uniform emission rate standard. The cost savings would be twice as great if the alternative to trading were forced scrubbing." (referring here to the Acid Rain Program, Carlson, et al. (2000), p. 12)
- Over the first 13 years of the Acid Rain Program, the ability to trade allowances nationwide across affected units and through time is estimated to reduce compliance costs by a total of \$20 billion, a cost reduction of about 57% from the assumed command-and-control alternative. (Ellerman, et al. (2003), p. 16)
- "Administrative costs can be lower because regulators are relieved of responsibility for establishing specific targets on a facility-by-facility basis." (MAC (2007), p. 5)

**Cap-and-trade provides firms flexibility in meeting environmental goals.** Cap-and-trade policies offer businesses flexibility for compliance; this is a key source of cost reductions. Firms can choose how, when, and where they meet the program's requirements. These choices are created through several policy components including trading, rewards for early action, and banking.

- "Offsets bring in less expensive emission reductions from uncapped sources and thereby allow compliance at a lower cost than could be achieved by the covered sectors acting alone." (RTL/Nicholas (2007), p. 4-5)
- "The flexibility of the trading program has encouraged utilities to capitalize on advantageous trends, such as changing fuel prices and technological innovation that might have been delayed or discouraged by traditional regulatory approaches." (Carlson, et al. (2000), p. 25-26)
- McCain-Lieberman 2003 (S.139) "provides some measures that give entities a certain amount of flexibility in complying with the emissions limits. These provisions include early action credits, allowance trading and banking, and a mechanism to allow participation from non-covered sources. These flexibility measures are expected to result in a relatively smooth transition through the first and second compliance periods. As a result, the economic burden of controlling emissions is rolled in gradually over time." (EIA (2003), p. 64)

#### Trading

- "By giving firms the flexibility to reallocate (trade) emissions credits or allowances among themselves, trading can reduce the compliance costs of achieving the emissions target." (Ellerman, et al. (2003), p. 1) "Differences in emission control

costs across emissions sources create the opportunity to reduce costs through trading." (Ellerman, et al. (2003), p. 5)

- "Enhanced environmental performance can be attributed to the increased flexibility associated with emissions trading. Where emission reduction requirements are phased in and firms can bank emission reductions - as was the case in the Lead Trading, Acid Rain, ABT, and Northeast NOx Budget Programs - the achievement of the required emission reduction has been accelerated." (Ellerman, et al. (2003), p. 34)
- "Spatial trading has allowed sources with high abatement costs to reduce emissions less—and those with low abatement costs to reduce emissions more—than under a command-and-control mechanism requiring uniform emissions rates, and thus has reduced the overall cost of the mandated emissions reduction." (Ellerman, et al. (2003), p. 14)
- "The available evidence suggests that the increased compliance flexibility of emissions trading yields costs savings of as much as 50 percent." (Ellerman, et al. (2003), p. iv, Executive Summary)

#### Banking

- "The reason for the remarkable reduction in [SO<sub>2</sub>] emissions in 1995...is the availability of 'inter-temporal trading' in the form of banking. The prospect of higher marginal abatement costs after 2000 made abating more than required in Phase I an appealing option for smoothing the transition to the more demanding Phase II cap. As a result, the reduction in emissions experienced in Phase I was about twice what would have been required to bring emissions below the level allowed in these years." (Ellerman, et al. (2003), p. 14)
- "Because allowance can be sold or held for future use, covered entities will have an incentive to reduce emissions under the bill even if they are allocated sufficient allowances to cover their annual emissions." (EIA (2003), p. 5)

**Cap-and-trade policies encourage continuous technological innovation.** Because every incremental reduction in emissions has value in a cap-and-trade market, cap-and-trade encourages continuous innovation. Money can be made and competitive advantage can be gained through innovations that reduce emissions at a lower cost.

- "The actual realized cost of the policy will depend significantly on the development and deployment of low-carbon technologies that are not widely in use today. Indeed, it may involve deployment of technologies not yet on the drawing board." (RTI/Nicholas (2007), p. 7)
- "The cap not only limits emissions, it creates a market for emissions allowances where every ton of emissions has a price. This price provides sustained incentives for developing new technologies that can reduce GHG emissions" (MAC (2007), p. 14)
- "...since allowances are valuable, cap-and-trade programs give firms continuing incentives to identify low-cost reduction opportunities: additional reductions are

attractive because they allow firms to either sell more allowances or to reduce the number of allowances they must purchase." (MAC (2007), p. 7)

- "The incentive to abate in cap-and-trade programs, where there is no specific standard for any single plant, is continuous and any improvements in abatement technology will result in allowance savings." (Ellerman, et al. (2003), p. 35)

**Cap-and-trade policies have high compliance rates.** This is because of two factors: 1) cap-and-trade's inherent ability to avoid differing hardship for particular sectors, and 2) clear and automatic penalty provisions. Under cap-and-trade, fair treatment, clear penalties, flexibility and incentives make it cheaper for firms to comply than to seek the relaxation of the cap.

- "Four features describe the environmental performance of the Acid Rain Program. First, a large reduction of emissions was accomplished relatively quickly—in the fifth year following passage of the enabling legislation. Second, the schedule of emission reduction was accelerated significantly as a result of banking. Third, no exemptions, exceptions, or relaxations from the program's requirements were granted. Four, the 'hot spots' that were feared to result from emissions trading have not appeared." (Ellerman (2003), p. 3)
  - "...it becomes cheaper for these firms to comply than to seek some relaxation of the standard. Moreover, the existence of a market removes the primary reason for seeking relaxation: unique hardship due to the uniform application of a rule to source-specific circumstances. No one is uniquely disadvantaged in a market with many buyers and the highest cost is that of a permit. The happy result is a regulatory system in which compliance has been made cheaper than seeking some type of relaxation." (Ellerman (2003), p. 7)
  - The SO<sub>2</sub> "program was implemented without the granting of the exemptions, exceptions, or relaxations of the regulatory requirement that are typically issued to avoid the undue hardship that can result when a more or less uniform mandate is imposed on sources exhibiting cost heterogeneity." (Ellerman (2003), p. 4)
  - "Allowing firms that face high marginal costs of abatement, or even technical infeasibility, to comply with environmental requirements by buying allowances—effectively paying others to reduce more on their behalf—has eliminated one of the features of command-and-control programs that diminishes environmental effectiveness. In a command-and-control program, economic hardship or technical barriers can be dealt with only by relaxing the emissions standard in some way. While often justified, these exceptions reduce the regulation's environmental effectiveness because they are one-sided: standards are relaxed to avoid "hardships" for some facilities, but increased emissions cannot be offset by increasing standards at facilities for which abatement is less expensive or easier technologically." (Ellerman, et al. (2003), p. 34)
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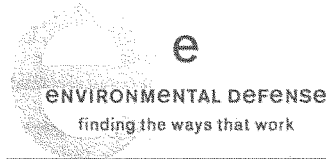
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### **The Bali Plan of Action & Deforestation: The Potential of Markets to Achieve Large-scale Reductions in Deforestation**

#### **Deforestation will be part of the next climate agreement**

At last year's climate conference in Bali, countries agreed that enhanced national/international action on *mitigation* of climate change will include "policy approaches and positive incentives on issues related to reducing emissions from deforestation and forest degradation in developing countries." Reducing emissions from deforestation will be necessary if the world is to avert dangerous climate change.

- According to the Intergovernmental Panel on Climate Change (IPCC, 2001) and the 2006 Stern Review, tropical deforestation accounts for approximately 20% of annual greenhouse gas emissions and is the largest source of emissions in the developing world.
- If current rates of deforestation in Brazil and Indonesia alone remained the same through 2012, these emissions would offset nearly 80% of the emission reductions achieved by the Kyoto Protocol. (Santilli et al, *Climatic Change* (2005) 71: 267–276).

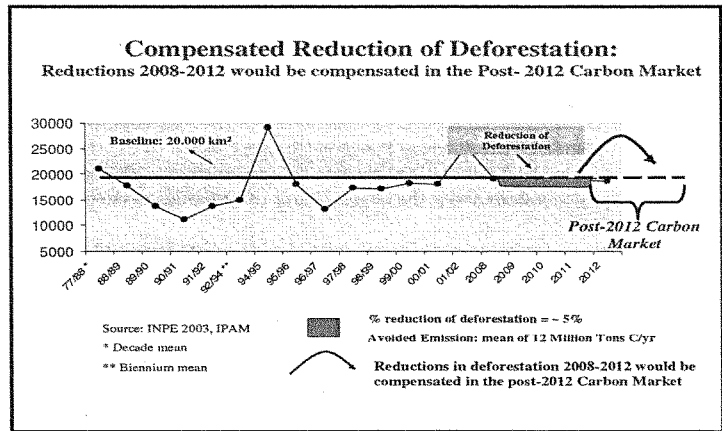
After a two-year process, countries agreed that the scientific and methodological issues for measuring deforestation in developing countries are sufficiently well-known and understood. Bali launched a two-year process of negotiations that seeks to provide incentives for developing countries to reduce their largest source of emissions and allow them to take comparable mitigation actions.

**Compensated Reduction (CR)** proposes positive incentives for developing countries to reduce deforestation rates on a voluntary basis and strengthen the global effort to mitigate climate change. CR would reward countries that demonstrate a real decrease in deforestation emissions from a nation's entire forest system, not just individual projects, thereby avoiding problems that have hindered consensus on forest issues. The concept is simple: Any nation that reduces national deforestation below a baseline (based on average historical deforestation rates) would be eligible for compensation, receiving emissions allowances tradable in the global carbon market.

