THE KYOTO PROTOCOL AND THE WTO: INTEGRATING GREENHOUSE GAS EMISSIONS ALLOWANCE TRADING INTO THE GLOBAL MARKETPLACE

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SUMMARY

This article explores the relationship between the newly emerging market for tradable greenhouse gas emissions allowances established by the 1997 Kyoto Protocol on Climate Change and the rule-based frameworks of the World Trade Organization (WTO). The paper finds that the greenhouse gas emissions reduction responsibilities and emissions trading rights established by the Kyoto Protocol do not conflict in any way with the responsibilities and rights of the nations under the WTO Agreements governing trade in goods, services, and the provision of subsidies. Rather, the emissions trading structure of the Kyoto Protocol deploys a rule-based system of "free trade" in emissions allowances to benefit the environment in a manner that is fully compatible with the WTO system.

The article cautions, however, that if governments implement their Kyoto Protocol obligations by placing quantitative restrictions on trade in allowances, or arbitrarily or unjustifiably discriminating against certain nations engaged in emissions trading, such measures might raise WTO issues at the same time that they would diminish the environmental effectiveness of the protocol.

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The article recommends that in designing rules for the Kyoto Protocol's multilateral emissions trading system and structuring national implementation of Protocol obligations, governments can maximize environmental and economic benefits if they refrain from raising non-tariff barriers to trade in emission allowances, and avoid imposing quantitative restrictions on, or arbitrarily discriminating against, such trade.

The article concludes that by following these recommendations, governments enhance the potential for the Kyoto Protocol to achieve real, significant, and cost-effective reductions in emissions of global warming gasses, while reducing the likelihood that their implementation of greenhouse gas emissions reduction measures would raise any inconsistency with their responsibilities under the multilateral trading system.

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I. INTRODUCTION

A. *Responsibilities and Rights of Nations Under The Kyoto Protocol on Climate Change*

Experience with market-based approaches to environmental protection at local, regional, and national levels has demonstrated that such programs, if properly designed, can achieve improved environmental results faster, and at less cost, than "command-and-control" approaches, technology mandates, operational performance standards, or taxes.[1] International experience with these instruments includes their use in fisheries management and in a limited number of international emissions allowance transactions. The 1997 Kyoto Protocol on Climate Change[2] has the potential to create the first truly global demonstration of the power of environmental markets to deliver improved environmental results by providing incentives for countries, companies, and communities to reduce emissions of the greenhouse gases that contribute to global climate change. Because it offers this potential, in a market-based "trading" framework that has the potential to integrate smoothly into the existing international framework of trade in goods and services, the Protocol is attracting attention and interest at local, national, regional, and global levels. This article examines the relationship between the emissions trading systems established by the Kyoto Protocol and the trade rules established by the World Trade Organization (WTO).[3]

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1. *See* ANNIE PETSONK ET AL., MARKET MECHANISMS & GLOBAL CLIMATE CHANGE: AN ANALYSIS OF POLICY INSTRUMENTS 10-15 (1998), *available at* <http://www.pewclimate.org/projects/pol_market.html>.

2. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, Conference of the Parties, 3d Sess., Agenda Item 5, U.N. Doc. FCCC/CP/1997/L.7/Add.1, *reprinted in* 37 I.L.M. 22 (1998) (not yet in force) (84 signatories and 22 Parties as of Jan. 20, 2000) [hereinafter Kyoto Protocol], *available at* <http://www.unfccc.de/resource/docs/cop3/l07a01.htm>.

3. The article's scope is limited to the relationship between the WTO and the Kyoto Protocol trading systems. There are a number of other issues related to the interface between the WTO system and policies and measures that nations might use to implement their Protocol obligations. For a recommendation that a nation's minimum fuel economy standards for cars or energy efficiency standards for appliances be designed so as not to place any *de facto* differential and adverse impacts on imports, see Richard W. Parker, Design for Domestic Carbon Emissions

Beginning in 1990, the Intergovernmental Panel on Climate Change (IPCC) issued a series of reports indicating that carbon dioxide, methane, and other greenhouse gases (GHGs), which are being emitted into the atmosphere in ever greater amounts due to human activities, have the potential to cause serious climate disruption.[4] In Earth's atmosphere, GHGs trap heat that would otherwise radiate into space. Unchecked, anthropogenic emission of GHGs is expected to contribute to an accelerated warming of the planet, with potentially dangerous interference in the world's climate system.[5]

The 1992 United Nations Framework Convention on Climate Change[6] (UNFCCC, or the Climate Treaty) commits its more than 167 Parties to the objective of stabilizing atmospheric concentrations of greenhouse gases (GHGs) at a level that would prevent dangerous anthropogenic interference in the climate system.[7] While the Climate Treaty establishes no legally binding limit on GHG emissions, the 1997 Kyoto Protocol to that treaty establishes cumulative (five-year), legally-binding caps on the anthropogenic emissions of GHGs by some thirty-nine industrialized nations, with the caps to take effect for the years 2008-2012.[8] The nations and their allowable amounts of emissions are listed in Annex B of the Protocol, and these nations are often referred to as "Annex B" nations. The Kyoto Protocol places responsibilities on Annex B nations to report on their greenhouse gas emissions annually, and to limit their greenhouse gas emissions to the levels established in Annex B.[9]

These responsibilities are quite substantial. Never before have the industrialized nations of the world collectively committed to limit emissions of such a broad range of gases so closely linked with such a

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Trading: Comments on WTO Aspects—Summary Memorandum 2 (June 22, 1998) (unpublished manuscript, on file with author) *available at* <http://www.heinzctr.org/publications/ index.htm>.

4. *See, e.g.*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 1995: THE SCIENCE OF CLIMATE CHANGE (J.T. Houghton et al. eds., 1996).

5. *See* Letter from Dr. Harold Mooney et al. to President Clinton (May 21, 1997) (on file with author).

6. United Nations Framework Convention on Climate Change, May 9, 1992, 31 I.L.M. 849 (entered into force Mar. 21, 1994) (181 Parties as of Dec. 10, 1999) [hereinafter UNFCCC], *available at* <http://www.unfccc.de/resource/conv/index.html>.

7. *See id.* at art. 2.

8. *See* Kyoto Protocol, *supra* note 2, at art. 3 & Annex B.

9. *See id.* at arts. 3, 5, 7, & Annex B. Note that the Protocol makes reference to parties "included in Annex I" as having the reduction commitments set forth in Annex B. This reference is to Annex I of the UNFCCC, *supra* note 6, where a list of 41 nations participating in the larger Convention is recorded. The nations listed in Annex B of the Protocol differ from those listed in Annex I of the UNFCCC only in that Turkey and Belarus were not named in the former as having been assigned emissions caps.

broad range of economic activity. Energy production and consumption, transportation, manufacturing, construction, agriculture, forestry—each of these sectors is associated, to varying degrees, with the emission of GHGs. Implementing the Protocol's obligations may trigger significant changes in the way human societies engage in these activities.

While the Kyoto Protocol imposes these responsibilities, it also establishes a set of prerogatives or, in the parlance of economists, "transactable rights."[10] The Protocol allocates to each Annex B nation "assigned amount units" (AAUs) of GHG emissions equal to that nation's allowable GHG emissions under its legally binding cap.[11] The Protocol then affords Annex B nations the unfettered right to trade or transact these AAUs.[12] The Protocol also accords two or more Annex B nations that undertake joint cooperative projects—projects that reduce emissions from the territory of one of the nations—the right to transact the "emissions reduction units" (ERUs) that result from those projects.[13] Furthermore, the Protocol confers upon nations that are not members of Annex B the right to receive certified emissions reduction units (CERs) for projects in their territories that reduce emissions below what would have occurred in the absence of the projects. The Protocol specifies that these CERs are also fully transactable and accords Annex B nations the right to use such CERs in meeting the Annex B nations' emissions targets.[14]

Accounting provisions in the Protocol specify that Annex B Parties that transfer AAUs and ERUs to other Parties must subtract the units from their total assigned amounts; Annex B Parties that receive

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10. Economists typically refer to these allowances as "rights" in order to convey the sense that, *ab initio*, the prerogative to emit a specified amount of GHGs rests with the nation holding the entitlements. This approach contrasts with a system in which those affected adversely by climate change might hold the "right" to be free of such impacts. *See* Jonathan Baert Wiener, *Global Environmental Regulation: Instrument Choice in Legal Context*, 108 Yale L.J. 677, 768-69, 770 n.337 (1999). In principle, the Kyoto Protocol could have adopted such an approach, but it did not. Lawyers, by contrast, typically refer to the prerogatives established by the Kyoto Protocol as "allowances" because they are not immutable; they may be diminished, for example, by operation of rules concerning allocation of responsibilities for failure to comply with emissions limitation obligations.

11. Kyoto Protocol, *supra* note 2, at art. 3 & Annex B.

12. *See id.* at art. 17.

