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The GATT-Legality of Border Adjustments for Carbon Taxes and the Cost of Emissions Permits: A Riddle, Wrapped in a Mystery, Inside an Enigma

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THE GATT-LEGALITY OF BORDER ADJUSTMENTS FOR CARBON TAXES AND THE COST OF EMISSIONS PERMITS: A RIDDLE, WRAPPED IN A MYSTERY, INSIDE AN ENIGMA

by

Charles E. McLure, Jr. [*]

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> "Russia . . . is a riddle, wrapped in a mystery, inside an enigma." – Winston Churchill

> "The application of BTAs to energy taxes under the GATT/WTO rules is clouded with uncertainty." – OECD

I. INTRODUCTION

With the notable exception of the United States (and, until recently, Australia), developed nations and many nations in transition from socialism made commitments under the Kyoto Protocol to reduce emissions of CO_2, the most important greenhouse gas thought to be responsible for global warming. By comparison, the Protocol excused developing countries from the need to cap emissions. Both countries making commitments to reduce emissions and those that have not made commitments, but are considering doing so, are concerned that policies adopted to meet targets for emissions reductions will place their carbon-intensive industries at a competitive disadvantage relative to those in countries not making commitments and induce carbon leakage to those nations which they see as "free riders" in the global effort to reduce greenhouse gas emissions.[1] On the other hand,

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1. Although competitiveness and carbon leakage are related concepts, they are not the same and they have different implications for the GATT-legality of border adjustments. *See* Peter Wooders, Julia Reinaud, and Aaron Cosbey, Options for Policy-Makers: Addressing Competitiveness, Leakage, and Climate Change, International Institute for Sustainable Development 5-11 (Oct. 2009), http://www.iisd.org/pdf/2009/bali_2_copenhagen_bcas.pdf.

In addition, if not all nations adopt policies to reduce emissions (and even if all do adopt such policies, but the price of carbon is not the same in all countries), emissions will not be reduced where it is cheapest to do so. For a more complete discussion and references to the literature, *see* Charles E. McLure, Jr., Border Adjustments for Carbon Taxes and the Cost of Emissions Permits: Economic, Administrative, and Legal Issues, *in* Taxing Energy: New Insights for Policy Design 193 (Gilbert E. Metcalf, ed., Cambridge University Press). On the economic case for border adjustments for carbon prices, *see* Roland Ismer and Karsten Neuhoff, Border Tax Adjustment: A Feasible Way to Support Stringent Emission Trading, 24 Eur. J. L. & Econ. 137 (2007).

It is important to keep in mind that, contrary to popular perceptions, BAs would sensibly apply to only a small fraction of a nation's trade. Wooders, Reinaud, & Cosbey, *supra*, at 16-26, survey evidence of the economic impact of carbon prices and BAs. They note:

> [R]esearch has made clear that only a small proportion of economic activity (most studies indicate no more than 1 per cent) is at risk for any significant change in production costs if carbon costs differ between countries. The literature shows that this

developing countries resist carbon pricing, both because they do not want to hamper economic development and because they believe that primary responsibility for reducing emissions should lie with the developed countries that emitted virtually all the greenhouse gases now in the environment.[2] Moreover, the statement in the 1992 Rio Declaration on Environment and Development that "States have common but differentiated responsibilities" underlies the UN Framework Convention on Climate Change (UNFCCC) and thus the Kyoto Protocol.

If committing countries were to employ either a cap and trade system or a carbon tax to "price carbon," they could use "border adjustments" (BAs) to eliminate, or at least reduce, concerns about competitiveness and carbon leakage.[3] BAs would convert carbon pricing otherwise based on the origin of emissions to carbon pricing based on the destination (or consumption) of

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> includes the cement and lime, aluminum, paper, refining, and iron and steel sectors; other sectors may be important in other countries. For the rest of the economy (generally at least 99 percent), the amount of carbon embedded in products is not significant enough to result in any material increase in production costs.

These authors rely especially on estimates in Jean-Charles Hourcade, Damien Demailly, Karsten Neuhoff, and Misato Sato, Differentiation and Dynamics of EU ETS Industrial Competitiveness Impacts, Final Report, Climate Strategies (2007), http://www.climatestrategies.org/component/ reports/category/17/37.html.

2. For a useful summary of positions taken by developed and by less developed countries at the 15th Conference of Parties (COP) held in Copenhagen in Dec. 2009, *see* Trevor Houser, Copenhagen, the Accord, and the Way Forward, Peterson Inst. for Int'l Econ., Policy Brief No. PB10-5, Mar. 2010. For a more optimistic appraisal of the outcome of the December 2010 COP in Cancun, *see* Trevor Houser, Less Can Be More: Protecting Cancun's Fragile Victory, Peterson Inst. for Int'l Econ., Dec. 15, 2010, http://www.piie.com/realtime/?p=1906. For discussions of proposals to deal with issues of competitiveness and carbon leakage in the EU and the U.S., *see* Wooders, Reinaud, and Cosbey, *supra* note 1, at 34-40, and Harro van Asselt and Thomas Brewer, Addressing Competitiveness and Leakage Concerns in Climate Policy: an Analysis of Border Adjustment Measures in the U.S. and the EU, 38 Energy Policy 42 (2010).

3. BAs have also been discussed as a way to facilitate transition from free allowances, a less efficient way to address concerns about carbon leakage and competitiveness effects, to full auctioning of emissions permits; *see* Karsten Neuhoff & Roland Ismer, International Cooperation to Limit the Use of Border Adjustment, Summary of a Workshop convened by Climate Strategies, Geneva, Sept. 10, 2008, 4, at http://www.eprg.group.cam.ac. uk/wp-content/uploads/2008/11/ba-workshop-report_nov-6-2008.pdf. These authors downplay the incentives BAs will provide for countries to reduce emissions.

carbon-intensive products.[4] Under a cap and trade system such as the European Trading System (ETS), importers could be required to hold permits (or perhaps be subject to tax on the carbon content of imports). Moreover, production for export could be excused from the need to hold emissions permits, and the cost of permits incurred before the export stage could be rebated. "Border tax adjustments" (BTAs, a particular form of BA) under a carbon tax would be similar; tax would be collected on imports, but not on exports, and any tax collected before the export stage would be rebated.[5] Many in important policy positions in the EU have proposed that BAs be instituted,[6] and both the Waxman-Markey bill passed by the U.S. House of

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4.The GATT Working Group on Border Tax Adjustments [hereinafter the Working Party on BTAs], in ¶ 4, adopted the following OECD definition of border tax adjustments:

> any fiscal measures which put into effect, in whole or in part, the destination principle (i.e. which enable exported products to be relieved of some or all of the tax charged in the exporting country in respect of similar domestic products sold to consumers on the home market and which enable imported products sold to consumers to be charged with some or all of the tax charged in the importing country in respect of similar domestic products).

The report of the Working Party is http://www.worldtradelaw.net/reports/gattpanels/bordertax.pdf.

5. It is assumed here that border adjustments under a cap and trade system would take the form described. It is, however, possible that BTAs could be utilized, at least on imports, instead. (That is, imports could be subject to a tax intended to equal the cost of emissions permits borne by domestic products.) Reinhard Quick, "Border Tax Adjustment" in the Context of Emission Trading: Climate Protection or "Naked" Protectionism?, 3 Global Trade & Customs J. 163, 164, 166, 172, 174 (2008), argues that the latter approach would violate the basic GATT rules, which do not anticipate such a "mix and match" approach, and would not be eligible for an exception under GATT Article XX for the same reason.

6. On April 15, 2010, French President Nicolas Sarkozy and Italian Prime Minister Silvio Berlusconi sent a letter to José Manuel Barroso, President of the European Commission, encouraging imposition of a carbon tax on imports and the discussion of BAs for carbon prices in a Commission report on emissions trading then expected to be released in June 2010, as mandated by European Communities, Directive 2009/29/EC of the European Parliament and of the Council of 23 Apr. 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, Official Journal of the European Union, L 140/63, Jun. 5, 2009, prefatory ¶ 25, 66-67, which included the following words:

> Energy-intensive industries which are determined to be exposed to a significant risk of carbon leakage could receive a higher amount

> of free allocation or an effective carbon equalisation system could be introduced with a view to putting installations from the Community which are at significant risk of carbon leakage and those from third countries on a comparable footing. Such a system could apply requirements to importers that would be no less favourable than those applicable to installations within the Community, for example by requiring the surrender of allowances.

As early as 2000 the European Commission, while noting that "fears that the pursuit of a high level of environmental protection will inevitably lead to a deterioration of the Community's international competitiveness may be exaggerated" and extolling the benefits of "international cooperation on the widest possible scale," said:

> In the absence of such coordination, the Community could examine the feasibility of making border tax adjustments in a way which would be environmentally and economically sound and consistent with international trading rules.

See Commission of the European Communities, Communication from the Commission to the Council and the European Parliament, Bringing Our Needs and Responsibilities Together-Integrating Environmental Issues with Economic Policy, COM (2000) 576 final, pp. 9-10.

The following other examples are cited in Timothy E. Deal, WTO Rules and Procedures and Their Implication for the Kyoto Protocol, U.S. Council for Int'l Bus., Jan. 2008, http://www.uscib.org/docs/wto_and_ kyoto_2008.pdf.

In November 2006, then French Prime Minister Dominique de Villepin indicated that France would urge the EU to study "the principle of a carbon tax on the import of industrial products from countries which refuse to commit themselves to the Kyoto Protocol after 2012." Later that year, EU Enterprise and Industry Commissioner Günter Verhheugen, in a letter to José Manuel Barroso, President of the EU Commission, seconded this idea, suggesting that border tax adjustments could "balance out" competitive benefits enjoyed by non–participants in the Kyoto protocol. By comparison, in December 2006 EU Trade Commissioner Peter Mandelson dismissed de Villepin's plan as "highly problematic under current WTO rules and almost impossible to implement in practice." Even so, in October 2007, Sarkozy urged Barroso to "examine the option of taxing products from countries that do not respect the Kyoto Protocol."

That same year John Hontelez, Secretary General of the European Environmental Bureau, told BBC News, "Border tax adjustments . . . are a justifiable threat to irresponsible governments like those of the US and Australia, the only rich countries which refuse to implement Kyoto." John Hontelez, "Time to Tax the Carbon Dodgers," BBC News, Apr. 5, 2007, http://news.bbc.co.uk/2/hi/6524331.stm. More recently Germany's former State Secretary for the Environment, Matthias Machnig has described import BAs as "eco imperialism" against developing nations; *see* "Bundesregierung: Klimazoll wäre Öko-Imperialismus," Reuters Deutschland, Jul. 24, 2009, http://de.reuters.com/article/domesticNews/idDEBEE56N07X20090724.

Representatives on June 26, 2009, and the discussion draft introduced by Senators Kerry and Lieberman on May 12, 2010, stipulate that BAs could be applied to imports if by a certain date other countries have not enacted sufficiently stringent restrictions on emissions.[7]

Nations are not free to impose any BAs they choose. Rather, BAs must accord with a nation's treaty obligations.[8] The most relevant of these

7. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009). Border adjustments are generally seen as the "price of passage" of U.S. cap and trade legislation. On the other hand, President Barack Obama has criticized inclusion of BAs in the Waxman Markey bill, citing the fear of setting off a trade war; *see* John M. Broder, Obama Opposes Trade Sanctions in Climate Bill, N.Y. Times, Jun. 29, 2009.

Some U.S. and Canadian proposals for subnational cap and trade systems or carbon taxes envisage destination-based pricing of carbon. For example, California would require the first in-state seller of electric power to hold emissions permits, thereby achieving destination-based pricing of carbon embedded in imports of power. *See* Michael Hanemann, California's New Greenhouse Gas Laws, 2 Rev. Envt'l. Econ. & Pol'y 114, 128 (2008). California might make an exception for power imported from the six states and four Canadian provinces that participate in the Western Climate Initiative, in which case origin-based charging for carbon embedded in power generated within those ten jurisdictions would prevail. *See* Cal. Air Res. Bd., Climate Change Scoping Plan: A Framework for Change, Dec. 2008, http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. California's inventory of greenhouse gases includes emissions from out-of-state power plants producing electric power sold in California. *See* Gerry Bemis, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004, Cal. Energy Comm., Staff Final Report CEC-600-2006-013-SF, Dec. 2006. In other respects the California system is origin-based. Since California does not export electric power, the lack of BAs for exports for that sector might seem to not matter. Of course, it could matter for other sectors, including especially those relying heavily on electric power, whether generated inside or outside the state. For an excellent discussion of the difficulties of designing and implementing a destination–based cap and trade system, many of which would also be encountered in creating a national system, *see* James Bushnell, The Design of California's Cap-and-Trade and its Impact on Electricity Markets, 8 Climate Policy 277 (2008).

In Canada, provincial imposition of BTAs is stymied by the constitutional limitation on provincial taxing powers to "direct taxes within the province." Although courts have interpreted this limitation not to prevent provincial use of retail sales taxes (if imposed on the purchaser, but collected by the merchant), it would be difficult to fit provincial BTAs for carbon taxes through the eye of that needle. On the other hand, it is possible for provincially-owned power companies to collect tariffs on imported electricity, as British Columbia Power has done. I am grateful to Jack Mintz for the last point.

8. The Sarkozy-Berlusconi letter to Barroso mentioned *supra* note 6, notes the need for any measures taken to be consistent with the WTO rules. Similarly, the prefatory paragraph in the 2009 EU directive quoted *supra* note 6, continues with these words:

for present purposes, and the only ones considered here, are the General Agreement on Tariffs and Trade (the GATT) and the Agreement on Subsidies and Countervailing Measures (the ASCM).[9] The World Trade Organization (WTO) oversees compliance with these rules.[10]

> Any action taken would need to be in conformity with the principles of the UNFCCC, in particular the principle of common but differentiated responsibilities and respective capabilities, taking into account the particular situation of least developed countries (LDCs). It would also need to be in conformity with the international obligations of the Community, including the obligations under the WTO agreement.

It appears that the drafters of the Waxman-Markey bill and other legislation pending in the U.S. were also concerned that the proposed legislation be consistent with the international trade rules. *See* Arjun Ponnambalam, U.S. Climate Change Legislation and the Use of GATT Article XX to Justify a 'Competitiveness Provision' in the Wake of Brazil-Tyres, 40 Geo. J. Int'l L. 261, 279-80 (2008); Andrew W. Shoyer, *Comment* to Jason E. Bordoff, International Trade Law and the Economics of Climate Policy: Evaluating the Legality and Effectiveness of Proposals to Address Competitiveness and Leakage Concerns, *in* Climate Change, Trade, and Competitiveness: Is a Collision Inevitable? 60 (Lael Brainard & Isaac Sorkin eds. 2009). The stated objective of that bill is "[t]o create clean energy jobs, achieve energy independence, reduce global warming pollution and transition to a clean energy economy." American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009). There are many references to carbon leakage in the bill, which might justify an exception under GATT Article XX, but none to loss of U.S. competitiveness, which would not. Harro van Asselt, Thomas Brewer & Michael Mehling, Addressing Leakage and Competitiveness in U.S. Climate Policy: Issues Concerning Border Adjustment Measures, Climate Strategies Working Paper 52 (2009), note regarding the earlier Lieberman-Warner bill, "[t]he provisions of Art. XX GATT – and subsequent case law – are important in the context of the Climate Security Act, as the WTO compatibility of the importer allowance requirement seems to heavily rely on them." In implicitly targeting non-committing developing countries, drafters of this legislation seem to have been less concerned than the European Union about consistency with the UNFCCC principle that "[s]tates have common but differentiated responsibilities," which, as discussed in Section IV, might preclude BAs on trade with these countries.

9. Thus the reference in the title of this article to "the GATT-legality" of BAs is somewhat incomplete. For a summary of the contents of other international trade agreements that could be relevant but are not considered here, *see* Gary Clyde Hufbauer, Steve Charnovitz & Jisun Kim, Global Warming and the World Trading System 34 (2009).

10. Although the GATT dates from 1947, to a large degree it codified practice existing when it was initially negotiated. The GATT and the ASCM were both updated, the former in ways that are not relevant for present purposes, in 1994 at the end of the Uruguay round of negotiations, which also saw the establishment of

There is little doubt that BTAs equivalent to taxes on domestic fossil fuels would be allowed for both imported and exported fossil fuels. There is, on the other hand, considerable uncertainty regarding the adjustability of taxes on carbon embedded in the prices of imports and exports.[11] The Organisation for Economic Co-operation and Development (OECD) has stated that "[t]he application of BTAs to energy taxes under the GATT/WTO rules is clouded with uncertainty."[12] Whether the WTO would allow border

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the WTO to provide a single institutional framework for interpreting the GATT and related agreements. Revisions of the ASCM, which built on the 1979 Agreement on Interpretation and Application of GATT Articles VI, XVI, and XXIII negotiated during the Tokyo Round, were more substantial and are of potentially greater significance for present purposes.

The WTO was a long time aborning. Although creation of the International Trade Organization was originally proposed as part of a post-WWII package that included the International Monetary Fund and the World Bank, institutions that were actually created, the U.S. Senate refused to ratify the ITO Charter. Thus from 1947 until the WTO was created, no formal institution was charged with implementing the GATT, and a country that did not like the ruling of a GATT panel could ignore it. The establishment of the WTO created a dispute settlement mechanism, whose findings were to be binding on member nations. For a brief overview of the institutional framework of the GATT/WTO, *see* Geert Van Calster, International & EU Trade Law: The Environmental Challenge 13-17 (2000).

11. Regarding these matters, Pitschas states:

> As long as energy is traded as its own product, there is no difficulty in applying the BTA rules . . . to energy taxes.
>
> However, the application of BTA rules to energy taxes is less obvious once energy is used to produce other products. In this case, a tax on energy is also a tax on the production process of these products, but not on the products themselves. It is therefore questionable whether energy taxes are eligible for BTA under these circumstances.

See Christian Pitschas, GATT/WTO Rules for Border Tax Adjustment and the Proposed European Directive Introducing a Tax on Carbon Dioxide Emissions and Energy, 24 Ga. J. Int'l & Comp. L. 479, 490-91 (1995). As described in Section III, the distinction between taxes on products and taxes on process and production methods is pivotal in determining the GATT-legality of BTAs.

12. Organisation for Economic Co-operation and Development (OECD), The Political Economy of Environmentally Related Taxes 92 (2006). Here is a sample of similar appraisals:

"From a WTO legality perspective, the issues are less than clear-cut." Gavin Goh, The World Trade Organization, Kyoto and Energy Tax Adjustments at the Border, 38 J. World Trade 395, 395 (2004).

> Are border adjustments related to energy taxes permitted under world trade law? A clear-cut answer to this question is not easily found, because many relevant principles and legal terms are not clearly defined in WTO law, and the case law through dispute settlement panels and the WTO Appellate Body remains sketchy.

Frank Biermann and Rainer Brohm, Implementing the Kyoto Protocol Without the USA: The Strategic Role of Energy Tax Adjustments at the Border, 4 Climate Policy 289, 292 (2005) [hereinafter Biermann and Brohm, Strategic Role]; Frank Biermann and Rainer Brohm, Border Adjustments on Energy Taxes: A Possible Tool for European Policymakers in Implementing the Kyoto Protocol? 74 Vierteljahrshefte zur Wirtschaftsforschung 249, 251 (2005) [hereinafter Biermann and Brohm, Possible Tool].

