

CLIMATE CHANGE LEGISLATION DESIGN WHITE PAPER

Competitiveness Concerns/Engaging Developing Countries

The Committee on Energy and Commerce and its Subcommittee on Energy and Air Quality are issuing a series of Climate Change Legislation Design White Papers as the next step toward enactment of a mandatory, economy-wide climate change program. While the hearings earlier in this Congress were designed to give the Committee an understanding of the status and projected path of climate change and potential ways to address it, these White Papers and the hearings on them will focus on the construction of mandatory, economy-wide climate change legislation. The White Papers will describe the basic design and key principles of a regulatory program and also identify issues about which further information and discussion is desirable.

The first White Paper identified the economic sectors and activities that are directly emitting greenhouse gases (GHGs) and how those emissions could be included in a cap-and-trade program. This White Paper discusses potential domestic legislative provisions that could encourage developing countries to curb their emissions of greenhouse gases.

Executive Summary

Under the 1992 United Nations Framework Convention on Climate Change (UNFCCC), both developed and developing country signatories recognized the need to limit emissions of greenhouse gases and to negotiate subsequent agreements to implement the treaty's common objectives. The procedural "roadmap" agreed to under the December 2007 "Bali Action Plan" aims to conclude an agreement by the end of 2009 that would specify emissions obligations for both developed and developing nations beginning in 2013 upon the expiration of the Kyoto Protocol. It is our intention to enact legislation to limit U.S. emissions prior to the time such an international agreement is adopted and enters into force. As we determine the components of a climate change program to which our Nation will commit, it is essential that the bill include incentives for developing nations such as China and India to curb their emissions for several reasons:

- First, limiting greenhouse gas emissions of the U.S. and other developed countries will not prevent dangerous interference with the climate system unless key developing countries also control their GHG emissions.
- Second, if the U.S. were to cap its own GHG emissions without corresponding action by developing nations that compete in global trade markets, the cost of producing some American products would increase relative to those manufactured in countries without emissions limits. As a result, U.S. industry and jobs might relocate to (or expand operations in) countries that do not limit the emissions of their industries, causing both the environment and the U.S. economy to suffer.

- Third, while there is precedent in international agreements for adopting differing obligations for developed and developing countries, past action on climate change suggests that Congress would be unlikely to adopt legislation committing the U.S. to reduce its GHG emission limits without action by developing countries as well.

Therefore, in contrast to international negotiations, consideration of domestic legislation does not involve all the parties whose actions contribute to the global problem of climate change. Since the U.S. cannot unilaterally bind other countries, our goal will be to craft legislation limiting U.S. carbon emissions that also induces developing countries to limit their emissions growth (1) on a timetable that meets both environmental and trade competitiveness concerns; (2) in a manner that is reasonably certain to withstand challenge before the World Trade Organization (WTO); and (3) on terms that pose acceptable risks to U.S. interests in the event of a negative WTO determination.

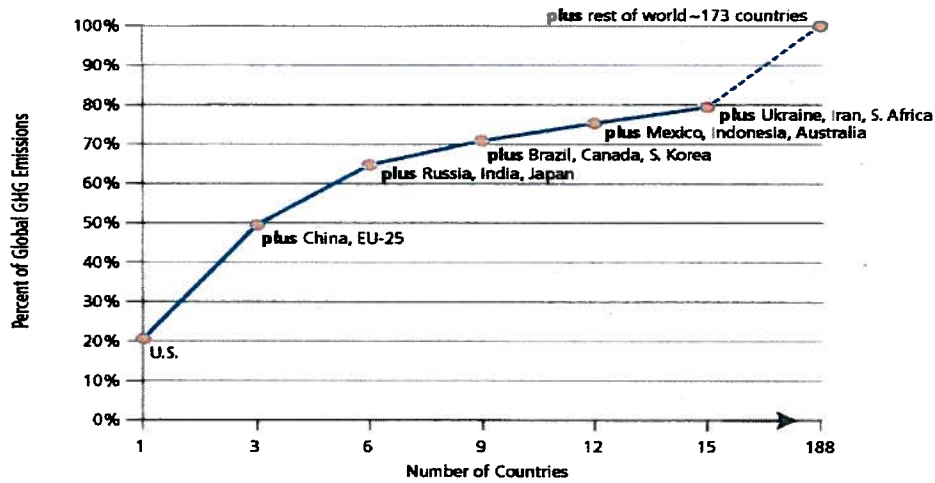
Rate of Growth in Carbon Emissions of Developing Countries

Climate change is affected by the volume of greenhouse gases emitted into the atmosphere over many years, without regard to the country in which the emissions occur. As a result, unlike most of this country's other environmental programs, a climate change program must take into account other countries' emissions and actions. It will take concerted action by the United States and other major emitting countries to prevent dangerous interference with the climate system.

A relatively small number of countries are responsible for most of the world's greenhouse gas emissions. The U.S., the EU-25, China, Russia, India, and Japan accounted for more than 60 percent of global greenhouse gas emissions in 2000. Adding in the next 9 highest emitting countries brings the total to 80 percent. See Figure 1.¹

¹ There are other informative ways to compare emissions from different countries. Appendix A contains three graphs that compare select countries' cumulative greenhouse gas emissions from 1900 to 2030, per capita emissions, and per gross domestic product emissions.