13. *Id.* at art. 6.

14. *See id.* at art. 12 (Clean Development Mechanism/CERs). Article 12.10 provides that "[CERs] obtained during the period from the year 2000 up to the beginning of the first commitment period can be used to assist in achieving compliance in the first commitment period." *Id*. at art. 12.10. The Protocol does not specify whether these CERs may be banked for use in the second commitment period.

AAUs, ERUs, and CERs may add these to their total assigned amounts.[15] Detailed rules that may affect the fungibility of these units are slated to be elaborated and adopted by the Conference of the Parties at their sixth session, to be held in the Hague, November 13-24, 2000.

An additional article in the Kyoto Protocol affords Parties the right to form so-called "bubble" or "umbrella" groups, in which the collectivity adopts a joint commitment to limit GHG emissions, and some Parties agree to re-allocate assigned amounts to others.[16] In the event the collectivity fails to meet its commitment, the Protocol holds each member of the group responsible for meeting its commitment under the re-allocation agreement.[17] The fifteen member states of the European Union (EU) have indicated that they plan to fulfill their Protocol commitments through this type of re-allocation of Protocol responsibilities.[18]

Interest in the market mechanisms of the Kyoto Protocol increased sharply following the fourth UNFCCC Conference of the Parties, held in November 1998, in Buenos Aires, Argentina. One factor contributing to the increased interest is the growing awareness among nations that emissions trading can play a critical role in achieving emissions reductions at lower cost by providing incentives for competitors to develop innovative, cost-effective emissions reduction technologies and processes.[19] Another factor is the announcement by non-Annex B nations, such as Argentina, that they plan to adopt commitments to limit greenhouse gas emissions and that they are interested in participating in emissions trading.[20] Other non-Annex B nations also have a growing interest in the potential of emissions trading to provide a new source of capital for cleaner, more environmentally sustainable development. A third factor is the interest of a number of countries in the development of domestic programs

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15. *See id.* at arts. 3.10-3.12.

16. *See id.* at art. 4.

17. *See id.*

18. *See, e.g.*, EURPEAN COMMISSION, GREEN PAPER ON GREENHOUSE GAS EMISSIONS TRADING WITHIN THE EUROPEAN UNION 4 (2000) *available at* <http://europa.eu.int/comm/environment/docum/0087_en.htm>.

19. *See, e.g.*, Environmental Defense, *Global Greenhouse Gas Emissions Trading: The Market Is Moving!* (last modified Jan. 23, 2000) <http://www.edf.org/pubs/factsheets/kyoto/c%5Femtrading%2Dbonn.html> (profiling recent emissions trading transactions).

20. *See, e.g.*, International Institute for Sustainable Development, *Linkages: Topic Index of the UNFCCC COP-5 High Level Segment: Voluntary Commitments* (last modifed Nov. 13, 1999) <http://www.iisd.ca/linkages/climate/cop5/topics/volcommitments.html>.

that allocate transactable emissions credits to companies and communities that move early to reduce emissions.[21] Given that the United States' involvement with the Protocol has been somewhat constrained by a Senate Resolution expressing the sentiment that certain developments ought to take place before the U.S. should go forward under the Protocol, the above-mentioned trends are very encouraging towards meeting those Congressional concerns and spurring active U.S. participation in the treaty's implementation.[22]

B. *Responsibilities and Rights of Nations Under the Multilateral Agreements of the WTO*

The Uruguay Round of multilateral trade agreements,[23] adopted in 1994 under the auspices of the World Trade Organization (WTO), is the most comprehensive set of multilateral trade agreements in terms of coverage and membership since the 1947 General Agreement on Tariffs and Trade (GATT 1947).[24] These agreements cover the majority of the world's trade in goods and services. They establish a set of responsibilities that all Member states must observe, a set of rights that all Member states enjoy, and a system of enforcement that imposes highly automatic consequences on Members who, after one or two rounds of adjudicatory proceedings, are found to have acted in a manner inconsistent with their WTO obligations.

GATT 1947 established certain basic, well-known legal rights that are enjoyed by all Members and legal obligations that are binding upon all Members. These rights and obligations have been incor-

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21. *See, e.g.*, S. 547, 106th Cong. (1999); H.R. 2520, 106th Cong. (1999) (authorizing the President, under both versions, to enter into agreements to provide regulatory credit for voluntary early action to mitigate potential environmental impacts from greenhouse gas emissions).

22. S*ee* S. Res. 98, 105th Cong. (1997) (enacted). The Senate rsolution was adopted by a vote of 95-0. The operative clauses of the resolution provide:

> *Resolved,* That it is the sense of the Senate that – (1) the United States should not be a signatory to any protocol to, or other agreement regarding, the United Nations Framework Convention on Climate Change of 1992, at negotiations in Kyoto in December 1997, or thereafter, which would – (A) mandate new commitments to limit or reduce greenhouse gas emissions for the Annex I Parties, unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period, or (B) would result in serious harm to the economy of the United States . . . .

Id.

23. *See, e.g.*, Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, 33 I.L.M. 1125 (1994) (entered into force Jan. 1, 1995) (proceeding the 26,000 pages of Marrakesh Agreements Establishing the World Trade Organization) [hereinafter WTO Agreement], *available at* <http://www.wto.org/english/docs_e/legal_e/final_e.htm>.

24. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A3, 55 U.N.T.S. 187 [hereinafter GATT 1947].

porated into the Uruguay Round Agreements. The basic rights include non-discrimination, which is incorporated in the national treatment and most-favored-nation status obligations discussed more fully below.[25] The basic obligations include the duty to refrain from imposing quantitative restrictions on trade, the duty to refrain from raising tariffs beyond bound levels, and the obligations to maintain transparent trade laws and regulations.[26] Members may institute measures that are inconsistent with these obligations, provided that the measures meet the "exceptions" requirements: that they neither operate as disguised barriers to trade, nor constitute arbitrary or unjustifiable discrimination between countries where the same conditions prevail, and that they be, *inter alia*, "necessary to protect human, animal, or plant life or health" or that they "relat[e] to the conservation of exhaustible natural resources" and provided that these measures are imposed equivalently upon the domestic market as upon trading partners.[27]

There is a growing body of highly technical international law and interpretation that has developed with the elaboration of the Uruguay Round Agreements and in the course of resolution of disputes under GATT 1947 and the new Agreements. However, the basic obligations of the multilateral trading system, in broad outline, remain fairly straightforward:

- *The National Treatment Obligation* requires Member states to treat products produced in other Member states no differently than "like products" produced domestically—that is, not to discriminate between products produced abroad and those produced at home.[28]
- *The Most-Favored-Nation Obligation* requires each Member state to accord the same treatment to like products produced by all other Member states—that is, not to discriminate among like products of different Member states.[29]

25. *See id.* at arts. I (General Most-Favored-Nation Treatment) & III (National Treatment on Internal Taxation and Regulation).

26. *See id.* at arts. II (Schedule of Concessions), X (Publication and Administration of Trade Regulations), & XI (General Elimination of Quantitative Restrictions).

27. *Id.* at art. XX (Exceptions).

28. *Id.* at art. III.

29. *See id.* at art. I.

- *The Tariff Obligations* require Member states to "bind" or fix tariff levels, refrain from raising tariffs above bound levels, and progressively reduce tariff levels.[30]
- *The Transparency Obligations* require Member states to regularly publish their trade laws and regulations in a transparent manner that is available to, and comprehensible by, all importers and exporters, and to notify the Secretariat of the WTO (which in turn will notify the Member states) of actions taken inconsistent with these obligations.[31]
- *The Prohibition on Quantitative Restrictions* requires Member states to refrain from imposing quotas, including bans, on imports of products from other Member states, except in specified circumstances (such as when the imported product poses a threat to public health or the environment in the importing state).[32]
- A specified set of *Exceptions* allows Member states to undertake actions inconsistent with these and other obligations for certain reasons, including protection of domestic health and environment, subject to the requirement that these actions not arbitrarily or unjustifiably discriminate between nations where the same conditions prevail, nor constitute a disguised barrier to trade.[33]

A separate set of GATT 1947 Articles and a Uruguay Round Agreement prohibit the imposition of governmental subsidies except in narrowly limited circumstances. These Articles and the Agreement define an "actionable subsidy" as (1) a non-de minimus "financial contribution" that (2) confers a benefit on a "specific enterprise or industry or group of enterprises or industries."[34]

The "rights" that correspondingly spring from this set of responsibilities primarily concern the right of Member states to conduct trade free of discrimination, and the right to enjoy a high degree of transparency in their trading arrangements. So, for example, the prohibition on quantitative restrictions is, in many respects, a transparency rule: quotas are much less transparent to traders than are tariffs,

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30. *See id.* at art. II.
31. *See id.* at art. X.
32. *See id.* at arts. XI, XII, XIX, & XX.
33. *See id.* at art. XX.
34. *Id.* at arts. XVI & Annex I, & art. XVI; *see also* Agreement on Subsidies and Countervailing Measures, arts. 1, 2, & 3 [hereinafter Subsidy Agreement], at Annex 1A, WTO Agreement, *supra* note 23.

since no exporter could know in advance whether his or her shipment of a product to a quota country would be the shipment that would bump up against the quota and thus have to be turned back from the importing country's borders, possibly at great expense to the exporter. Similarly, the obligations to publish trade laws and regulations and to notify trading partners of trade restrictions promote competition among importers to improve the transparency of their trading regimes in order to attract trade.