"[T]he disagreement on the adjustability of these taxes still pervades discussions, and little progress has been made. Case law has not contributed much to clarify the issue." Javier de Cendra, Can Emissions Trading Schemes Be Coupled with Border Tax Adjustments? An Analysis vis-à-vis WTO Law, 15 Rev. Eur. Community & Int'l Envt'l. L. 131, 139 (2006).

"At present, it is difficult to draw firm conclusions from the relevant agreements or WTO case law as to whether such [border tax] adjustments are consistent with WTO rules." Aaron Cosbey and Richard Tarasofsky, Climate Change, Competitiveness and Trade, Chatham House Report vi (2007), http://www.chathamhouse.org.uk/files/9248_r0607climatechange.pdf.

> [F]or policies concerning energy or GHG emissions, it is still unclear whether specific taxes on energy are adjustable, and if so, whether adjustments may only be applied to exports and not to imports.
>
> . . . .
>
> Most of the restrictions that multilateral trade agreements pose for market-based climate policies remain speculative at this point.

Carolyn Fischer & Alan K. Fox, Comparing Policies to Combat Emissions Leakage: Border Tax Adjustments versus Rebates, Resources for the Future 4, 6, Discussion Paper 09-02, (2009).

"There are a vast number of views expressed by academics, policy-makers, and various stakeholders on how trade is affected by measures to mitigate climate change, and on the extent to which these measures are consistent with WTO rules." World Trade Organization and the United Nations Environment Programme (WTO-UNEP), Trade and Climate Change 142 (2009).

adjustments for the cost of emission permits is even less certain, especially if permits are distributed free of charge or acquired on secondary markets.[13] Thus the subtitle of this article; like Russia, the GATT-legality of border adjustments for carbon prices is truly "a riddle, wrapped in a mystery, inside an enigma."[14]

"[W]hether any emissions tax BTA could be legal under WTO rules is impossible to answer given the present state of the law. . . ." Matthew Genasci, Border Tax Adjustments and Emissions Trading: The Implications of International Trade Law for Policy Design, 2008 Carbon & Climate L. Rev. 33, 36.

"[T]he potential adjustability of environmental taxes levied on the producer of a product – for example, a tax on the energy used or the pollution emitted – remains an uncertain and debated issue of trade law." Hufbauer, Charnovitz, and Kim, *supra* note 9, at 39.

13. "The legality of border adjustments for energy taxes has long been an unsettled question, and the legal uncertainties only multiply when the concept is extended to an emissions trading scheme." Genasci, *supra* note 12, at 33.

"There may be WTO compatibility issues arising from the way such [emissions] permits are allocated." Cosbey and Tarasofsky, *supra* note 12, at vi. *See also* Section V.

14. Some authors have, however, been much more conclusive in their appraisals of GATT-legality of BAs for carbon taxes or for the cost of emissions permits. Roland Ismer, Mitigating Climate Change Through Price Instruments: An Overview of the Legal Issues in a World of Unequal Carbon Prices, 2010 Eur. Y.B. Int'l Econ. L. 205, 220, opines, "[A] unilateral implementation of border adjustments can be in compliance with world trade law." By comparison, Quick writes, "the suggested trade policy measures to combat climate change can be considered WTO incompatible." Quick, *supra* note 5, at 175. Other appraisals are cited *infra*. Many who believe that the WTO rules do not necessarily preclude BAs for carbon prices emphasize the importance of design; *see* Section IV.

That the WTO does not want the responsibility of deciding the GATT-legality of BAs can be discerned from these words of Pascal Lamy, Director-General of the WTO:

> Plan A is a world in which clear climate commitments are assigned to all – under common but differentiated responsibilities – and where the WTO toolbox is only explored at the implementation stage.
>
> Plan B is a unilateral, go-it-alone approach to climate change, that mistakenly places the implementation toolbox at centre stage. We must fight for the only real plan that we have, which is Plan A.

See Pascal Lamy, Director-General, World Trade Org., Keynote Address at the Carleton University in Ottawa, Canada: Climate First, Trade Second – GATTzilla is

This article examines the GATT-legality of BTAs for carbon taxes and BAs for the cost of emissions permits.[15] At least six primary questions

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Long Gone (Nov. 2, 2009) (transcript available at http://www.wto.org/english/news_e/sppl_e/sppl140_e.htm).

15. The literature on the various intertwined aspects of this topic, most of it written within the last decade, is voluminous. In addition to Hufbauer, Charnovitz & Kim, *supra* note 9, Pitschas, *supra* note 11, Goh, *supra* note 12, de Cendra, *supra* note 12, OECD, *supra* note 12, Quick, *supra* note 5, van Asselt, Brewer, and Mehling, *supra* note 8, and Van Calster, *supra* note 10, at 416-49, *see*, for example, Paul Demaret and Raoul Stewardson, Border Tax Adjustments Under GATT and EC Law and General Implications for Environmental Taxes, 28 J. World Trade 5 (Aug. 1994); J. Andrew Hoerner & Frank Muller, Carbon Taxes for Climate Protection in a Competitive World, in E. Staehelin-Witt and H. Blöchliger, Ökologisch orientierte Steuerreformen: Die fiskal- und aussenwirtschaftspolitischen Aspekte (1996); J. Andrew Hoerner, The Role of Border Tax Adjustments in Environmental Taxation: Theory and U.S. Experience, Paper presented at the Int'l Workshop on Market Based Instruments and Int'l Trade of the Inst. for Envt'l. Studies, Amsterdam, The Netherlands (Mar. 19, 1998), http://www.rprogress.ort/publications/1998/BTA_1998.pdf; Olivier Godard, Unilateral European Post-Kyoto Climate Policy and Economic Adjustment at EU Borders, Chaire Développement Durable, École Polytechnique, Paris, Cahier n° DDX - 07-15, Oct. 2007; Paolo Avner, Border Adjustment: A Tool to Reconcile Climate Policy and Competitiveness in Europe: A Legal and Economic Assessment, Chaire Développement Durable, École Polytechnique, Paris, Cahier n° 2007-07-14, Oct. 2007; Joost Pauwelyn, U.S. Federal Climate Policy and Competitiveness Concerns: the Limits and Options of International Trade Law (Nicolas Institute for Environmental Policy Solutions, Duke University, Working Paper No. 07-02, Apr. 2007) (hereinafter "U.S. Federal Climate Policy"), http://nicholasinstitute.duke.edu/climate/policydesign/u.s.-federal-climate-policy-and-competitiveness-concerns-the-limits-and-options-of-international-trade-law [hereinafter Pauwelyn, U.S. Federal Climate Policy]; Joost Pauwelyn, Testimony Before the Subcomm. on Trade of the H. Comm. on Ways and Means (Mar. 24, 2009) [hereinafter Pauwelyn Testimony], http://democrats.waysandmeans.house.gov/media/pdf/111/pauw.pdf; Reinhard Quick Border Tax Adjustment to Combat Carbon Leakage: A Myth, 4 Global Trade & Customs J. 353 (2009); Katerina Holzer, Proposals on Carbon-related Border Adjustments: Prospects for WTO Compliance, 4 Carbon & Climate L. Rev. 51 (2010). A recent study coauthored by the Secretariat of the WTO and the United Nations Environment Programme provides a useful summary of the rules and references to some of the literature, without, however, settling any of the disputes described in what follows; *see* WTO-UNEP, *supra* note 12, at 103-10. Most of this literature considers only BTAs for environmental taxes, including in some instances carbon taxes. Very little of it considers border adjustments for the cost of emissions allowances under cap and trade systems, much less the implications of free distribution of allowances, or Bas for costs incurred for permits bought on the secondary market, capture and storage of carbon, and the clean development mechanism. The exceptions, in addition to de Cendra, *supra* note 12, Hufbauer, Charnovitz & Kim, *supra* note 9, Godard, *supra*, and Avner, *supra*, include the

(and many subsidiary ones) arise:[16] (1) whether the border tax adjustments that convert an origin-based carbon tax to a destination-based tax are consistent with the basic rules governing international trade, (2) if not, whether an exception might be granted under Article XX of the GATT, (3) whether the conclusions regarding BTAs for carbon taxes would be valid for BAs for the cost of emissions permits that are purchased from governments, (4) whether free allocation of allowances (the analog of inframarginal exemptions from carbon taxes) would undermine the case for BAs, (5) whether BAs would be allowed for permits bought on the secondary market, and (6) whether they would be allowed for costs incurred in sequestration of CO_2 or under the Clean Development Mechanism (CDM). The next Section explains the relevant GATT and ASCM rules and discusses some preliminary matters. Sections III and IV, which constitute the heart of the article, address the first two of the issues raised above. Section V considers the other four, albeit in considerably less detail. Section VI summarizes and concludes. Sections III and IV, being concerned with border adjustments for carbon taxes, generally refer to BTAs, even though more generic references to BAs might be appropriate in some cases.

II. THE GATT AND THE ASCM

It is useful to distinguish between the "basic" international trade rules and the exceptions to those rules allowed under Article XX of the GATT.

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excellent discussion in Jason E. Bordoff, International Trade Law and the Economics of Climate Policy: Evaluating the Legality and Effectiveness of Proposals to Address Competitiveness and Leakage Concerns, *in Climate Change, Trade and Competitiveness: Is a Collision Inevitable?* 35 (Lael Brainard and Isaac Sorkin eds. 2009).

16. Implementation of BAs would also face daunting technical and administrative challenges, as well as strong opposition from noncommitting countries. These issues are not addressed here. *See*, however, Wooders, Reinaud & Cosbey, *supra* note 1, McLure, *supra* note 1, and Charles E. McLure, Jr., Border Adjustments for Carbon Taxes and the Cost of CO_2 Emissions Permits: Politics, Economics, Administration, and International Trade Rules, 64 Bull. for Int'l Tax'n 585 (2010). Pauwelyn, Testimony, *supra* note 15, stresses the need to strive for administrative feasibility, and Julia Reinaud, Climate Policy and Carbon Leakage – Impacts of the European Emissions Trading Scheme on Aluminum, Int'l Energy Agency Information Paper 37 (2008), stresses that "there is an inherent tension between full coverage on the one hand, and administrative feasibility on the other."

A. The Basic Rules

The rules that are most relevant for present purposes are those providing "national treatment" of imports and "most-favored nation treatment" of imports and exports and those that define subsidies.

National treatment. The first sentence of GATT Article III.2 defines national treatment. It states in part:

> The products of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to *like domestic products*.[17]

Article II.2(a) elaborates:

> Nothing in this Article shall prevent any contracting party from imposing at any time on the importation of any product . . . a charge equivalent to an internal tax imposed consistently with the provisions of paragraph 2 of Article III in respect of the *like domestic product* or in respect of an article from which the imported product has been manufactured or produced in whole or in part.[18]

Most-favoured nation treatment. GATT Article I.1 requires most-favoured nation treatment of international trade. It states in part:

> With respect to customs duties and charges of any kind imposed on or in connection with importation or exportation . . . any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or

17. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194, http://www.wto.org/english/docs_e/legal_e/gatt47_ 01_e.htm [hereinafter GATT] (emphasis added).

18. *Id*. at Art. II.2(a) (emphasis added). Although most discussion of BAs for carbon prices has focused on the elaboration provided by GATT Article II.2(a), Article VI.4 on anti-dumping and countervailing duties is also relevant. It states:

> No product of the territory of any contracting party imported into the territory of any other contracting party shall be subject to anti-dumping or countervailing duty by reason of the exemption of such product from duties or taxes borne by the like product when destined for consumption in the country of origin or exportation, or by reason of the refund of such duties or taxes.

> 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.[19]

Subsidies. Footnote 1 to Article I of the ASCM defines the conditions under which export BAs will not be considered to be a subsidy:

> [T]he exemption of an exported product from duties or taxes borne by the *like product* when destined for domestic consumption, or the remission of such duties or taxes in amounts not in excess of those which have accrued, shall not be deemed to be a subsidy.[20]

B. The Article XX Exceptions

Even if a measure is found to be inconsistent with the basic GATT/ASCM rules, it may none the less be allowed under GATT Article XX, the most relevant part of which provides:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:
>
> . . .
>
> (b) necessary to protect human, animal or plant life or health;
>
> . . .
>
> (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.[21]

19. Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, 1869 U.N.T.S. 14, http://www.wto.org/english/docs_e/legal_e/24-scm_01_e.htm [hereinafter ASCM] (emphasis added).

20. *Id*. at Art. I, n.1 (emphasis added). This provision repeats the wording in the Note to Article XVI of the GATT.

21. GATT, *supra* note 17, at Art. XX.

C. Preliminary Observations

Before examining the GATT-legality of BAs under the basic rules and the possibility that they would qualify for an Article XX exception, it will be useful to make a few preliminary observations.

1. Why So Much Uncertainty?

The basic explanations for the uncertainty regarding the GATT-legality of BAs for carbon pricing can be found in the history of the trade rules that govern the legality of BTAs. The intent of the rules was to specify that BTAs are categorically impermissible for direct taxes such as income taxes and social security contributions, but are permitted for certain types of indirect taxes, to delineate the types of indirect taxes for which BTAs are allowed, and to limit BTAs to the domestic taxes on like products. These rules were formulated without consideration of their possible interaction with market-based measures intended to mitigate environmental damage, which at that time (mid-1940s) were not being considered seriously, at least not as seriously as now or in the recent past, when some such measures have actually been implemented. Demaret and Stewardson have written, "The existing rules on border tax adjustments have been developed primarily with the goals of competitiveness and absence of protectionism in mind. . . . They were not developed with environmental taxes in mind."[22] It is thus not surprising that market-based environmental measures, including BAs related thereto, do not easily fit into the cubby holes established by the international trade rules, that prospective interpretation of those rules as they apply to such measures may be subject to doubt, that there may be conflicts between those rules and environmental measures, and that imposition of BAs for carbon prices could be politically contentious.

The disconnect between the international trade rules and BAs for the cost of emissions permits is even greater than that between the trade rules and BTAs for carbon taxes, and not only because the rules governing BTAs were written explicitly to limit border adjustments for *taxes* and are not readily applied to BAs for the cost of permits.[23] Substantial quantities of permits may be awarded free-of-charge or acquired in secondary markets, rather than being sold by governments, and the need for permits can perhaps be reduced by sequestration of CO_2 or offset by the Clean Development Mechanism (CDM). The trade rules do not anticipate inframarginal

22. Demaret & Stewardson, *supra* note 15, at 61-62.

23. Some suggest that the rules governing application of domestic regulations to trade are more relevant than those governing BTAs for appraising the legality of BAs for the cost of emissions permits. *See infra* note 164. This article does not consider that possibility.

exemptions from indirect taxes (in this case, carbon taxes), which are analogous to free allocation of permits, much less anything analogous to purchases on the secondary market, sequestration, or CDM.

Adding at least marginally to uncertainty is the fact that, while WTO panels and the Appellate Body commonly take account of precedent, WTO law does not recognize the concept of stare decisis. The WTO website says:

> A dispute relates to a specific matter and takes place between two or more specific Members of the (WTO). The report of a panel or the Appellate Body also relates to that specific matter in the dispute between these Members. Even if adopted, the reports of panels and the Appellate Body are not binding precedents for other disputes between the same parties on other matters or different parties on the same matter, even though the same questions of WTO law might arise. As in other areas of international law, there is no rule of stare decisis in WTO dispute settlement according to which previous rulings bind panels and the Appellate Body in subsequent cases.[24]

It seems, however, that the severity of the limitation can be overstated. The WTO website continues:

> If the reasoning developed in the previous report in support of the interpretation given to a WTO rule is persuasive from the perspective of the panel or the Appellate Body in the subsequent case, it is very likely that the panel or the Appellate Body will repeat and follow it. This is also in line with a key objective of the dispute settlement system which is to enhance the security and predictability of the multilateral trading system. In the words of the Appellate Body, these GATT and WTO panel reports—and equally adopted Appellate Body reports1—"create legitimate expectations among WTO Members, and, therefore, should be taken into account where they are relevant to any dispute."[25]

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24. WTO, Dispute Settlement System Training Module: Chapter 7, Legal Effect of Panel and Appellate Body Reports and DSB Recommendations and Rulings, http://www.wto.org/english/english/tratop_e/dispu_e/disp_settlement_cbt_e/c7s2p1_e.htm. (last visited Feb. 25, 2011).

25. *Id*. The words quoted at the end of this paragraph are from Appellate Body Report, Japan - Taxes on Alcoholic Beverages, 14, WT/DS8. 10, 11/AB/R, 4 (*adopted* Nov. 1, 1996) [hereinafter *Japan – Alcoholic Beverages*].

2. The Separability of BTAs for Imports and Exports

On the key question of whether the rules for BTAs on imports and exports should – and would – be considered to constitute a package or be considered separately, views are mixed. Economists are accustomed to thinking about BTAs as forming a symmetrical system that treats imports like domestic products and frees exports of tax. Indeed, in 1970 the influential GATT Working Party on Border Tax Adjustments stated, "It was agreed that GATT provisions on tax adjustment applied the principle of destination identically to imports and exports."[26] Moreover, Article I of the GATT, which prescribes most favored nation (MFN) treatment, begins: "With respect to customs duties and charges of any kind imposed on or in connection with *importation or exportation* . . . and with respect to . . . any product *originating in or destined for any other country* . . . ."[27] The two sets of italicized words can perhaps be read to mean that the rules for imports and exports are the same.[28]

On the other hand, GATT Article III deals only with imports and the ASCM only with exports. de Cendra states:

> There are two anchor points for BTA in the GATT and WTO Agreements: GATT, Article II(2)(a) in conjunction with GATT Article III (national treatment on internal taxation and regulation), and GATT Article XVI (subsidies) in conjunction with the WTO SCM Agreement.
>
> In general, BTA on imported products in excess of taxes borne by like domestic products is in violation of the national treatment provisions in Article III of GATT. Exemption or rebate or taxes on exported products in excess of internal taxes borne by like products destined for

26. Working Party on BTAs, *supra* note 4, at ¶ 10. Avner draws the following inference from this statement: "This is useful as, if the legality of a BTA can be proven either on imports or on exports, then it can be extended to the opposite transaction." Avner, *supra* note 15, at 14. For reason indicated below, the validity of this conclusion is questionable.

27. GATT, *supra* note 17, at Art. I (emphasis added).

28. *See* also Demaret & Stewardson, *supra* note 15, at 31. The rules applied to a given trade flow by different trading partners need not be consistent. Of course, gaps and overlaps in taxation of trade flows can occur unless imports and exports are treated consistently by exporting and importing countries. Even so, Hoerner observes that the GATT secretariat found in 1994 that, under GATT rules, international trade can be subject to the origin principle, the destination principle, double taxation, or no taxation. Hoerner, *supra* note 15, at 6 n.9. Double taxation may, however, be relevant in consideration of an Article XX exception; *see* Section IV.