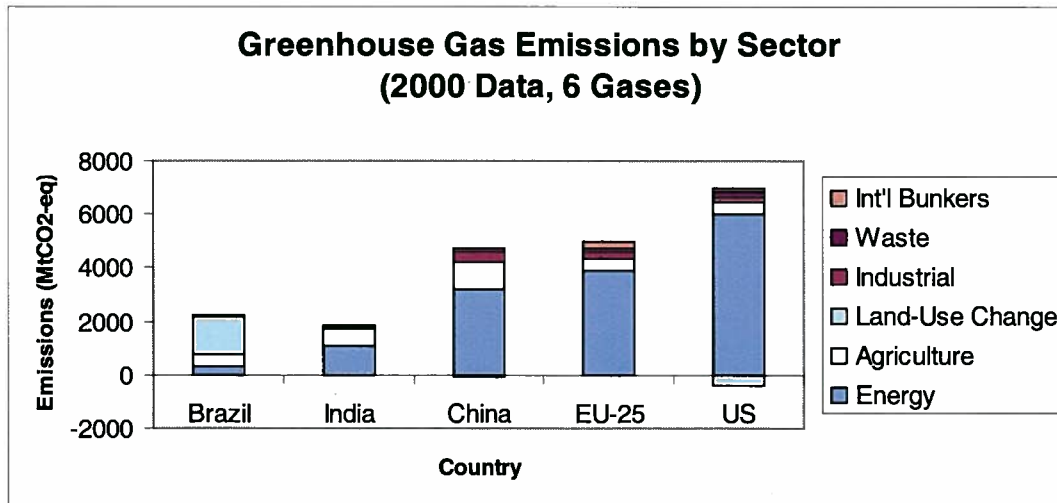
FIGURE 1
Major Emitting Countries' Contributions to Greenhouse Gas Emissions
(2000 Data, 6 Gases)



Source: Testimony of Dr. Jonathan Pershing, Director, Climate Energy and Pollution Program, World Resources Institute, before the Subcommittee on Energy and Air Quality on March 27, 2007, (p. 17)

The sources of greenhouse gas emissions vary by country, as illustrated in Figure 2 for selected countries. According to testimony presented to the Subcommittee last year, land use changes were responsible for more than 60 percent of Brazil's 2000 emissions, but were a net emissions sink (i.e., reduced emissions) in some other countries. Agriculture was responsible for approximately 35 percent of India's emissions and 20 percent of Brazil's and China's emissions, but less than 10 percent of the emissions of the EU-25 and the United States. Energy accounted for more than 90 percent of U.S. emissions, more than 70 percent of the EU-25's and China's emissions, almost 60 percent of India's emissions, but less than 15 percent of Brazil's emissions.

FIGURE 2
Greenhouse Gas Emissions by Sector
(2000 Data, 6 Gases)



Source: Testimony of Dr. Jonathan Pershing, Director, Climate Energy and Pollution Program, World Resources Institute, before the Subcommittee on Energy and Air Quality on March 27, 2007, p. 14.

Business-as-usual projections indicate there will be some significant changes in these comparative emissions data. The International Energy Agency (IEA) issued a 2007 report projecting that global energy demand would increase by more than one-half by 2030, and that “Developing countries...contribute 74 percent of the increase in global primary energy use... China and India alone account for 45 percent of this increase.”² The IEA also predicted that fossil fuels will remain the dominant source of energy, and that coal would account for the biggest increase in demand in absolute terms, primarily due to power generation.³

This report made headlines for its prediction that worldwide energy-related carbon-dioxide emissions will increase 57 percent between 2005 and 2030 (an 1.8 percent annual increase).⁴ It projected that developing countries will account for more than three-quarters of the increase in global CO2 emissions between 2005 and 2030, and that these countries’ overall share in world emissions would rise from 40 percent in 2005 to nearly 55 percent by 2030.⁵

The most striking estimates had to do with increased carbon dioxide emissions from China:

China and India together account for 56% of the increase in emissions between 2005 and 2030... China is by far the biggest single contributor to incremental emissions [and] is expected to overtake the United States in 2007 as the world’s biggest emitter... One reason for the strong increase in China’s emissions is the significant quantity of fossil energy and, therefore, carbon embodied in the goods that China produces for export, which far outweighs the carbon embodied in its imports.⁶

The projected large increase in China’s emissions continues to draw widespread notice. A report by the Pew Center on Global Climate Change noted that “China is the world’s second largest greenhouse gas emitter after the United States and its emissions are increasing rapidly with strong economic growth and rising energy demand.”⁷ The report continued “China’s emissions are projected to continue rising rapidly – another 65% to 80% by 2020 - and annual emissions may surpass those of the United States as early as 2009.”⁸

Figure 3 shows similar data from a 2007 Energy Information Administration report projecting increased energy-related carbon dioxide emissions from China and the U.S., as well as India and other countries.⁹

² World Energy Outlook 2007, International Energy Agency, p. 42.

³ Id. at 54.

⁴ Id. at 192.

⁵ Ibid at 199.

⁶ Ibid at 196.