II. MEMBERSHIP IN THE UNFCCC AND THE WTO

The Kyoto Protocol is a protocol to the UNFCCC: arguably, when they adopted the 1997 Kyoto Protocol, the very large number of nations that are Parties to both the 1992 UNFCCC and the 1994 WTO Agreements might be considered to have waived their WTO rights with regard to any inconsistency between the WTO Agreements and the later-in-time Kyoto Protocol. Indeed, the UNFCCC and the WTO Agreements both enjoy extremely broad membership among nations (see Table 1). Still, not all nations that are Members of the WTO are Parties to the UNFCCC. Those WTO Members that are not Parties to the UNFCCC could not be said to have waived their WTO rights with regard to any inconsistencies between the two.

It may be argued that where Parties to one international agreement subsequently adopt a second international agreement that is inconsistent with the first, the Parties waived rights afforded to them under the first. In the 1990 GATT Panel Report Mexico v. United States, also known as the Tuna-Dolphin Panel Report or Tuna-Dolphin I, a GATT dispute resolution panel raised the possibility that trade measures in certain multilateral environmental agreements might be inconsistent with the obligations of GATT Contracting Parties under the 1947 GATT.[35]

The Tuna-Dolphin Panel Report also hinted that in the event a group of nations adopts a multilateral environmental agreement that imposes trade measures against non-Parties to that agreement, then any GATT Contracting Party/WTO Member State that is a non-Party to the environmental agreement, but whose GATT rights are abridged by the environmental agreement, could obtain redress under GATT provisions.[36] While this Panel Report was never adopted by

35. *See* United States—Restrictions on Imports of Tuna, Sept. 3, 1991 (unadopted), GATT B.I.S.D. (39th Supp.) at 155 (1991).

36. *See id.*

the GATT Contracting Parties, environmentalists remain concerned that some nations that are not members of particular multilateral environmental agreements, but are WTO Members, might challenge the multilateral environmental agreements in the WTO.[37]

If the climate change agreements comprised trade measures, how might this concern arise in the context of those agreements? Those countries that are WTO Members, but not UNFCCC/Kyoto Protocol Parties, have preserved their GATT/WTO rights, and could seek redress in the WTO in the event the climate change agreements were to adopt trade measures that, as applied to those UNFCCC/Kyoto Protocol non-Parties, were inconsistent with the obligations of the WTO. One or two countries from each region are in this category, including existing and potentially major fossil fuel producers.[38]

The foregoing analysis would be relevant if the multilateral agreements on climate change comprised any trade measures. But they do not. As described more fully below, neither the UNFCCC nor the Kyoto Protocol in and of themselves comprise any measures that are inconsistent with the rights and obligations of WTO Members. Consequently, at the present time, the fact that some countries

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37. There is a body of treaty law which holds that as amongst themselves, a group of Parties to one treaty can subsequently waive their rights and obligations under that treaty by ratifying a later treaty on the same subject that modifies the rights and obligations under the first treaty. *See* Vienna Convention on the Law of Treaties, May 23, 1969, art. 30, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980). Thus, a group of GATT Contracting Parties might subsequently ratify a multilateral environmental agreement that effectively modifies their GATT rights and responsibilities. Such might be the case with regard to Parties to GATT 1947 that subsequently ratified the Convention to Regulate International Trade in Endangered Species of Fauna and Flora, Mar. 3, 1973, T.I.A.S. 8249, 993 U.N.S.T. 243 (entered into force July 1, 1975) [hereinafter CITES] (imposing restrictions on trade in endangered species of animals and plants); the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 28 I.L.M. 649 (1989) (banning trade in hazardous wastes between Parties and non-Parties); and the Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1550 (1987) (entered into force Jan. 1, 1989) (banning trade in ozone-depleting substances between Parties and non-Parties). On the other hand, if a country became a GATT Contracting Party or a WTO Member State after it joined a multilateral environmental agreement, the later-in-time trade agreement might be deemed to modify the rights and obligations of the environmental agreement. In the case of the Kyoto Protocol and the WTO, the WTO Agreements were adopted in 1994, and nations ratified the WTO agreements in the 1994-96 time period. The Kyoto Protocol was adopted in 1997, and nations are just now beginning to ratify it. Thus, if there were any inconsistency between the two, then as among nations that are parties to both, the Kyoto Protocol could be considered the later-in-time agreement. However, a millennium round of WTO negotiations might present an opportunity for Kyoto Protocol Parties to ratify a later-in-time trade agreement, so if there were any inconsistency between the two, timing issues would need to be considered carefully.

38. The Appendix also illustrates that some nations are UNFCCC Parties and yet are not, at press time, WTO Members (*e.g.*, China).

are members of the climate change agreements but not the WTO agreements, while others are members of the WTO agreements but not the climate change agreements, is of no import.

III. THE RELATIONSHIP BETWEEN THE CLIMATE CHANGE AGREEMENTS AND THE WTO AGREEMENTS

In the international discussions that have ensued following adoption of the Kyoto Protocol, a number of negotiators from both industrialized and developing nations have raised questions about the relationship, if any, between the emissions trading system of the Kyoto Protocol and the legally binding rules governing international trade.[39]

The text of the instruments sheds some light on the relationship, or lack thereof, between the climate change agreements and the WTO agreements. On their face, the climate change agreements contain no trade measures; they do not restrict trade in any good or service. While the Kyoto Protocol establishes a system of tradable emissions allowance units, nothing in the Protocol restricts or discriminates against trade in those units. Moreover, the UNFCCC contains provisions to guide decision-makers in the case of trade-related disputes arising out of its implementation. Article 3.5 of the UNFCCC provides:

> In their actions to achieve the objective of the Convention and to implement its provisions, the Parties shall be guided, *inter alia*, by the following: . . . 5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.[40]

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39. For an early examination of the relationship between greenhouse gas emissions trading and the multilateral trading system of the GATT/WTO, see ROBIN CLARKE, A PILOT GREENHOUSE GAS TRADING SYSTEM: THE LEGAL ISSUES 11-12 (United Nations Conference on Trade and Development Pub. No. UNCTAD/GDS/GFSB/Misc.2, 1996). *See also* RICHARD B. STEWART ET AL., LEGAL ISSUES PRESENTED BY A PILOT INTERNATIONAL GREENHOUSE GAS TRADING SYSTEM 39-40 (United Nations Conference on Trade and Development Pub. No. UNCTAD/GDS/GFSB/Misc.1, 1996), *available at* <http://www.unctad.org/en/pub/po1leg96.htm>.

For more recent analyses, see Nick Mabey, Implementing Good Climate Governance: Designing the Kyoto Flexibility Mechanisms to Support Long-term Climate Protection (1999); *see also* Jacob Werksman, Greenhouse Gas Emissions Trading and the WTO (June 1999) (unpublished manuscript, on file with author).

40. UNFCCC, *supra* note 6, at art. 3.5.

A. *Of Principles and Property Rights: What Are These Tradable Things, Anyway?*

A first question that must be asked in examining the interface, if any, between the WTO Agreements and the emissions trading system of the Kyoto Protocol, is, what in the Kyoto Protocol's trading system would be subject to any of the WTO Agreements, including GATT 1947? Or, stated differently, what is the traded item in the Kyoto Protocol system, and which WTO Agreement, if any, covers trade in that item?

As noted above, the Kyoto Protocol establishes a set of sovereign responsibilities to limit GHG emissions to specified levels. It further establishes a set of GHG emissions allowances for each Party that has accepted these responsibilities, and it affords parallel opportunities to create similar, but not identical, allowances by Parties that have not accepted such responsibilities. Finally, the Protocol allows Parties to transact these allowances.

The AAUs allocated to Annex B Parties under the Protocol exist only because the Protocol has created them. They cannot be produced by any other means. CERs and ERUs can be "produced," but are only legally cognizable in the Kyoto Protocol context if produced under the legal structures established by the Protocol. All three units have sovereign characteristics—they are issued by means of agreement among sovereign states, and their sole use is for the purpose of meeting sovereign obligations under international treaty. In this respect, they resemble other transactable sovereign obligations. And in some respects, they can be considered to represent sovereign debt—debt to the atmosphere.