> domestic consumption are considered as an export subsidy subject to the disciplines of the SCM Agreement.[29]

Demaret and Stewardson write, "GATT contains different provisions, formulated differently, in respect of imports and exports, and no explicit statement as to whether those respective provisions should be implemented in symmetric fashion."[30] Thus, Hufbauer, Charnovitz, and Kim write, "Symmetry is not required: a government can choose to adjust its product taxes on imports but not exports, or vice versa."[31] By comparison, although acknowledging that "WTO/GATT rules treat import and export BTAs separately," Genasci suggests, "they generally apply the destination principle in a fairly symmetrical fashion."[32]

Pauwelyn is more uncertain, warning, "Whether GATT exceptions apply also to rules under the Subsidies Agreement remains an open question and has not yet been tested in WTO jurisprudence."[33] Finally, as discussed in Section IV, ambiguity extends beyond the basic rules, to the application of Article XX exceptions.

Much of the discussion of the legality of border adjustments for carbon prices in the literature follows two somewhat independent tracks, one for imports and one for exports – if it considers exports at all.[34] Moreover, as a practical matter, countries that are considering BAs, whether they have already introduced systems for pricing carbon or are considering doing so, have thus far concentrated on protecting domestic producers from imports, to the relative neglect of freeing exports from the cost of embedded carbon prices. Moreover, it is quite possible that, for reasons explained in Section IV, BAs for exports would not pass muster under Article XX, even if BAs for imports did.

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29. de Cendra, *supra* note 12, at 139. GATT Article VI.4, dealing with countervailing duties and dumping, is also relevant in the case of imports. *Supra* note 18.

30. Demaret & Stewardson, *supra* note 15, at 30. Treaties prevailing in the 1930s, or even earlier, made provisions for BTAs on imports, but not on exports. *See* Robert H. Floyd, GATT Provisions on Border Tax Adjustments, 7 J. World Trade L. 489, 492-93 (1973).

31. Hufbauer, Charnovitz & Kim, *supra* note 9, at 39. Holzer, *supra* note 15, at 53, observes, "Different rules apply to exports and imports."

32. Genasci, *supra* note 12, at 34.

33. Pauwelyn Testimony, *supra* note 15, at 9 n.19.

34. *See*, for example, Biermann & Brohm, Strategic Role, *supra* note 12; Biermann and Brohm, Possible Tool, *supra* note 12; Ismer & Neuhoff, *supra* note 1; WTO-UNEP, *supra* note 12, at 103-10; Ismer, *supra* note 14, at 220-23, Holzer, *supra* note 15; Gary Clyde Hufbauer & Jisun Kim, Climate Policy Options and the World Trade Organization, 3 Economics: The Open Access-Open Assessment E-Journal 2009-29 (2009), http://dx.doi.org/10.5018/economics-ejournal.ja.2009-29.

The prevailing practice of treating BAs for imports and for exports separately is generally followed here. But this begs the important question, encountered at various points below, whether rules established for import BAs are applicable to export BAs, and vice-versa.

3. The Nature of Carbon Taxes

The GATT-legality of BTAs generally depends on formal distinctions between taxes that economists might argue should be of little relevance, because formally different taxes may have similar economic effects. Three questions involving the nature of carbon taxes have sometimes diverted attention from the key issues in the analysis of the GATT-legality of such taxes: whether carbon taxes are direct or indirect taxes, whether they are "taxes occultes," and whether they are prior-stage cumulative indirect taxes (PSCI taxes). As explained here, the answers to all three questions are clear.

a. Carbon Taxes Are Indirect Taxes

BTAs are allowed for "indirect" taxes, but not for "direct" taxes.[35] The ASCM states this explicitly with regard to BTAs for exports. Annex I to the ASCM includes the following in its "Illustrative List of Export Subsidies:"

> e) The full or partial exemption remission, or deferral specifically related to exports, of *direct taxes*[58] or social welfare charges paid or payable by industrial or commercial enterprises.
>
> g) The exemption or remission, in respect of the production and distribution of exported products, of *indirect taxes*[58] *in excess of those levied in respect of the production and distribution of like products* when sold for domestic consumption.[36]

35. For a much more complete discussion, *see* Demaret & Stewardson, *supra* note 15, at 8-16.

36. ASCM, *supra* note 20, at Annex I (emphasis added) (internal citations irrelevant for present purposes suppressed) (internal footnote 58, which appears twice, numbered here as in the original). Also, as indicated *supra* note 20, footnote 1 of the ASCM picks up the following wording from the Note to Article XVI of the GATT:

> [T]he exemption of an exported product from duties or taxes borne by the like product when destined for domestic consumption, or

That is, while export BTAs for indirect taxes ("exemption or remission of . . . indirect taxes") are not allowed to the extent they exceed domestic taxes on like products, export BTAs for direct taxes are per se not allowed.[37]

Footnote 58 of ASCM Annex I, referenced in both excerpts quoted above, provides these definitions:

> The term "*direct taxes*" shall mean taxes on wages, profits, interests, rents, royalties, and all other forms of income, and taxes on the ownership of real property;
>
> . . . .
>
> The term "*indirect taxes*" shall mean sales, excise, turnover, value added, franchise, stamp, transfer, inventory and equipment taxes, border taxes and all taxes other than direct taxes and import charges . . . .[38]

The GATT does not similarly state unequivocally that BTAs on imports are not allowed for direct taxes.[39] Rather, this must be inferred from statements regarding the types of taxes for which BTAs *are* allowed. GATT Article II.2(a) says that import BTAs are allowed for:

> the remission of such duties or taxes in amounts not in excess of those which have accrued, shall not be deemed to be a subsidy.

As the discussion that follows will make clear, this statement implicitly refers only to indirect taxes.

37. Many commentators opine about the rationale – or lack thereof – for the different treatment of direct and indirect taxes, citing differences in the perceived incidence of the two types of taxes prevailing at the time the GATT was drafted. *See* Demaret and Stewardson, *supra* note 15, at 14-16, and literature cited there. Floyd asserts that the rules were based implicitly on the prevalent neoclassical incidence theory that indirect taxes are reflected in prices, but direct taxes are not, which, in turn, was based implicitly on partial equilibrium reasoning, the validity of which was not examined. Floyd, *supra* note 30, at 495. The Working Party on BTAs considered these issues, but with inconclusive results. Working Party on BTAs, *supra* note 4, at ¶¶ 8, 21, 22, 25. For present purposes, the rationale for this distinction is irrelevant. Besides, as Demaret and Stewardson argue, "there is no real prospect of the distinction being abandoned." Demaret and Stewardson, *supra* note 15, at 16.

38. ASCM, *supra* note 19, at Annex I n.58 (emphasis added).

39. Thus Pauwelyn observes, "The question remains, however, to what extent these definitions in the Agreement on Subsidies and Countervailing Measures on border adjustment for exports can be used also for purposes of interpreting GATT provisions on border adjustment for imports." Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 19 n.47.

> a charge equivalent to an internal tax imposed consistently with the provisions of paragraph 2 of Article III in respect of the *like domestic product* or in respect of an article from which the imported product has been manufactured or produced in whole or in part.[40]

Article III.2 states:

> The *products* of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to *like domestic products*.[41]

Since direct taxes are not levied on products, the repeated references to taxation of products in these excerpts – and the lack of any reference to direct taxes – implies that, as with exports, BTAs on imports are per se not allowed for direct taxes.[42] In what follows, as in most of the relevant literature, it will be assumed that carbon taxes are indirect taxes, and thus not per se nonadjustable.[43]

b. Carbon Taxes Are "Taxes Occultes"

Some seem to have interpreted the reference in GATT Article III.2 to taxes levied "directly or indirectly" on products as making a distinction between direct and indirect taxes. Most significantly, the Working Party on BTAs concluded:

> On the question of eligibility of taxes for tax adjustment under the present rules, the discussion took into account the term ". . . directly or indirectly . . ." (inter alia Article III:2). The Working Party concluded that there was convergence of views to the effect that *taxes directly levied*

40. GATT, *supra* note 17, at Art. II.2(a) (emphasis added).

41. *Id*. at Art. III.2 (emphasis added).

42. WTO-UNEP, *supra* note 12, at 103 ("Generally speaking, two types of internal taxes may be distinguished: taxes on products (called indirect taxes) and taxes on producers (i.e. direct taxes).").

43. Note, however, that Pauwelyn asks rhetorically, "[W]ould . . . [a] domestic carbon tax be regarded as an adjustable product tax that can be imposed also on imports of carbon produced abroad? Or would the WTO classify it [a carbon tax] as a producer (or direct) tax which cannot be adjusted at the border for imports?" Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 19. He then opines, "This is a long-standing debate and no definite answer can be given." *Id*.

> *on products were eligible for tax adjustment*. Examples of such taxes comprised specific excise duties, sales taxes and cascade taxes and the tax on value added. . . . Furthermore, the Working Party concluded that there was convergence of views to the effect that certain taxes that were not directly levied on products were not eligible for tax adjustment. Examples of such taxes comprised social security charges whether on employers or employees and payroll taxes.[44]

The WTO-UNEP inserts the words bracketed here in the following excerpt from the Working Party report:

> . . . there was convergence of views to the effect that certain taxes that were not directly levied on products [i.e., direct taxes] were not eligible for tax adjustment.[45]

Goh goes even further by inserting still more editorial explanation, again shown here in brackets:

> . . . there was convergence of views to the effect that certain taxes that were not directly levied on products [but on the producer, i.e., direct taxes] were not eligible for tax adjustment.[46]

It appears, however, that the Working Party and the commentators quoted above seriously misinterpret what "directly or indirectly" mean in the context of Articles II.2(a) and III.2.[47] These provisions explicitly deal only with the conditions under which BTAs are allowed for taxes on products, that is, only with BTAs for indirect taxes; they do not address whether BTAs are allowed for taxes not levied on products, i.e., direct taxes.[48]

If one focuses on the clear meaning of the words in GATT Articles II.2(a) and III.2, it is apparent that there is a third category of taxes, those that Hufbauer, Charnovitz, and Kim call "taxes in between" – taxes that are not direct taxes, yet are "not directly levied on products" – that is, indirect

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44. Working Party on BTAs, *supra* note 4, at ¶ 14 (emphasis added).

45. WTO-UNEP, *supra* note 12, at n.207.

46. Goh, *supra* note 12, at 402.

47. This is hard to understand, given the Working Party's clear recognition of the existence of "*taxes occultes*," discussed below.

48. In Article III, "directly" and "indirectly" are adverbs describing how indirect taxes are levied on products; they are not adjectives used to describe taxes, as in "direct taxes" and "indirect taxes."

taxes that are borne only indirectly by products.[49] This last category can – and should – be subdivided. First, there are indirect taxes applied to products "indirectly," in that they are levied on physically incorporated inputs, rather than on the product itself. The reference in Article II.2(a) to "an internal tax imposed . . . in respect of an article from which the imported product has been manufactured or produced" seems to say that these are adjustable. Second, there are indirect taxes that, although also borne indirectly by products, may not be adjustable, because they are not imposed on an article that is physically incorporated. The second subcategory is what the Working Party discusses under the rubric of "*taxes occultes*," which it defined in the following statement:

> The Working Party noted that there was a divergence of views with regard to the eligibility for adjustment of certain categories of tax and that these could be sub-divided into
>
> > (a) "Taxes occultes" which the OECD defined as consumption taxes on capital equipment, auxiliary materials and services used in the transportation and production of other taxable goods. Taxes on advertising, *energy*, machinery and transport were among the more important taxes which might be involved. It appeared that adjustment was not normally made for taxes occultes except in countries having a cascade tax;
> >
> > (b) Certain other taxes, such as property taxes, stamp duties and registration duties . . . which are not generally considered eligible for tax adjustment. Most countries do not make adjustments for such taxes . . . .[50]

Given the concern that BTAs might overcompensate for these taxes, in effect creating import tariffs and export subsidies, the Working Party on BTAs wrestled with how to treat them. In a statement at the end of paragraph 15 that casts a long shadow on the current debate over the GATT-legality of BAs for carbon prices, the Working Party said

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49. Hufbauer, Charnovitz & Kim, *supra* note 9, at 40. Much of the literature follows this approach, at least implicitly; *see*, for example, Hoerner & Muller, *supra* note 15, at 31.

50. Working Party on BTAs, *supra* note 4, at ¶ 15 (emphasis added).

> It was generally felt that while this area of taxation was unclear, its importance - as indicated by the scarcity of complaints reported in connexion with adjustment of taxes occultes - was not such as to justify further examination.

Of course, the Working Party could not have anticipated the current interest in the adjustability of carbon taxes (and the cost of emissions permits).

There seems to be general agreement that carbon taxes fit best in the category of "taxes occultes."[51] As will become clear in the next Section, the treatment of *taxes occultes* lies at the heart of the current debate over the adjustability of carbon taxes and the cost of emissions permits. A carbon tax levied on fossil fuels combusted to generate electricity (or the cost of emissions permits related to such combustion) is the most important example of such a tax, but hardly the only one.

In summary, direct taxes are per se not adjustable, and indirect taxes levied directly on products or on inputs physically incorporated in imports are adjustable. The key question for present purposes is whether Article III:2 contemplates the allowance of BTAs for taxes on production inputs that are not physically incorporated.[52] Cosbey and Tarasofsky warn that one should not be

> too certain on an issue where certainty is impossible. In the end, while the GATT allows BTAs to adjust for direct (sic) taxes in the case of both imports and exports, it is unclear and has never been tested whether such adjustment is permissible for indirect taxes ('*taxes occultes*') on an input

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51. Hoerner & Muller state categorically, "Carbon and energy taxes are *taxes occultes*." Hoerner and Muller, *supra* note 15, at 31. *See also*, for example, de Cendra, *supra* note 12, at 139-40, and Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 19. While some other authors listed in note 15, *supra*, or cited elsewhere in this article do not make such clear declarations, they generally treat taxes on energy as taxes occultes. By comparison, in harshly condemning the decision of the WTO Appellate Body in the *Shrimp-Turtle* case (also known as *United States - Shrimp*, discussed in the text *infra* at note 123), Bhagwati and Mavroidis quote paragraph 14 of the Working Party report, but not paragraph 15, and thus do not consider the possibility that energy taxes are *taxes occultes*; *see* Jagdish Bhagwati & Petros Mavroidis, Is Action Against U.S. Exports for Failure to Sign Kyoto Protocol WTO-Legal?, 6 World Trade Rev. 299, 305 (2007).

52. Goh, *supra* note 12, at 422 ("A critical issue is whether Article III:2 first sentence of GATT 1994 contemplates the use of border tax adjustments on 'final' products for taxes on production inputs. Notwithstanding the GATT Panel's approach in the *Superfund* case, the question will turn on a proper analysis of the taxes 'applied, directly or indirectly, to' the like products to be compared . . . ."). The *Superfund* case is considered *infra* at note 71.

> that is fully consumed during production. A carbon tax, based on the energy consumed in the production of a product, falls squarely into the latter category.[53]

The next Section addresses this question.

c. Carbon Taxes Are Not Prior-Stage Cumulative Indirect Taxes (PSCI Taxes).

Annex I, paragraph (h) of the ASCM provides:

> [*P*]*rior-stage cumulative indirect taxes* may be exempted, remitted or deferred on exported products even when not exempted, remitted or deferred on like products when sold for domestic consumption, if the prior-stage cumulative indirect taxes are levied *on inputs that are consumed in the production of the exported product*. [footnote suppressed] This item shall be interpreted in accordance with the guidelines on consumption of inputs in the production process contained in Annex II.[54]

Section I of ASCM Annex II, "Guidelines on Consumption of Inputs in the Production Process," states:

> Indirect tax rebate schemes can allow for exemption, remission or deferral of *prior-stage cumulative indirect taxes levied on inputs that are consumed in the production of the exported product* . . . .[55]

Footnote 61, attached to the title of Annex II, contains the following definition:

> Inputs consumed in the production process are *inputs physically incorporated, energy, fuels and oil used in the production process and catalysts which are consumed* in the course of their use to obtain the exported product.[56]

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53. Cosbey & Tarasofsky, *supra* note 12, at 20.
54. ASCM, *supra* note 19, at Annex I, ¶ (h) (emphasis added).
55. *Id*. at Annex II, § I, ¶ 1 (emphasis added).
56. *Id*. at Annex II, n.61 (emphasis added).

Some seem to believe that these provisions would justify BTAs for at least some carbon taxes.[57] It appears, however, that this belief is unjustified – that the provisions cannot reasonably be interpreted to allow BTAs for carbon taxes.[58] Section I of Annex II explicitly refers only to prior-stage cumulative indirect taxes. Carbon taxes would not ordinarily be considered to be "cumulative indirect taxes." Footnote 58 of ASCM Annex I provides the following definitions:

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57. After reviewing ASCM Annex I and footnote 61 to Annex II, Ismer and Neuhoff state, "Consequently, it appears that *tax* exemptions and remissions for energy and fuel on exported products would be admissible under WTO rules." Ismer & Neuhoff, *supra* note 1, at 144. Ismer, *supra* note 14, at 73 repeats this conclusion. After a similar review, Biermann and Brohm say, "In other words: If a government exempts a prior-stage cumulative indirect tax on energy, fuels or oil used in the production process only on exported goods and not on goods sold for domestic consumption, then this will not be considered an export subsidy." *See* Biermann & Brohm, Strategic Role, *supra* note 12, at 296; Biermann and Brohm, Possible Tool, *supra* note 12, at 253. Thus conditioned, this conclusion is presumably valid. But it is also irrelevant, as carbon taxes are not PSCI taxes. Pitschas, after both saying explicitly that energy taxes are not PSCI taxes and implying that they are, opines that taxes on energy are eligible for adjustment on exports. Pitschas, *supra* note 11, at 493-95. On the other hand, arguing that energy and carbon taxes are not PSCI taxes, Brack et al., conclude that BTAs would not be allowed for such taxes, since they are imposed on inputs not physically incorporated in products; *see* Duncan Brack, Michael Grubb & Craig Windram, International Trade and Climate Change Policies 87 (2000). They add, however, "[T]his is not a definite conclusion, and it would have to be tested by a dispute panel before one could be certain."

It is not clear where Demaret and Stewardson stand on this issue. They say: "Thus paragraph (h) [of ASCM Annex I] would *not* allow countries with cumulative indirect tax systems to adjust for multi-stage taxes on 'energy, fuels and oils used in the production process' on the export of the resulting final product." Demaret and Stewardson, *supra* note 15, at 29 (emphasis added). It is difficult to reconcile that statement with either the ASCM paragraph cited or their later statement that "only prior-stage taxes levied on inputs physically incorporated in the final product or on fuel, oil, or energy used in production, are eligible for adjustment." *Id*. at 31-32. Their statement that "a country is allowed to remit taxes on exports in respect of prior-stage cumulative indirect taxes" and the subsequent quotation of footnote 61 to ASCM Annex II suggests that the inclusion of "not" in the first passage quoted may have been unintentional. *Id*. at 29, n.102.

58. Paragraph (g) of Annex I mentions only BTAs for exports. It is not clear whether it would govern the GATT legality of BTAs for imports, if carbon taxes were found to be PSCI taxes. Thus Hufbauer and Kim write, "Annexes I and II of the ASCM may be read so as to permit the rebate of prior stage energy taxes on exports, but whether that would correspondingly allow imposition of domestic energy taxes on imports remains unclear." Hufbauer and Kim, *supra* note 34, at 6. Note, however, that these authors, writing with Charnovitz, reject the notion that carbon taxes are PSCI taxes, *see infra* note 60.