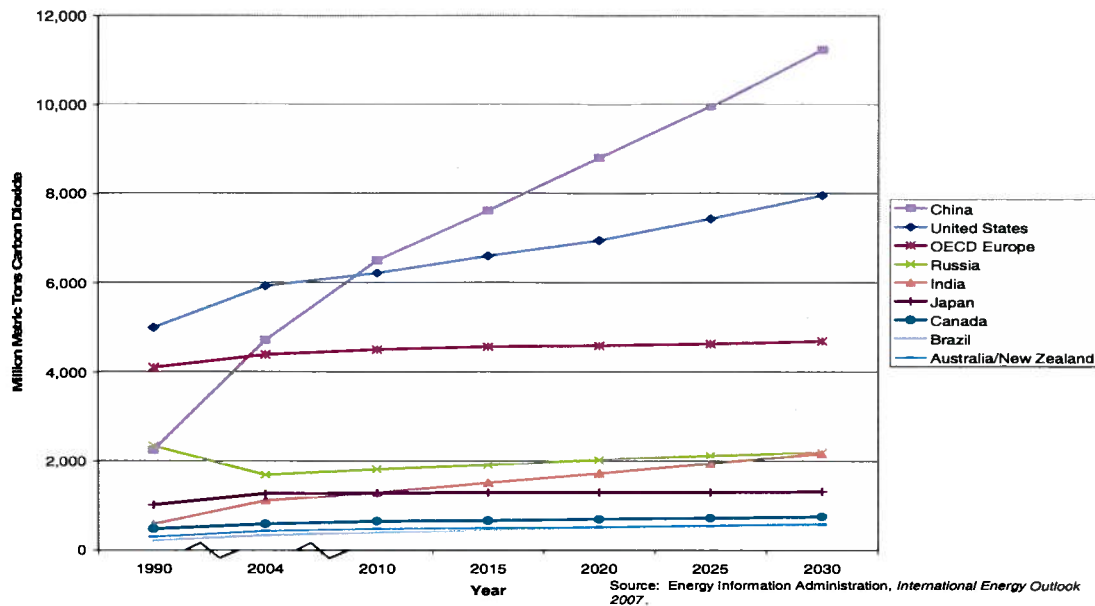
⁷ “Climate Change Mitigation Measures in the People’s Republic of China,” April 2007, Pew Center on Global Climate Change,” p. 1.

⁸ Ibid.

⁹ International Energy Outlook 2007, Energy Information Administration (EIA).

FIGURE 3

Projected Carbon Dioxide Emissions (Energy-Related) for Select Countries



Concern about emissions in the major developing countries arises not only from their growth and magnitude, but also from the concern that a stringent limit on U.S. emissions could contribute to a shift in economic activity (and corresponding greenhouse gas emissions) from the United States to a country without any greenhouse gas limitations.

U.N. Framework Convention on Climate Change, Kyoto Protocol, Recent Developments

Due to the global nature of climate change and the need for global action, climate change has been the subject of international discussions and negotiations for many years. The primary objective of the 1992 UNFCCC was “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.” The 1992 Treaty applies to both developed and developing nations and commits both groups to “common but differentiated responsibilities” for reducing greenhouse gas emissions. The 1992 Treaty states that developed nations should take the lead in mitigating climate change, with a goal of reducing and stabilizing emissions at 1990 levels by the year 2000.¹⁰

In 1997, the UNFCCC negotiations produced the Kyoto Protocol,¹¹ which established binding emissions reduction targets for developed countries during the first “budget period” of

¹⁰ The Treaty, sometimes referred to as the Rio Treaty, was ratified by the U.S. during the Administration of President George H. W. Bush and went “into force” in 1994.

¹¹ The Protocol went into force in 2005 and, according to a UNFCCC report, had been ratified or accepted by 168 nations and the European Union by the end of 2006.

2008-2012, with an overall goal of reducing industrialized countries' total emissions by at least 5 percent below their 1990 levels over that time period.¹²

Although the U.S. signed the Kyoto Protocol in 1998, President Clinton did not submit it to the Senate for approval, reflecting the political reality signaled by the Senate's unanimous passage in 1997 of S. Res. 98, the Byrd-Hagel resolution. This resolution stated that no treaty mandating commitments for developed countries should be ratified unless it also requires developing countries to reduce their emissions within the same compliance period. In 2001, the Administration of President George W. Bush formally rejected the Protocol.

Annual "Conferences of the Parties" (COPs) to the 1992 Treaty continue, with the U.S. participating in discussions under the Treaty, but not those specific to the Kyoto Protocol. Progress on potential post-2012 "next steps" has been inconclusive, and the COPs in Montreal (2005) and Nairobi (2006) produced no clear path forward. Expectations for the December 2007 COP in Bali were modest, and discussions leading to the "Bali Action Plan" were very contentious. The outcome, however, was generally viewed as positive, and "participants generally lauded the final agreement as one that sets a negotiating framework in place, and includes developed and developing countries in the negotiations on 'considerations' for a final agreement...".¹³

In 2005, the Bush Administration initiated a voluntary program on a "parallel track" to the U.N. process, the "Asia-Pacific Partnership for Clean Development and Climate." This initiative includes several significant developing countries (China, India, and South Korea), as well as developed countries that signed the Protocol (Japan) and developed Nations that did not sign the Protocol (the U.S. and Australia). In September 2007, President Bush held a climate change summit in Washington, D.C. (the "Major Economies Meeting on Energy Security and Climate Change") to which he invited ministers from eight major developed countries and seven of the largest developing countries. President Bush's proposal that GHG emissions should be addressed through adoption of voluntary long-term goals drew mixed reaction.¹⁴ A second "Major Economies" meeting is scheduled for late January in Honolulu.

Policy Options for Encouraging Developing Nations to Limit their Carbon Emissions

Legislation establishing a domestic program to limit U.S. emissions of greenhouse gases should include incentives for developing nations to curb their emissions, particularly in the absence of an international agreement establishing mandatory emission reduction obligations for all major emitting countries. On the environmental side, such an approach would have the advantage of committing the U.S. to lessen its contribution to the problem of global climate change, and simultaneously encouraging developing countries to do the same. From an economic viewpoint, such an approach could mitigate the risk that, in the absence of significant

¹² The Protocol adopted legally binding, mandatory emissions reductions targets for the six major greenhouse gases, of which the most "prominent" and "most pervasive in human activity" is carbon dioxide. Congressional Research Service (CRS), "Climate Change: the Kyoto Protocol and International Actions," August 22, 2007, p. 2.

¹³ "Climate Change Negotiations: The Bali Action Plan," Congressional Research Service, January 11, 2008, p. 2.