B. *Which WTO Agreement, If Any, Covers This Trade?*

There is no WTO Agreement that explicitly addresses trade in emissions allowances. There is no prior dispute panel proceeding that squarely addresses the question of whether trade in emissions allowances would be subject to WTO disciplines. Only the WTO Members have the legal competence to determine, through their established procedures, whether trade in allowances would be subject to the WTO Agreements. Hence, analysis in this area is necessarily speculative. Nonetheless, a few points can be made.

The WTO Agreements cover trade in goods (*i.e.*, products); trade in services; and trade-related aspects of intellectual property.[41] WTO Agreements also address a number of considerations related to trade in goods and services including the following:

- *subsidies* (WTO Agreement on Subsidies and Countervailing Measures);[42]
- *government procurement measures pertaining to products, services, and suppliers* (WTO Agreement on Government Procurement);[43]
- *investment measures* (Agreement on Trade Related Aspects of Investment Measures (TRIMs));[44]
- *technical barriers to trade in products* (WTO Agreement on Technical Barriers to Trade (TBT));[45]
- *agricultural trade,* including not only trade in agricultural products, but also *sanitary and phytosanitary measures* that Members may take to protect their domestic environment from agricultural pests and diseases (WTO Agreement on Sanitary and Phytosanitary Measures (SPS);[46] and
- *dispute settlement among WTO Members* (WTO Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU)).[47]

Therefore, in order to be covered by any of the WTO Agreements, trade in emissions allowances under the Kyoto Protocol would have to constitute trade in goods or products, services, intellectual property, or agriculture; or national measures implementing Kyoto

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41. *See generally* GATT 1947, *supra* note 24, (covering goods). *See also* Multilateral Agreements on Trade in Goods, at Annex 1A, WTO Agreement, *supra* note 23; General Agreement on Trade in Services [hereinafter GATS], at Annex 1B, WTO Agreement, *supra* note 23; Agreement on Trade-Related Aspects of Intellectual Property [hereinafter TRIPS], at Annex 1C, WTO Agreement, *supra* note 23.

42. *See* Subsidy Agreement, *supra* note 34.

43. *See* Agreement on Government Procurement, at Annex 4B, WTO Agreement, *supra* note 23.

44. *See* Agreement on Trade Related Aspects of Investment Measures [hereinafter TRIMs], at Annex 1A, WTO Agreement, *supra* note 23.

45. *See* Agreement on Technical Barriers to Trade [hereinafter TBT Agreement], at Annex 1A, WTO Agreement, *supra* note 23. It is this TBT Agreement that would provide the framework of rules for disputes about whether one nation's product standards, adopted in implementation of its Kyoto Protocol obligations, impermissibly discriminated against any of its trading partners. *See, e.g.*, Parker, *supra* note 3, at 1.

46. *See* Agreement on Sanitary and Phytosanitary Measures [hereinafter SPS Agreement], at Annex 1A, WTO Agreement, *supra* note 23.

47. *See* Understanding on Rules and Procedures Governing the Settlement of Disputes [hereinafter DSU], at Annex 2, WTO Agreement, *supra* note 23.

Protocol trading would have to constitute trade-related investment measures or "subsidies" as that term is defined in the Agreement on Subsidies and Countervailing Measures.

On its face, the Kyoto Protocol does not pertain to agricultural trade or to trade in intellectual property, so a nexus with the WTO Agreements in those areas can be ruled out immediately. Also on its face, the WTO TRIMs agreement does not cover the Kyoto Protocol. However, had nations adopted the OECD Multilateral Agreement on Investment (MAI), some of the broad definitions of "investment" that were considered during the negotiations on that agreement probably would have covered emissions reduction investments under the Kyoto Protocol, in particular CERs under the CDM.[48] With regard to government procurement and technical barriers to trade, coverage under those agreements depends on whether trade in GHG allowances constitutes trade in products/services. And of course the coverage under the WTO Dispute Settlement Understanding would only be triggered if another WTO Agreement applies.

Consequently, the next two sections will focus on whether trade in GHG emissions allowances constitutes trade in goods/products or trade in services. A following section will address whether national implementation of Kyoto Protocol emissions trading could constitute a subsidy.[49] Throughout the analysis, the caveat remains that the discussion is entirely speculative: only the WTO Members and the bodies established by them, including through the Dispute Settlement Understanding, have legal competence to provide definitive interpretations of the WTO Agreements.

1. Goods; Products

The WTO itself contains no definition of "product." What constitutes a "product" in some respects can be observed from the identification of products in the Harmonized Commodity Description and Coding System ("Harmonized System").[50] No WTO Agreement exists that defines tradable emissions allowances as "products" for WTO purposes, and the Harmonized System has no entry for emissions allowances. GATT practice indicates that WTO Members are likely to take a case-by-case approach to the question of whether a

48. For several authors views on the MAI, see *First GATT, Then NAFTA, Now MAI?*, ENVTL. F., Mar.-Apr. 1998, at 46.

49. *See* discussion *supra* Part III.B.3.

50. *See* 1 GATT, ANALYTICAL INDEX: GUIDE TO GATT LAW AND PRACTICE 106-10 (Amelia Porges ed., 6th ed. 1995) [hereinafter GATT, ANALYTICAL INDEX].

particular item is a "product" for WTO purposes.[51] AAUs, ERUs, and CERs, as well as any allowances issued by sovereign nations for purposes of domestic implementation of greenhouse gas emissions limitation obligations, are fundamentally government creations to facilitate compliance with international obligations. They exist only in consequence of, and through, the legally binding commitments of sovereign nations to limit GHG emissions. In a common-sense fashion, they differ markedly from "products" as such.

GATT practice offers some support for this type of distinction between "products" and transactable components of sovereign obligations. A 1985 GATT Panel Report on "Canada - Measures Affecting the Sale of Gold Coins," which has not been adopted, found that when Maple Leaf (Canadian) and Krugerrand (South African) gold coins were traded as investment goods, they were "like products," and measures affecting their sale would be subject to GATT disciplines. The Panel also noted, however, that insofar as these coins were utilized as "legal tender," they were means of payment, rather than "products."[52] Similarly, to the extent that AAUs, ERUs, and CERs are a form of "legal tender" or "means of payment" in satisfaction of sovereign obligations under the Kyoto Protocol, they likely would not be considered "products" under the WTO Agreements.

Further, governments, in their approach to the creation of these items, are treating them as obligations that are uniquely sovereign in character. In that respect, the UNFCCC Parties are contemplating rules that would treat these items in ways fundamentally different than the "like product" approach that resides at the core of the WTO obligations.[53] In order to facilitate compliance with their greenhouse

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51. *See, e.g.*, 1970 Working Party Report on "Border Tax Adjustment," L/3464, Dec. 2, 1970, 18S/97, 102, ¶ 18 ("With regard to the interpretation of the term 'like or similar products', which occurs some sixteen times throughout the General Agreement, it was recalled that considerable discussion had taken place. . .but that no further improvement of the term had been achieved. The Working Party concluded that problems arising from the interpretation of the terms should be examined on a case-by-case basis."), *quoted in* GATT, ANALYTICAL INDEX, *supra* note 50, at 155.

52. *See* Canada - Measures Affecting the Sale of Gold Coins, Panel Report, L/5863, ¶ 51 (1985) [hereinafter Gold Coins].

53. *See* GATT 1947, *supra* note 24, art. 1.1 ("[A]ny advantage, favour, privilege or immunity granted by any contracting party 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 contracting parties."); *see also id.* at art. 3.4 ("The products of the territory of any contracting party imported into the territory of any other contracting party 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.").

gas emissions limitation obligations, it is likely that the UNFCCC Parties will decide to create a registry that will identify all AAUs, ERUs, and CERs in trade by a unique serial number indicating country of origin, year of origin, and in the case of ERUs and CERs, project of origin.[54] Such identification is critical for compliance purposes, in order to avoid "double-selling" of the same allowances. Given this unique identification system, it is doubtful that AAUs, ERUs, and CERs would be considered "like products."

Moreover, while emissions trading is, in some ways, comparable to trading of other sovereign obligations such as currencies or debt, neither currency nor debt are created as a consequence of a multilateral treaty obligation. Rather, both arise primarily as a consequence of domestic obligations.

A cautionary note needs to be sounded, however. The unadopted Canada Gold Coins Panel Report counsels that if AAUs, ERUs, and CERs were to be traded as investment goods, they might be deemed "like products" for WTO purposes.[55] That possibility makes it advisable to examine the types of restrictions on emissions trading that UNFCCC Parties might impose and the ways in which they might impose them.