> "Prior-stage" indirect taxes are those levied on goods or services used directly or indirectly in making the product;
>
> "Cumulative" indirect taxes are multi-staged taxes levied where there is no mechanism for subsequent crediting of the tax if the goods or services subject to tax at one stage of production are used in a succeeding stage of production . . . .[59]

These definitions are words of art that were developed in a particular historical context to distinguish between the taxes on gross receipts (often called "cascade" or "turnover" taxes) that were once popular and the VATs that replaced them.[60] They do not describe carbon taxes, and, given the historical context in which they were written, could not have been intended to do so.[61] Since carbon taxes are not PSCI taxes, footnote 61 is of no

59. ASCM, *supra* note 19, at Annex n.58.

60. OECD, *supra* note 12, at 99 ("The archetypal PSCI tax is a cascade tax."). *See also* Hoerner and Muller, *supra* note 15, at 34-37; Brack et al., *supra* note 57, at 85-87; de Cendra, *supra* note 12, at 139-41; Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 20, n.52; Genasci, *supra* note 12, at 36; Avner, *supra* note 15, at 27. Footnote 60 to Annex I of the ASCM states explicitly that the VAT is handled by paragraph (g) and not by paragraph (h). Hufbauer, Charnovitz, and Kim seem to suggest that ASCM footnote 61 implies that BTAs might be allowed for energy taxes, as PSCI taxes, before stating: "Of course, by its own terms, item (h) applies only to 'prior-stage cumulative indirect taxes.' The carbon taxes being proposed are not designed to be cumulative . . . ." Hufbauer, Charnovitz & Kim, *supra* note 9, at 44-45. Cumulative taxation would occur if carbon taxed at one stage in the production-distribution process were also taxed at a later stage, without relief for the tax levied earlier. *See* Hoerner and Muller, *supra* note 15, at 36. Some recent literature to a "carbon-added tax" (CAT) suggests clearly that such a design is generally not intended. For references to this literature and an explanation of why the CAT does not deserve serious attention – not because carbon taxes should be cumulative, but because the administrative techniques of the value added tax cannot be applied to the CAT. *See* Charles E. McLure, Jr., The Carbon-Added Tax: An Idea Whose Time Should Never Come, 4 Carbon & Climate L. Rev. 250 (2010).

61. Demaret and Stewardson refer to an apparently undocumented "gentleman's agreement" made during the Uruguay Round negotiations regarding the purpose of ASCM footnote 61. Demaret & Stewardson, *supra* note 15, at 30. They note that an official of the Office of the U.S. Trade Representative has written regarding the footnote, "the change . . . was never intended to fundamentally expand the rights of countries to apply border adjustments for a broad range of taxes on energy." It seems to be generally agreed that this argument, even if documented, would carry little weight in a dispute before the WTO. *See* Biermann & Brohm, "Strategic Role," *supra* note 12, at 297, and Hufbauer, Charnovitz & Kim, *supra* note 9, at 46.

relevance in determining whether border adjustments would be allowed for carbon taxes.[62]

Unfortunately, deciding that the rules on PSCI taxes are not relevant for the present discussion does not shed much light on whether taxes on carbon and energy are eligible for border adjustments. de Cendra has noted, "the SCM Agreement does not explicitly prohibit BTAs for energy taxes in non-cumulative tax systems and, further, it does not provide any guidance on the issue."[63] Hufbauer, Charnovitz, and Kim reach an equally agnostic conclusion:

> [O]ne could argue that the ASCM has clarified that status of energy taxes – as compared to the GATT era, when they were mysterious "taxes occultes" – and that energy taxes can now be rebated upon export. Conversely, one could also argue that the possibility for such an export rebate remains uncertain in the ASCM or that the ASCM actually prohibits energy BTAs on exports.[64]

III. PARSING THE BASIC RULES

The basic international trade rules can usefully be subdivided into (1) those pertaining to national treatment of imports and to export subsidies and (2) that pertaining to the treatment of trade with different countries, the most-favored nation provision. The former prohibit discriminatory treatment of products in bilateral trade, the latter prohibits discriminatory treatment of trade with different countries.

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62. de Cendra, *supra* note 12, at 140 ("What becomes clear from the reading of footnote 61 is that its wording does not imply that other taxes occultes are prior stage cumulative indirect taxes.") (emphasis in original suppressed). Given this, the discussion of the implication of the Vienna Convention on the Law of Treaties in Biermann and Brohm, Strategic Role, *supra* note 12, at 296-98, seems beside the point.

Even if BTAs were to be allowed for carbon taxes, under the Annex II "Guidelines," they would be limited to "taxes levied on inputs that are consumed in the production of the exported product." Presumably, they would not be allowed for taxes on carbon consumed in transportation of either the exported product or inputs thereto, and perhaps they would not be allowed for taxes on carbon consumed in prior stages of production.

63. de Cendra, *supra* note 12, at 140.

64. Hufbauer, Charnovitz & Kim, *supra* note 9, at 46.

A. National Treatment and Export Subsidies

The concept of "like products" plays a key role in both GATT Article III.2, which defines national treatment, and footnote 1 to Article I of the ASCM, which defines export subsidies. BTAs are allowed only for taxes on like products. This raises two closely interrelated questions: whether carbon taxes are levied on products and whether differences in carbon intensity make products unlike, a prerequisite for basing BTAs on the carbon content of traded products.

1. Are Carbon Taxes Levied on Products?

Under GATT Article III.2 and II.2(a), BTAs are allowed only for taxes that are levied "directly or indirectly" on products, including those "in respect of an article from which the imported product has been manufactured or produced in whole or in part." Carbon taxes are clearly not levied "directly" on products. The question, then, is whether they are levied either "indirectly" on a product or on "an article" from which the product in question has been produced. Before turning to the first issue, it will be useful to dispose of the second.

The predominant view seems to be that carbon taxes are not levied "in respect of an article from which the imported product has been manufactured or produced." Many of those who hold this view cite the wording of the equally authentic French version: "une marchandise qui *a été incorporée* dans l'article importé."[65] Of course, carbon that is emitted as CO_2 is not incorporated in products.

a. Taxes on Process and Production Methods

In the modern debate, carbon taxes are said to be based on "process and production methods" (PPMs). The key issue is thus whether BTAs are allowed for taxes based on PPMs. The reference in GATT Article III.2 and

65. *See, e.g.*, Biermann & Brohm, "Strategic Role," *supra* note 12, at 293; Biermann & Brohm, "Possible Tool," *supra* note 12, at 252; de Cendra, *supra* note 12, at 138; Ismer & Neuhoff, *supra* note 1, at 146 n.2. This wording seems to require that the input be physically incorporated. In that case, as Biermann and Brohm say, this provision is not likely to be interpreted to include fuel or energy. Pauwelyn agrees with this interpretation, although he believes that the word "article" in the English version might be interpreted to include fuel. Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 20 n.51. Although not relying on the French, Pitschas concludes, based on his reading of GATT Article II.2(a), that "since energy taxes are taxes on inputs not physically incorporated into products, they cannot be imposed on imported products." Pitschas, *supra* note 11, at 493. For a contrary view, see the quotation from Hoerner and Muller in the text *infra* at note 70.

footnote 1 to Article I of the ASCM to taxes on products would seem to imply that taxes based on PPMs are not adjustable.[66] An oft-quoted statement from a 2004 publication by the WTO secretariat, a slightly different version of which appeared on the WTO Website until recently, seems to confirm this view. It states:

> Under existing GATT rules and jurisprudence, "product" taxes and charges can be adjusted at the border, but "process" taxes and charges by and large cannot. For example, . . . tax on the energy consumed in producing a ton of steel cannot be applied to imported steel.
>
> For example, a domestic tax on fuel can be applied perfectly legitimately to imported fuel. But a tax on the energy consumed in producing a ton of steel (a tax on the production process) cannot be applied to imported steel, even if it is charged on domestically produced steel, which could make the imported steel cheaper (and presumably less environmentally friendly).[67]

By comparison, Joost Pauwelyn, formerly a Legal Affairs Officer with the Appellate Body Secretariat of the WTO, finds it "surprising" that the similar statement appeared on the WTO website until December 2006,[68] and states that "a carbon tax is an indirect tax applied at least 'indirectly' to products" and that border adjustments should therefore be allowed for

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66. For a thorough analysis of the GATT-legality of trade measures under both the basic trade rules and GATT Article XX, *see* Steve Charnovitz, The Law of Environmental "PPMs" in the WTO: Debunking the Myth of Illegality, 27 Yale J. Int'l L. 59 (2002). He concludes that, "Article XX will be central to analysis of PPMs because . . . many PPMs will violate Articles I, III, or XI." *Id*. at 92.

67. World Trade Organization, Trade and Environment at the WTO 21 (2004), http://www.wto.org/english/res_e/publications_e/trade_env_e.htm. The slightly different online statement appeared under the rubric of "CTE On: How Environmental Taxes and Other Requirements Fit In." It was available on the WTO website on Jul. 13, 2009, http://internet.corpei.ed/carpetas/cicOMC/WTOCD/WTO%20Website/SnapshotOfWTOWebsiteInEnglish/english/tratop_e/envir_e/cte03_e.htm. Since Sept. 4, 2009, the author has been unable to access this page.

Of course, the WTO recognizes concerns that this interpretation raises concerns regarding competitiveness. The statement quoted in the text continues:

> For this reason, there is some concern that the WTO rules could affect the competitiveness of domestic producers when they face environmental process taxes and charges.

68. Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 19 n.46.

embedded carbon taxes.[69] In support of this conclusion, Hoerner and Muller contend:

> It was the intent of the GATT negotiators that process as well as product charges be border adjustable. Records of the discussions held in drafting the Havana Charter for an International Trade Organization, which served as a basis for the GATT, establishes that all taxes on inputs to a product, whether of physically incorporated raw materials or process inputs or outputs not physically incorporated, were intended to be adjustable. The original draft of Article III:2 referred to taxes or internal charges "applied on or in connection with like products." This draft was rejected only because of difficulties in translating it into French.[70]

The decision of the GATT Panel in the *Superfund* case, which condoned U.S. legislation imposing BTAs on imports of a gas deemed to harm the environment, is commonly said to provide reason to believe that BTAs might be allowed for taxes based on PPMs, as is the fact that a U.S. tax on ozone-depleting chemicals was never challenged.

b. The Superfund Tax

In 1986 the U.S. imposed the Superfund tax on selected domestic chemical feedstocks in order to finance the cleanup of chemical waste.[71] The tax did not apply to chemicals produced domestically from the taxed feedstock chemicals. By comparison, chemicals produced from the same feedstocks were taxed upon importation into the U.S.[72] The statute provided

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69. *Id*. at 20.

70. Hoerner & Muller, *supra* note 15, at 27. They quote the U.S. representative at the subsequent London Preparatory Committee for the Havana Charter as explaining that the term "indirectly" was intended to allow border adjustments for "a tax, not a tax on a product as such, but on the processing of a product."

71. Panel Report, United States - Taxes on Petroleum and Certain Imported Substances, BISD 34s/136 (Jun. 5, 1987) [hereinafter *U.S. – Superfund Tax*]. Paragraphs 2.3 to 2.6 describe the tax. OECD, *supra* note 12, at 100-02, provides an excellent summary of this case. *See also* Demaret and Stewardson, *supra* note 15, at 24-26; Biermann & Brohm, Strategic Role, *supra* note 12, at 294; Goh, *supra* note 12, at 406. The Superfund tax also applied to crude oil and petroleum products, but that is not important for present purposes.

72. The tax was rebated when the chemical feedstocks were exported. The panel did not address the GATT-legality of the BTAs for exports, which had not been challenged.

that the U.S. government could impose a five percent penalty tax if foreign manufacturers failed to provide information on the amount of feedstock chemicals used in producing imported chemicals. More important for present purposes, it authorized the Secretary of the Treasury to issue regulations that, in lieu of the penalty tax, would allow foreign exporters to pay a rate of tax equal to that on domestically produced chemicals produced using the primary method of production (PMP) utilized in the United States. The panel addressed three questions: (1) whether the GATT-legality of BTAs depends on the policy purpose of a tax, (2) whether the tax on imported chemicals intended to compensate for the U.S. tax on domestic feedstocks violated GATT Article III.2 (national treatment), and (3) whether the penalty tax was GATT-legal.

The European Union argued, in essence, that the destination-based Superfund tax was inconsistent with the polluter-pays principle, which it said would have required an origin-based tax. The U.S. countered first that the polluter-pays principle was not part of the GATT, and second, that, in any event, the tax was intended to raise revenue, not to alter behavior, the purpose of environmental taxes levied consistent with the polluter-pays principle. The GATT panel sided with the U.S. in concluding that the tax on imported chemicals was potentially eligible for adjustment, because the policy purpose behind a tax is not relevant for the legality of BTAs under the GATT.[73]

Having disposed of this argument, the panel found that the tax on imported chemicals did not violate national treatment.[74] It is not clear how the panel reached its decision. Its analysis is limited to the following:

> The tax on certain imported substances equals in principle the amount of the tax which would have been imposed under the Superfund Act on the chemicals used as materials in the manufacture or production of the imported substance if these chemicals had been sold in the United States for use in the manufacture or production of the imported substance. In the words which the drafters of the General Agreement used in the above perfume-alcohol example: The tax is imposed on the imported substances because they are produced from chemicals subject to an excise tax in the United States and the tax rate is determined in principle in relation to the amount of these chemicals used and not in relation to the value of the imported substance. The Panel therefore concluded that, to the extent that the tax on certain imported substances was equivalent to the tax

73. *U.S. – Superfund Tax*, *supra* note 71, ¶ 5.2.4.
74. *Id*. at ¶ 5.2.8.

> borne by like domestic substances as a result of the tax on certain chemicals the tax met the national treatment requirement of Article III:2, first sentence.[75]

The panel apparently did not consider whether the feedstocks that were taxed in the U.S. and the chemicals that were imported were "like products," presumably because the parties had not raised the issue, perhaps because they took it for granted that chemical feedstocks are physically incorporated in the derivatives.[76] The panel did not indicate explicitly whether the foreign feedstock chemicals were physically incorporated in the exported chemicals – or whether it thought that the answer mattered. It is thus impossible to know whether or not the panel applied a physical incorporation test or some other.[77] On the other hand, its statement that, "This form of border tax adjustment was explicitly foreseen in Article II:2(a), which refers to taxes "'in respect of an article from which the imported product has been manufactured or produced,'"[78] suggests that it did, if only implicitly. This question is, of course, crucial to determining the adjustability of carbon taxes, since CO_2 is not physically incorporated in products. Thus, Pitschas opines, "the ruling of the GATT panel in the Superfund Case is not exactly transferable to energy taxes."[79]

Even though the regulations allowing foreign producers to pay tax based on the PMP in the U.S. had never been issued, the panel took note of the assurance of the U.S. government that "in all probability the five percent penalty rate would never be applied."[80] Of course, foreign manufacturers retained the right to pay a lower amount than calculated under PMP in the U.S. if they could document that they had actually used less feedstocks than under PMP. This is potentially important in the present context, as it suggests that carbon content under PMP in the importing country could be employed to determine BTAs on imports, with the option of demonstrating lower carbon content. This would, of course, not result in BTAs based on the actual carbon content of imports, if the actual carbon content of imports exceeds that under PMPs in the importing country.

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75. *Id*.

76. In its discussion of the tax on petroleum products, the panel noted that the parties to the case had not developed a definition of the term "like products." It made reference to paragraph 18 of the Working Party on BTAs, discussed further *infra* at note 90, and observed that "the domestic [petroleum] products are thus either identical or, in the case of imported liquid hydrocarbon products, serve substantially identical end-uses." *See id*. at ¶ 5.1.1.

77. *See also* Demaret and Stewardson, *supra* note 15, at 26; Hoerner & Muller, *supra* note 15, at 39.

78. *U.S. – Superfund Tax*, *supra* note 71, at ¶ 3.2.5.

79. Pitschas, *supra* note 11, at 492.

80. *U.S. – Superfund Tax*, *supra* note 71, at ¶ 5.2.9.

c. The Ozone Depleting Chemicals Tax

The tax on ozone depleting chemicals (ODCs) levied by the U.S. in furtherance of the Montreal Protocol on Substances that Deplete the Ozone Layer would have provided a more definitive test, had it been challenged and considered by the WTO.[81] Significantly for present purposes, BTAs were levied on imported products produced with ODCs (*e.g.*, electronic equipment), as well as directly on imports of the offending chemicals and products containing ODCs (e.g., refrigerators).[82] That is, the BTAs applied to chemicals that were not physically incorporated in imports and were thus at least in part process-based. That BTAs for the ODC were never challenged before the WTO is sometimes interpreted as suggesting that BTAs might be allowed for a tax based on PPMs.[83] But the fact that the ODC legislation was not challenged does not reliably reveal whether a challenge would have been successful.[84]

2. Are BTAs Based on Carbon Intensity Levied on "Like Products?"

Border tax adjustments for carbon taxes that are intended to level the playing field between domestic products and imports would ideally reflect the carbon-intensity of imports.[85] This means, of course, that if an import

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81. For a description of the ODC tax, *see* Gregory A. Orlando, Understanding the Excise Tax on Ozone Depleting Chemicals, 42 The Tax Executive 359 (1990). Hoerner, *supra* note 15, at 11-12, and Brack et al., *supra* note 57, at 78-79, provide brief summaries of this episode.

82. BTAs were imposed on imports and allowed for exports. The border adjustment for imports is based on PMP in the U.S., unless the importer can document that the actual amount of ODCs employed in production is less.

83. *See*, *e.g.*, Hoerner, *supra* note 15, at 11-12; Biermann & Brohm, Strategic Role, *supra* note 12, at 294.

84. While Sherlock Holmes drew conclusions based on the "dog that did not bark" in Arthur Conan Doyle's "Silver Blaze," inferring the results of hypothetical judicial views of laws not challenged is a questionable exercise.

85. Implementing this objective could encounter staggering difficulties if extended beyond a few basic products. *See* McLure, *supra* note 1, and *supra* note 16, for illustrations of the problem. The treatment of carbon taxes embedded in the prices of electricity is particularly important. Wooders, Reinaud, and Cosbey provide an excellent description of "drivers of carbon content" for cement, steel, and aluminum, which generally include the process employed (*e.g.*, electric arc vs. blast furnace for producing steel) and its management, energy efficiency, the mix of fuels (*e.g.*, coal, oil, gas, electricity), source of electricity, extent of reliance on recycled products, and the use of blends. Wooders, Reinaud & Cosbey, *supra* note 1, at 46-50. They note that "the ranges of emissions from steel and aluminum production are extremely wide, with the key factor being whether the route is a primary one (starting with the metal ore) or whether scrap material can be used." *Id*. at 48. On the

were more energy-intensive than its domestic counterpart, the BTA on imports would be greater, as a fraction of the price of the product, than the carbon tax embedded in the price of the domestic product. The question, then, is whether this type of differentiation in the taxation of *products*, which is necessary to achieve equal taxation of embedded *carbon*, would be GATT-legal? That depends on whether differences in carbon intensity make physically identical products unlike. If not, import BTAs would be limited to the carbon content of domestic products. Bordoff succinctly describes the relevance of this question:

> The principle behind Article III is straightforward: a Member cannot treat imported goods worse than domestic goods. In the case of climate change border adjustments, however, this seemingly straightforward principle proves exceptionally difficult to put into effect because the same goods from a global trade standpoint may be very different from a climate change standpoint if one is much more carbon-intensive than the other.[86]

The predominant opinion is that products that are physically identical would be found to be "like," regardless of the amount of carbon embedded in them. Gary Sampson, former head of the Trade and Environment Division of the WTO, states that, "products that have the same physical form are to be considered to be like products by the importing

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crucial issue of the source of electricity, which may differ from country to country, *see* the text *infra* at note 111.