¹⁴ "Bush's Alternative to Kyoto Pact on Warming Gets a Cool Response." Wall Street Journal, September 30, 2007, A5.

developing country commitments, unilateral action by the U.S. could harm the competitiveness of our industries in world markets and result in the loss of American jobs.¹⁵

Many factors will affect each country's willingness to curb its greenhouse gas emissions.¹⁶ This paper is not intended to be a discussion of all the factors affecting these decisions. Rather, it focuses on the narrower issue of how to use domestic legislation to provide additional reasons for other countries to curb greenhouse gas emissions.

A fundamental question in structuring legislation is whether the U.S. must "go first" before developing countries will agree to limit their own greenhouse gas emissions. Some observers believe that developing nations view a prior U.S. commitment to reduce its GHG emissions as an absolute prerequisite to limiting their own emissions, and that in the near term their paramount focus will be on economic growth.¹⁷

As an alternative, a number of commenters have suggested the U.S. might adopt a hybrid approach that uses trade policy as a tool, and one witness before the Subcommittee on Energy and Air Quality suggested that "Congress can design the U.S. carbon market to provide carrots and sticks that encourage other countries – even recalcitrant ones – to join our efforts."¹⁸

Others have argued, however, that any U.S. legislation that is perceived as heavy handed by developing countries could have drawbacks. In particular, it has been suggested that while conditioning U.S. action on that of developing countries might spur the latter to action, it could also backfire and have the opposite effect.¹⁹

Accordingly, the debate about developing country incentives involves both timing questions (must the U.S. limit its emissions in advance of any expectation or requirement that

¹⁵ At a March 27, 2007, hearing of the Subcommittee on Energy and Air Quality, Boise Cascade LLC testified "This is clearly a global issue and environmental practices in other parts of the world have a clear and direct impact on the U.S. and its citizens...if we do not hold our developing trading partners to the same standards, we will ship both the jobs and the greenhouse gas production overseas." Testimony of W. Thomas Stephens, Chairman and Chief Executive Officer, p. 8.

¹⁶ For example, according to testimony presented to the Subcommittee, China's desire to improve its energy security could provide an incentive for it to adopt measures that also reduce greenhouse gas emissions. See testimony of Dr. Jonathan Pershing, Director, Climate Energy and Pollution Program, World Resources Institute, before the Subcommittee on Energy and Air Quality on March 27, 2007.

¹⁷ See testimony of Mr. Pramit Pal Chaudhuri, New York and Foreign Editor, Hindustan Times, before the Subcommittee on Energy and Air Quality on March 27, 2007.

¹⁸ March 27, 2007, testimony of Annie Petsonk, International Counsel, Environmental Defense, p. 10. Ms. Petsonk further stated that "most developing countries are reluctant to take further climate protection steps unless and until the United States does...[and are] not likely to take more stringent or faster steps than the US does."

¹⁹ The Pew Center has stated that "Making future U.S. action expressly contingent on the efforts of other countries may provide some further inducement for action. Alternatively, by appearing irresolute, it may deter others from commencing ambitious long-term effort" (www.pewclimate.org/policy_center/analyses/sec/q4.cfm.) Similarly, one legal scholar observed that "Competitiveness provisions, and the unilateral action that comes with them, may undermine the trust necessary for future international cooperation and agreement on emission reductions. This is the potential flip-side of one of the hoped for benefits of a competitiveness provision." (Working Paper "U.S. Federal Climate Policy and Competitiveness Concerns: The Limits and Options of International Trade Law," Joost Pauwelyn, Nicholas Institute for Environmental Policy Solutions, Duke University, p 6.)

developing countries do the same?) and determinations of which approach would be most likely to stimulate developing countries to limit their GHG emissions (carrots, sticks, or both?).

In addition, there is considerable disagreement as to what approach would be most likely to pass muster with the World Trade Organization (WTO), and resulting concern about the effect on U.S. industry should a challenge be successful. That effect is particularly difficult to predict since, as one scholar observed, “Any competitiveness provision with a serious trade impact is likely to trigger a WTO complaint” and that “Given the vague nature of WTO law... [it] may either uphold or strike down the provision.”²⁰

Because this paper’s focus is on legislative options to encourage developing countries to curb their greenhouse gas emissions, it does not address the role of technology development and deployment in reducing their greenhouse gas emissions. Affordable technology will be one key factor in the willingness of developing countries to curb their greenhouse gas emissions. A domestic U.S. program that spurs such developments should have the double benefit of aiding the environment and accelerating U.S. industrial development in emerging low GHG emitting technologies.²¹

The following discussion outlines three legislative approaches that have been suggested to ensure that developing countries curb their emissions, so that the environmental objectives of climate change legislation can be achieved and the competitiveness of American industry is not adversely affected.²² These approaches fall into three broad categories:

1. Border Adjustments – trade-related policies that use tariffs, taxes, or other mechanisms such as requiring foreign goods imported into the U.S. to be accompanied by emissions allowances;
2. Performance Standards – a “non-market-based” type of regulation, such as emission standards or carbon intensity-based regulations; and
3. Carbon Market Design – imposing conditions for other countries’ access to and participation in the U.S. carbon market established in a climate change bill.

International Brotherhood of Electrical Workers-American Electric Power IBEW/AEP Proposal – Many elements of this approach, which was announced in February 2007, were later incorporated into S. 1766 (introduced by Senators Bingaman and Specter) and S. 2191 (introduced by Senators Lieberman and Warner and reported last year by the Senate Committee on Environment and Public Works). The proposal requires that, in order to import certain

²⁰ “U.S. Federal Climate Policy and Competitiveness Concerns: The Limits and Options of International Trade Law,” Joost Pauwelyn, Nicholas, Institute for Environmental Policy Solutions, Duke University, p. 7.