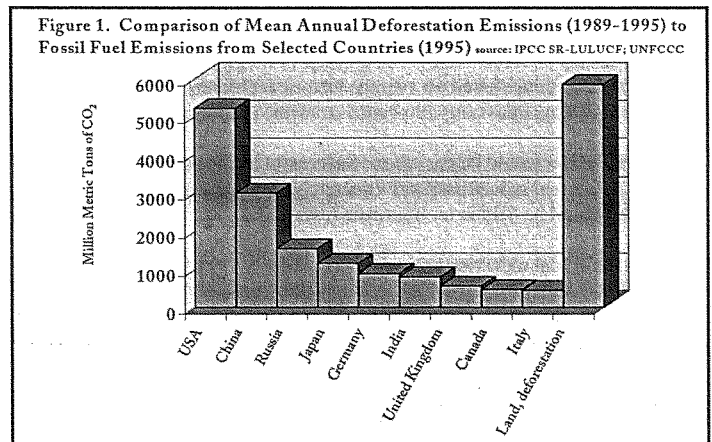
- The compensation would be *post facto*. Successful countries would receive compensation after 2012 *after* real reductions were concretely measured; a portion of the tradable allowances would be held in an insurance reserve.
- To determine if real reductions occurred, a country's forests would be monitored by robust, reliable satellite imagery, supplemented by ground-truthing.
- At least one nation, Brazil, has already begun to demonstrate that it is possible, with serious and committed effort, to reduce deforestation.
- CR addresses key flaws in the Kyoto Protocol, enabling those developing nations that choose to do so to receive compensation – through the global carbon market – for reducing emissions.

- By harnessing market forces in favor of forest protection, building capacity and enhancing community involvement, and providing incentives for better monitoring, CR has the potential to engage orders of magnitude more financial support than even the most optimistic estimates of official development assistance (ODA) that could reasonably be expected from foreign aid.
- CR is consistent with international forest carbon provisions of the Lieberman-Warner Climate Security Act.

**Any nation that reduces national deforestation below a baseline (based on average historical deforestation rates) would be eligible for compensation, receiving emissions allowances tradable in the global carbon market**



**The largest share of developing country emissions is from the deforestation sector, an amount comparable to total US fossil fuel emissions.**



**Statement of Kjell Olav Kristiansen  
Director of Advisory Services  
on behalf of Point Carbon  
before  
The United States Senate Committee on Finance  
February 14, 2008  
hearing on**

**International Aspects of a Climate Change Cap and Trade Program**

**Summary and oral testimony**

Thank you, Chairman Baucus, Ranking Member Grassley, and distinguished members of the committee, for this opportunity to testify before you today on behalf of Point Carbon, to discuss international carbon market experiences and implications for a US cap-and-trade program. My name is Kjell Olav Kristiansen and I am the Director of Advisory Services for Point Carbon. Point Carbon is a global provider of news and non-partisan research, analysis and advisory services on carbon and energy markets.

The United States Congress is facing important choices about how to design a federal cap-and-trade scheme. Your decisions will have a significant impact on the cost for US consumers, the cost for US industry, and consequently, the competitiveness of US industry.

Knowing the importance of these choices, we can look towards the European Union, and learn from its three years of experiences setting up and running an Emissions Trading System for carbon dioxide. While the market functioned well during the first year and a half, it experienced a sudden price collapse when it became apparent that the market was oversupplied with allowances. The generous allocation of allowances was caused predominantly by lack of reliable emissions data. The most important lesson from the first phase of the EU scheme is that there must be scarcity of allowances in the market to maintain a carbon price and cause emission reductions. It is critically important to set an appropriate cap to achieve the desired emissions reductions.

Despite this, the pilot phase developed the knowledge, infrastructure, participants, and financial instruments necessary to embark on the next stage of the program. The EU now has emissions data that has been verified, and the allocations proposed by Member States have been curbed to create the needed scarcity. The phase II is developing well with allowances trading in \$ 30 range.

My next point is that the European Union allows emitters to use carbon offsets from reduction projects in developing countries. Because of the low cost of these reductions, they offer European companies an attractive option to reduce compliance cost. Studies for the Intergovernmental Panel on Climate Change show that the potential for reducing greenhouse gas emissions in non-OECD countries is twice as high as within OECD-nations. As the Congress considers creating a national cap-and-trade system which may place restrictions on the use of international offsets, it is important to remember the costs and benefits of such restrictions. Restricting the use of global offsets would have the benefit of increasing

investment in domestic emissions reductions. However, such limits would also make it more expensive for the US economy to achieve its emissions reduction goals. These limits would likely place US businesses at a competitive disadvantage with respect to global peers with lower emissions costs.

Another reason to allow offsets is that they may prove to be indispensable to reach short to mid-term reduction targets. Whereas mid- to long-term emissions reduction targets are feasible with a combination of various non-emitting technologies, clean fuels and energy efficiency, the greatest challenge may be the lack of flexibility to break the short term emission trends. In this case, offsets function as an important "safety valve" or a transitional remedy against excessive carbon prices.

Lastly, I'd like to discuss the economic benefits of linking a domestic cap-and-trade program with other similar international schemes. As markets grow bigger, they become more efficient. Direct linking between a US trading program and the EU scheme would create a mutually beneficial, larger market which would increase choice, improve market liquidity, decrease price volatility, and equalize competitive disparities. We believe a US program can be successfully linked with existing international programs.

Distinguished members of the committee, the United States invented emissions trading with the creation of the Acid Rain Program in the 1990's, and was instrumental in making offsets and global trading key components of the Kyoto protocol. The EU then adopted these concepts successfully in its greenhouse gas cap-and-trade program. As we now embark on designing what will become the world's largest emissions market, we can reap the benefits of these achievements and learn from the experiences gained to create a program that will reach targets and minimize costs to consumers and to US industry. Again, thank you for the opportunity to appear before the committee today. I look forward to your questions.



## Introduction

The United States pioneered the idea of using market mechanisms to cap and reduce the emissions of pollutants with the Acid Rain Program. The United States further pushed for the Kyoto Protocol to include a number of trading mechanisms which have a decade later led to the formation of vibrant new markets. In the years since the negotiation of the Kyoto Protocol, the European Union has set the standard for greenhouse gas cap-and-trade programs while the US stood on the sidelines. This situation is, however, rapidly changing. With the bills now before Congress, the US is poised to regain the lead by creating the largest emissions market to date.

The emission reduction targets that have been proposed in several of the current bills in Congress will have far reaching consequences for our economy, and will require a fundamental change in the way energy is produced and consumed. The United States is facing some important choices designing a federal cap-and-trade scheme. How such a program is implemented and how it interacts with other markets will have an impact on the cost of the program for US consumers, the cost to comply for US industry and consequently its competitiveness.

Observations of the global market show us that carbon trading works. Several important lessons have been learned which will help us design a cap-and-trade scheme that will reach reduction targets faster and at lower cost than other policy options. Point Carbon's testimony will provide an overview of global carbon markets emphasizing key lessons learned and highlighting how carbon trading and the use of project based offsets are helping countries and companies mitigate the costs of addressing climate change. Our hope is to help identify some of the choices and issues that need to be addressed as Congress moves forward in developing climate change legislation.

## State of the Global Carbon Market

The "global carbon market" is already multi-faceted. There are currently two significant drivers shaping this market. They include government demand for emissions reductions to meet Kyoto targets and private demand for emissions reductions under the EU cap-and-trade program (EU ETS). Two main commodities are traded. Emission allowances or permits are being traded between entities covered by a cap-and-trade scheme and carbon credits or offsets which represent verified emissions reductions. Offsets are generated in unregulated sectors outside the scope of the cap-and-trade scheme and they originate in individual projects set up with the primary objective of using the financial incentive provided by the carbon market to reduce emissions.

### Government Demand for Carbon Reductions

The first form of carbon market is tied to public demand for CO<sub>2</sub> reductions from European, Japanese and other governments, which are supplementing domestic greenhouse gas reduction programs with global offset purchases in order to meet their Kyoto protocol reduction commitments. Based on current commitments and announced purchase plans, government demand for carbon offsets is expected to reach close to 0.8 billion tons by the end of 2013, when they are required to demonstrate compliance with the Kyoto protocol.

### Private Demand for Carbon Reductions

The second form of carbon market is from private demand from domestic trading schemes. The European Union Emission Trading Scheme (EU ETS) which took effect in 2005 is the only cap-and-trade scheme for CO<sub>2</sub> to date. This program with a cap at approximately 2 billion tons of CO<sub>2</sub> not only creates significant trading among its participants, but it also generates substantial demand for greenhouse gas (GHG) offsets from emission reduction projects all over the world. The EU ETS covers emissions of CO<sub>2</sub> from power and heat sectors, metals, cement, paper and pulp and minerals industries. The pilot phase from 2005-2007 covered close to half of EU CO<sub>2</sub> emissions including some 11,500 installations. The power and heat sector is the largest sector representing some 58 percent of the average annual cap of close to 2.3 billion tons of CO<sub>2</sub>. The overall target of Phase II which runs from 2008 - 2012 is to create CO<sub>2</sub> emission reductions of 6.5% compared to 2005. Emission allowances for Phase II currently trade in the 30 \$ range.

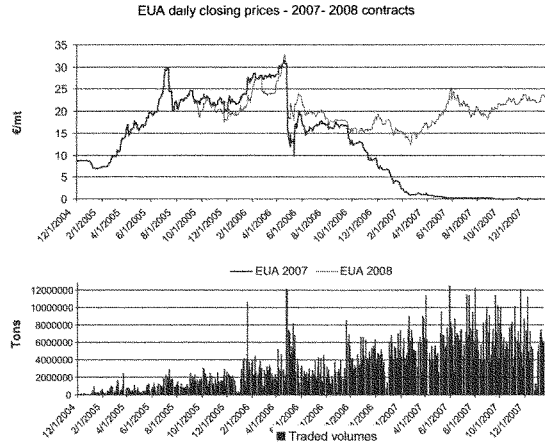


Figure 1 Prices and traded volumes for Phase 1 (EUA 2007) and Phase 2 (EUA 2008) of EU ETS.