86. Bordoff, *supra* note 15, at 43. *See* also Aaron Cosbey, Border Carbon Adjustment, 4, Background Paper prepared for the Trade and Climate Change Seminar, Copenhagen (Jun. 18-20, 2008), http://www.iisd.org/pdf/2008/cph_trade_climate_border_carbon.pdf. Similarly, Pauwelyn says, "the issue is primarily whether, for example, steel from China made with coal . . . is 'like' domestically produced U.S. steel using natural gas." Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 28. Kejun, Cosbey, and Murphy write:

> With respect to discrimination on the basis of embodied carbon, the million-dollar question is how to define "like" goods. Is a tonne of inefficiently produced steel "like" a tonne of efficiently produced steel? If so, then tariffs based on embodied carbon may violate the principle of non-discrimination.

See Jiang Kejun, Aaron Cosbey & Deborah Murphy, Embodied Carbon in Traded Goods, 5, Background Paper prepared for Trade and Climate Change Seminar, Copenhagen (Jun. 18-20, 2008),http://ictsd.net/downloads/2008/ictsd.net/downloads/2008/10/cph_trade_climate_carbon.pdf.

country, irrespective of whether they have been produced abroad in an environmentally friendly manner or not."[87] Similarly, Goh opines:

> Differences in the amount of energy consumed in the production process– or in the taxes on energy inputs borne by producers – relate to processes and production methods (PPMs) that do not normally translate to the physical properties, characteristics or end uses of the final product. It would be difficult to envisage a situation where goods that were otherwise "like" in physical properties, characteristics and end uses ceased to be so because of differences in "embodied" energy or in the amount of taxes applied to energy used in the production process.[88]

The GATT does not define "like" or indicate what characteristics of products make them "like."[89] That task has, in effect, been left to WTO jurisprudence, which has relied heavily on paragraph 18 of the report of the 1970 Working Party on BTAs.[90] Paragraph 18 states:

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87. Gary P. Sampson, WTO Rules and Climate Change: The Need for Policy Coherence, in Inter-linkages: The Kyoto Protocol and the International Trade and Investment Regimes 69 (W. Bradnee Chambers, ed., 2001).

88. Goh, *supra* note 12, at 407. Chambers says, "[W]hether the production process . . . entails a GHG-emitting fossil-intensive method such as the burning of coal, or something as clean as wind or solar energy, is irrelevant to a WTO decision." *See* W. Bradnee Chambers, International Trade Law and the Kyoto Protocol: Potential Incompatibilities, in Inter-linkages: The Kyoto Protocol and the International Trade and Investment Regimes, *supra* note 87, at 91. Brack et al. agree but, consistent with the theme of this article, urge caution in accepting that view. Brack et al., *supra* note 57, at 89. By comparison, Hoerner & Muller, *supra* note 15, at 27-28, reach the opposite conclusion, and Hufbauer, Charnovitz & Kim, *supra* note 9, at 68, state: "Although there is no precise trade law jurisprudence on this point, the language of GATT Article II:2(a) would seem to suggest that a BTA equivalent to the domestic tax could be imposed on imports."

89. In Appellate Body Report, European Communities – Measures Affecting Asbestos and Asbestos-Containing Products, at ¶ 99, WT/DS135/AB/R (Mar. 12, 2001) [hereinafter *EC – Asbestos*], the Appellate Body noted that the scope of the term "like" is different in GATT Articles III.2 and III.4. It is to be construed narrowly in the former, but relatively broadly in the latter. In that case it ruled that under Article III.4 health risks could be considered in determining likeness. *See also* Hufbauer, Charnovitz & Kim, *supra* note 9, at 35-36.

90. Working Party on BTAs, *supra* note 4. In Japan – Alcoholic Beverages, *supra* note 25, at 20, the WTO Appellate Body noted that the Working Party's approach has been followed in almost all reports of WTO panels subsequent to the Working Party report.

> 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 in the past, both in GATT and in other bodies, but that no further improvement of the term had been achieved. The Working Party concluded that problems arising from the interpretation of the term should be examined on a case-by-case basis. . . . Some criteria were suggested for determining, on a case-by-case basis, whether a product is "similar": the product's end-uses in a given market; consumers' tastes and habits, which change from country to country; the product's properties, nature and quality. It was observed, however, that the term ". . . like or similar products . . ." caused some uncertainty and that it would be desirable to improve on it; however, no improved term was arrived at.

End-uses, tariff classifications (a criterion the Appellate Body added in *Japan – Alcoholic Beverages*[91]), and the properties, nature, and quality of physically identical products are not likely to depend on the carbon intensity of production, and consumer tastes and habits are likely to be largely irrelevant for the kinds of basic products for which BTAs are most important – and to which they should be limited.[92] Moreover, the WTO Appellate

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The conclusions of the Working Party have assumed an authoritative standing approaching that of a commentary on a treaty. Indeed, Van Calster suggests that the findings of the Working Party "have been elevated into something of a paradigm in international trade law." Van Calster, *supra* note 10, at 116. Bhagwati and Mavroidis state, "[T]he Working Party on Border Tax Adjustments is a decision that has been adopted by the GATT Contracting Parties. As a result, it should, by virtue of Art. XVI of the Agreement establishing the WTO, guide the WTO judge." Bhagwati & Mavroidis, *supra* note 51, at 305. But, as de Cendra observes, "[T]he findings of the Working Party have to be put in the context of the group's mandate. The core of the examination was the parties' practice with respect to BTA. The Working Party did not state clearly that the report was the ultimate report on BTA and its compatibility with GATT." de Cendra, *supra* note 12, at 139 (drawing on Van Calster, *supra*, at 420). Indeed, nothing in the report suggests that the Working Party intended it to be. Its far less ambitious charge, noted in paragraph 1 of its report, was to examine the GATT provisions of relevance for BTAs, practices regarding BTAs, and the possible effects of BTAs on international trade; consider any resulting proposals and suggestions; and report its findings to the contracting parties.

91. *See Japan – Alcoholic Beverages*, *supra* note 25, at 21.

92. Consumers may view final products from a country with a poor reputation for controlling carbon emissions as different from those from countries

Group emphasized in *EC-Asbestos* that it is inappropriate to base a conclusion on likeness on an examination of only one or two of the four criteria listed above[93] and stated that "a determination of 'likeness' . . . is fundamentally, a determination about the nature and extent of a competitive relationship between and among products."[94] The WTO-UNEP states the issue as follows:

> An important question in relation to the application of the four above-mentioned criteria to climate change measures is whether products may be considered "unlike" because of differences in the way in which they have been produced (referred to as non-product-related processes and production methods (PPMs), even though the production method used does not leave a trace in the final product, i.e. even if the physical characteristics of the final product remain identical.[95]

Cosbey explains as follows regarding the possibility that two physically identical products would be found to be unlike, based on consumer tastes and habits:

> The thin odds of success here are related to two facts: first, as emphasized in *EC-Asbestos* (paragraph 109, *inter alia*), a full picture of likeness can only emerge as a result of examining *all four* criteria, and in this case only one of them argues against likeness; second, even were consumer behaviour to be elevated so as to be predominant in this judgement, it would be difficult to argue that consumers

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with a better reputation. As evidence for the proposition that distinctions not related to the inherent characteristics of a product may be relevant in judging whether products are "like," Hufbauer, Charnovitz, and Kim offer the example of a WTO waiver for trade restrictions on so-called conflict diamonds. Hufbauer, Charnovitz & Kim, *supra* note 9, at 68 n.3. But consumers are not likely to know the country of origin, and thus the carbon content, of the many inputs that go into making complex imported products such as automobiles. *See also* Goh, *supra* note 12, at 407-08.

93. *EC — Asbestos*, *supra* note 89, at ¶ 109.

94. *Id*. at ¶ 99. This interpretation of likeness poses a dilemma for a country thinking of applying border adjustments. Pauwelyn observes that if a country "argues that it needs adjustment at the border because of competitiveness concerns, it cannot turn around later under a 'likeness' examination and say that high-carbon and low-carbon products do not compete in the first place" (and that adjustments based on the carbon content of import should thus be allowed). Pauwelyn, *U.S. Federal Climate Policy*, *supra* note 15, at 29.

95. WTO-UNEP, *supra* note 12, at 107.

> prefer intermediate goods like steel that are efficiently produced, there being no markets or eco-labelling schemes one could point to that would support the claim.[96]

This analysis suggests that under the basic trade rules border adjustments would likely be limited to the carbon content of production in

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96. Cosbey, *supra* note 86, at 4 n.11. The UK, Switzerland, Japan, Australia, and Sweden have all instituted carbon labeling, carbon labeling legislation has been introduced in the California Assembly, and the Waxman-Markey climate change bill provides for institution of a voluntary carbon disclosure program following a study by the U.S. Environmental Protection Agency. *See* generally the discussion of carbon foot printing on the website of the Carbon Trust, http://www.carbontrust.co.uk/ Pages/Default.aspx. Kejun, Cosbey, and Murphy note that the California proposal would consider raw material acquisition, transportation to the factory, manufacturing, and transportation to market in its carbon labeling scheme. Kejun, Cosbey & Murphy, *supra* note 86, at 3. Sweden's National Food Administration informs consumers about the embedded carbon content of various foods, which depends, inter alia, on whether the food is imported or produced locally, methods and costs of processing, transportation, and storage. *See* National Food Administration (Sweden), The National Food Administration's Environmentally Effective Food Choices: Proposal Notified to the EU, May 15, 2009, http://www.slv.se/upload/dokument/miljo/environmentally_effective_food_choices_proposal_eu_2009.pdf. It does not, however, distinguish between countries from which food is imported.

Because most carbon is emitted far upstream in the production-distribution system (e.g., in the generation of electricity used in the aluminum sector), it is hard to think of many good "low-carbon" analogs among consumer goods to "dolphin-safe tuna," food that has not been genetically modified, "turtle-safe shrimp," and conflict-free diamonds, all products some consumers may prefer passionately over what they perceive to be less environmentally friendly alternatives. Consumers are unlikely to know (or be able to find out) whether aluminum foil has been produced using electricity generated in low- or high-carbon power plants. Certainly eco-labelling is not likely to be reliable. As Wooders, Reinaud, and Cosbey observe more generally:

> Giving an exact cost for the carbon footprint of a GHG-intensive process is difficult . . . . The work is based on measuring a set of inputs and outputs—such as electricity consumption in particular countries, transport miles driven by vehicle type, and quantities of steel and concrete used in construction . . . . The emission factors it contains have uncertainty ranges and, depending on the source, differentiate among different technologies and production processes. Certain assumptions must be made, for example, about the electricity-generating mix in a particular country. *For electricity-intensive processes, the choice made at this point can fundamentally alter the emission factor of the particular product.*

Wooders, Reinaud & Cosbey, *supra* note 1, at 51-52 (emphasis added).

the importing country. The WTO's emphasis on competition between imports and domestic products in defining "like products" reinforces this conclusion.[97] Both the Superfund tax and the ODC tax mentioned earlier provide precedent for basing import BTAs on carbon content under the predominant method of production (PMP) in the importing country (or on the actual carbon content of imports, if it is lower).

The European Commission suggested using a somewhat different methodology to calculate import BAs in one option included in an early draft of its proposal to revise the directive on the ETS – basing BAs for both imports and exports on the average carbon content of products produced within the EU, reduced by the average level of free allowances.[98] This raises two questions: First, can BAs be based on country averages?[99] The actual carbon content of particular imports or exports could, of course, be less than the EU average. The WTO Panel addressed this issue in *United States - Standards for Reformulated and Conventional Gasoline*, finding that imported gasoline subjected to baselines for quality that reflected average U.S. gasoline quality were treated "less favourably" than gasoline produced in the U.S., because U.S. producers could employ entity-level baselines.[100] Second, can BAs applied by individual EU member states be based on

97. *See EC — Asbestos*, *supra* note 89; *supra* text accompany note 94. It should be remembered, however, that this case involved a challenge under the broader interpretation of "like products" in Article III.4, not the narrower interpretation under Article III.2. *Supra* note 89.

98. *See* Godard, *supra* note 15, at 13-14, von Asselt & Brewer, *supra* note 2, at 48, and Quick, *supra* note 5, at 167-68. Quick quotes at length from the Commission's draft proposal. Its so-called FAIR option includes the following words quoted by Quick: "The principle of common but differentiated responsibilities will be reflected by reducing the proportion of allowances to be surrendered in respect of imports from developing countries. . . ." Quick, *supra* note 5, at 168. Implementing this reduction would leave import BAs applied only to trade with developed countries that do not pledge to reduce emissions. As Quick says, "For the time being, it seems that the United States would therefore be the only FAIR target. . . . [T]the scope of FAIR seems to be quite limited." *Id*.

99. It should also be noted that the use of average levels of emissions to calculate import BAs, be they the average level in the exporting or in the importing country, rather than actual emissions, means that there will be little incentive to reduce emissions, since BAs are independent of actual emissions. This point is made in a somewhat different context by Bordoff, *supra* note 15, at 53. For a contrary view, *see* Godard, *supra* note 15, at 19.

100. Panel Report, United States – Standards for Reformulated and Conventional Gasoline ¶ 6.16, WT/DS2/R (Jan. 29, 1996) [hereinafter *Panel Report – Reformulated Gasoline*]. The Panel did suggest, however, that use of an average baseline for imports might be permissible if lack of data precluded use of individual baselines. *Id*. at ¶ 6.28.

averages for the entire Union?[101] The EU average could, of course, exceed that for a particular member state. Both concerns could be handled by allowing exporters the option of basing import BAs on actual carbon content, as under the Superfund and ODC taxes.

As noted earlier, carbon taxes are "taxes occultes." This raises the question of whether BTAs based on actual carbon content – or even calculations of carbon content under PMP or best available technology, an option to be considered next – should reflect carbon taxes paid "indirectly" further up the production-distribution chain, or only those paid directly. This is of paramount importance, because electricity plays a pivotal role in the production of aluminum, one of the most energy-intensive of all products.

3. Best Available Technology: Grasping Pyrrhic Victory From the Jaws of Defeat?

In the interest of assuring that BTAs are not excessive, and are thus legally fail-safe (and provided, of course, that under international trade rules they are not found to be per se illegal because they are based on PPMs), Ismer and Neuhoff have proposed basing BTAs for carbon prices on carbon content under "best available technology," which they define as:

> for example, the most effective and advanced stage in the development of activities and their methods of operations which indicate the practical suitability for providing in principle the basis for emissions limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole. . . .[102]

Use of the best availability technology to calculate BTAs would generally be immune from challenge, as it would assure that discrimination against imports could not occur.[103] Ismer and Neuhoff place great weight on this objective, stating, "The choice should be made in such a way that no-one has reason to suspect the intention of the adjustment is to discriminate against foreign producers.[104] The chosen product should therefore be among

101. *See* Quick, *supra* note 5, at 175.

102. *See* Ismer & Neuhoff, *supra* note 1, at 147.

103. But because of the way BAT is defined, it is possible that some techniques being utilized are less carbon-intensive than BAT.

104. Ismer & Neuhoff, *supra* note 1, at 156. Godard favors the use of BAT for the same reasons as Ismer and Neuhoff. Godard, *supra* note 15, at 14. But he undermines the GATT-legality of BAs based on BAT by suggesting implicitly that the object of concern is competitiveness, not carbon leakage, when he states:

the products with the lowest CO_2 (equivalent) emission in the class."[105] They acknowledge, however, that

> This implies that the more divergent the CO_2 intensity of the production of different products within a class, the lower the proportion of CO_2 emission allowance costs that can be adjusted for at the border. This is the main driver for subdividing classes with non-homogeneous energy intensity of materials and increasing the number of product classes.[106]

BAs based on BAT, or even on PMP in the importing country, would fail to deal adequately with the most egregious cases of carbon emissions related to imports.[107] In addition, being independent of the actions

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> Nuclear technology to produce electricity is a very low-emitting one . . . . Though it covers a significant part of the power generation in the EU (34 percent) or in the United States (20 percent), it is still a minor part when compared with the share of carbon-fired (coal and gas) plants. If this nuclear technology were to be taken as the BAT for determining the CBAs [Climate Border Adjustments], the latter would be nearly nil, which would miss the predominant weight of emissions of the power generation sector in the ETS (75 percent) and considerably underestimate the impact of carbon constraints imposed on power generation in the EU and, with expected passthrough of costs on downstream productions, on costs borne by several ETS (steel) and non-ETS (aluminium) producers.

Id. at 15.

The real problem is not that basing BAs on emissions from nuclear power understates emissions from power generation in the EU, which is relevant only for export Bas; it is that it may understate emissions related to imports. Even if the PMP in the EU were the basis for import BAs, to be GATT-legal it would be necessary to allow importers to demonstrate lower levels of emissions, as under the Superfund and ODC taxes. Although Godard would allow importers this option, his emphasis on "BAT within the predominant category of technology in use *in Europe*" (emphasis added) suggests a protectionist intent. By comparison, Avner avoids this error; he writes, "The BAT should be determined by taking into account all technologies used worldwide." Avner, *supra* note 15, at 54.

105. Ismer & Neuhoff, *supra* note 1, at 156.

106. *Id*. at 156-57.

107. For the comparative carbon-intensity of production of steel, chemicals, paper, and cement in various countries, *see* Trevor Houser, Rob Bradley, Britt Childs, Jacob Werksman, & Robber Hellmayr, Leveling the Carbon Playing Field: International Competition and U.S. Climate policy Design 46-51 (Peterson Institute for Int'l Econ. 2008). Note, however, that production in developing countries is not necessarily more carbon-intensive than that in the developed countries that are

of the producer of the imports, they do not provide any incentive to reduce emissions.[108] Finally, although Ismer and Neuhoff describe implementation of BTAs based on BAT as "relatively simple," Wooders, Reinaud, and Cosbey conclude, "[I]dentifying a best available technology is not always straightforward and . . . the range of GHG emission factors can be very wide."[109] Indeed, Ismer and Neuhoff mention several problematic issues, including the definition of product classes, the treatment of intra-class variations in energy-intensity, which technology should be considered in calculating the carbon content of traded goods under BAT, and how to choose the energy source used in making these calculations – an especially troubling issue in the all-important case of electricity, which can be generated using no carbon (wind, solar, geothermal, or hydro), relatively little carbon (gas), intermediates amounts of carbon (oil), or substantial amounts of carbon (coal).[110]

It is, of course, impossible to know the carbon intensity of power taken from the grid, as Neuhoff and Ismer, acknowledge: "in a context of an electricity grid, it becomes difficult to ascertain how many allowances had to be surrendered when generating the electricity used for the production of the good."[111] Despite their strong advocacy of BAT, Neuhoff and Ismer would

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considering BAs. Being more modern, many plants in developing countries emit less CO_2 per unit of output than their counterparts in advanced countries. Thus, in many instances BAs based on actual emissions might differ little from those based on BAT, especially since it can be expected that imports will come from the most efficient and lowest-cost producers. *See* Neuhoff & Ismer, *supra* note 3, at 4-5.