²¹ This is what is reported to have occurred from implementation of the Montreal Protocol. The Montreal Protocol, which requires the phase-out of chemicals that cause damage to the stratospheric ozone layer, required developed countries to comply long before developing countries had to comply. Not only has the Montreal Protocol been successful in moving towards repair of the hole in the ozone layer, but EPA reports that U.S. companies that developed substitute chemicals for our country were then able to export those chemicals to developing countries.

²² Competitiveness issues for some industries might also be addressed through the distribution of allowances, which will be discussed in a later White Paper.

“greenhouse gas intensive goods” into the U.S., the importer must submit allowances to cover the emissions produced during the manufacturing process. Failure to submit allowances would bar the entry of such goods into the United States.

The requirement would apply to “greenhouse gas intensive goods” from countries that the President determines have not taken “comparable action,” as compared to the U.S., to reduce their emissions. The requirement would apply only to countries described as “large emitters” of GHG emissions, and would exempt goods from a “least developed country” or one with “de minimis” emission levels. “Greenhouse gas intensive goods” would include those produced by the iron and steel, aluminum, cement, bulk glass, and paper industries.

The allowance submission requirement would first apply several years after the effective date of a U.S. cap-and-trade program began.²³ During the interim, the U.S. would have to make “good faith efforts” to persuade foreign countries to limit their GHG emissions. The application of allowance submission requirements to goods from a specific country would be triggered only in the event of its failure to negotiate a GHG agreement with the U.S., and upon a Presidential determination that the country is not taking “comparable action” to limit its emissions. The unilateral imposition by the U.S. of such trade requirements is described by the sponsors as a measure of “last resort.”

The IBEW/AEP proposal background material states that “major emitting nations would likely join a climate regime and reduce their GHG emissions rather than buy large numbers of allowances...”²⁴ It further asserts that this approach “respects WTO ground-rules” and that “in anticipation of a cap and trade regulatory system the IBEW/AEP allowance requirement has been specifically designed to be consistent with the WTO and ensure international action.”²⁵

At this point, there appears to be no consensus as to whether the IBEW/AEP “border adjustment” proposal would fully protect U.S. competitiveness, or whether it would survive a potential challenge with respect to WTO rules. On the positive side, one article observed that “In the best case, a policy of border adjustments will effectively protect vulnerable domestic firms or industries against adverse competitiveness impacts from a domestic climate policy while simultaneously creating incentives for other nations to reduce their emissions.” The author, however, notes that to satisfy WTO standards “great sensitivity must be shown...including the need to put major trade partners on notice and provide sufficient time for them to develop viable domestic emissions reduction policies.”²⁶

A legal treatise on the subject suggested that, if structured properly, such a border adjustment policy might be upheld either as consistent with General Agreement on Tariffs and

²³ The most recent iteration of the IBEW/AEP proposal estimates the period between the imposition of allowance requirements applying to U.S. producers, and allowance requirements applying to U.S. imports of covered goods, as roughly three years. Under S. 1766 and S. 2191, a longer period of 8 years would apply.

²⁴ Ibid.

²⁵ Ibid.

²⁶ Morgenstern, Richard. “Addressing Competitiveness Concerns in the Context of a Mandatory Policy for Reducing U.S. Greenhouse Gas Emissions,” *Assessing U.S. Climate Policy Options: A report summarizing work at RFF as part of the inter-industry U.S. Climate Policy Forum*. Resources for the Future, November 2007, p. 116.

Trade (GATT) rules²⁷ or, alternatively, under the environmental exceptions in GATT Article XX.²⁸ Nonetheless, the author notes that the “WTO consistency of such process-based restrictions is unclear and remains to be tested.”²⁹

Nonetheless, the IBEW/AEP approach has been criticized by some as vulnerable under WTO rules, and in any event as providing incomplete protection for U.S. industry. A September 25, 2007, letter from the Industrial Energy Consumers of America (IECA) to various Members of Congress argues that the proposal will not assure a level playing field between U.S. produced energy intensive products and those that are imported, because of the time gap between the date when greenhouse gas caps would apply to U.S. domestic industry and the date when emission allowances would be required of foreign competitors.³⁰

Similarly, a recent memorandum from the American Iron and Steel Institute (AISI) cited the possibility that foreign governments might subsidize their industries’ compliance costs, and argued the proposal faces “a substantial risk of violating international law.”³¹

Performance Standards/Regulations on Imports of Carbon Intensive Products – An alternative to the “border adjustment” approach is to include in climate legislation a requirement for the establishment of “carbon intensity standards” that would apply to all energy intensive materials sold in U.S. commerce, whether of foreign or domestic origin. Industries often cited as “energy intensive” (and thus vulnerable should adoption of a GHG emissions caps increase energy prices) include cement, steel, and glass.³²

Such a performance standard could be established either by Congress or under authority delegated to an executive branch agency, and would set a per ton (or other unit) limit on the amount of carbon that could be emitted during production (whether the item is manufactured in the U.S. or abroad). One frequently discussed option, a “carbon intensity cap,” could involve differing standards for different technologies or manufacturing processes, and the implementing agency could be directed to adjust it downwards over time to a “lowest achievable” standard.

For the relevant U.S. industries, one question is whether such a regulatory regime would be separate from, or in addition to, obligations under a domestic cap and trade regime. Under some proposals, manufacturers would be exempt from allowance requirements under a U.S. domestic cap and trade system, since their costs likely would be affected by higher energy prices for purchases from entities that are subject to emissions caps (e.g. electric utilities or natural gas producers).

²⁷ Pauwelyn, op. cit., 3.

²⁸ Ibid p. 3.