**What is the Size of the Global Carbon Market?**

Point Carbon tracks global carbon markets and estimates that transaction volume grew from 1.6 billion metric tons in 2006 to 2.7 billion tons in 2007. As depicted in the graph below, the market value grew even more, from \$ 32 billion in 2006 to \$ 60 billion in 2007. Over 60 percent of the transactions were in the European Union Emissions Trading Scheme, while the remaining trades predominantly were offsets from emission reduction projects.

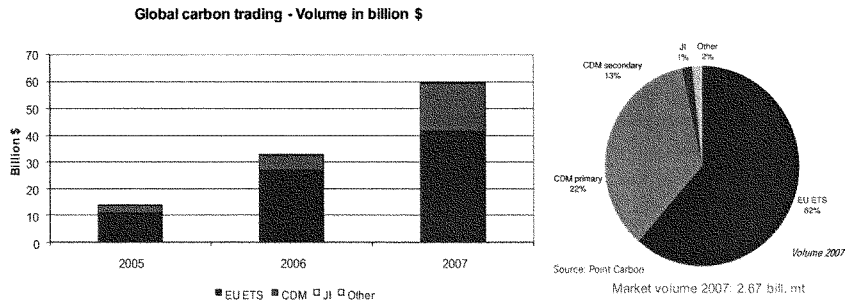


Figure 2 Global carbon transactions 2005-2007 - volumes and value by market segment

In terms of supply of carbon offsets, Point Carbon has identified over six thousand reduction projects in more than one hundred countries of which some 900 projects have been approved by the CDM Executive Board. To date (February 11), only 115 million tons of offsets have been issued from the CDM scheme. Our estimates indicate that the current pipeline of emission reduction projects is likely to produce a risk adjusted 3.2 billion tons of carbon offsets by the end of 2013.

### CER and ERU Issuance 2000-2013

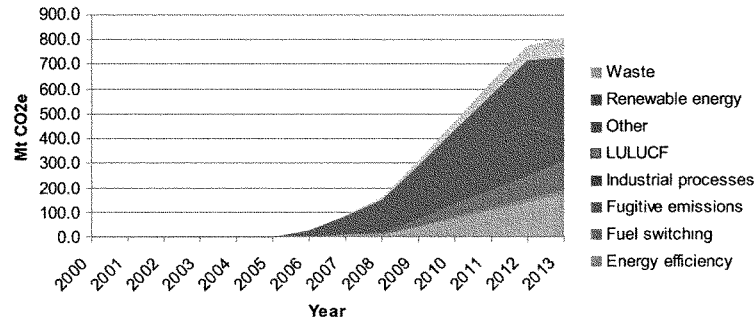


Figure 3 Estimated supply of CDM (CER) and JI (ERU) offsets 2000-2013 – risk adjusted

The success, growth and liquidity of these financial markets are largely due to the creation, by the European Commission, of a single, common, tradable commodity across 25 countries. While the carbon market is still small by the metric of the major energy or grain commodities, it has doubled in each of the past three years with recent volume records reported by the major energy exchanges.

In comparison to the EU market, the Climate Security Act of 2007 passed by the Senate Committee on Environment and Public Works would have a cap of 5.7 billion tons, two and a half times the size of the EU ETS.

US companies are already heavily involved in many aspects of the global carbon markets. A number of leaders in the development of carbon reducing projects around the world, including EcoSecurities, AgCert or Econergy, were founded by Americans or are headquartered in the United States. Three of the ten largest private carbon investment funds are domiciled and managed out of the United States, including one by the Bill and Melinda Gates Foundation Trust. The large US investment banks, Goldman Sachs, Morgan Stanley, JP Morgan and Merrill Lynch to name a few are all very active in these new markets.

### Key lessons learned from the European Union Emission Trading Scheme

The European Union introduced a cap-and-trade scheme for CO<sub>2</sub> in 2005. The initial 3 year pilot phase is coming to an end as participants will surrender allowances for their 2007 emissions by April 30.

Several important lessons were learned during the pilot phase of the EU ETS. The most significant lesson was on the consequences of an oversupply of emissions allowances. When the program was first setup, the European Commission lacked reliable emissions data for forecasting future emissions. This lack of data in combination with incentives at installation and national level to exaggerate emissions numbers in order to receive more favorable allocations, resulted in overly generous national emissions allocations. This oversupply of allowances became apparent at the first true-up in April 2006 at which time verified emissions from 2005 were made publicly known. The market responded with a price

collapse. As the market gradually adjusted to the fact that Phase I would remain oversupplied with allowances, market prices descended to near zero levels.

The price collapse during phase I of the EU ETS illustrates the importance of setting an appropriate emissions cap to cause an allowance shortage. Without any allowance shortage, the first phase of EU ETS had little effect on overall emissions within the EU. There were numerous beneficial results from Phase I of the EU ETS. Through the phase I program, the EU has developed the knowledge, infrastructure, participants, and financial instruments necessary to reduce GHG emissions in phase II of the EU ETS.

Before prices collapsed, there was however a general perception that offsets from developing countries would be less expensive than reducing own emissions. Hence, EU companies have been instrumental in creating the significant pipeline of global CDM emission reduction projects seen today. As Phase I is currently oversupplied with allowances, offsets that have been generated can be banked and focus on investments in CDM projects now has shifted towards using these for compliance with Phase II of the scheme.

Experiences from Phase I were helpful in guiding the EU Commission to take a more restrictive position on National Allocation Plans for Phase II. The overall target of Phase II is to create CO<sub>2</sub> emission reductions of 6.5 % compared to 2005. Following the EU commission's final decisions on National Allocation Plans, it is now expected that there will be an appropriate allowance shortage for Phase II. This view is supported by current prices for Phase II allowances which trade in the \$30 range.

The European Commission recently released its proposal for changes to the EU Emission Trading Directive for a third phase succeeding expiration of Phase II in 2012. The proposal extends the scheme to 2020 with an emission reduction target of 21 percent compared to 2005. Additional sectors and greenhouse gases will be included. The Commission proposes to introduce a centrally determined cap and will later suggest harmonized rules for allocation and verification to be used by Member States.

During the proposed Phase III, the main allocation methodology will move gradually towards auctioning, with full auctioning suggested for sectors which are in a position to pass through the added costs to their consumers. In Phase I and II of the scheme, industrial sectors exposed to global competition were generously allocated free allowances to offset the potential negative impact on global competitiveness. The current proposal from the European Commission suggests that this approach will be continued for the 2013-2020 period.

The new EU target will add further stringency to the market and will encourage market participants to continue pursuing global offsets as an important compliance option. Access to use offsets will however be scaled back to about one third of the reduction target and additional limits are suggested on the origination of offsets including preference for Least Developed Countries. These restrictions may be relaxed if post-Kyoto negotiations materialize in a new international agreement on climate change leading to comparable reduction commitments for additional OECD states and adequate commitments from advanced developing countries.

As significant greenhouse gas reductions only come about through a change of investment behavior, increased clarity on the framework for 2012-2020 injects more predictability which improves investor confidence. The lack of a global framework post Kyoto has not been helpful aiding investors making long term decisions. There is increasing recognition that cap-and-trade markets need to be designed to last for decades.

The European Commission looks favorably on global carbon trading and considers the EU ETS as a component of a future global network of emission trading systems. Bi-directional linking of a US cap-and-trade program to the EU emission trading scheme can take place from 2013 at the earliest as allowances and offsets issued in the United States cannot be used by EU for compliance under the first period of the Kyoto protocol (2008-12).

The framework for a Phase III of the EU ETS proposed by the EU Commission will be subject to political processes within EU before final legislation is passed.

**Why Create a Global Carbon Market?**

The impact of greenhouse gas emissions on global warming is the same wherever in the world they take place or wherever emissions are reduced. At the same time, the costs of emissions reductions vary significantly across the world. Together, these properties explain why a global approach to climate change policy is imperative to achieving greenhouse gas reduction targets efficiently.

In recognition of this, the Kyoto protocol - building upon the United Nations Framework Convention on Climate Change (UNFCCC) - represented the first attempt to set a global framework for reducing emissions for the 2008-2012 timeframe. Several studies performed by institutions such as the IEA<sup>1</sup> and IPCC<sup>2</sup>, have identified a very significant and low cost potential of emission reductions in non-OECD countries.

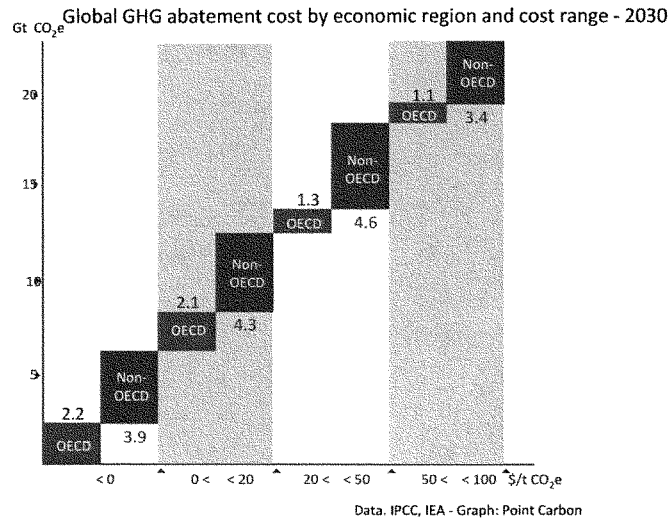


Figure 4 Global GHG abatement cost by economic region and cost range - 2030

This chart shows the volume of potential reductions that can be achieved in OECD and non-OECD countries within given cost ranges. For each cost range, the potential is two to three times larger in non-OECD countries.

While it was politically unviable to reach agreement over reduction targets for developing countries and economies in transition at that time, parties to the Kyoto negotiations were able to identify and agree on mechanisms that make it possible to address this low cost emission reduction potential.