First, the UNFCCC Conference on the Parties (COP) might adopt restrictions on trading for the express purpose of maintaining the environmental integrity of the Kyoto Protocol's emissions reduction and trading system.[56] For example, the COP might adopt them as a means of holding parties accountable in the event that their actual emissions exceed their AAUs. It is likely such restrictions would be justified under the Article XX exceptions to GATT 1947. In contrast, measures adopted by fewer than all Parties, particularly measures that unjustifiably or arbitrarily discriminate against the AAUs, ERUs, or CERs of other countries and that place quantitative restrictions on their trade or use or discriminate against ERUs or CERs based on the

54. *See, e.g.*, Peter Alsop, New Zealand Ministry of Commerce, & Jennifer Macedonia, United States Environmental Protection Agency, Presentation at the Technical Workshop on Mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol, Bonn, Germany (Apr. 14, 1999), *reported in* EARTH NEGOTIONS BULL. (Int'l Inst. for Sustainable Development, Winnipeg, Manitoba, Can.), Apr. 19, 1999, at 12-13, *available at* <http://www.iisd.ca/download/asc/enb1298e.txt>.

55. *See* Gold Coins, *supra* note 52; *see also* Werksman, *supra* note 39, at 9.

56. *See, e.g.*, Anne Petsonk & Chad Carpenter, *The Key To The Success Of The Kyoto Protocol: Integrity, Accountability And Compliance*, LINKAGES J. (Int'l Inst. for Sustainable Development, Winnipeg, Manitoba, Can.), May 28, 1999, at 5, 6-7 (discussing restrictions on trading needed for accountability purposes), *available at* <http://www.iisd.ca/linkages/journal/petsonkcarpenter.html>.

way they were produced (*e.g.*, the emissions reduction/sequestration technology or process), might indeed be subject to recourse under the WTO Agreements.

The course recently proposed by the EU raises some concerns in this regard. The EU proposed to place quantitative restrictions (a "concrete ceiling") on trade in AAUs, ERUs, and CERs. It hinted at a discriminatory approach to trading of so-called "hot air," *i.e.*, restricting trade in AAUs of certain Kyoto Protocol Parties whose AAUs in 1999 or 2000 were greater than their projected actual emissions for 2008-2012. It is possible that these or similar restrictions could be adopted by a vote of fewer than all UNFCCC Contracting Parties.[57] In that situation, a UNFCCC Contracting Party that has objected to the adoption of these discriminatory rules and that is a Member of the WTO might seek redress via the WTO, possibly invoking the unadopted Canada Gold Coins Panel Report in support of its claim that the UNFCCC had unjustifiably discriminated against the like product (AAUs, ERUs, CERs) of another WTO Member. While the considerable overlap between the membership of the WTO and the UNFCCC membership means that countries that would consider the issue in the WTO would be largely the same as those that would have voted on the issues in the UNFCCC, the WTO members would be applying a different body of international law. Due to this overlap, the outcome is not entirely clear.

The UNFCCC Parties can reduce the likelihood of friction with the WTO if they refrain from imposing quantitative restrictions and discriminatory restrictions on the operation of the emissions trading mechanisms of the Kyoto Protocol. Moreover, the Parties can enhance the environmental and economic effectiveness of the Protocol if they refrain from imposing such restrictions. Just as the WTO prohibition on quantitative restrictions on trade in goods was developed and agreed upon because such restrictions are not transparent and result in less than welfare-optimal trade, quantitative restrictions on trade in emissions allowances can inhibit transparency and environmental protection. In the case of a quantitative restriction on trade in allowances, investors will under-invest in emissions reduction activities since they cannot be certain that the emissions credits or surplus allowances that such investments generate would be transactable

57. While the lack of agreed upon Rules of Procedure for the COP makes a majority vote on these kinds of issues less likely, the Kyoto Protocol may be amended by majority vote. *See* Kyoto Protocol, *supra* note 2, at art. 20.

without running afoul of the quantitative restriction on trade in allowances.

Furthermore, such a system would lack transparency since, at any point in time it would be impossible to tell which particular emissions reduction investments and transactions might push a country over its allowance trading ceiling. This effect will be most pronounced early in the emissions budget period—when, for environmental protection purposes, long-term investments in cleaner technologies ought to be most encouraged and when early investments have the potential to yield the best returns on investment and the smoothest capital stock transition. Consequently, the under-investments in emissions reduction activity early in an emissions budget period will result in less environmental protection early on and higher compliance costs later.

2. Services

Undoubtedly, many of the means by which Kyoto Protocol Parties and their entities reduce GHG emissions will involve services. Some of the activities that Parties and their entities undertake in the course of emissions trading may likely involve services, such as those of brokers, verification entities, and the like. At the national level, a Party's regulation of those services may raise issues under the GATS; however, it is not likely that the Kyoto Protocol itself raises such issues.[58]

Part I of the basic WTO agreement on services defines its scope: services supplied from the territory of one member to the territory of another; services supplied in the territory of one member to the consumers of any other (*e.g.*, tourism); services provided through the presence of service-providing entities of one member in the territory of any other (*e.g.*, banking); and services provided by nationals of one member in the territory of any other (*e.g.*, construction projects or consultants). Members of the GATS are required to identify the services to which they wish to apply GATS disciplines. While members have identified a range of services that could be involved in generating greenhouse gas emissions reductions (*e.g.*, engineering) and services that could be involved in emissions trading (*e.g.*, account-

58. For a cogent argument that the CDM does constitute a "service," and that trade in CERs constitutes trade in services within the meaning of the GATS, see Glenn M. Wiser, *The Clean Development Mechanism v. The World Trade Organization: Can Free-Market Greenhouse Gas Emissions Abatement Survive Free Trade?*, 11 GEO. INT'L ENVTL. L. REV. 531 (1999). *See also* Werksman, *supra* note 39, at 15.

ants), no member has identified emissions trading in particular as a service covered by the GATS.[59]

Moreover, even if a WTO member identified emissions reduction and emissions trading-related services as services to which it wished to apply GATS disciplines, that would not mean that the Kyoto Protocol itself engaged the GATS. Nothing in the Kyoto Protocol in any way restricts or discriminates against trade in services associated with GHG emissions reductions or emissions trading. It is therefore unlikely that the WTO Members would find that the Kyoto Protocol itself raised GATS issues.

3. Subsidies

Even if trade in allowances is not trade in products or services, and therefore is not subject to WTO disciplines, could issues concerning subsidies arise from a Party's implementation of its Protocol obligations? It is possible but not necessarily the case.

Three issues have attracted attention in the subsidies area. First is the question of allocation of emissions allowances. Second is whether a Party's failure to enforce its domestic measures could constitute an actionable subsidy. Third is whether payments under the Clean Development Mechanism might be considered subsidies. This section provides an overview of the WTO Subsidies Agreement and then analyzes each of these questions in relation to the text of the Agreement.

a. The WTO Subsidies Agreement

The WTO Subsidies Agreement provides that:

> For purposes of this Agreement, a subsidy shall be deemed to exist if:
>
> (a)(1) there is a financial contribution by a government or any public body within the territory of a Member (referred to in this Agreement as "government") i.e. where:
>
> (i) a government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfers of funds or liabilities (e.g. loan guarantees); . . .
>
> and
>
> (b) a benefit is thereby conferred.[60]

The Agreement further provides that only "specific" subsidies—generally, those available only to an enterprise, or industry, or group

59. *See* GATS, *supra* note 41.

60. Subsidy Agreement, *supra* note 34, at art. 1.1 (emphasis added).

of enterprises or industries within the jurisdiction of the authority granting the subsidy—are subject to the disciplines set out in the Agreement.[61]

The agreement establishes three categories of subsidies. The first category is "prohibited" subsidies: those contingent, in law or in fact, whether solely or as one of several other conditions, upon export performance; and those contingent, whether solely or as one of several other conditions, upon the use of domestic over imported goods.[62] Prohibited subsidies are subject to new dispute settlement procedures, the main feature of which is an expedited timetable for action by the Dispute Settlement body, and if it is found that the subsidy is indeed prohibited, it must be immediately withdrawn.[63] If this is not done within the specified time period, the complaining Member is authorized to take countermeasures.[64]

The second category is "actionable" subsidies.[65] The Agreement stipulates that no member should cause, through the use of subsidies, adverse effects to the interests of other signatories (*e.g.*, injury to the domestic industry of another signatory), nullification or impairment of benefits accruing directly or indirectly to other signatories under the General Agreement (in particular the benefits of bound tariff concessions), or serious prejudice to the interests of another member.[66] "Serious prejudice" shall be presumed to exist for certain subsidies such as where the total *ad valorem* subsidization of a product exceeds five percent.[67] In such a situation, the burden of proof is on the subsidizing member to show that the subsidies in question do not cause serious prejudice to the complaining member.[68] Members affected by actionable subsidies may refer the matter to the Dispute Settlement body.[69] If such adverse effects are determined to exist, the subsidizing member must withdraw the subsidy or remove the adverse effects.[70]

The third category includes "non-actionable" subsidies which can either be non-specific subsidies or specific subsidies involving assis-

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61. *Id*. at arts. 1.2 & 2.
62. *Id*. at art. 3.
63. *See id*. at art. 4.7.
64. *See id*. at art. 4.10.
65. *Id*. at art. 5.
66. *See id*. at art. 5.
67. *Id*. at art. 6.1.
68. *See id*. at art. 6.2.
69. *See id*. at art. 7.4.
70. *See id*. at art. 7.8.

tance to industrial research and pre-competitive development activity, assistance to disadvantaged regions, or a certain type of assistance for adapting existing facilities to new environmental requirements imposed by law and/or regulations.[71] Where another Member believes that an otherwise non-actionable subsidy is resulting in serious adverse effects to a domestic industry, it may seek a determination and recommendation on the matter.[72]

b. Does the Allocation of Allowances, *per se*, Constitute an Actionable Subsidy?