²⁹ Ibid. p. 41.

³⁰ Industrial Energy Consumers of America (IECA), September 25, 2007, letter to Senators Boxer and Inhofe and Representatives Dingell and Barton.

³¹ “Climate Change, a Global Problem Requiring a Global Solution,” American Iron and Steel Institute.

³² The IECA letter also identifies as “energy intensive” the plastics, paper, food processing, aluminum, chemical, fertilizer, brick, insulation, industrial gases, pharmaceutical, construction products, automotive products, and brewing industries.

As in the case of the IBEW/AEP border adjustment proposal, it does not appear at present that a consensus exists with respect to either the policy merits of a carbon intensity performance standard approach or its conformance with WTO rules.

One discussion of such an approach notes that “well-crafted performance standards have the potential to encourage efficiency improvements without putting as much upward pressure on domestic production costs” as market-based policies, and as a result “may seem less likely...to raise competitiveness concerns for industries that face international competition and to create incentives for shifting production abroad.”³³

On the other hand, the same author suggests that “Identifying the specific industries that are most likely to be adversely affected by a mandatory domestic GHG-reduction policy is complex...”³⁴ and that as a general rule performance standards “are more costly than broad market-based approaches because they do not encourage end users to reduce their consumption of GHG-intensive goods.”³⁵

Moreover, one of the reservations leveled at carbon tax proposals – that they do not provide certainty with respect to the total amount of carbon reductions to be achieved – may also be leveled against some proposals for performance standards. Although performance standards place a limit on the per unit carbon intensity during manufacturing, they do not limit the amount that can be produced and hence do not impose finite domestic or international emissions caps.

In terms of such an approach’s legality under WTO rules, it has been suggested that a carbon intensity performance standard might successfully be defended as an “environmental standard” as defined by the Agreement on Technical Barriers to Trade (TBT).³⁶ Adoption of this approach might not require as lengthy a period of negotiation as would be required before imposition of a “border adjustment,” and Congress could delegate authority to set and adjust such standards over time to reflect technology improvements.

As in the case of a trade tool, questions have been raised about the likelihood that a performance standard would survive legal challenge before the WTO, and questions have been raised as to whether prior WTO holdings suggest that TBT rules would support imposition of a carbon intensity standard.³⁷ The TBT Agreement also may require differing standards for developing countries if “full application would not be compatible with developing country Members’ development, financial and trade needs.”³⁸

Environmental Defense “Carrots and Sticks” Proposal to Impose Conditions on Access to U.S. Carbon Markets – Under this approach, in establishing a U.S. carbon market, Congress would stipulate conditions that will encourage developing nations to limit their emissions. In

³³ Morgenstern p. 113.

³⁴ Id at p. 116.

³⁵ Id. at p. 113.

³⁶ The TBT Agreement is an integral part of the WTO Agreement concerning countries’ technical regulations and standards that specify a product’s technical characteristics or production process. For a description of the TBT program, see “Technical Barriers to Trade” at www.wto.org.

³⁷ Pauwleyn op. cit., p. 27.

³⁸ “Technical Information on Technical Barriers to Trade,” www.wto.org, p. 8.

testimony before the Subcommittee on Energy and Air Quality, Environmental Defense (ED) proposed a number of specific “carrot and stick” options to this end, noting that fast-growing, developing countries will soon have higher emissions than the U.S. and thus “Global warming can’t be solved unless both the U.S. and large developing countries cut total GHG emissions.”³⁹

While urging that Congress give careful consideration to a border adjustment approach such as the IBEW/AEP proposal, ED also outlined a number of provisions Congress could include in establishing a cap-and-trade market to provide incentives for developing countries to act, noting that “our carbon market is likely to be the largest in the world...[and] Other nations will want access to our market – for carbon finance, and to sell us credits.” ED encouraged Congress to consider incorporating in legislation the following types of “carrots and sticks” in designing a carbon market:

- Offer emission “premiums” for countries that sign up to emission caps early. Congress could offer carbon market access on more generous terms to nations that sign up early for emissions caps, and perhaps offer them more lenient cap-and-trade targets;
- Levy mandatory “multipliers” on emission credits generated in uncapped countries. For nations that haven’t capped their emissions, Congress could impose conditions on their sale of credits to U.S. emitters that require more than a one-for-one ratio, thus strengthening their incentive to reduce their own emissions;
- Instruct the Executive Branch to negotiate carbon market access agreements with other countries.⁴⁰

The World Trade Organization – Process for Resolution of Trade Disputes

Any provisions inducing developing countries to limit greenhouse gas emissions will have to pass muster before the World Trade Organization (WTO). The WTO is the primary international organization governing world trade,⁴¹ and administers agreements covering goods and services in international commerce that apply to “virtually all government practices that directly relate to trade”,⁴² including tariffs and subsidies.

WTO agreements are founded on the principles of nondiscriminatory treatment among countries, negotiated limits on trade barriers, and agreement to settle disputes under specified procedures with a range of remedies. Decisions about WTO rules and procedures, including settlement of trade disputes, are made by the member countries.⁴³ Since 1994, the WTO has

³⁹ Petsonk, op. cit., p. 2.

⁴⁰ Id. at 10-13.

⁴¹ The WTO in 1995 succeeded the General Agreement on Tariffs and Trade (GATT), which went into effect in 1948. The WTO is located in Geneva Switzerland, and includes 150 members and 31 observer governments representing more 95 percent of world trade. www.wto.org.

⁴² CRS, “The World Trade Organization: Background and Issues,” summary.