The Kyoto protocol, largely at the behest of the United States, provides a framework for global carbon trading through the introduction of three "flexible mechanisms", which offer countries with emission reduction commitments the opportunity of reaching those targets by various methods of carbon trading.

<sup>1</sup> International Energy Agency  
<sup>2</sup> Intergovernmental Panel on Climate Change

- a) States with reduction commitments can either trade those commitments between themselves;
- b) States with reduction commitments can develop reduction projects domestically and trade those reductions and;
- c) Invest in GHG emission reductions in signatory states without reduction commitments – also referred to as the Clean Development Mechanism (CDM).

The objective of this framework is to allocate capital to the least cost emissions reductions, thus minimizing the aggregated cost of reducing emissions for the signatory states.

This framework extends to nations the choice of either meeting targets by domestic reductions or paying for emission reductions where they are cheapest. Macroeconomic studies show that the importation of carbon credits to OECD countries reduces the negative impact on GDP growth by lowering compliance costs. Similar conclusions have been reached by the US Energy Information Agency in studies of current US proposals for greenhouse gas legislation.

Irrespective of its position on the Kyoto protocol, the United States can adopt the same logic and take advantage of low-cost GHG reduction potential either by recognizing Kyoto offsets or by establishing a dedicated program with its allowed subset of project types and host countries to serve the requirements of US cap- and-trade regulations.

**Global carbon trading and environmental integrity**

offsets need to represent *real, additional, permanent and verifiable* reductions of greenhouse gas emissions. Rigorous control mechanisms must be in place to safeguard these principles. This concern is shared by The United States as well as all states that are buying global offsets for compliance with their commitment under the Kyoto protocol.

The CDM mechanism has suffered teething problems, one being the allocation of resources to build institutions and capacity to deal appropriately with the rapidly increasing pipeline of project proposals. Point Carbon has identified over six thousand reduction projects in more than one hundred countries of which some 900 projects have been approved by the CDM Executive Board.

The Executive Board has had to balance quick and smooth processing of projects against the imperative of maintaining the environmental integrity of the scheme. The requirement of *additionality*, i.e. proof that projects would not have been implemented in the absence of the incentive from the carbon market, is a challenging concept which requires that project proposals must be subjected to a certain level of scrutiny.

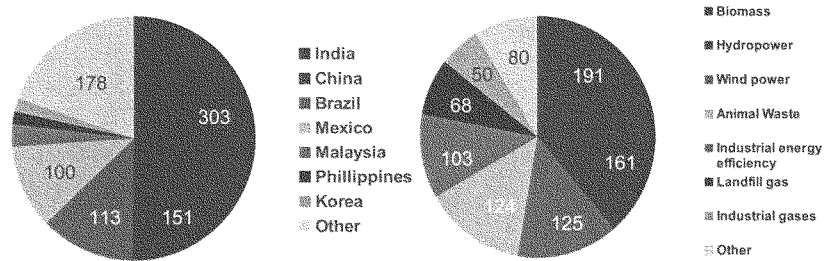


Figure 5 Number of registered CDM projects by project type and host country (900 by January 2008)

The Clean Development Mechanism is a transparent mechanism where information disclosure and public hearing requirements extend to each individual project. This is an important strength of CDM, but it is also a feature that makes the mechanism vulnerable to criticism and public debate. In a scheme with several thousand projects in over one hundred developing nations, there will be incidents which will test the integrity of the framework, its institutions as well as the market participants. Parties to the Kyoto protocol and the institutions under the UNFCCC have spent and will continue to spend considerable time and effort to develop and enforce a reliable framework to ensure that criteria for environmental integrity are being met.

The reputation of global offsets is also vulnerable to the questionable practices in some segments of the voluntary offset markets which do not have to meet the standards or transparency requirements of the CDM. The voluntary market which is unregulated aims at providing consumers and businesses with an opportunity to voluntarily offset carbon emissions associated with their operations and lifestyle. Ongoing work by many dedicated institutions to improve the legitimacy of the voluntary carbon market is critical to avoid damaging the general reputation of a system that can make a significant contribution to reaching greenhouse gas reduction targets cost effectively.

Provided, however, that the environmental integrity of offsets is institutionally guaranteed, the project based approach to emissions reduction has already proven its value as an extremely efficient way of deploying private capital and new technological solutions to address the climate change problem, both domestically and internationally. Point Carbon's US database has already identified over 500 domestic abatement projects in addition to the thousands of international projects. The project markets thus represent interesting new investment opportunities for US entrepreneurs and US technology.

#### **Restrictions on Access to use Offsets**

primary responsibility for emissions reductions on OECD countries by stating that carbon trading shall be *supplemental* to domestic emission reduction efforts in meeting GHG reduction targets. This is based on the recognition that investing in emissions reductions in non-OECD economies will not suffice in the face of the environmental challenges of global warming. Growth in energy demand in OECD countries and the replacement of ageing energy production infrastructure requires investment decisions which will influence emission trajectories for several decades. These technology choices should be made with due consideration of the environmental cost of GHG emissions.

Intense discussions are taking place in both Europe and the United States on the extent to which resorting to imported low cost carbon offsets is appropriate, partly out of fear that the deployment of low carbon technologies might be impeded by extensive use of offsets. However, in view of the stricter emission reduction targets now being discussed in USA and Europe, use of offsets is likely to be a necessary supplement in order to avoid potentially excessive costs. This has forced governments to strike a balance between the costs of reaching targets domestically and restrictions on the use of imported offsets.

During the implementation of Phase II of the EU Emission Trading Scheme (2008-12), member states were allocated allowances and credit import restrictions based on a guideline that each state should not cover more than 50 percent of their national emission reduction target with imported offsets from outside the European Union. This translates to a limit of 13-14 percent of total the emissions from entities covered by the European trading scheme.

In a recent proposal for changes to the EU emission trading directive to accommodate a continuation of the EU Emission Trading Scheme post 2012, the EU Commission proposes to reduce Member States' access to use imported offsets to a level of approximately one third of their reduction commitment if no satisfactory international agreement succeeds the Kyoto Protocol.

Similarly, the proposed limit on the use of international offsets and allowances under the Climate Security Act of 2007 is 15 percent of emissions, but imports are restricted to countries that have implemented domestic carbon caps, thus removing access to Clean Development Mechanism projects and greatly reducing the available offset supply to a number likely to be a fraction of the allowed 15 percent.

### Creating a Global Carbon Market

A number of approaches exist to connecting markets and creating global carbon standards, they include:

- Directly linking regional traded markets;
- Indirectly linking regional trading schemes by using common offset standards;
- Other means of internalizing environmental cost in world trade.

#### Direct Linking of Cap-and-Trade Schemes

Connecting a US cap-and-trade scheme to other markets can be done either by linking to comparable cap-and-trade schemes, such as the EU ETS, by allowing offsets from unregulated jurisdictions (e.g. CDM) to be used for compliance, or through a combination of these options.

The European Commission looks favorably on global carbon trading and considers the EU ETS as a building block for the development of a global network of emission trading systems. While the current Directive allows for linking the EU ETS with other industrialized countries that have ratified the Kyoto protocol, the Commission is proposing to extend this to include any country or administrative entity which has established a cap-and-trade system with design elements that do not undermine the environmental integrity of the EU ETS. The Climate Security Act of 2007, with its ambitious long-term reduction objectives and multi-sector approach could meet those requirements.

Similarly, the Climate Security Act allows the importation of up to 15 % of allowances from countries with equally stringent cap-and-trade schemes, which would in all likelihood include the EU ETS.

Direct linking between a US ETS and the EU ETS would create a much larger market with advantages for all parties by offering more GHG reduction opportunities, increased market liquidity, less price volatility, equalization of competitive disparities and economies of scale to name a few. Despite their differences, both regions have progressed far in terms of economic efficiency and environmental regulation, thus avoiding major inequalities and imbalances in potential allowance trade flows upon linking of the schemes. A linking of EU ETS to a US cap-and-trade scheme could take place following expiration of the Kyoto compliance period in 2012.

#### Indirect Linking of Cap-and-Trade Schemes

Indirect linking of cap-and-trade schemes would occur if the United States accepts global carbon offsets, but does not link directly with other cap-and-trade markets. Prices would then be affected by prices in the common pool of offsets, as well as regional factors and limits to the use of offsets. In an efficient domestic carbon market, carbon prices will be determined by the cost of the marginal emission reduction necessary to reach the target. Import of offsets will be preferred to the extent that their prices are below the cost of reducing emissions domestically. There is abundant proof that this is the case, and US emitters could realize significant cost savings by connecting to global markets.

Demand for international offsets from the United States would create more scarcity of offsets in the global market and hence contribute to higher prices. Conversely, absence of the US in the global offset market would mean that other nations could feed off the large stock of low cost emission reduction projects and compliance cost for US industry would become higher.

Access to global offsets may, however, not only limit cost but prove indispensable in reaching the short to mid-term reduction targets expressed in several of the bills proposed in Congress. Under the Climate Security Act, we estimate the gap between projected emissions and the cap to be 582 million tons in 2012, growing to 2007 million tons by 2020. Whilst mid- to long-term reduction targets seem feasible with a combination of cleaner power generation technologies, renewable fuels, improved energy efficiency and carbon capture and storage, the greatest challenge may be the lack of immediate flexibility to break the emission trend in the short to mid-term. In this perspective, use of global offset may be viewed as an important "safety valve" to avoid an excessive carbon price response.



Project developers, investors and financial institutions from the United States have been instrumental in developing global carbon markets to date. Connecting a US cap-and-trade scheme to global markets would enhance US business opportunities to develop and deploy renewable energy, energy efficiency and new technologies on a global scale.

#### **Offset and Allowance Shuffling**

Linking of cap-and-trade schemes with different eligibility rules for offsets and allowances may create unintended shuffling of these instruments that undermine the intentions of the restrictions. If the United States were to accept links with the EU ETS, but reject CDM offsets, EU corporations would buy and use CDM credits within the EU, but make EU allowances available to US buyers. This effect would, however, be restricted by the quantitative restrictions on the use of CDM offsets within the EU ETS. Regardless, it would indirectly link a US ETS to the global CDM market, likely keeping prices lower for all.