108. *See supra* note 99; *see also* Wooders, Reinaud, & Cosbey, *supra* note 1, at 52. That export BAs would not be related to actual emissions would be an advantage. Thus Ismer seems to understate the case for basing export BAs on BAT when he writes, "Practicality requirements imply that the adjustment should be fixed at a level that is independent of actual emissions." Ismer, *supra* note 14, at 223.

109. Wooders, Reinaud & Cosbey, *supra* note 1, at 52. For a thorough discussion of the difficulties of measuring the carbon content of energy-intensive products, *see* Julia Reinaud, Issues Behind Competitiveness and Carbon Leakage: Focus on Heavy Industry. (Int'l Energy Agency 2008), http://www.iea.org/textbase/papers/2008/Competitiveness_and_Carbon_Leakage.pdf.

110. Ismer & Neuhoff, *supra* note 1, at 154-58. Bushnell, *supra* note 7, examines these issues in the context of a cap-and-trade system for California.

111. Neuhoff and Ismer, *supra* note 3, at 8. Wooders, Reinaud & Cosbey ask rhetorically and respond, "Is it really possible to define the provenance of electricity? Where the plant is tied through a physical connection, the case is relatively simple. Even here, the electricity that such a plant generates would find ready customers elsewhere. . . ." Wooders, Reinaud, & Cosbey, *supra* note 1, at 46 n.36. Avner describes the problem of using BAT to calculate BAs for aluminum, assuming that BAs would be allowed for the carbon content of electricity consumed in producing it:

apparently circumvent this problem by basing BAs on the marginal cost of electricity, noting, "[I]n most countries all available renewable generation will be used, and some electric power still continues to be produced from fossil fuels. Therefore the production of the marginal unit of the commodity will be linked to carbon emissions from fossil fuels. Based on this economic logic, border adjustment could be pursued based on the carbon intensity of the fossil generation."[112] They warn, however, that "price increases under such logic probably could not be qualified as a tax under Article III GATT. They would thus have to pass the test of Article XX GATT, which would arguably mean that the adjustment could only apply to importers."[113]

B. A Mixed System and Most-Favored Nation Treatment

Much of the literature on the GATT-legality of BAs for carbon prices does not take account of "the elephant in the room" — the fact that, rather than being applied to trade with all nations, BAs are likely to be applied only to trade with nations that lack comparable measures for mitigating carbon emissions — primarily nations the Kyoto Protocol exempted from commitments to reduce emissions.[114] No matter how the issues discussed thus far are resolved, the WTO would almost certainly find that such a "mixed" system violates Article I of the GATT, which prescribes most-favored nation treatment.

Recent commentators have recognized this implication of applying BAs only to trade with some countries. Regarding the Warner-Lieberman bill[115] ("The Climate Security Act"), which could eventually require that imports from countries that do not curtail emissions hold permits, Hufbauer, Charnovitz, and Kim write, "The program would clearly be a violation of GATT Article 1:1 because of the inherent origin-based discrimination. Some WTO members would be covered countries and some would not."[116] Similarly, van Asselt, Brewer, and Mehling conclude:

> It should be clear that the heterogeneity of emissions associated with the production of electricity is much larger than with any other border adjustable basic material. Therefore BAT (let's say hydroelectricity) would not afford any protection to domestic industries such as aluminium. We thus rule this option out.

Avner, *supra* note 15, at 61.

112. Neuhoff & Ismer, *supra* note 3, at 8.

113. *Id.*

114. Of course, the elephant was not yet in the room when much of this literature was written. It appeared only once it became obvious that not all GATT signatories would limit carbon emissions.

115. S. 2191, 110th Cong. (2007).

116. Hufbauer, Charnovitz, & Kim, *supra* note 9, at 82.

> If border adjustments were applied to 'like' products based on their country of origin, favoring products from countries with stringent climate policies and penalizing products from countries with weak or no climate policies, a violation of this principle would appear possible. This appears clearly to be the case in the Climate Security Act, which distinguishes between countries taking 'comparable action' and those that do not.[117]

Finally, Wiers concludes, "I see basically no escape from infringement of the MFN clause in GATT Article I; whether importers need to buy emission rights will depend on whether they are exporting from a country deemed to be applying comparable or otherwise satisfactory emission restrictions."[118] In reaching the same conclusion, Quick notes that the prohibition against discrimination in Article I is "categorical."[119]

A mixed system could only be saved by a successful appeal under the general exceptions provisions of Article XX of the GATT. The fact that the Kyoto Protocol exempted developing countries from commitments to reduce emissions would likely undermine such an appeal, even if it would otherwise be sustained.

C. The Shrimp-Turtle Decision: Setting the Stage for Article XX

Before turning to a detailed examination of Article XX, it will be useful to set the stage by reviewing the WTO Appellate Body's decision in the 1998 *Shrimp-Turtle* case, an Article XX case that is widely seen as signalling that, under certain circumstances, the WTO would allow BTAs for taxes based on PPMs. It reversed a contrary finding in two seemingly similar Article XX cases decided only a few years earlier.

In the *Tuna-Dolphin* cases decided in 1991 and 1994 the GATT panel ruled that an import ban on tuna could not be predicated on the manner in which tuna are caught, as long as the product was not affected, and – more important in the present context – that an Article XX exception did not

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117. van Asselt, Brewer, & Mehling, *supra* note 8, at 51; *see also infra* note 155; Holzer, *supra* note 15, at 59-60. Bordoff describes some of the difficulties that would be encountered in trying to determine whether a trading partner had a comparable system for reducing emissions of CO_2, an important issue that is beyond the scope of this article. Bordoff, *supra* note 15, at 48-49.

118. Jochem Wiers, Multilateral Negotiations and Unilateral Discrimination from a World Trade Organization Legal Perspective, in Climate and Trade Policies in a Post-2012 World 87-88 (United Nations Environment Programme 2009).

119. Quick, *supra* note 5, at 164.

apply.[120] These rulings implied that only the physical characteristics of a product, and not process and production methods, are relevant for judging whether two products are "like." Although these rulings, which Frankel describes as "notorious,"[121] were never adopted by the GATT Council, and thus had no legal weight, they created concern that BTAs could not be justified by arguing that differences in PPMs made products "unlike."[122]

By comparison, in the *Shrimp-Turtle* case the Appellate Body found that PPMs can matter.[123] Several Asian countries had challenged a U.S. law that restricted imports of shrimp caught in nets that did not have turtle-exclusion devices, arguing that trade restrictions could not be based on PPMs. The WTO Appellate Body initially ruled against the U.S. because of the way the law was implemented but subsequently approved its efforts to bring implementation into compliance. But more important for present purposes, (1) it found that the exception for measures related to the conservation of natural resources provided by Article XX(g) of the GATT, to be discussed further below, applied, rejecting the claim that there was not sufficient nexus between the U.S. and the endangered sea turtles, which migrate to or traverse the territorial waters of the U.S., and (2) it implied that trade restrictions based on PPMs would be sustained if implemented in a manner that met the other strictures of Article XX.[124]

The Appellate Body's *Shrimp-Turtle* decision is widely considered to have been a watershed case. It is commonly interpreted as meaning that

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120. Panel Report, United States – Restrictions on Imports of Tuna, DS21/R - 39S/155, (Sept. 1991); Panel Report, United States – Restrictions on Imports of Tuna, DS29/R, (Jun. 16, 1994). *See also* Charnovitz, *supra* note 66, at 86-88, 92-94.

121. Jeffrey Frankel, Global Environment and Trade Policy, in Post-Kyoto International Climate Policy 493, 514 (Joseph E. Aldy & Robert N. Stavins eds., Cambridge Univ. Press 2009).

122. *See* Demaret & Stewardson, *supra* note 15, at 27-29. For a particularly strong condemnation of the *Tuna-Dolphin* decisions, *see* Hoerner & Muller, *supra* note 15, at 27-29. For the opposite view, *see* Bhagwati & Mavroidis, *supra* note 51, and references provided there. Charnovitz discusses the *Tuna-Dolphin* and other cases involving the GATT-legality of trade measures based on PPMs. Charnovitz, *supra* note 66, at 86-91.

123. Appellate Body Report, United States – Import Prohibition of Certain Shrimp and Shrimp Products, WT/DS58/AB/R (adopted Nov. 6, 1998) [hereinafter *Shrimp-Turtle*]. Many authors have discussed this case and its importance. *See,* for example, Charnovitz, *supra* note 66, at 95-98; Deal, *supra* note 6; Frankel, *supra* note 121, at 504-05; Peter Morici, Reconciling Trade and the Environment in the World Trade Organization 80-83 (Econ. Strategy Institute, Washington 2002). These authors cite other literature on the *Shrimp-Turtle* case.

124. *Shrimp-Turtle*, *supra* note 123. For a summary of this dispute, see http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds58_e.htm (lasted visited May 31, 2011).

environmental provisions that violate Articles I and III of the GATT could pass muster under Article XX.[125] Charnovitz concludes, "No *adopted* GATT or WTO decision has suggested that PPMs are outside the scope of Article XX."[126]

IV. BTAS UNDER GATT ARTICLE XX

It is possible that under the "basic" rules governing international trade examined thus far, BTAs would not be allowed for any carbon taxes. Furthermore, import BTAs, if allowed, might be limited to levels calculated under either PPM or BAT. In any event, it seems virtually certain that BTAs applied selectively under a "mixed" system would be found to violate the most-favored nation provision of the GATT. It is possible, however, that BTAs, including adjustments based on the actual carbon content of traded products and perhaps even a mixed system would nonetheless be allowed under Article XX of the GATT.[127] As a practical matter, the first two issues are likely to arise only in the context of a challenge under the most-favored

125. *See* for example, Charnovitz, *supra* note 66, at 95-97; Frankel, *supra* note 121, at 505, and Deal, *supra* note 6, at 7-9, and references provided there. Bhagwati & Mavroidis interpret the *Shrimp-Turtle* decision to mean that, since the United States did not ratify the Kyoto Protocol, all U.S. exports to signatories of the Protocol could be subject to BTAs, because produced using PPMs inconsistent with the Protocol. *See* generally Bhagwati & Mavroidis, *supra* note 51. This interpretation of the nature of PPMs – that all production in a country that does not sign a particular treaty is produced with a PPM that differs from the PPM employed in signatories – seems far-fetched. As Charnovitz has written in a different context, "a law that bans fish imports from a producer owned by a pariah government will be probably be considered a plain embargo rather than a PPM." Charnovitz, *supra* note 66, at 67.

126. Charnovitz, *supra* note 66, at 100. After reviewing the *Superfund* case, the OCD tax, and the decision in *Shrimp-Turtle*, Biermann and Brohm conclude "although the case law is not unambiguous as to whether national energy taxes could be supported through border adjustments, it seems that taxes on chemicals – possibly also energy – used as materials in the manufacture or production of imported substances can be included in border tax adjustment schemes." Biermann & Brohm, Strategic Role, *supra* note 12, at 295.

127. Among the many other places this issue is discussed are Goh, *supra* note 12, at 413-22; de Cendra, *supra* note 12, at 143-45, Ismer & Neuhoff, *supra* note 1, at 149-52; Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 33-41; Pauwelyn, Testimony, *supra* note 15, at 11-17; Bordoff, *supra* note 15, at 49-54; van Asselt, Brewer, & Mehling, *supra* note 8, at 52-57; Hufbauer, Charnovitz & Kim, *supra* note 9, at 49-60, WTO-UNEP, *supra* note 12, at 107-110; Ponnambalam, *supra* note 8.

nation provision.[128] Such a challenge is perhaps most likely to be mounted by developing countries against BAs introduced by their developed trading partners. But if the U.S. persists in not introducing carbon pricing, the EU might trigger a challenge by applying BAs to its trade with the U.S.

The WTO Appellate Body has stated that a two-step approach is to be followed in applying Article XX. The first step is to determine whether the measure in question satisfies one of the specified exceptions, of which paragraph (b) or (g) are relevant in the present context. The threshold for legality under these exceptions is, of course, lower than that under Article III. If one of these exceptions is satisfied, the second step is to determine whether the measure is also consistent with the introductory paragraph, the so-called "chapeau" of Article XX.[129] WTO case law, as well as a priori reasoning, suggests that it is likely much easier to satisfy paragraph (b) or (g) than to comply with the chapeau, which Ponnambalam calls "a formidable gatekeeper."[130] Pauwelyn notes that in all cases where the Appellate Body has denied an Article XX exception it was because the chapeau's test was not met.[131]

A. The Tests of Paragraphs (b) and (g)

It might seem that satisfaction of the requirement of paragraph (b) of Article XX that BTAs are "necessary to protect human, animal or plant life or health" would require a demonstration that there are no other GATT-consistent means of achieving the same objective. However, according to the WTO:

> [T]he interpretation of the necessity requirement of Article XX (b) . . . has evolved from a *least*-trade restrictive approach to a *less*-trade restrictive one, supplemented with a proportionality test ("a process of weighing and balancing a series of factors"). The Appellate Body considered that the determination of whether a measure is necessary involves in every case a process of *weighing and balancing* a series of factors which prominently include the contribution made by the measure to the enforcement of the regulation at issue, the importance of the common interests or values protected by

128. "[T]he debate will in all probability concentrate on Article XX because the MFN infringement will need to be justified, whether there is a national treatment violation or not." Wiers, *supra* note 118, at 88.

129. Appellate Body Report, United States – Standards for Reformulated and Conventional Gasoline, 22, WT/DS2/AB/R (adopted May 20, 1996) [hereinafter *AB Report – Reformulated Gasoline*].

130. Ponnambalam, *supra* note 8, at 274.

131. Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 37.

> the regulation, and the accompanying impact of the measure on imports or exports.
>
> [I]n the *EC — Asbestos* case . . ., for the first time, an "environmental" measure passed the necessity test. The Appellate Body noted that "the more vital or important [the] common interests or values" pursued, the easier it would be to accept as "necessary" measures designed to achieve those ends.[132]

The predominant view is that BTAs are more likely to be granted an exception under paragraph (g), which accords conditional approval of measures "relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption."[133] In *Shrimp-Turtle* the Appellate Body acknowledged that conditions placed on access to markets that are

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132. *See* WTO, *supra* note 67, at 52. For optimistic appraisals of the likelihood of success under ¶ (b), *see* Ismer & Neuhoff, *supra* note 1, at 150; van Asselt, Brewer & Mehling *supra* note 8, at 52-53; Quick, *supra* note 5, at 171-72. The Appellate Body elaborated on "weighing and balancing" in its decision in *Brazil – Tyres*:

> [I]n order to determine whether a measure is "necessary" within the meaning of Article XX(b) of the GATT 1994, a panel must consider the relevant factors, particularly the importance of the interests or values at stake, the extent of the contribution to the achievement of the measure's objective, and its trade restrictiveness. If this analysis yields a preliminary conclusion that the measure is necessary, this result must be confirmed by comparing the measure with possible alternatives, which may be less trade restrictive while providing an equivalent contribution to the achievement of the objective. This comparison should be carried out in the light of the importance of the interests or values at stake. It is through this process that a panel determines whether a measure is necessary.

Appellate Body Report, Brazil – Measures Affecting Imports of Retreaded Tyres, ¶ 178, WT/DS332/AB/R (adopted Dec. 17, 2007). For further discussion of the WTO Appellate Body's evolving interpretation of the term "necessary" in ¶ (b), *see* Quick, *supra* note 5, at 171-72, and Ponnambalam, *supra* note 8, at 272-74.

133. In any event, the WTO Appellate Body has found that "relating to" is a lower standard to meet than "necessary to." *See AB Report – Reformulated Gasoline*, *supra* note 129, at 16-18.

intended to protect the environment may pass muster under paragraph (g) of Article XX.[134]

In *Shrimp-Turtle* the Appellate Body applied a three-pronged test to determine whether the measure in question satisfied paragraph (g).[135] In the present context the first question is whether the atmosphere is an exhaustible natural resource. Precedent for an affirmative answer is found in *United States – Reformulated Gasoline*, where a WTO panel ruled, and the Appellate Body confirmed, that clean air is a natural resource that can be depleted.[136] The Appellate Body stated in *Shrimp-Turtle* that the words "exhaustible natural resources" in paragraph (g) must be read "in light of contemporary concerns of the community of nations about the protection and conservation of the environment."[137] The UNFCCC and the Kyoto Protocol, inter alia, would seem to provide adequate predicate for applying this provision in the case of a carbon tax (or a cap and trade system).[138] Biermann and Brohm opine, "[I]t certainly matters for the interpretation of WTO law that 95 percent of WTO members have ratified the climate convention. . . ."[139] Moreover, the Preamble of the WTO Agreement itself recognizes "the objective of sustainable development, seeking both to protect and preserve the environment."

Second, there must be a "substantial relationship" — a reasonable "means and ends relationship" — between the measure and the conservation of the exhaustible natural resource; the measure cannot be merely

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134. *Shrimp-Turtle*, *supra* note 123, ¶ 121. The U.S. had claimed an alternative exception under Article XX(b), in case a paragraph (g) exception was denied. The Appellate Body, having decided that the law in question satisfied paragraph XX(g), did not consider the alternative. *Id*. ¶ 146. *See also* Hufbauer, Charnovitz & Kim, *supra* note 9, at 49-50, 55-57. Although these authors suggest that it would be "surprising" if programs to mitigate greenhouse gas emissions were not found to fit within paragraph (g) and assume that they would be, they admit that this conclusion is "not free from doubt." *Id*. at 50-51.

135. *Shrimp-Turtle*, *supra* note 123, ¶¶ 125-45.

136. Panel Report – Reformulated Gasoline, *supra* note 100, ¶ 6.37, confirmed by the Appellate Body in *AB Report – Reformulated Gasoline*, *supra* note 129. The WTO Appellate Body considered whether sea turtles are an exhaustible natural resource in *Shrimp-Turtle*, *supra* note 123, ¶¶ 127-34.

137. *Shrimp-Turtle*, *supra* note 123, ¶ 129.

138. Note, however, that Article 3.5 of the UNFCCC contains these words, which are virtually identical to those in the chapeau of Article XX: "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." Essentially identical words also appear in Principle 12 of the Rio Declaration on Environment and Development. The import of these restrictions is discussed below.

139. Bierman and Brohm, Possible Tool, *supra* note 12, at 254.

"incidentally or inadvertently aimed at" conservation.[140] Since BTAs on carbon embedded in imports form an integral part of a policy to reduce CO_2 emissions, there seems to be little doubt that they would pass this test.[141] But Bordoff cautions, "It is less clear whether a border adjustment would satisfy the test of being primarily aimed at and substantially related to the goal of reducing GHG emissions when estimates suggest the policy might do little to reduce leakage."[142]

Finally, the measure must be "evenhanded," in that it is "made effective in conjunction with restrictions on domestic production or consumption."[143] BTAs on imports, being imposed in conjunction with a

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140. *Shrimp-Turtle*, *supra* note 123, ¶¶ 135-42. The words quoted are from *AB Report – Reformulated Gasoline*, *supra* note 129, at 19. The Appellate Board also noted that the measure in question in that case was "primarily aimed at" conserving a natural resource. *AB Report – Reformulated Gasoline*, *supra* note 129, at 18. In *Shrimp-Turtle*, the Appellate Board said that the relationship at issue in the prior case exhibited "a close and genuine relationship of ends and means." It seems to be generally agreed that there would be no issue of nexus, since CO_2 emissions occurring in any one country affect all countries. *Shrimp-Turtle*, *supra* note 123, ¶ 136.

141. Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 35, and van Asselt, Brewer, & Mehling, *supra* note 8, at 53, conclude that border measures would pass this test. But, Goh notes:

> [I]t could be argued that a measure that failed to take into account the level of taxes in the country of origin – or other non-fiscal measures taken to address climate change – would not constitute a reasonable "means and ends relationship." Imposing a double environmental penalty on producers in the exporting country could not be said to reasonably contribute to the object of addressing climate change.

Goh, *supra* note 12, at 415. As he notes, this issue is also relevant in appraising a measure under the chapeau.

142. Bordoff, *supra* note 15, at 50. *See also* Quick, *supra* note 5, at 172. Quick asserts boldly, "The proposals to apply a 'border tax' on imports or to extend the emission trading scheme to imports do not contribute to reducing greenhouse gas emissions. They have no effect on the green house gas emissions of the exporting countries since one must assume that their production will not diminish but trade flows will change due to border measures." Quick, *supra* note 15, at 354. Numerous economic models have found that, by lowering energy prices, BAs may actually encourage greater consumption of carbon. *See, e.g.*, Ismer & Neuhoff, *supra* note 1, at 150; Warwick J. McKibbin & Peter J. Wilcoxen, The Economic and Environmental Effects of Border Tax Adjustments for Climate Change Policy in Climate Change, Trade and Competitiveness: Is a Collision Inevitable? 1-23 (Lael Brainard & Isaac Sorkin eds. Brookings Institution Press 2009).

143. *Shrimp-Turtle*, *supra* note 123, ¶¶ 143-45.

domestic carbon tax, would seem to pass this test — provided, of course, that their application is actually evenhanded.[144]

It would seem much more difficult to gain an exception for BTAs on exports, which would free domestic producers from the obligation to pay tax on the carbon they emit, as long as it is for the production of exports.[145] While, strictly speaking, BTAs for exports are "made effective in conjunction with restrictions on domestic production or consumption," their objective and likely effect is not to reduce emissions of CO_2. It is thus hard to argue that BTAs for exports are related to the conservation of an exhaustible natural resource; they appear much more clearly aimed at preventing competitive disadvantage.[146] There is, of course, no exception for measures deemed necessary to prevent adverse competitive effects on the domestic economy.[147] Moreover, as Hufbauer, Charnovitz, and Kim note, "[t]he rebate of an energy tax for exports could undermine the environmental justification for applying the BTA to imports."[148]

Ismer and Neuhoff suggest that it might be claimed that the treatment of imports and exports should be considered as a package[149] – an

144. Quick argues that it would not be even-handed to introduce BAs in the context of the ETS, if 95 percent of permits are provided free of charge. Quick, *supra* note 5, at 173. *See also* the discussion of free allowances *infra* at note 177.

145. *See* Ismer & Neuhoff, *supra* note 1, at 150; Ismer, *supra* note 14, at 223; Quick, *supra* note 15, at 357.

146. Thus Quick has written regarding the possible extension of BAs for the cost of emissions permits to exports, "the measure is not taken for environmental but purely for competitiveness reasons." Quick, *supra* note 5, at 175.

147. *See also supra* note 142.

148. Hufbauer, Charnovitz & Kim, *supra* note 9, at 69. Holzer states the problem nicely:

> It is sheer nonsense to rebate the costs of emissions if the whole purpose of an emissions reduction system is to create such costs for selected firms or industries in order to reduce emissions. . . . Moreover, it would disarm a country making such rebates of the last argument that carbon restrictions on imports are imposed with the sole purpose of climate protection. Inability to apply this argument would result in the failure to invoke GATT Article XX. . . .

See Holzer, *supra* note 15, at 63.

149. Ismer & Neuhoff, *supra* note 1, at 150. It could be argued that, by combating carbon leakage and free riding, export BTAs would contribute to both the conservation of the global environment and the protection of life and health, but whether the WTO would accept it cannot be known. In *AB Report – Reformulated Gasoline*, the WTO Appellate Body faulted the panel for not considering the baseline establishment rules "as a whole." *AB Report – Reformulated Gasoline*, *supra* note 129, at 19. But the "package" at issue in that case, the treatment of

argument that might cut against BTAs for imports, rather than in favor of BTAs for exports. But, consistent with the view followed here, they note that "the two directions of BTA appear to be separable."[150]

B. Satisfying the Chapeau

Even if BTAs for carbon taxes could get past the specific hurdles posed by paragraph (b) or paragraph (g), they must also satisfy the chapeau of Article XX, in particular, the requirement that they are "not *applied in a manner* which would constitute a means of *arbitrary or unjustifiable discrimination between countries where the same conditions prevail*, or a *disguised restriction on international trade*. . . ."[151] This provision is intended to prevent the abuse of the Article XX exceptions and to reflect a balance between substantive rights provided under the basic GATT rules and the right to invoke the exceptions.[152] By its own terms, it involves how the measure is applied, not merely the content of statutes or regulations. Since it cannot be known in the abstract how a given law will be applied, the focus here is on the other issues inherent in the chapeau.

The discrimination at issue in applying the chapeau, being discrimination between "countries where the same conditions prevail," is different from that at issue in applying Articles I and III, which involves discriminatory treatment of "like products."[153] For purposes of Article XX, discrimination could be either against a single trading partner exporting to the country applying BTAs (as in a violation of national treatment) or discriminatory treatment of different foreign countries (as in a violation of most-favored nation treatment).

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importers and domestic producers, seems different in kind from the "package" at issue here, BAs for exports as well as taxes on domestic products and BAs for imports.

150. Ismer & Neuhoff, *supra* note 1, at 150.

151. (Emphasis added). Article 3.5 of the UNFCCC states that measures taken to combat climate change should satisfy similar standards.

152. *Shrimp-Turtle*, *supra* note 123, ¶ 156. Charnovitz distinguishes between two views of the relationship between the basic GATT rules and the exceptions of Article XX. One looks at the two types of rules as operating in tandem as coequals in defining violations of the rules. The other — the one adopted by the Appellate Board — confers "substantive" rights on exporting countries that might be overturned by application of an Article XX exception. Charnovitz, *supra* note 66, at 80-82. This distinction is not considered further here.

153. Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 37. Article I (most-favored-nation) involves discriminatory treatment of "like products" in trade with different trading partners.

1. Arbitrary or Unjustifiable Discrimination Between Countries Where the Same Conditions Prevail

The chapeau does not allow exceptions that would sanction "arbitrary or unjustifiable discrimination between countries where the same conditions prevail." This has several implications. First, BTAs on trade between advanced countries that have adopted similarly effective origin-based measures to reduce emissions of CO_2 (e.g., U.S. BTAs on trade with EU members that implement the ETS) would almost certainly not satisfy the chapeau.[154] This would be true, even if the measures adopted were not the same, as long as they had comparable effects.[155] But an advanced country that had adopted such measures (e.g., a member of the EU) could perhaps adopt BTAs on trade with another advanced country that had not adopted such measures (the U.S.), as long as the discrimination was not "arbitrary or unjustifiable," even though this would violate both national treatment and most-favored nation treatment.[156]

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154. Quoting from the *Shrimp-Turtle* decision, Pauwelyn says that the requirement under examination "may force the United States to consider whether a foreign country already imposes emission cuts or otherwise addresses climate change. This, in turn, may oblige (or at least enable) the United States to impose lower (or no) import taxes or emission allowance requirements on imports from countries that have their own climate policies in place." Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 38-39.

155. Care must be taken in wording and implementing BA provisions. A country cannot condition exemption from BAs on its trading partner using "essentially the same" technique to reduce carbon emissions, as that would involve unacceptable coercion; techniques that are "comparable in effectiveness" must also be accepted, in order to provide flexibility. Nor is it enough that statutes provide this flexibility; flexibility in implementation is also required. *See Shrimp-Turtle*, *supra* note 123, ¶¶ 161-63. The requirement in the Waxman-Markey bill that trading partners take "comparable action" thus seems vulnerable to challenge.

156. As Godard says "The scope of this limitation depends on the assessment of what 'same conditions' are: are countries with no strong climate policies and those having developed such policies and agreed to commit internationally subject to the same conditions?" Godard, *supra* note 15, at 12. On these issues, *see* Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 38-39.

Godard suggests regarding BAs imposed by the EU that, "A more [legally] secure alternative regarding compliance with the general regime of WTO would be to apply the CBAs [Climate Border Adjustments] to any non-EU country, with the idea that countries having adhered to a MPKCA [Multilateral Post-Kyoto Climate Agreement]would have a symmetrical opportunity to introduce a similar climate adjustment at their borders, just as countries presently do with consumption or value-added taxes." Godard, *supra* note 15, at 12. In essence this would be destination-based carbon pricing. Even if that solution were GATT-legal, it would be impractical for administrative reasons, as explained in McLure, *supra* note 1 and *supra* note 16.

Second, the wording of this provision seems to leave a gaping hole—it does not address the status under the chapeau of discriminatory treatment, either favorable or unfavorable, of trade between countries where the same conditions arguably do *not* prevail. This is crucial, given that most developing countries have taken advantage of the exemption provided by the Kyoto Protocol, in accord with the UNFCCC statement that "States have common but differentiated responsibilities." (To the extent that developing countries adopt measures to limit emissions that are comparable in effect to those adopted by developed countries, this discussion would not apply.) Would the chapeau allow a developed country to adopt discriminatory treatment of trade with these countries, as would occur under a mixed system, because the same conditions (state of development) do not prevail? Or does it prohibit them from doing so, because difference in state of development is not the type of "condition" contemplated in this provision? Or might these words from the chapeau be interpreted to mean that discrimination in favor of these countries might be required? Under that interpretation, developed countries would not be allowed to impose BTAs on trade with developing countries. This conclusion is strengthened by the fact that the both the U.S. and EU member states ratified the UNFCCC and the later group of nations also ratified the Kyoto Protocol.[157] Quick has concluded, "It is difficult to envisage that Article XX GATT could be applied in such a way as to sanction trade measures against countries that fully comply with their international climate obligations."[158] As is true of so many of the issues examined here, the answers to these questions are far from clear.

Evidence that the nation imposing BAs has engaged in "serious, across-the-board negotiations with the objective of concluding bilateral or multilateral agreements" is crucial to a finding that a measure does not involve arbitrary or unreasonable discrimination.[159] Such negotiations need not be successful. The fact that almost 200 countries, including all developed countries, have participated in the sixteen Conferences of Parties held pursuant to the UNFCCC shows clearly that this requirement has been met. Even so, it would seem hard for countries that ratified the Protocol, or even

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157. *See* Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 39-40, 40 n.119.

158. Quick, *supra* note 15, at 354. On the other hand, Wooders, Reinaud, & Cosbey write regarding obligations under a successor agreement to the Kyoto Protocol, "Any discrimination in the application of the BCA should 'relate to the pursuit' of the measure. . . . For example, exceptions for least developed countries on economic development or equity grounds, since they are arguably not relevant to the environmental aims of the measure, might constitute unjustifiable discrimination." Wooders, Reinaud & Cosbey, *supra* note 1, at 57 (citing *Brazil – Tyres*, *supra* note 132, ¶ 93).

159. *Shrimp-Turtle*, *supra* note 123, ¶ 166.

the less restrictive UNFCCC, to justify BTAs on trade with developing countries, given the recognition in both that "States have common but differentiated responsibilities" and the explicit exemption accorded developing countries in the Kyoto Protocol.[160]

2. Disguised Restriction on International Trade

There are those who view border adjustments for carbon prices as an unjustified interference with free trade. Thus Wilson and Brown write:

> Despite enthusiasm for carbon tariffs, their legitimacy under international trade rules is questionable. The principle of free trade is that countries should produce goods and services that take advantage of their comparative advantage. Imposing a carbon price signal to devalue carbon intensive industries, goods and services is an anathema to that principle because it devalues each country's comparative advantage.[161]

Such views support a claim that BAs constitute a "disguised restriction on international trade" that would render them ineligible for an Article XX exception.[162]

By comparison, others turn this argument on its head, claiming that comparative advantage *requires* imposition of border adjustments. For example, Metcalf and Weisbach write:

> There are good arguments that border tax adjustments . . . are not inconsistent with, and in fact are required by, the principles of free trade. Free trade relies on the principle of comparative advantage. . . . A country without a carbon price does not have a true comparative advantage in producing carbon-intensive goods relative to a country with a carbon price; it produces at what looks like a lower cost

160. On the requirement to negotiate, *see* Wiers, *supra* note 118, at 88-91. Quick notes that the UNFCCC "is less stringent than the Kyoto Protocol though, since it only encourages developed countries to stabilize green house gas emissions without obliging them to do so." Quick, *supra* note 15, at 169. Of course, the U.S. ratified the former, but not the latter.

161. Tim Wilson & Caitlin Brown, Institute of Public Affairs, Costly, Ineffectual, and Protectionist Carbon Tariffs: Why Carbon Tariffs Shouldn't Be Adopted to Offset the Cost of Carbon 8, http://sustainabledev.org/wp-content/uploads/2009/12/Carbontariffs.pdf.

162. Strangely, Wilson & Brown, *id*., do not make such an argument in criticizing BTAs.

> only because the nominal price of the good does not include the full costs of production.[163]

It seems reasonable to believe, though impossible to document, that most economists would endorse the latter view. If it were to prevail — and

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163. Gilbert E. Metcalf & David Weisbach, The Design of a Carbon Tax, 33 Harv. Envt'l. L. Rev. 499, 504 (2009), Nobel laureate Joseph Stiglitz states this argument as follows:

> A subsidy means that a firm does not pay the full costs of production. Not paying the cost of damage to the environment is a subsidy, just as not paying the full costs of workers would be. . . . American firms are being subsidized—and massively so. There is a simple remedy: other countries should prohibit the importation of American goods produced using energy intensive technologies, or, at the very least, impose a high tax on them, to offset the subsidy that those goods currently are receiving. . . . Energy tariffs would simply restore balance—and at the same time provide strong incentives for the United States to do what it should have been doing all along.

See Joseph E. Stiglitz, A New Agenda for Global Warming, Economist's Voice, Jul. 2006, at 2. Stiglitz would actually go further than merely imposing BAs on trade with the U.S. He says, "Japan, Europe, and the other signatories of Kyoto should immediately bring a WTO case charging unfair subsidization." *Id*. This suggestion, while perhaps displaying impeccable economic logic, seems a bit farfetched and is inconsistent with WTO jurisprudence. Referring to the decision of the Appellate Body in United States – Tax Treatment for "Foreign Sales Corporations," WT/DS108/AB/R ¶ 90, (adopted on Mar. 20, 2000), Mehling, Meyer-Ohlendorf, & Czarnecki state:

> [T]he key question is whether the failure of a country to price carbon emissions or to internalize the full costs of carbon emission constitutes a subsidy as defined in 1.1 (a)(1) ASCM. The WTO Appellate Body has ruled that Art. 1.1. ASCM requires a comparison between products in one single WTO member; the provision does not foresee a comparison between different WTO members, for instance between WTO members with and without climate change commitments.

See Michael Mehling, Nils Meyer-Ohlendorf & Ralph Czarnecki, International Trade Policy in a World of Different Carbon Prices, in Competitive Distortions and Leakage In a World of Different Carbon Prices: Trade, Competitiveness and Employment Challenges When Meeting the Post-2012 Climate Commitments in the European Union 23-29 (European Parliament, 2008).

BTAs were not imposed in a manner that would otherwise create a restriction on trade, an Article XX exception might be granted.[164]

Economists are not the only ones who disagree on the case for border adjustments. As noted earlier, divergent views have been expressed by political figures in the EU. French President Nicolas Sarkozy and President of the Italian Council Silvio Berlusconi have been outspoken in their demands for border adjustments, but others have been equally vocal in opposing them.[165] Although the U.S. House of Representatives has passed the Waxman-Markey bill and Democrats have introduced similar legislation in the U.S. Senate, opposition by Republicans makes its enactment unlikely. Of course, spokespersons for developing countries have strongly opposed BAs.[166]

Advocates of BAs stress the need to be sure that such measures do not violate the international trade rules, and pains have been taken in drafting some proposals for BAs to achieve this result. It is necessary to emphasize carbon leakage, which is a question of global emissions that has salience under paragraph (g) of Article XX, and not loss of competitiveness, which does not.[167] It is not clear how the WTO would balance the economic case for BAs based on the principles Metcalf and Weisbach set forth and concerns for carbon leakage expressed in official documents against concerns about

164. Avner draws a distinction between BAs that are enacted alongside the requirement that domestic producers hold emissions permits, as part of a package, and those that are enacted subsequent to enactment of the domestic measures, arguing that only the latter should be considered protectionist. Avner, *supra* note 15, at 39. This formalistic distinction seems unconvincing.

165. *Supra* note 6.

166. Houser, *supra* note 2.

167. Bordoff has noted that there is a sound reason why a nation may introduce import BAs based on the carbon intensity of imports (to reduce carbon leakage) and an equally sound reason that they may limit BAs to trade with countries that have comparably effective climate policies (lack of concern about carbon leakage to them). Bordoff, *supra* note 15 at 51. But he also warns, that "there is no exception in Article XX for preserving the health of U.S. firms, only the environment . . . ." *Id*. at 52. Similarly, Quick states, "The protection of the industry's competitiveness is, however, not foreseen among the exception provided for by Article XX GATT as it would undermine the economic rationale of the WTO . . . ." Quick, *supra* note 15, at 169. Pauwelyn observes, "Arguments or indications of economic competitiveness concerns or leveling of the economic playing field between, say, U.S. and Chinese steel, will not carry much weight in the WTO; on the contrary, they would most likely be used in support of a finding that U.S. legislation is protectionist or discriminatory and, therefore, violates the WTO treaty." Pauwelyn, Testimony, *supra* note 15, at 14. *See also* Hufbauer, Charnovitz & Kim, *supra* note 9, at 49.

economic disadvantage also mentioned in official documents[168] and the cries for protection from unfair competition that fill the popular press. Ponnambalam, suggests that if the WTO were to focus on the "true purpose" of BAs for a U.S. cap and trade system, as it did in *Brazil – Tyres*, it would not grant an Article XX exception.[169]

3. The Importance of Design

Many have noted the importance of how BAs are designed. For example, Cosbey has stated, "It is impossible to say in the abstract whether BCA [border carbon adjustments] would or would not breach WTO obligations, since any such judgment would depend fundamentally on how the scheme was designed."[170] Similarly, Godard says, "there are strong arguments that CBA [Carbon Border Adjustments] would be compatible with WTO rules if its design is cautious and takes account of some critical points in relation to basic principles of WTO."[171]

Bordoff has described five ways in which BAs might fail to satisfy the chapeau, several of which involve matters of design: (1) by doing little to reduce carbon leakage; (2) by not allowing BAs to be based on the actual carbon content of imports; (3) by imposing overly stringent requirements on the means that can be used to reduce emissions; (4) by not taking adequate account of different conditions (namely the state of development); and (5) by failing to undertake serious negotiations.[172]

Wooders, Reinaud, and Cosbey have proposed detailed "[g]uidance on elaborating and applying border carbon adjustment measures," so that BAs will be "formulated and carried out in a manner that is minimally disruptive to trading partners, equitable in terms of impacts, effective in

168. Directive 2009/29/EC incautiously says that the failure of some countries to participate in an international agreement to reduce emissions could both lead to carbon leakage and put energy-intensive sectors at an economic disadvantage. Directive 2009/29/EC, *supra* note 6, at ¶ 24.