Just as a nation's decision to limit air and water pollution may involve imposing pollution restrictions on sectors and individual firms, a nation's decision to implement a program to limit its GHG emissions may entail placing restrictions on GHG emissions from specific sectors and entities. As is the case with all environmental regulations, each nation retains the sovereign right to allocate the burden of emission limits in whatever way it chooses, regardless of the form of environmental regulation that it selects—*e.g.*, pollution taxes, emission caps, technology standards, or other means. Each nation also retains the sovereign right to allow these forms of obligations to be transferable or not. Consequently, the decision of any nation to impose a domestic GHG regulatory system by allocating to firms the obligation to limit emissions to specified levels, remains the sovereign prerogative of that nation. Similarly, under the Kyoto Protocol, each Annex B nation retains full sovereign right to choose how to allocate its emission limitation burden, including by means of allocating AAUs. The Protocol does not in any way specify how nations are to allocate their AAUs. Moreover, one group of nations has already demonstrated that it regards the reallocation of each nation's assigned amount among the group as fully consistent with both international treaty law—presumably including the WTO—and with its own internal group-wide treaties: the EU has announced that it will reallocate its member states' individual emissions allowances with the result that some states will be assigned more than others.[73] The following theoretical possibilities, among others, may be considered with regard to national and multinational allocation of assigned amounts. Each pos-

71. *See id*. at art. 8.

72. *See id*. at art. 9.1.

73. *See, e.g.*, EURPEAN COMMISSION, *supra* note 18, at 4. The EU is acting under Kyoto Protocol, *supra* note 2, at art. 4.

sibility carries with it an implicit set of political, economic, and social policy choices.

- *Allocation based on historic emissions levels*. Under this approach, also known as "grandfathering," a nation or group of nations would distribute some or all of its emissions allowances for the 2008-2012 period among domestic sources of GHG emissions in proportion to the historic emissions of those sources. This distribution may be further subdivided into "upstream" and "downstream" allocations.[74]
- *Auction.* A nation, or group of nations, might auction some or all of its allowances for the 2008-2012 period to the highest bidders. The auction might be held in advance of the commitment period. Multiple auctions could be held, including auctions during the commitment period.
- *Other social, economic, or political policy-based distribution.* A nation or group of nations might allocate allowances in order to further particular social policies that the nation or group considers important. For example, in one nation, the transport industry might wield greater political power than the electricity sector, and the government might choose to allocate more allowances to the transport sector than to others. In that case, fewer allowances would be available for the electricity sector. Another nation might choose to allocate some allowances to its manufacturing sector and fewer to other sectors. A third nation might allocate allowances to households, with fewer allowances available to industry. A fourth nation might allocate allowances to persons who maintain healthy lifestyles, to the national football team, or to some other socially desirable group. In a fifth case, a regional group might allocate allowances to nations or sectors whose economic development it particularly wishes to spur. And so on.
- *Allocation based on early action to reduce emissions.* A nation or group of nations might choose to allocate allowances to those companies and communities that move early to reduce GHG emissions. Under this type of approach (of which there are many variants), the nation or group would make a commitment to its emitters about the formula for allocation, based

74. For a useful analysis of the WTO implications of "upstream" versus "downstream" allocation, see Werksman, *supra* note 39, at 16-18.

on the emissions performance of entities prior to the commitment period.

Each of these approaches tends to favor some groups over others. By definition, that is the case when government allocates a scarce commodity.[75] Grandfathering provides allowances to existing sources; new sources that begin emitting after the distribution is made will have to purchase allowances in the market. Auctioning provides allowances to those who can afford to pay; those who cannot simply will not be able to emit GHGs. Other social, economic, or political distributions may favor certain societal, economic, and political preferences, and not others. Systems that allocate allowances to early reducers may, as a practical matter, require those who do not begin reducing emissions early to purchase allowances or to have fewer available to them as a result of the pre-commitment period allocation.

One nation might argue that another nation's decision to allocate allowances through one or another of these means might constitute a subsidy. If two nations used similar systems but the result of the differing national rules under those systems was a different allocation, one might argue that the other's allocation system constituted a subsidy. Finally, one nation that imposes strict domestic consequences on entities that fail to meet emissions targets might argue that another nation's less stringent domestic compliance system might constitute a subsidy. But, in light of the WTO Subsidies Agreement, it is unlikely that any of these arguments would stand.

It is unlikely that a country's choices about allocation of its assigned allowances would be deemed a subsidy by a WTO Panel. The initial question is whether a WTO Panel would deem the allocation of allowances to be the distribution of "a financial contribution." While some have argued that because firms can sell surplus allowances—*i.e.*, allowances not needed to meet regulatory requirements—for cash,[76] surplus permits must be deemed a "financial contribution," this result is unlikely.

In effect, a decision about allocating an assigned amount of allowances is a decision about allocating national responsibilities to comply with an international regulatory regime. Identifying Kyoto Protocol allocations as subsidies could be tantamount to saying that

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75. *See* Terry L. Anderson & J. Bishop Grewell, *Property Rights Solutions for the Global Commons: Bottom-Up or Top-Down?*, 10 DUKE ENVTL. L. & POL'Y F. 73, 93-94 (1999) ("The process of *assigning* property rights has definite distributional consequences because property rights represent claims on rents.").

76. *See, e.g.*, Parker, *supra* note 3, at 2.

any allocation of any responsibility for regulation—whether domestic or international—would constitute a subsidy. By that reasoning, any country's sovereign decision to subject some and not all sources of pollution to a regulatory system would constitute a subsidy, and the entire national and international framework of environmental regulation would be subject to subsidies challenge. It is unlikely that a WTO Panel would be willing to reach such a result. The same reasoning applies with regard to allocations under the treaties governing the European Union, where concerns about "state aid" have been voiced.[77]

Moreover, the transactability of the assigned amount units does not render them "financial contributions." There is a long history of transactable regulatory permits under many countries' regulatory systems. When companies purchase and sell business units, governments establish rules that govern the transferability of the pollution permits issued to those business units, and those permits carry with them a financial value. However, the nature of the financial value varies greatly, depending on a wide variety of factors, as will be the case with transactable assigned amount units. This variability places them in contrast with direct financial contributions, including specific exemptions from generally applied pollution taxes.

c. Does State Aid, within the Context of the European Union, Constitute an Actionable Subsidy?

In the European Union, discussion is proceeding on the question of environmental policy and state aid—governmental aid toward the operation of a firm.[78] In particular, it is likely that the EU Commission will raise questions as to whether the allocation of emissions allowances, free of charge, to particular firms, would constitute a benefit in kind that could, in turn, be utilized by the firms for production of goods, raising questions under applicable European Union law.[79]

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77. *See, e.g.*, CHANCELLOR OF THE EXCHEQUER, STABILITY AND STEADY GROWTH FOR BRITAIN: PRE-BUDGET REPORT, 1999, Cmnd. 4479, at ¶ 6.42, *available at* <http://www.official-documents.co.uk/document/cm44/4479/cm4479.htm>

78. *See* Council Announcement 9420/00 of Guidelines on State Aid for the Environment (June 22, 2000) (not yet published), *available at* <http://ue.eu.int/newsroom/main.cfm?LANG=1>.

79. The initial view of the Commission was that such allocation could constitute State Aid, which could be prohibited but for the fact that it concerns the environment. *See State Aid: Denmark - Commission Approves Tradable CO_2 Emission Permits for the Electricity Sector in Denmark for the Period 2001-2003*, EC COMPETITION POL'Y NEWSL. (Eur. Comm'n, Brussels, Belg.), June 2000, at 63 ("[T]he Commission considers that giving producers emission permits without compensation constitutes State aid on the basis of Article 87(1) of the EC Treaty."),

While the initial view of the Commission is that such allocation could constitute state aid, it cannot be the case that allocation of allowances free of charge constitutes state aid. If that were the case, then allocation of any emissions allowance—such as conventional permitting, in which the government confers on the emitter the right to emit up to the permit level but the permit is not fungible—would also be state aid. On this view, all environmental regulation would be state aid, and no environmental regulation other than absolutely uniform taxation would be consistent with the EC Treaty. Moreover, whether the EU Member States would back the Commission's analysis is also a matter of doubt, as Member States may not wish to see national flexibility questions submitted to the approval of the EU Commission.