A similar effect would occur if the United States accepts offset types rejected by the EU ETS. The EU currently does not accept offsets generated from land use and forestry out of concerns over their environmental integrity. If the United States accepts this subset of offsets and the domestic supply of these offsets turns out to be abundant, a comparable shuffling of US allowances towards the EU would take place to the benefit of EU participants.

The European emission trading market consisting of 25 states has demonstrated that a market can function effectively despite national differences in regulation and market design parameters. Differences in eligibility rules for offsets will not prevent linking between programs, but depending on how significantly such differences impact trade flows and prices, they may have to be addressed in the specific provisions regulating the linking of the markets.

#### **Global Carbon Standards Achieved via Adjustment Mechanisms**

Many OECD countries, including the United States, have voiced concerns that many CDM host countries have progressed to a level of economic development where their emissions can be restricted without undue harm to their economies. In the absence of such restrictions, interest groups and policymakers have explored other means by which the environmental cost of GHG emissions could be embedded in the cost of producing goods and services. Border adjustments represent one approach for assessing this environmental cost. Other approaches include the rejection of international offsets from countries with no comparable domestic measures as proposed by the Climate Security Act and other direct interventions in the carbon market.

The United States is faced with a choice. On the one hand offering US businesses under a cap-and-trade scheme access to the global offset markets will lower their compliance cost, it will reduce negative effects on their international competitiveness and it will reduce the cost for consumers. On the other hand restrictions on use of global offsets would direct attention and investment to emission reduction opportunities within the United States with additional domestic benefits, but also with their additional cost.

Using the carbon market as a means of forcing climate policy commitments onto other countries has its strengths and weaknesses. There is evidence that the CDM mechanism has contributed to improving developing world opinions regarding the use of carbon trading and caps as a means of addressing greenhouse gas reduction targets.

From a market perspective, restrictions should be introduced in such a way that they do not impair the efficiency of the market. As markets are based on price mechanisms, carbon trading work best when deployed within market based systems and in conjunction with policy instruments that rely on price mechanisms. As such they work better with tools that penalize emissions, for example through the proposed border emissions tariffs, than with actions that significantly reduce the scope of the carbon market and the options available to the market participants.

Point Carbon's view is that the stringency of targets such as the one proposed by the Climate Security Act of 2007 will require access to multiple sources of abatement opportunities. The allocation process further creates wealth that can be judiciously directed to compensate for undesired distributional and competitive effects as well as promote both domestic and international technological development.

**Conclusions**

- Despite initial challenges and criticism, experiences from Europe show that cap and trade programs have worked, and are working to allow European countries to cost effectively manage their GHG emissions.
- Linking of regional or international cap-and-trade schemes provides benefits to the economy by offering more reduction opportunities, improved market efficiency and reduced competitive disparities.
- Restrictions on international emissions offsets, such as those in the Climate Security Act of 2007, are likely to increase the compliance costs for the US economy, and have the potential to place US businesses at a competitive disadvantage.
- Policies to draw additional economies into emissions reduction agreements should not impair the functioning of markets and should avoid limiting cost effective compliance options available to US companies.
- The allocation process creates wealth that can be judiciously directed to compensate for undesired distributional and competitive effects as well as promote both domestic and international technological development.

**TESTIMONY BEFORE THE  
UNITED STATES SENATE  
COMMITTEE ON FINANCE**

**SUBMITTED BY  
RUKSANA MIRZA  
VICE PRESIDENT ENVIRONMENTAL  
AND GOVERNMENT AFFAIRS  
HOLCIM (US) INC.**

**HEARING ON  
INTERNATIONAL ASPECTS OF A CLIMATE CHANGE CAP AND TRADE  
PROGRAM**

**FEBRUARY 14, 2008**

## INTRODUCTION

Good morning Chairman Baucus, Ranking Member Grassley, and Members of the Committee. It is a privilege to appear before you today. My name is Ruksana Mirza and I am the Vice President, Environmental and Government Affairs at Holcim (US) Inc. I am here to testify about Holcim's global experience with cap and trade legislation, and to offer suggestions to ensure that the implementation of a domestic cap and trade program in the United States is not undermined by the displacement of production of energy intensive products to countries with no or, less stringent climate change legislation. I commend you Mr. Chairman, and your Committee, for the leadership you are taking on this very important issue.

I sincerely appreciate the opportunity to speak on this issue, which, if not addressed appropriately, has the potential to result in economic disruption, with no environmental gain. Experience in the EU has shown that without measures to address the transfer of production to countries with lower environmental standards, significant emission reductions cannot be achieved in the domestic energy intensive industry.

### **HOLCIM IS A RESPECTED LEADER IN THE CEMENT INDUSTRY WITH EXTENSIVE EXPERIENCE IN CO2 EMISSIONS TRADING REGIMES AND INTERNATIONAL TRADE**

Holcim Ltd is a worldwide leader in the building materials sector, with over 150 million tons of cement and almost 200 million tons of aggregates supplied annually. Holcim holds majority and minority interests in more than 70 countries on all continents. Holcim Ltd is a leader in sustainable development and for the last three years, has been recognized as the "Leader of Industry" by the Dow Jones Sustainability Index for the building materials sector. Holcim Ltd has extensive experience with CO2 emission trading regimes with 27 cement production facilities in 10 countries in the European Union Emission Trading System (EU-ETS).

Headquartered in Waltham, Massachusetts, Holcim (US) Inc. a subsidiary of Holcim Ltd, is a leader in the US cement industry. Holcim produces and supplies nearly 15 million tons of cement and cementitious products annually to 38 states. We have more than 2500 employees and over \$1 billion in annual revenue. Over the last decade, we have invested nearly \$1 billion to upgrade and expand our fourteen existing U.S. facilities and are now investing another \$1 billion in St. Genevieve County near St. Louis, Missouri, to build the world's largest single cement production line. Still, this massive investment in capacity and efficiency upgrades is not enough to serve the Nation's need for cement, as the industry must import approximately 20 million tons of additional cement to meet the domestic demand. Cement is a critical component of concrete, which is an environmentally responsible building product used to build and repair our country's vital infrastructure, the fuel of economic growth. Nearly 50 percent of our product has an end use in the public sector in roads, airports, bridges, hospitals and schools.

Holcim has four regions in the United States, including the Atlantic coast and southern US, the Great Lakes and Mississippi River system, Texas and Oklahoma, and the Rocky Mountain region. We serve customers in 38 states from 14 plant facilities, located across the country, and from over 60 additional remote distribution sites, or terminals. While this is the first time Holcim has testified before the Senate Finance Committee, I am proud to say we have facilities that employ many of your constituents. Of our fourteen major plants, seven are represented here – for example:

Mr. Chairman, we have one in Three Forks, Montana;  
 Ranking Member Grassley another in Mason City, Iowa;  
 A plant in Catskill, New York, Senator Schumer;  
 A plant in Dundee, Michigan, Senator Stabenow;  
 A plant in Florence, Colorado Senator Salazar;  
 A plant in Morgan, Utah Senator Hatch; and,  
 Our Corporate Headquarters are located in your state Senator Kerry.

Additionally, we have operations in West Virginia, Senator Rockefeller; Arkansas, Senator Lincoln; Washington State, Senator Cantwell; Kentucky, Senator Bunning; Idaho, Senator Crapo and Kansas, Senator Roberts; as well as nineteen other states.

#### **How Cement is made**

Cement is produced from various abundant raw materials including limestone, shale, clay and silica sand. These minerals are ground and heated in large rotary kilns to temperatures as high as 3,400 degrees Fahrenheit. The heat of combustion fuses these materials into clumps of an intermediate material called clinker. When the clinker is discharged from the kiln, it is cooled and later ground with a small amount of gypsum to produce the gray powder known as portland cement. Different types of portland cement are manufactured to meet various physical and chemical requirements.

Portland cement manufacturing facilities use an enormous amount of energy. In fact, energy is the largest cost component in the manufacture of portland cement. The domestic cement industry is one of the largest industrial consumers of coal.

#### **THE CEMENT INDUSTRY IS A GOOD EXAMPLE OF AN INDUSTRY WHICH FACES EXPOSURE TO INTERNATIONAL TRADE AND RISK OF CARBON LEAKAGE**

The cement industry is experiencing robust growth fueled by sustained moderate economic and population growth. Continued large-scale investment in cement supply will be required to meet the United States' expected future consumption through further investment in domestic plants, import terminals, or both. Such decisions are likely to be made in the context of climate change legislation, sustained high energy costs, and moderate-to-robust economic growth among the world's transitional and emerging

economies, actions which may impact both the availability of cement in the international market and freight costs.

The cement industry has three characteristics that are shared by many other energy intensive industries:

- Its product is a strategic building material that is essential to the development of energy efficient infrastructure. Despite the energy and therefore carbon intensive nature of cement production, cement and concrete contribute significantly to the reduction of overall carbon emissions through their application in the construction of energy efficient buildings and highways. Nevertheless, it is a commodity which sells at about \$90.00 a ton, making it impossible for the industry to absorb the significant cost of carbon emissions that would likely result from the implementation of a cap and trade program.
- The demand for cement is expected to grow significantly over the next couple of decades, both in the United States and globally. Domestic consumption of cement is expected to grow by 43 percent by 2030, reaching 183 million metric tons and reflecting a 55 million metric ton increase as compared to 2005's past cyclical peak level.
- Production of cement is highly capital intensive. Costs imposed on the U.S. cement industry by a cap and trade program are likely to discourage the considerable investment necessary to meet our increasing consumption domestically and increase our already significant dependence on imports of this strategic building material.