⁴³ www.wto.org.

administered a dispute resolution system with a binding process for settling disagreements through the Dispute Settlement Body (DSB).⁴⁴

Under this process, the first step is consultation between the governments of the countries involved, and if this fails, the complainant may ask the DSB to convene a dispute panel to hear the case. If a complaint is upheld, the prevailing party may either seek to negotiate a compensation agreement or request the DSB to suspend normal trade obligations and permit it to impose a retaliatory measure.⁴⁵

Importantly, where retaliatory measures are in order, the complaining country may, in some circumstances, impose a countermeasure in a sector other than that involved in the specific dispute until the offending measure is ended or the parties reach another resolution.⁴⁶

While aspects of the WTO regime are controversial, and there is an ongoing debate within Congress about the costs and benefits of U.S. membership, so long as the U.S. remains a member it is bound by that body's dispute resolution mechanisms.

Potential Implications of WTO Rules/Process for U.S. Climate Change Legislation

While at present there is no legislative consensus on developing countries policy, there is a general expectation that a WTO challenge is likely regardless of what approach Congress takes.

If such a challenge to the trade provisions of a climate law were upheld, the U.S. could face difficult choices such as whether to negotiate a settlement or face retaliation by the prevailing country. As one scholar observed, if a U.S. climate law were found to violate WTO law "the only remedy currently offered by the WTO dispute settlement system is that the United States would then have to change its legislation as to the future (or suffer retaliation if it fails to do so...)"⁴⁷.

The key point is that while Congress has control over which trade-related measure to include in a climate bill, the determination of such a provision's legitimacy under WTO rules is out of U.S. hands. There is a risk that the bill's domestic provisions binding U.S. industry could take effect during an initial time period, and related provisions aimed at our trade competitors' behavior ultimately could be determined to violate WTO rules. In that event, the intended linkage between U.S. carbon limits and the conduct of major emitting countries with whom we

⁴⁴ CRS observes that although the WTO "cannot force members to adhere to their obligations," as a member the U.S. has committed to follow its rules, which require that "Each Member shall ensure the conformity of its laws, regulations and administrative procedures with its obligations as provided in the annexed Agreements." *Id.* at 6.

⁴⁵ A determination that a U.S. measure violates a WTO agreement does not have "direct legal effect" in this country, and indeed Federal law is not affected unless Congress or the Executive Branch modifies the relevant law or administrative policy. CRS, "Dispute Settlement in the World Trade Organization: An Overview," p. 5.

⁴⁶ For example, in a long-running dispute over the banana regime in which the DSB upheld a U.S. complaint, the U.S. imposed tariffs on a list of eight items, including "bath preparations." U.S. imports of these products from the United Kingdom dropped 83 percent (and French imports dropped 45 percent) within 4 quarters. CRS, "Trade Retaliation: The 'Carousel' Approach," pp. 2-3.

⁴⁷ Pawley, p. 7.

compete would be broken, unless Congress halted implementation of the domestic program. Not only could U.S. industry be disadvantaged in terms of its international competitiveness, but the bill's fundamental environmental purpose could be defeated. In a worst case scenario, emissions from our trading partners could increase, the environmental benefit of any U.S. reductions could be overwhelmed by emissions growth elsewhere, domestic industry could be harmed and jobs lost, and U.S. industry could face unpredictable retaliatory measures as a result of a negative WTO determination.