An examination of the nature of taxation/levy and emissions allowance trading systems reveals the problem. Taxation/levy and emissions allowance trading systems are simply two comparable economic instruments for obtaining environmental outcomes. In taxation/levy systems, government fixes the Price (P); the Quantity (Q) that any polluter will emit depends on the marginal cost curve that the polluter faces, as well as the substitution elasticity for alternative technologies and products. All Q has a P—that is, all pollution is subject to the taxation/levy. So, in taxation/levy systems, P is known, and Q is uncertain.[80]

By contrast, in emissions allowance trading, government fixes Q, the quantity of allowable pollution, when it sets the cap on total emissions. The Price (P) will depend on marginal cost curves and substitution elasticities; and all Q has a P—that is, every firm participating in the market will have to give a valuation to its quantity of pollution in order to know whether it makes more economic sense for it to reduce pollution and sell allowances, or go into the market place and look for Qs of allowable pollution at market prices (P). So, in permit trading, Q is known (which is better for the environment), and P is uncertain.

Under this analysis, allocation of permits free of charge is no more state aid than taxation/levy is for those emitters whose abate-

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available at <http://www.europa.eu.int/comm/competition/publications/cpn/cpn2000_2_toc.html>. *See generally* Consolidated version of the Treaty establishing the European Community after entry into force of the Treaty of Amsterdam (entered into force on May 1, 1999), § 2 ("Aids granted by States"), art. 87.

80. Governments like these systems because they allow governments to get steady streams of revenue into their treasuries. The environment bears the uncertainty burden, however, because a government can never know in advance whether it has fixed P at a level that will achieve the desired pollution reduction result (Q).

ment cost is above the tax rate of the emission to be reduced. When governments auction emissions permits rather than grandfather them, they convert permit trading to taxation/levy during the period of the auction—although Q remains fixed. During that period, government takes all the P from the auction for itself, and then government has to choose how to recycle that revenue into the economy, at which point government may choose to subsidize some firms and not others. Under an allocation-free-of-charge system, firms are forced to internalize P in the context of a market rather than an auction, and the state aid question is avoided entirely.

What is important, from the perspective of avoiding state aid questions when developing taxation/levy and emissions allowance trading systems, is to ensure that the distribution of the tax/levy burden and the distribution of the emissions allowance trading allocation is done on a transparent basis. In that way, the admittedly political choices that governments make in deciding how to allocate the burdens of emissions taxes and emissions limitations can be known to all, and EU law applied accordingly.

It should also be recognized that in some circumstances governments may choose to create systems in which some tax burdens are distributed unequally, or some emissions allowances are allocated free of charge while others are auctioned. In such cases, governments may be able to minimize state aid considerations if they take care, in the case of taxation/levy systems, to recycle tax revenues to the enterprises upon which the taxation/levy burden falls. Similarly, governments may be able to minimize state aid considerations in the case of tradable emissions allowance systems involving a mixture of free-of-charge allocation and auction, if governments take care to recycle the revenues from allowance auctions to the enterprises upon whom the emissions limitation burdens fall. Such is the case with the U.S. sulfur dioxide emissions allowance trading program, in which most of the emissions allowances were distributed free of charge according to a set of formulae specified in the statute, while revenues from the auction of a small number of allowances are distributed to the regulated entities.

d. Could One Nation's Persistent Failure to Enforce Its National Legislation Limiting GHG Emissions Constitute an Actionable Subsidy?

Nothing in the WTO Subsidies Agreement provides that a nation's failure to enforce its domestic environmental law constitutes a subsidy. However, in the North American Agreement on Environ-

mental Cooperation (also known as the NAFTA Environmental Side Agreement),[81] the Parties to the North American Free Trade Agreement (NAFTA)—Canada, Mexico, and the United States—agreed that a persistent pattern of failure to enforce national environmental laws could be an actionable event.[82] The NAFTA Environmental Side Agreement provides specific procedures by which such claims are made, investigated, evaluated, and acted upon.[83] The Agreement provides for both injunctive relief and compensatory trade remedies.[84] This provision would presumably cover climate change legislation in each of the three NAFTA countries.

In principle, all Kyoto Protocol Parties, or some subgroups, could agree that a persistent failure by any one of them to enforce law on GHG emissions might constitute an actionable subsidy or otherwise actionable event. (Presumably these Parties could not enforce such a provision against a non-Party to their enforcement agreement without running afoul of the unadopted US-Mexico Tuna Dolphin Panel Report discussed above.)[85] Such agreements are more likely to be developed in the context of Article 4 "bubbles," where any member's failure to maintain compliance with its Kyoto Protocol obligations directly affects the compliance posture of the other members.[86]

e. Do Clean Development Mechanism Projects Constitute Actionable Subsidies?

Under the Clean Development Mechanism (CDM), an Annex B Kyoto Protocol Party may provide financial payments to a non-Annex B Party to assist the latter in achieving sustainable development and to provide to the former a share of CERs resulting from emissions reduction projects in the non-Annex B Party's territory. It may be argued that CDM projects themselves may be considered to

81. *See* North American Agreement on Environmental Cooperation Between the Government of the United States of America, the Government of Canada, and the Government of the United Mexican States, arts. 5, 22, 33, & 45, Sept. 13, 1993, 32 I.L.M. 1480 (entered into force Jan. 1, 1994) ("With the aim of achieving high levels of environmental protection and compliance with its environmental laws and regulations, each Party shall effectively enforce its environmental laws . . . .") [hereinafter NAAEC], *available at* <http://www.cec.org/pubs_info_resources/law_treat_agree/naaec/index.cfm?varlan=english>; *see also* PIERRE MARC JOHNSON & ANDRE' BEAULIEU, THE ENVIRONMENT AND NAFTA: UNDERSTANDING AND IMPLEMENTING THE NEW CONTINENTAL LAW 207-09 (1996).

82. *See* NAAEC, *supra* note 81, at arts. 5, 22, 33, & 45.

83. *See id*. at arts. 14-15, 22-36.

84. *See id*. at arts. 5, 33-36.

85. *See* discussion *supra* Part II.

86. *See* Kyoto Protocol, *supra* note 2, at art. 4.

operate as implicit subsidies. That is, in a non-Annex B nation, participation in CDM projects can be used to encourage capital flows in specific sectors, while the overall emissions in those sectors (and in the balance of the national economy) remain uncapped. Moreover, any certified emissions reduction units from CDM projects may be transacted by the host country and act as additions to, rather than redistributions of, allowable emissions in Annex B nations. Thus, the CDM stands in sharp contrast to emissions trading and joint implementation in Annex B nations, where, as noted above, the allocation of assigned amount units effectively constitutes a country's choice about the domestic distribution of a fixed, internationally agreed regulatory burden, and the transfer of assigned amount units—whether through emissions trading under Article 17 or joint implementation under Article 6—constitutes a bilateral redistribution of a common regulatory obligation.

Consequently, if a non-Annex B nation were to encourage CDM investment in one of its industry sectors while allowing the emissions from that sector to continue to increase, it arguably would confer upon that sector a financial benefit relative to the operation of that sector in other Annex B nations. On that view, the CDM would operate as a subsidy.

On the other hand, it may be argued that the CDM operates in a manner much more akin to Overseas Development Assistance (ODA) rather than a subsidy. While a given CDM program or set of projects might take on more of the characteristics of a prohibited subsidy if the program involved agreements to utilize only emissions reduction goods and technologies of the investor or host country, such agreements are not unusual in the ODA context and have not been challenged as subsidies.

Even if the CDM were a subsidy, however, the question remains as to whether it would be an *actionable* subsidy. A WTO member would have to show that it has suffered serious prejudice as a result of a CDM project in another nation. A WTO member would have an easier time making such a showing if the CDM itself, the work of the Operational Entities, and national CDM programs in host countries conferred investment preferences or other discriminatory practices with regard to participation and investment—all of which would hamper the operation of the CDM in GHG emissions reduction activity. If, on the other hand, the international and domestic institutions are open, available to all UNCCC Parties, transparent, and op-

erated through competitive bidding processes, the risks of CDM friction with the Subsidies Agreement will be diminished.

IV. CONCLUSION

As the foregoing discussion on the CDM and subsidies and earlier discussions on products, services, and subsidies indicate, the Parties to the UNFCCC and the Kyoto Protocol reduce the likelihood of frictions with the WTO system, if they refrain from imposing quantitative limitations on emissions trading and if they avoid placing unnecessarily discriminatory restrictions on the market mechanisms of the Kyoto Protocol. At the same time, by allowing the mechanisms of the Kyoto Protocol to operate fully, without unnecessary restraints, the Parties can allow the Protocol to achieve its greatest potential for reducing GHG emissions.