The potential international competitiveness impacts of a domestic cap and trade program for energy intensive industries such as cement are recognized in a 2005 study published by the Environment Directorate of the Centre of Tax Policy and Administration of the OECD entitled "The Competitiveness Impact of CO<sub>2</sub> Emissions Reduction In The Cement Sector" which states:

*"Indeed, given the last evolutions of the debate on GHG mitigation, it is clear today that regional rather than global policies will be implemented, at least for a while. Therefore, a distortion of competition may affect countries mitigating GHG emissions through the additional burden of tax policies, emission allowances... Such an asymmetric carbon constraint may of course have an impact on GHG-intensive industries competitiveness (loss of profitability and decreasing market shares, ultimately leading to relocation). Eventually, such fragmented policies might even be inefficient from an environmental point of view, if they generate relocations in countries that are more GHG-intensive because of their technological portfolio and their lack of environmental regulation. The competitiveness impact and the so-called "carbon leakage" due to this distortion is an argument against non global mitigation policy or at least in favour of compensations."*

## GLOBAL CHALLENGE OF CLIMATE CHANGE

Climate change and energy security are global challenges that will require full participation from all nations and that will represent a function of their technical and economical potential and socio-economic development.

Combining the need to reduce greenhouse gas emissions with economic growth requires improving the carbon and energy efficiency of production, products and consumption in all jurisdictions world wide. Holcim is committed to this effort.

It is clear that socio-economic development, mitigation and adaptation to climate change will require the further development of civil infrastructure and consequently will further increase the global demand for concrete and cement as the construction material of choice.

Socio-economic development of the growing population in developing countries will require construction of infrastructure such as railroads, roads, sewage systems, housing, hospitals and schools. Almost 40 percent of global primary energy consumption is for residential and commercial buildings and 25 percent is for transportation – with both sectors having very significant emission savings potential. However, realizing this potential will require renovation and new construction in more energy efficient buildings, public transport infrastructure and new power plants. Also, adaptation to climate change will require infrastructure works such as flood protection and residential housing to be more resistant to stronger wind forces.

### **TO BE EFFECTIVE IN REDUCING DOMESTIC AND GLOBAL CARBON EMISSIONS, A DOMESTIC CAP AND TRADE PROGRAM MUST CONTAIN PROVISIONS TO AVOID LEAKAGE OF CARBON EMISSIONS TO COUNTRIES THAT EITHER HAVE NO, OR LESS STRINGENT OBLIGATIONS. THIS CAN BE ACHIEVED BY ADOPTING A SYSTEM OF EQUAL RIGHTS AND EQUAL OBLIGATIONS FOR DOMESTIC PRODUCERS AND IMPORTERS**

This proposal aims at **preventing leakage** of carbon emissions to countries with no, or less stringent carbon constraints by creating a **level playing field** between domestic producers and importers that is consistent with the World Trade Organization and the United Nations Framework Convention on Climate Change (UNFCCC).

Under this proposal, the scope of the domestic cap and trade program would be broadened to include both installations for the production and importation of energy intensive products. Import installations would be subject to the same rights and obligations as domestic production, including the obligation for monitoring, reporting and verification of emissions, surrendering of allowances and the ability to trade allowances. Monitoring Reporting and Verification guidelines dedicated to emissions at the site of production outside the United States would need to be developed. The allocation of initial allowances to importers would be on the same basis as for domestic producers.

Importers would be required to provide a certificate of emissions that occurred (at the site of production) for the production of the volume of goods imported into the United States plus the emissions from transport from that site to the import location in United States. The monitoring, reporting and verification rules must be the same for imported and domestically produced goods.

In the event that the importing installation is not able to provide a third party verified certificate of emissions at the site of production, a default emission value would apply. In order to create an incentive for developing countries to develop the capability to monitor, report and verify emissions at the site of production and export, the default emission value would be based on a rate that is higher than the US average. This would pave the way for these nations, particularly the major emitters, towards the adoption of fully comparable domestic climate change programs.

Such a system effectively prevents carbon leakage and places domestic production and importers on an equal level playing field with respect to carbon constraints, notably with similar terms as to the obligation of monitoring, reporting and verification of emissions, the obligation to surrender allowances at the end of each commitment year and the right to comply with the obligations in a flexible way through emission trading.

As such – through the importing installations - the exporting installations not only face the same carbon efficiency objectives but also have the same business opportunities in the event that they produce energy intensive products in a less carbon intensive manner than domestic industry.

Such a concept with equal rights and obligations is clearly non-discriminatory for all concerned players and as a result, is fully compliant with the rules of the World Trade Organization, and the UNFCCC and would allow the measures to take effect at the same time as a domestic cap and trade program.

**THE EUROPEAN UNION RECOGNIZES THAT SIGNIFICANT REDUCTIONS  
IN DOMESTIC AND GLOBAL CARBON EMISSIONS CAN ONLY BE  
REALIZED IN THE ENERGY INTENSIVE INDUSTRY IF ADEQUATE  
MEASURES TO PREVENT LEAKAGE ARE IN PLACE**

In the current EU Directive which covers the period 2005 to 2012, the issue of leakage is not addressed explicitly. Instead, the Directive speaks to the issue of the distortion of competition in Point 11 of Annex III, which states that National Allocation Plans may contain information on the manner on how competition from countries without carbon constraints is taken into account.

To date, National Allocation Plans have addressed the issue of competitiveness, primarily through the allocation system, whereby installations have been allocated a larger proportion of allowances.



In contrast, the recently published “Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC” which aims to improve and extend the greenhouse gas emission allowance trading system, to 2013 and beyond, clearly addresses the leakage issue stating:

*“The efforts for reduction until 2020 will be more significant than required by 2012. In the absence of comparable constraints for industry in third countries, there may be a risk of carbon leakage, i.e. relocation of production and thereby increasing global emissions.”*

The EU document goes on to say:

*“...an effective equalization system could be introduced to put domestic production and import on a comparable footing. This could be by imposing requirements to importers that would be no less favourable than those to domestic installations, for example by requiring surrender of allowances.”*

## CONCLUSION

As one of the largest producers of cement in the United States, Holcim (US) Inc. offers the following suggestions as the Committee deliberates over the international dimensions of a domestic cap and trade program:

- To remain globally competitive while achieving the environmental objective of a domestic cap and trade program, it is essential that the issue of “leakage” of emissions to countries with less stringent carbon legislation be adequately addressed. Otherwise, we risk economic disruption of local industry, with no environmental gain.
- To ensure that leakage protection measures are compatible with WTO rules and the United Nations Framework Convention on Climate Change, this should be implemented through a system of equal rights and equal obligations among domestic producers and importers. This requires a broadening of a domestic cap and trade program to include import installations.
- Leakage protection measures should take effect simultaneously with a domestic program and should remain in effect until comparable measures have been adopted by exporting nations.
- Including importers in the scope of a domestic cap and trade program creates a strong incentive for companies in exporting countries to adopt the same monitoring, reporting and verification system as domestic producers. This constitutes an important and essential first step for engaging developing countries in a global climate protection framework.

I sincerely thank you, Mr. Chairman, Ranking Member Grassley and Members of the Committee for your time and I again appreciate this opportunity to speak about issues vital to addressing the global challenge of climate change while ensuring the United States remains internationally competitive.

Ruksana Mirza  
Vice President, Environmental and Government Affairs,  
Holcim (US) Inc.

## FINANCE COMMITTEE QUESTIONS FOR THE RECORD

United States Senate  
Committee on Finance

Hearing on  
“International Aspects of a Carbon Cap and Trade Program”  
February 14, 2008

Questions for Ruksana Mirza from Senator Baucus

Question 1:

**Ms. Mirza, your proposal to prevent the leakage of carbon emissions from other countries could result in foreign firms paying higher costs than a U.S. firm would pay under a cap and trade program.**

**Are you concerned this policy might prompt retaliation or a legal challenge against U.S. exports? Are you concerned that an approach that appears punitive may not provide the positive incentive to adopt emission reductions that you desire?**

Under Holcim’s proposal to prevent leakage, domestic producers and foreign firms (via importing installations) are granted the same rights and encounter the same obligations. As a result, all firms face the same costs. This proposal would entail the broadening of the scope of the domestic cap-and-trade program to include not only domestic producers, but also those installations that import energy-intensive goods. Emission allowances would be allocated to importers using the same methodology that is applied to domestic producers. Similarly, the compliance obligations of importers would be determined on the same basis as for domestic producers, requiring both entities to surrender allowances equal to the emissions associated with the volume of energy-intensive product either produced in or imported into the country. Both domestic producers and importing installations would be required to monitor, report, and verify emissions associated with their respective volumes of product. If an importer is unable to obtain a verified certificate of emissions, that entity would incur higher compliance costs as its compliance obligation would then be based on a default emission value set above the domestic average.

Under Holcim’s proposal, any firm – foreign or domestic – that produces energy-intensive products more efficiently than its competitors will face lower costs with regards to compliance obligations. As such, a cap-and-trade program that contains a leakage-prevention mechanism provides the same opportunities for foreign firms that are more efficient relative to domestic entities to establish a competitive advantage. A concept based on equal rights and obligations for both domestic producers and foreign entities is clearly non-discriminatory, and consistent with the rules of the WTO. This approach may well attract attention and legal challenge. However, whereas many practical implementation aspects remain to be discussed and legal solutions agreed upon, we are confident that a non-discriminatory system has a high likelihood of

withstanding a legal challenge before the WTO and that the risk of retaliation against U.S. exports will be very low.