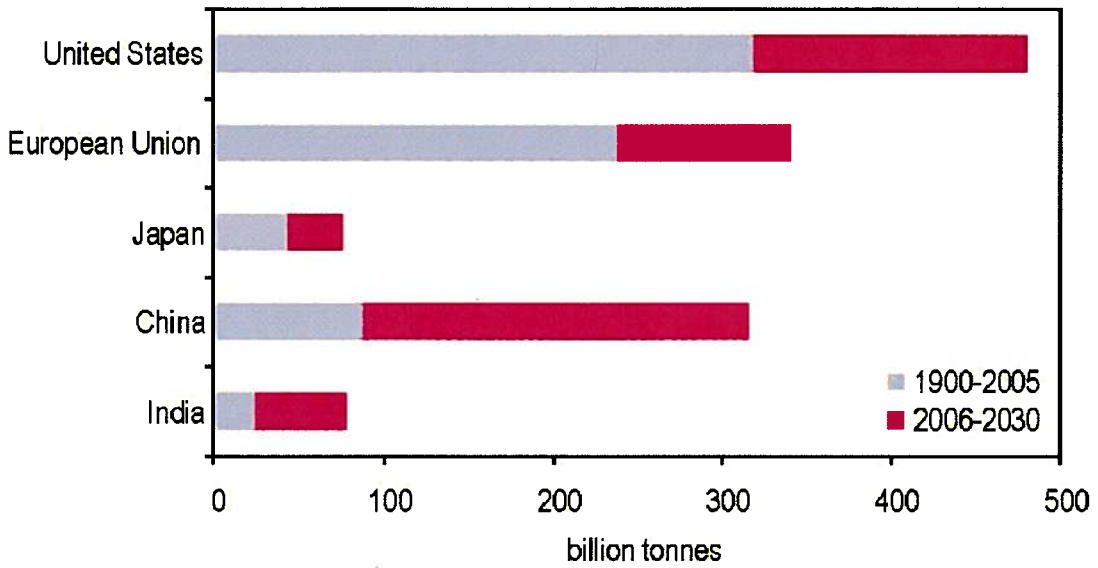
Questions for Further Discussion

1. Do any of the three alternatives discussed in this White Paper - border adjustments, performance standards, or carbon market design - offer clear cut advantages as a legislative policy in terms of encouraging developing countries to limit their GHG emissions and simultaneously protecting U.S. industry in global trade markets? Are there other approaches Congress should consider and, if so, what are their advantages and disadvantages?
2. Are the various policies mutually exclusive, or can they be combined in some fashion to achieve the best balance between reducing global GHG emissions and protecting U.S. industry and jobs?
3. In terms of timing, how closely should legislation link commencement of a U.S. domestic cap-and-trade regime with policies to induce developing countries to limit their GHG emissions?
4. Should U.S. legislation distinguish between the "least developed" countries and other "developing" countries?
5. Which approach is most likely to satisfy WTO requirements? Which approach is most likely to result in the prompt resolution of any WTO challenge, and thereby provide more certainty with respect to both global environmental benefits and the long term impact on U.S. industry and jobs?
6. How can climate legislation that includes both domestic and international components be drafted to align with any post-Kyoto Protocol accord the U.S. agrees to under the UNFCCC? How might U.S. adoption of climate change legislation affect the likelihood that such an agreement is concluded and influence the formulation of a U.S. international negotiating position?

APPENDIX A: COMPARISON OF COUNTRIES' GREENHOUSE GAS EMISSIONS

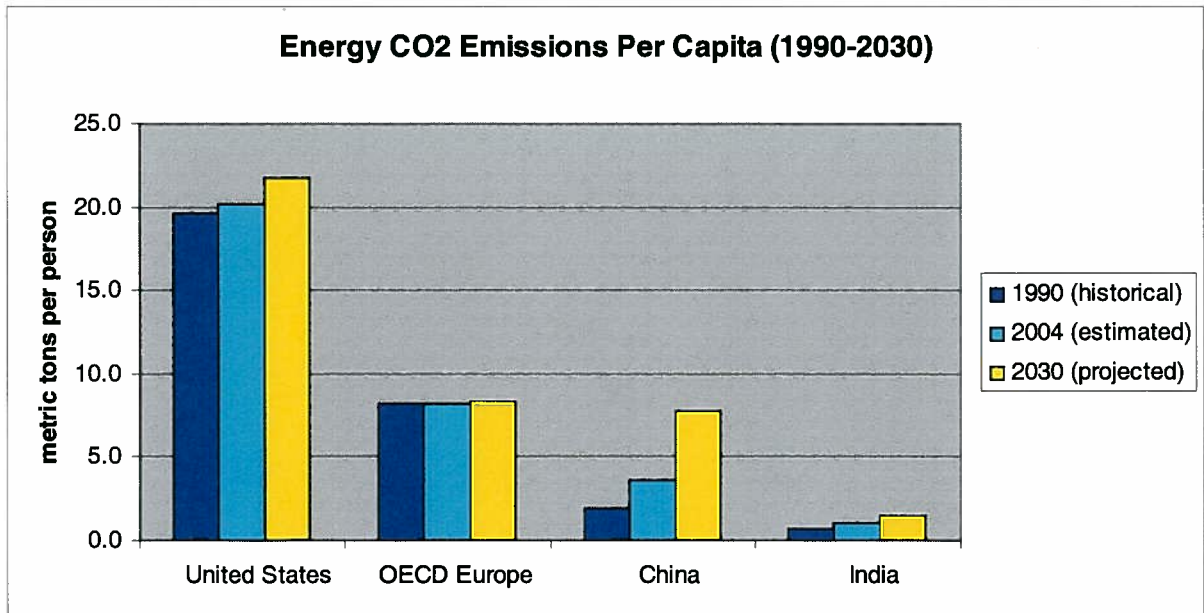
FIGURE 4

Cumulative Energy-Related CO₂ Emissions for Select Countries, 1900-2030



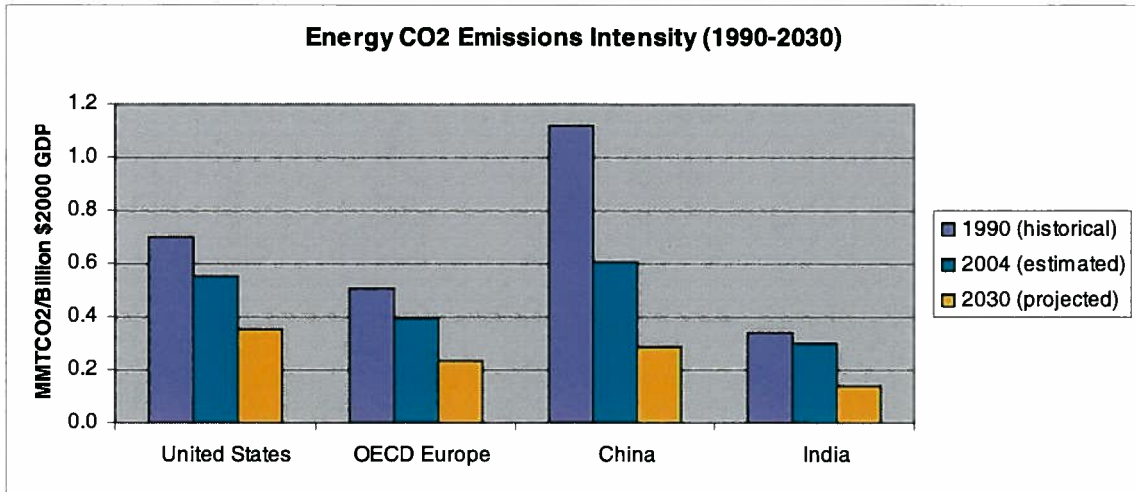
Source: *World Energy Outlook 2007*, International Energy Agency.

FIGURE 5



Source: Graph from Congressional Research Service; Data from Energy Information Administration, *International Energy Outlook 2007*.

FIGURE 6



Source: Graph from Congressional Research Service; Data from Energy Information Administration, International Energy Outlook 2007. MMTCO2 is million metric tons of carbon dioxide.