Just as the global system of trade in goods and services has developed a rule-based framework whose basic tenets—transparency, non-discrimination, and lack of quantitative restrictions on trade—were developed to maximize the overall societal benefits nations could gain from trade, analogous rule-based emissions trading frameworks can guide market forces in favor of environmental protection. In that regard, it is possible that well-designed emissions trading frameworks may be inherently more compatible with the WTO system of rules than other types of environmental regulatory frameworks.

While this fact alone would not be sufficient to justify their preferential use, the inherent WTO-compatibility of emissions trading systems, coupled with their demonstrated ability to achieve environmental improvements faster and at lower cost than other regulatory alternatives, indicate that nations, companies, and communities, given the opportunity, may preferentially seek to integrate emissions trading systems into the global economic marketplace.

APPENDIX[87]

Membership in the Climate Change Agreements and the WTO

Country	UNFCCC Party	UNFCCC Annex I	Kyoto Protocol Annex B	WTO Member
Albania	Y	N	N	N
Algeria	Y	N	N	N
Angola	*N*	*N*	*N*	*Y*
Antigua and Barbuda	Y	N	N	Y
Argentina	Y	N	N	Y
Armenia	Y	N	N	N
Australia	Y	Y	Y	Y
Austria	Y	Y	Y	Y
Azerbaijan	Y	N	N	N
Bahamas	Y	N	N	N
Bahrain	Y	N	N	Y
Bangladesh	Y	N	N	Y
Barbados	Y	N	N	Y
Belarus	N	Y	N	N
Belgium	Y	Y	Y	Y
Belize	Y	N	N	Y
Benin	Y	N	N	Y
Bhutan	Y	N	N	N
Bolivia	Y	N	N	Y
Botswana	Y	N	N	Y
Brazil	Y	N	N	Y
Brunei Darussalam	*N*	*N*	*N*	*Y*
Bulgaria	Y	Y	Y	Y
Burkina Faso	Y	N	N	Y

87. This Appendix was based on information obtained from the following two websites: United Nations Framework Convention on Climate Change, *Country Information* (last modified Oct. 11, 1999) <http://www.unfccc.de/resource/country/index.html> and World Trade Organization, *Trading into the Future: The Introduction to the WTO: The Organization Members* (visited Feb. 1, 2000) <http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm>.

Key:

* — Added to Annex I of the UNFCCC by Decision 4/CP.3 of the Conference of the Parties to the UNFCCC, Dec. 11, 1997.

Italic — Member of the WTO Agreements and not the Climate Change Agreements.

Burundi	N	N	N	Y
Byelorussia	N	N	N	N
Cambodia	Y	N	N	N
Cameroon	Y	N	N	Y
Canada	Y	Y	Y	Y
Cape Verde	Y	N	N	N
Central African Republic	Y	N	N	Y
Chad	Y	N	N	Y
Chile	Y	N	N	Y
China	Y	N	N	N
Colombia	Y	N	N	Y
Comoros	Y	N	N	N
Cook Islands	Y	N	N	N
Congo	*N*	*N*	*N*	*Y*
Costa Rica	Y	N	N	Y
Cote d'Ivoire	Y	N	N	Y
Croatia	Y	Y*	Y	N
Cuba	Y	N	N	Y
Cyprus	Y	N	N	Y
Czech Republic	Y	Y*	Y	Y
Dem. Rep. of Korea	Y	N	N	N
Dem. Rep. of the Congo	Y	N	N	Y
Denmark	Y	Y	Y	Y
Djibouti	Y	N	N	Y
Dominica	Y	N	N	N
Dominican Republic	*N*	*N*	*N*	*Y*
Ecuador	Y	N	N	Y
Egypt	Y	N	N	Y
El Salvador	Y	N	N	Y
Eritrea	Y	N	N	N
Estonia	Y	Y	Y	N
Ethiopia	Y	N	N	N
European Community	Y	Y	Y	Y
Fiji	Y	N	N	Y
Finland	Y	Y	Y	Y

France	Y	Y	Y	Y
Gabon	Y	N	N	Y
The Gambia	Y	N	N	Y
Georgia	Y	N	N	N
Germany	Y	Y	Y	Y
Ghana	Y	N	N	Y
Greece	Y	Y	Y	Y
Grenada	Y	N	N	Y
Guatemala	Y	N	N	Y
Guinea	Y	N	N	Y
Guinea Bissau	Y	N	N	Y
Guyana	Y	N	N	Y
Haiti	*N*	*N*	*N*	*Y*
Honduras	Y	N	N	Y
Hungary	Y	Y	Y	Y
Iceland	Y	Y	Y	Y
India	Y	N	N	Y
Indonesia	Y	N	N	Y
Ireland	Y	Y	Y	Y
Israel	Y	N	N	Y
Italy	Y	Y	Y	Y
Jamaica	Y	N	N	Y
Japan	Y	Y	Y	Y
Jordan	Y	N	N	N
Kazakhstan	Y	N	N	N
Kenya	Y	N	N	Y
Kiribati	Y	N	N	N
Korea	N	N	N	Y
Kuwait	Y	N	N	Y
Kyrgyzstan	*N*	*N*	*N*	*Y*
Lao People's Dem. Rep.	Y	N	N	N
Latvia	Y	Y	Y	Y
Lebanon	Y	N	N	N
Lesotho	*N*	*N*	*N*	*Y*
Liechtenstein	Y	Y*	Y	Y
Lithuania	Y	Y	Y	N
Luxembourg	Y	Y	Y	Y
Macedonia	N	N	N	
Madagascar	*N*	*N*	*N*	*Y*

Malawi	Y	N	N	Y
Malaysia	Y	N	N	Y
Maldives	Y	N	N	Y
Mali	Y	N	N	Y
Malta	Y	N	N	Y
Marshall Islands	Y	N	N	N
Mauritania	Y	N	N	Y
Mauritius	Y	N	N	Y
Mexico	Y	N	N	Y
Micronesia	Y	N	N	N
Moldova	Y	N	N	N
Monaco	Y	Y*	Y	N
Mongolia	Y	N	N	Y
Morocco	Y	N	N	Y
Mozambique	Y	N	N	Y
Myanmar	Y	N	N	Y
Nambia	Y	N	N	Y
Nauru	Y	N	N	N
Nepal	Y	N	N	N
Netherlands	Y	Y	Y	Y
New Zealand	Y	Y	Y	Y
Nicaragua	Y	N	N	Y
Niger	Y	N	N	Y
Nigeria	Y	N	N	Y
Niue	Y	N	N	N
Norway	Y	Y	Y	Y
Oman	Y	N	N	N
Pakistan	Y	N	N	Y
Panama	Y	N	N	Y
Papua New Guinea	Y	N	N	Y
Paraguay	Y	N	N	Y
Peru	Y	N	N	Y
Philippines	Y	N	N	Y
Poland	Y	Y	Y	Y
Portugal	Y	Y	Y	Y
Qatar	Y	N	N	Y
Republic of Korea	Y	N	N	N
Romania	Y	Y	Y	Y

Russian Federation	Y	Y	Y	N
Rwanda	Y	N	N	N
Saint Kitts and Nevis	Y	N	N	Y
Saint Lucia	Y	N	N	Y
Saint Vincent and the Grenadines	*N*	*N*	*N*	*Y*
Samoa	Y	N	N	N
San Marino	Y	N	N	N
Saudi Arabia	Y	N	N	N
Senegal	Y	N	N	Y
Sierra Leone	Y	N	N	Y
Singapore	Y	N	N	Y
Slovakia	Y	Y*	Y	Y
Slovenia	Y	Y*	Y	Y
Solomon Islands	Y	N	N	Y
South Africa	Y	N	N	Y
Spain	Y	Y	Y	Y
Sri Lanka	Y	N	N	Y
Sudan	Y	N	N	N
Suriname	Y	N	N	Y
Swaziland	*N*	*N*	*N*	*Y*
Sweden	Y	Y	Y	Y
Switzerland	Y	Y	Y	Y
Tajikistan	Y	N	N	N
Tanzania	Y	N	N	Y
Thailand	Y	N	N	Y
Togo	Y	N	N	Y
Tonga	Y	N	N	N
Trinidad and Tobago	Y	N	N	Y
Tunisia	Y	N	N	Y
Turkey	*N*	*Y*	*N*	*Y*
Turkmenistan	Y	N	N	N
Uganda	Y	N	N	Y
Ukraine	Y	Y	Y	N
United Arab Emirates	Y	N	N	Y
United Kingdom	Y	Y	Y	Y

United States	Y	Y	Y	Y
Uruguay	Y	N	N	Y
Uzbekistan	Y	N	N	N
Vanuatu	Y	N	N	N
Venezuela	Y	N	N	Y
Vietnam	Y	N	N	N
Yemen	Y	N	N	N
Yugoslavia	Y	N	N	N
Zambia	Y	N	N	Y
Zimbabwe	Y	N	N	Y