**Question 2:**

**How important were offsets such as Clean Development Mechanism credits for Holcim's compliance with the European cap and trade program?**

**Do you believe offsets for carbon sequestration projects from agriculture or forestry will be part of Holcim's strategy for complying with a U.S. cap and trade program?**

Phase I of the EU ETS, from 2005 to 2007, was a trial period that provided covered entities with an opportunity to learn-by-doing. 2008 marks the start of Phase II of the EU ETS and of the Kyoto commitment period which runs to 2012. Holcim's compliance strategy, and the role of offsets, will be informed throughout the year by demand for building materials and our related production as well as the dynamics of the carbon market. However, our parent company, Holcim Ltd. currently has 10 Clean Development Mechanism (CDM) and Joint Implementation (JI) projects in various stages of development, including the first approved Certified Emission Reduction credits (CERs) in the cement industry. Holcim has found the UNFCCC CDM procedures to be excessively bureaucratic, complicated, subjective and unpredictable, and thus ineffective and inefficient.

Holcim (US) strongly supports the inclusion of international offsets in a domestic cap-and-trade program, as these mechanisms are essential cost-containment instruments that will enable us to meet our compliance obligations in the most cost-effective manner possible. However, for international offsets to play a significant cost containment role, there is an urgent need to develop effective mechanisms to facilitate the generation of real, verifiable offsets. Holcim (US) believes that once offsets of domestic and international origin have been verified, they should be fully fungible with domestic and international allowances.

**Question for Ruksana Mirza from Senator Grassley**

**Question 1:**

**We have heard testimony that the European Union is considering whether to apply its cap and trade program to imported products.**

**On the other hand, EU Trade Commissioner Peter Mandelson is reported to have said that trade restrictions are not the way forward and that Europe should focus instead on international negotiations.**

**Do you think Europe will ultimately decide to apply its cap and trade program to imports?**

There have been conflicting accounts on how the European Union is planning to prevent leakage of emissions in a post-2012 emission trading regime; however, we believe it is very likely the EU will ultimately decide on an approach that creates a level playing field between domestic production and imported goods.

From the EU perspective, there are three policy options to address competitiveness concerns:

- 1) provision of a sufficient volume of free allowances to industry sectors subject to leakage;
- 2) inclusion of importers in the scope of the system; and,
- 3) the development of a post-Kyoto international agreement with comparable obligations for developed and developing nations.

However, based on the recently published “Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC” which aims to improve and extend the greenhouse gas emission allowance trading system, to 2013 and beyond, there is a clear recognition of the need to address the issue of leakage. The report states:

*“The efforts for reduction until 2020 will be more significant than required by 2012. In the absence of comparable constraints for industry in third countries, there may be a risk of carbon leakage, i.e. relocation of production and thereby increasing global emissions.”*

The EU document goes on to say:

*“...an effective equalization system could be introduced to put domestic production and import on a comparable footing. This could be by imposing requirements to importers that would be no less favourable than those to domestic installations, for example by requiring surrender of allowances.”*

Nevertheless, the European Union has not yet made its final policy choice in this respect, as various departments favor disparate preferences: EU Trade Commissioner Peter Mandelson puts priority on free trade; EU Environment Minister Stavros Dimas calls for a global international climate agreement; and EU Industry Commissioner Gunter Verheugen seeks protections for European industry to maintain international competitiveness.

#### Question for Ruksana Mirza from Senator Stabenow

##### Question 1:

**Your parent company, Holcim Limited, operates cement plants in the European Union. Cement—like autos—is an extremely competitive industry.**

**What changes did Holcim have to make to thrive in the market system?**

Holcim seeks to minimize the environmental impact of its operations, and views its commitment to sustainable development as instrumental to its future prosperity. Actions that Holcim has

taken to anticipate, prepare for, and operate within an increasingly carbon-constrained economy include:

- Top management commitment to sustainable development as evidenced by the fact that Holcim has been recognized by the Dow Jones Sustainability Index as the “Leader of Industry” in the building materials sector for three consecutive years;
- Implementation of company-wide monitoring, reporting and verification of CO2 emissions at all levels of the organization;
- Development of a corporate energy strategy and efforts to improve energy efficiency;
- Commitment to product innovation including the use of supplementary cementing materials or mineral components;
- Constructive engagement with legislators and regulators; and,
- Familiarity with the emissions trading market and cost containment mechanisms.

#### Questions for Ruksana Mirza from Senator Snowe

##### Question 1:

**The domestic conventional wisdom is that climate change legislation needs to protect American business from competitive pressure in international competitive sectors. I understand the goal of the provisions, but I am also concerned that we need to compliment that with a more positive message.**

**What do you recommend that we do to create incentives for the developing countries to take more aggressive action? Do you think this could be done if developed countries would commit to deliver financial and technological incentives to developing countries to encourage them to meet more aggressive reduction targets for key high greenhouse gas-emitting sectors like steel, cement and oil refining, for instance? In other words, should we be considering a sector-based approach as the US moves forward to forge any international agreement with developed and developing countries in keeping with our commitments under the UN Framework Convention on Climate Change and the Administration’s recent sign on to the Bali Action Plan? Might this put the world on the path suggested by the UN Intergovernmental Panel on Climate Change – the IPCC – to avoid truly harmful climate impacts in the future?**

Dedicated policies are needed to achieve reductions beyond the business-as-usual pace of improvement in developing countries. But one size will not fit all. Differentiated policies and measures are needed, customized to the characteristics of each sector of the society, the technical and economic capacity for potential reduction, and regional socio-economic development. Holcim believes that the current system in which the incentives for developing countries rest solely on obligations from developed countries is unsustainable and insufficient to reach the needed emission reductions. Instead, Holcim favors a global sectoral approach that is predicated on multiple, but varied market systems and that incorporates a gradual transition to more stringent systems for developing countries. Holcim envisions a progression from a purely “opportunities-driven” system (unilateral financing of CDM and JI offset projects) to an

“obligations and opportunities” system (obligation to improve CO2 efficiency but not to reduce absolute emissions) and ultimately to a purely “obligations-driven” system (obligation to reduce absolute emissions) with the pace of transition dependent on improvement in socio-economic development.

**Question 2:**

**Leading Wall Street Banks just recently established what they call “The Carbon Principles”. JPMorgan Chase, Morgan Stanley and Citi have pledged their commitment to a set of Carbon Principles for energy efficiency, renewable and low carbon power sources as well as centralized generation sources because of the impact of greenhouse gas emissions on global warming. They are using this as a framework when talking to clients in evaluating risks and opportunities in the US electric power industry. The Principles and what they call “Enhanced Diligence” represent a roadmap for reducing the regulatory and financial risks associated with greenhouse gas emissions that err on the side of caution until there is more regulatory clarity available to developers, lenders and investors. These financial institutions have grasped the basic truth, the wave they can sense is coming, that every future developmental energy plan will need to account for the added risks due to the uncertainties around future emissions limits such as a carbon cap and trade system, that projects proposed in jurisdictions that already have controls on emissions in place, a developer will need to be consistent with existing rules, and also for potential changes to curb global warming nationally and internationally.**

**Since this will affect energy intensive industries across the board as some of you represent, I would like to hear the panel’s comments on these February 4, 2008 guidelines that strengthen environmental and economic risk management in the financing and construction of electricity generation. Do you see this as a major signal for Congress to really get serious to move towards a more carbon neutral climate policy? And do you believe the best policy would be a mandatory carbon cap and trade program?**

The Carbon Principles establish a process by which the subscribing financial institutions will investigate and analyze the CO2 emission-related risks associated with electricity generation and incorporate this analysis into lending and underwriting decisions. This industry-led effort creates a consistent approach among major financial institutions for evaluating climate change risks and opportunities. In contrast, the financial institutions explicitly attribute the development of the Carbon Principles to the absence of comprehensive federal action on climate change, in which policy uncertainty has contributed to the further rise of unknown financial and regulatory risks. The marketplace, as illustrated by the development of Carbon Principles, is taking steps to prepare for a low-carbon economy, and Congress should do its part to rectify the policy uncertainty and articulate the path forward, preferably the establishment of a well-designed national cap-and-trade program.

**Question 3:**

**Last month it was reported that the European Union was threatening to impose carbon tariffs on imports from the US unless the US agreed to join an international climate change**

treaty. This is mainly because energy-intensive industries that produce aluminum and steel, for instance, will be facing strict standards under the EU's revamped trading scheme that is set to begin in 2013. The US Trade Representative Susan Schwab responded, "We have been dismayed at a variety of suggestions where we have seen the climate and the environment being used as an excuse to close markets".

**Do you think the US would be better off moving forward in joining an international treaty as the Bali Action Plan, agreed to by President Bush, will most likely take us by 2012? Wouldn't this take the EU argument off the table? And, as a prelude to that, do you believe the US should already have its own domestic mandatory trading scheme in place by then?**

The adoption of CO2 emission reduction regimes of comparable stringency by all jurisdictions throughout the world would be the most effective means to prevent emission leakage. However, in the absence of a truly international climate change framework, countries that have taken action must consider options to maintain the international competitiveness of their industry. Holcim's non-discriminatory proposal to prevent leakage – based on equal rights and equal obligations for both domestic producers and foreign entities – would preempt the call for undue trade restrictions.

**Question 4:**

**A carbon cap and trade program as has been discussed in this hearing carries with it a value for every ton of carbon so we will need a level of detail and verification to make the market truly work in the shortest timeframe possible. The European Union has been a living laboratory for its bold - if imperfect - step in setting up the world's first carbon cap and trade system. The EU modeled its greenhouse gas emissions scheme after our sulfur dioxide cap and trade program that was put into place by the US Clean Air Act Amendments of 1990 to combat acid rain. An EU official, in appraising the mistakes made with their still new system, said, "You need a registry, and you need a reporting vehicle, " that information gathering is vital - "a very important first step." Well, it took EPA five years to get the acid rain program up and running because power plant operators had to install devices to gather pollution rates. The EU is going through similar growing pains because they had no registry to make its carbon cap and trade system work accurately. So, it appears that a national greenhouse gas registry is a crucial precursor to both mandatory and market-based carbon cap and trade regulation of industrial greenhouse gases that contribute to global warming. Senator Klobuchar and I have proposed such a registry and it has been included in the Lieberman-Warner carbon cap and trade bill.**

**Do you believe the US should establish this data system for registering and counting carbon emissions so that there is an accurate way these emissions can be measured and reduced? If not, is there any other accurate way a domestic trading scheme can be developed?**

**If you do believe a Registry should be established and even if Congress does not pass a mandatory carbon cap and trade legislation in this Congress, do you see merit in going ahead and establishing the Greenhouse Gas Registry right away?**



Yes, Holcim strongly supports the establishment of a national greenhouse gas registry. The first step in greenhouse gas management is measurement. The establishment of a federal registry – predicated on existing frameworks and complimentary of a recognized reporting protocol, such as the WBCSD / WRI GHG Protocols – ensures that the proper mechanisms needed for measurement are institutionalized. The mechanisms for accounting and reporting greenhouse gas emissions are central to the proper functioning of a cap-and-trade program, and a registry will ensure that emissions are counted and reported in an accurate manner. Holcim prefers the establishment of a national registry as part of a comprehensive federal climate policy to prevent a prolonged piecemeal approach to climate change that will continue to create policy ambiguity and fail to create the certainty that the business community desires.

**Question for Ruksana Mirza from Senator Bingaman**

**Question 1:**

**Please comment on the potential that the WTO may strike down the provisions and what we should do if that happens.**

Holcim anticipates that our proposal will withstand WTO challenge as it is predicated on equal, not equivalent treatment of both domestic producers and importers. Under Holcim’s proposal, domestic producers and foreign firms (via importing installations) are granted the same rights and encounter the same obligations. Emission allowances would be allocated to all entities using the same methodology, and a common metric would be applied to determine respective compliance obligations. These considerations are reflective of the non-discriminatory nature of the mechanism. This approach may well attract attention and legal challenge. However, whereas many practical implementation aspects remain to be discussed and legal solutions agreed upon, we are confident that a non-discriminatory system has a high likelihood of withstanding a legal challenge before the WTO.

**Question 2:**

**There has been a lot of concern about whether some countries are able to enforce pollution regulations. What can the U.S. and international community do to enforce programs in the developing countries and ensure that reductions of greenhouse gas emissions are actually being made?**

Under Holcim’s proposal, both domestic producers and importing installations would be required to monitor, report, and verify emissions associated with their respective volumes of product. If an importer is unable to obtain a verified certificate of emissions, that entity would incur higher compliance costs as its compliance obligation would then be based on a default emission value set above the domestic average. The need to remain globally competitive and maintain access to the U.S. market would provide developing countries with a strong incentive to develop the capacity needed to monitor, report, and verify emissions and would pave the way for these nations’ eventual adoption of fully comparable domestic climate change programs.

**Question 3:**

**Given that the European program has been in effect for a few years now, with some volatility and price changes, what short-term effects have been seen in Europe on the cement market?**

Phase I of the EU ETS, from 2005 to 2007, was a trial period that provided covered entities with an opportunity to learn-by-doing. 2008 marks the start of Phase II of the EU ETS and of the Kyoto commitment period which runs to 2012. It is widely recognized during the trial period that member states over-allocated allowances to covered entities due to the absence of good baseline emissions data. This effectively ensured that, in general, facilities received sufficient allowances to meet their compliance obligations without incurring excessive costs. The trial period did however generate a robust emission inventory which provided a sound basis for allowance allocation during the Kyoto commitment period. It is too early to assess Holcim's cost of compliance, as our compliance strategy will be informed throughout the period by demand for building materials and our related production as well as the dynamics of the carbon market.

**Senator Pat Roberts Statement for the Record  
Senate Finance Committee  
Hearing on International Aspects of a Carbon Cap and Trade Program  
February 14, 2008**

Chairman Baucus, Ranking Member Grassley: Thank you for holding this hearing today. Exploring the intersection of cap and trade proposals and our commitments within the World Trade Organization is an important component in the climate change debate.

Let me be clear, I fully support continued domestic and global efforts to improve energy efficiency as a large piece of the puzzle in reducing greenhouse gases. Likewise, I am hopeful the United States can be a leader in adopting renewable energy to reduce carbon dioxide emissions. Likewise, I am a strong advocate of promoting agriculture's role in actually absorbing carbon dioxide from the air and storing it in the soil.

Kansas plays an important role in climate change policies because farms and ranches naturally absorb carbon dioxide. Kansas State University is leading an international effort to increase this positive agricultural environment benefit. In the past, I have introduced and passed major legislation that takes steps to encourage the "banking" of carbon by agriculture. This process, known as carbon sequestration, has the potential to absorb the equivalent of all manmade carbon dioxide emissions from industrial sources emitted annually by the United States.

However, I do not believe it is in the United States' best interest to unilaterally undertake mandatory carbon dioxide emission reductions until other nations agree to do the same. Any unilateral U.S. reductions in greenhouse gas emission will simply be offset by China and India, thereby not improving the global environment at all. I am concerned that mandatory carbon emissions caps will unfairly hamstring American industry when their biggest competitors in China and India are not subject to the same standard. At the same time, I support voluntary carbon banking and trading.

Further, we must take care in the message that we send out to our trading partners. Our domestic policy on greenhouse gases should not invite trade challenges but bring our partners on board. I am concerned that the overall costs have not fully been considered in regard to our own economic growth, from both an import or export perspective. In this time of economic anxiety, we must avoid enacting policies that stifle economic growth and encourage job loss.

SENATOR ARLEN SPECTER  
TESTIMONY BEFORE THE SENATOR COMMITTEE ON FINANCE  
February 14, 2008

Chairman Baucus, Ranking Member Grassley, and Members of the Committee, there is a growing recognition, among both the American people and the members of this Senate, of the threat posed by greenhouse gas emissions to our planet's climate. I share that concern. Indeed, last year Sen. Bingaman and I introduced an economy-wide cap-and-trade measure designed to reduce our nation's greenhouse gas emissions. I believe it is essential that Congress act now to begin addressing this vital issue.

Whenever we deal with an issue of this magnitude, we must always beware of the potential for unintended consequences. With regard to climate change, that potential is profound. If new climate change legislation places U.S. manufacturers at a competitive disadvantage compared to producers in countries like China and India that have less rigorous standards, then such legislation may actually *worsen* our climate change problem – and could have devastating consequences for the U.S. economy and our manufacturing sector.

The Bingaman-Specter bill (Low Carbon Economy Act, S. 1766) and subsequently the Lieberman-Warner bill (America's Climate Security Act, S. 2191) have provisions designed to address competitiveness concerns. Given the novelty and complexity of this problem – not to mention the legal and policy implications involved – these provisions were simply intended as a first step to elucidate the problem and provide a framework in which that problem could potentially be addressed. I believe the provisions have served that goal, but, as was indicated at the time, clearly much more needs to be done in this area.

As Senator Boxer and you Mr. Chairman indicated at the mark-up of the Lieberman-Warner legislation in the Environment and Public Works Committee, this is clearly an issue that demands further consideration and that will require further work to ensure that U.S. businesses and workers in import-sensitive industries are not put at a competitive disadvantage. I cannot emphasize enough how important this issue is – both substantively and for our ability to meaningfully address the climate change issue. At the end of the day, I do not believe there will be (nor should there be) support in Congress or the country for climate change legislation that does not effectively address the competitiveness challenge and environmental risks of exporting U.S. jobs.

Those who suggest some “protectionist” motive to competitiveness provisions could not be further off the mark. This is about fairness and about whether unilateral, domestic climate provisions can actually work absent binding international agreements. Unless we are all willing to sincerely engage other nations to address and solve this problem, our efforts in addressing global warming may go for naught.

Since the introduction of our legislation, Senator Bingaman and I have had the opportunity to consult in greater depth with the representatives of numerous industries – including those most in danger if climate change legislation were to unfairly penalize U.S. workers and industries by granting more favorable treatment to imports with less stringent environmental controls. I have also had the chance to look further at some of the legal and policy issues involved – including the rules at the World Trade Organization (WTO) governing environmental issues.

I have come to several conclusions that I would like to share with the Committee.

First, while this is a developing and unsettled area, there are very good arguments to be advanced that the United States can apply measures at the border to ensure that

imports are treated the same as domestic products in terms of the burdens and costs of climate change legislation.

- The first question is whether Article III of the General Agreements on Tariffs and Trade (GATT) – which requires “national” (i.e., non-discriminatory) treatment of imports – is violated by legislation that puts equal burdens on imports and domestic products. I believe the answer to that question is clearly “no.”
- The second question is whether – even if Article III were violated – the exceptions provision of the GATT (Article XX) would nonetheless permit the neutral application of climate change measures at the border. I believe the clear answer to that question is “yes.”

Second, to the extent there may be uncertainty in how international rules will be applied, it only makes sense to interpret them in the manner that will allow for the most equitable treatment between imports and domestic products – and that will thereby provide for the greatest level of environmental protection.

Third, to make U.S. climate change legislation effective and to garner public support, it is vital that the same burdens be borne both by imports and domestic products. If it is concluded that this cannot be done (whether for legal or other reasons), it may be impossible to make current climate change proposals work as intended and to actually have the effect of lowering global greenhouse gas concentrations. Therefore, the work being done by this Committee to consider and educate Congress about the trade and legal implications of climate legislation is vital if we are to make progress in this area going forward.

Mr. Chairman, I believe that an effective competitiveness provision can be crafted building on the start provided in existing proposals. The touchstone will be to ensure that imports are treated no better or worse than domestic products, and that the additional regulatory costs created by this legislation favor neither foreign or domestic production. That means we must consider the applicability and equity of timetables, baselines and costs to both domestic and imported products. While there will be complexities in ensuring this result, it is the best and only approach to ensure that climate change legislation is effective and that U.S. manufacturing can survive in import-sensitive industries.

I look forward to working with Committee members as these proposals move forward to ensure that we achieve an acceptable outcome in this area – one that is fair, equitable and neutral in terms of products from different origins. The stakes are enormous, but we have at hand the tools to address the problem.