169. Ponnambalam, *supra* note 8, at 284-86. He notes that the rationale for U.S. rejection of the Kyoto Protocol is captured in the Byrd-Hagel resolution, which the U.S. senate passed by a vote of 95-0. *Id*. at 285. It stated that the United States should not be a signatory to any agreement under the UNFCCC that is either "environmentally flawed" by failing to impose emissions restrictions on developing countries, or that "would result in serious harm to the economy of the United States." S. Res. 98, 105th Cong. (1997).

170. Cosbey, *supra* note 86, at 3. Cosbey emphasizes the need for further research into how to make BTAs GATT-legal. *Id*. at 7. Pauwelyn provides guidance on making sure that legislation is GATT-legal. Pauwelyn, Testimony, *supra* note 15. *See also* Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 41-44.

171. Godard, *supra* note 15, at 23.

172. Bordoff, *supra* note 15, at 52-54.

achieving the goal of addressing competitiveness impacts and leakage, and in line with the principles of the multilateral system of trade and the multilateral climate change regime."[173] Its tenets, which the authors hope might become relevant in dispute settlement before the WTO, include:

- BAs should be a fallback measure, to be employed only if international agreement cannot be reached;
- BAs should be used only to address leakage, not competitiveness;
- Rules should be clear and predicable, and there should be mechanisms for international input and appeals;
- Data requirements should be based on existing conventions, and calculation of sectoral vulnerability should be simple enough to be operational with reasonably available data;
- Imports should not be subject to BAs if they are from a country that is in compliance with its obligations to meet climate change or is making comparable efforts to reduce emissions;
- The principle of common but differentiated responsibilities should be observed in the application of BAs;
- Conditions that trigger BAs should be transparent and predictable, but decisions to impose BAs should not be automatic;
- BAs should be based on data on physical quantities, not financial records, should reflect the effects of free allowances and related measures, and should not take account of emissions related to consumption or disposal of products;
- BAs should be calculated for plants; if practicality requires reliance on world or country averages, exporters should have the option of demonstrating lower emissions.[174]

173. Wooders, Reinaud & Cosbey, *supra* note 1, at 67.
174. *Id*. at 67-70.

C. GATT Legality Under the Basic Rules vs. Article XX Exceptions

Opinion is divided on whether import BTAs for a carbon tax would have a better chance of passing muster under the basic GATT rules or under the general exceptions of Article XX. As suggested in the introduction to this section, three different issues might be involved under the basic rules: whether BTAs can be based on PPMs, whether they can depend on the carbon intensity of traded products, and the legality of a mixed system.

Regarding the first two issues, Pauwelyn proposes that the "first line of defense" of BTAs would be that they are consistent with the GATT rules regarding "product-related or indirect taxes," with an appeal under Article XX as "a second line of defense."[175] Ismer and Neuhoff conclude that it is uncertain whether the chapeau of Article XX could be satisfied, "in particular with respect to other Kyoto regions that pursue a different abatement regime. Therefore, it would seem wise to attempt to meet the standards of Art. I and III of GATT."[176] They argue that the use of BAT would eliminate a challenge under Article III.[177] By comparison, expressing what seems to be the more predominant position, Cosbey believes that it would be difficult to construct what is called here a mixed system that would not fail the most-favored nation test of GATT Article I and that it would therefore be necessary to rely on the exceptions of Article XX.[178]

Those designing a carbon tax and attendant BTAs thus face a dilemma. van Asselt, Brewer, and Mehling point out the following paradox:

> Interestingly, the more a border adjustment measure differentiates between different countries, the more likely it would violate the MFN-clause, but the more it would be compliant with the chapeau conditions. Conversely, applying the border adjustment measure to all countries could avoid a violation of the MFN principle, but would make it unlikely to qualify as an exception. This means, essentially, that countries wanting to design border adjustment measures need to consciously choose a strategy that either rests on avoiding violation of the commitments

175. Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 41.
176. Ismer & Neuhoff, *supra* note 1, at 152.
177. Neuhoff & Ismer, *supra* note 3, at 7.
178. Cosbey, *supra* note 86, at 3-4.

> and principles in the GATT or on satisfying the conditions of the general exceptions.[179]

D. Summary Appraisal

Import BTAs would probably satisfy paragraph (g) of Article XX, and perhaps paragraph (b). This is most likely if BTAs were based on BAT or PMP (if it is lower than the actual carbon content of imports) and perhaps not unlikely if they were based on the actual carbon content of imports (if it is higher than that under PMP). The case for export BTAs is less convincing.

A mixed system seems unlikely to satisfy the chapeau, especially as applied to trade with developing countries. It is important to keep in mind Bordoff's warning that, rather than being decided on purely technical grounds of conformity with the basic GATT rules, "the consistency of border adjustments with WTO law is in doubt and may come down to whether the WTO panel finds the measure to be a genuine effort to protect the environment or a form of stealth protectionism."[180]

V. BAS FOR THE COST EMISSIONS PERMITS

Most countries that are pricing carbon, or that propose to do so, are using or contemplating cap and trade systems, rather than carbon taxes. It is thus necessary to examine the GATT-legality of BAs for the cost of emissions permits under such schemes.[181] Unfortunately, as noted earlier, legal jurisprudence dealing directly with this issue is virtually non-existent. Moreover, it is not even clear whether the WTO would consider the cost of allowances to be analogous to a tax or a form of regulation, in which case a different body of WTO jurisprudence would apply.[182] Only the former

179. van Asselt, Brewe, & Mehling, *supra* note 8, at 55 n.213.

180. Bordoff, *supra* note 15, at 58.

181. Recall the working assumption stated *supra* in note 5 that BAs for a cap and trade system would take the form of requiring that importers hold emissions permits, exempting exports from the requirement to hold permits, and refunding the cost of permits incurred before the export stage. Quick argues that using border *tax* adjustments on imports to compensate for the domestic cost of emissions permits has an element of "naked discrimination" and thus might not be allowed under either the basic GATT rules or Article XX. *See also* Quick, *supra* note 5, at 172-73. For a different view, *see infra* note 183.

182. van Asselt, Brewer & Mehling note that a requirement for importers to hold allowances might be seen as part of an internal regulation that is implemented at the border, and thus governed by Article III.4 of the GATT, or as a measure applying only to imports, in which case it might be found to be either an import tariff prohibited by GATT Article II.1(b) or a quantitative restriction on imports prohibited by GATT Article XI.1, rather than being governed by Article III.2, which pertains to

possibility is considered here.[183] Given the lack of WTO jurisprudence regarding BAs for the cost of permits, it is necessary to attempt to infer from

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taxes. van Asselt, Brewer & Mehling, *supra* note 8, at 48. They cite Robert Howse & Antonia Eliason, Domestic and International Strategies to Address Climate Change: An Overview of the WTO Legal Issues, in International Trade Regulation and the Mitigation of Climate Change 48-49 (Thomas Cottier, Sadeq Bigdeli & Olga Nartova eds., Cambridge Univ. Press 2009) to the effect that the requirement to hold emissions allowances would be a regulation that would be governed by Article III.4, a conclusion with which Wooders, Reinaud & Cosbey, *supra* note 1, at 55 agree. Bordoff examines the requirement to hold emissions permits for imports under GATT Article III.4, as well as under Article III.2. Bordoff, *supra* note 15, at 43-47. *See also* Quick, *supra* note 15, at 355-56. This question interacts with the provision of free allowances, to be considered below. de Cendra states the issue nicely:

> In the case of grandfathered allowances, there is no payment to the government and thus the OECD definition [of taxes] mentioned above does not hold. However, it is clear that a stringent allocation will nevertheless increase the production costs of industry. In this case, the EU ETS can be compared to any other environmental regulation, which by imposing, for example, standards on emissions, raises the costs for industry. The analysis of the legality of imposing levies at the border to cancel those impacts would have to be done within the remit of Article III(4) of the General Agreement on Tariffs and Trade (GATT). . . . [I]t seems that the case for compatibility would be rendered significantly more difficult.

See de Cendra, *supra* note 12, at 138. The definition mentioned is the OECD definition of taxes that is considered in the text *infra* at note 187. There are, of course, many regulations that raise costs of domestic production for which there are no BAs. *See infra* note 183. In any event, the requirement might pass muster under the general exceptions of GATT Article XX.

183. In proceeding it is useful to keep in mind the intriguing — and troubling — possibility raised by Quick:

> Traditionally, command and control environmental legislation has been adopted by many countries without a discussion of border adjustment notwithstanding their costs for domestic businesses. Suppose the EU would have prescribed in its legislation a mandatory greenhouse gas reduction obligation for covered installations without a cap and trade system. Would such a measure have triggered the border adjustment discussion?
>
> If one were to consider that an environmental legislation applying a market-based instrument (e.g., emission trading) was different from a 'normal' command and control environmental legislation as far as the application of border tax adjustment is

the jurisprudence on BTAs discussed above how the WTO would decide a case involving BAs for emissions permits. Doing so is complicated by the fact that important aspects of cap and trade systems, including free allowances and acquisition of permits on the secondary market, have no tax analogs.

A. BAs for the Cost of Emissions Permits Purchased From the Issuing Government

It might seem that, as a matter of economic logic, the GATT-legality of BAs for the cost of emissions permits purchased from the issuing government should be governed by the same reasoning as the GATT-legality of BTAs for carbon taxes.[184] But the cost of permits is not a tax, in the usual sense of that word. As Ismer and Neuhoff note regarding their conclusion that BTAs for exports would be GATT-legal, "it does not automatically follow . . . that any costs of allowances should be deductible as well."[185]

GATT Articles I and III.2, respectively, refer to "customs duties and charges of any kind" and "internal taxes or other internal charges of any kind." The first question is whether the cost of permits acquired directly from a government could be construed to be a tax or a charge for purposes of these provisions.[186] To answer this question, it is customary to refer to the following OECD definition of taxes: "compulsory, unrequited payments to general government."[187] While the cost of permits is compulsory – or at least as compulsory as any tax that can be avoided by refraining from the taxed

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> concerned, WTO members could turn their domestic legislation dealing with environmental media . . . into market-based instruments and then apply border tax adjustments.
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> . . . .
>
> From a trade policy point of view, border tax adjustment for market-based environmental instruments would have to be qualified as a slippery slope into protectionism. Can the application of Article III GATT really depend on whether a state has chosen to apply a market-based instrument instead of a command and control measure?

Quick, *supra* note 15, at 356-57.

184. Godard, *supra* note 15, at 28, states, "From an economic viewpoint, as a matter of principles, there is no reason to discriminate between a carbon tax and emissions trading when discussing options for border adjustment."

185. Ismer & Neuhoff, *supra* note 1, at 144. "Rebatable" seems more apt than "deductible."

186. *See also* Neuhoff & Ismer, *supra* note 3, at 9.

187. Organisation for Economic Co-operation and Development, Chairman of the Negotiating Group on the Multilateral Agreement on Investment, Note on the Definition of Taxes, DAFFE/MAI/EG2(96)3 (Apr. 19, 1996), http://www1.oecd.org/daf/mai/pdf/eg2/eg2963e.pdf.

activity – whether it is also unrequited is a matter of interpretation.[188] While a firm buying permits may seem to get nothing in return, in fact it gets the privilege of discharging CO_2 into the environment. Under the former interpretation, the cost of permits would be a tax for which BAs might be allowed;[189] under the latter, it would be a fee, for which adjustments are not allowed.[190]

If BAs for the cost of permits were found to be governed by the rules for BTAs for carbon taxes, all the uncertainties described above would exist, namely whether the cost of permits constitute a tax on a product and, if so, whether differences in carbon intensity make products unlike. In addition, an issue that is reminiscent of the debate over the adjustability of *taxes occultes* is extremely important. Is adjustment allowed if it is a supplier to an exporter or to a domestic firm that competes with imports (rather than the exporter or the import-competing firm) that buys permits? This issue is especially important if the supplier in question is a generator of electric power and even more important if the purchaser of power produces non-ferrous metals (most notably aluminum) or uses electric arc furnaces to produce ferrous metals. de Cendra opines that no BAs would be available for the cost of emission permits embedded in the price of electricity, because the entity seeking the BA would not have made a payment to the government.[191] Genasci elaborates in the context of a carbon tax, "[E]ven if such costs could be measured precisely, it is hard to make a convincing case that they could be adjustable through a BTA mechanism, given that the increased price of electricity is neither a tax nor a charge levied by the government."[192] Be this

188. *See* Bordoff, *supra* note 15, at 46-47; de Cendra, *supra* note 12, at 135, Ismer & Neuhoff, *supra* note 1, at 144, Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 21 n.55; Avner, *supra* note 15, at 16. Quick, *supra* note 5, at 166, citing the *Oxford English Dictionary* definition of a charge, "a price asked" or "a financial liability or commitment," concludes that the options available to buy permits or sell those not needed to offset emissions makes it difficult to consider the auctioning of permits "an internal charge on products."

189. For this view, *see* Ismer & Neuhoff, *supra* note 1, at 144, and Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 21.

190. Godard argues that if the cost of emissions permits is deemed to be similar to a tax, BAs should be allowed for them (including the cost of permits bought on the secondary market) under the basic GATT rules, but if not, they could only be justified by an Article XX exception. Godard, *supra* note 15, at 29.

191. de Cendra, *supra* note 12, at 136-37.

192. Genasci, *supra* note 12, at 38. He continues:

> Moreover, were indirect costs determined to be eligible for adjustment in theory, the need to accurately measure those costs would pose technical and legal challenges. Recent research suggests that measuring wholesale electricity price increases as a result of emissions costs on electricity producers is extremely

as it may, the EU included the following words in the 2009 modification of the directive establishing the ETS: "For those specific sectors or subsectors where it can be duly substantiated that the risk of carbon leakage cannot be prevented otherwise, where electricity constitutes a high proportion of production costs and is produced efficiently, the action taken may take into account the electricity consumption in the production process . . . ."[193]

The ASCM contains no wording that leads one to believe that border adjustments for any types of payments beyond taxes, as that term is usually understood, are contemplated or would be allowed. If the cost of acquiring emissions permits from a government could not be likened to a tax, the WTO might see the rebate of such costs as a prohibited export subsidy.[194]

B. BAs for the Opportunity Costs of Free Allowances

In order to combat unfair competition from firms located in countries that do not price carbon and carbon leakage to those countries, emissions permits may be granted free of charge. There may be demands for BAs for the value of free allowances, even though the combination of free allowances and BAs would constitute "double dipping."[195]

An economic case can, however, be made for this seemingly anomalous combination. The reasoning is simple: The grant of free allowances is tantamount to a cash subsidy, since the allowances can be sold. The use of allowances to offset emissions has an opportunity cost – what they would fetch in a sale – that will be reflected in the price of domestic products. Unless BAs are allowed for the value of free allowances, unfair competition and carbon leakage can occur.[196]

> difficult, and the precise extent to which the observed price changes are translated into increased electricity costs would also be hard to determine. Any uncertainty in measuring cost pass-through could have legal implications, since overestimating pass-through might result in excess adjustments to exporters.

Id. The research he mentions is Reinaud's, discussed *infra* at note 193.

193. Directive 2009/29/EC, *supra* note 6, ¶ 24. For extensive discussions of the treatment of electricity, *see* Julia Reinaud, International Energy Agency, CO_2 Allowance and Electricity Price Interaction: Impact on Industry's Electricity Purchasing Strategies, (2007), http://www.iea.org/papers/2007/jr_price_interaction.pdf, and Avner, *supra* note 15, at 60-70.

194. *See* Hufbauer, Charnovitz, & Kim, *supra* note 9, at 69-70.

195. Writing in the analogous context of exemptions from environmental taxes, Hoerner & Muller, say that, "exemptions and BTAs are incompatible approaches to dealing with competitiveness issues." Hoerner & Muller, *supra* note 15, at 45.

196. *See* Frankel, *supra* note 121, at 513; Pauwelyn, U.S. Federal Climate Policy, *supra* note 15, at 22; Bordoff, *supra* note 15, at 45, 56 Cong. Budget Office,

Again, electric power provides the poster child for this proposition. Even though 95 percent of permits were distributed free of charge during the first two phases of the ETC, most generators of electricity were reflecting the value of permits in charges or were expected to do so.[197] If no relief is allowed for these higher prices, domestic producers could be placed at a competitive disadvantage and carbon leakage could occur. Non-ferrous metals and ferrous metals produced in electric arc furnaces would be most at risk.

Even if the cost of permits purchased from a government would be treated as a border adjustable tax, it seems unlikely that border adjustments would be allowed for the full value of permits that are distributed free of charge.[198] Since there is no payment, the OECD definition of taxes would not

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Tradeoffs in Allocating Allowances for CO_2 Emissions (2007). Frankel writes in the context of the ETS:

> [G]iving a firm free permits is the same as giving them a cash subsidy. According to simple microeconomic theory, however, these subsidies would do nothing to address leakage. Because carbon intensive production is cheaper in non-participating countries, the European firms would simply sell the permits they receive and pocket the money, while carbon-intensive production would still move from Europe to non-participants.

Frankel, *supra* note 121, at 513.

197. It has been reported that 70 percent of responding electric power generators were reflecting these costs in prices and that 87 percent expected to do so. *See* European Comm'n Directorate Gen. for Env't et al., EU ETS Review: Report on International Competitiveness, 12 (Dec. 2006), http://ww1.mckinsey.com/clientservice/sustainability/pdf/Report_on_International_Competitiveness.pdf. In simulating the effects of the ETS, it is assumed that companies include the opportunity cost of emissions permits in their prices, if possible, given their competitive situation. *Id.* at 12. *See also* Reinaud, *supra* note 193.

198. Free distribution of permits also raises another question: whether this is a subsidy that is actionable under the ASCM. Holzer writes, "Export rebates under free initial allocation of allowances might constitute compensation of costs 'in excess of those which have accrued' and, pursuant to GATT Ad Article XVI, might qualify a subsidy." *See* Holzer, *supra* note 15, at 63; *see also* Hufbauer & Kim, *supra* note 34, at 6-7. Hufbauer, Charnovitz and Kim warn, "The question of whether the free allocation of emissions allowances is a subsidy does not have an obvious answer, and there has been no WTO jurisprudence on this point." Hufbauer, Charnovitz & Kim, *supra* note 9, at 61. Output-based rebates for energy-intensive industries have been proposed as an alternative way to offset the cost of purchasing emissions permits that is more likely to withstand legal scrutiny. Writing of output-based rebates, Fischer & Fox note, "An open question is whether such rebates or allocations would raise SCM issues." Fischer & Fox, *supra* note 12, at 6. These topics are well beyond the scope of this article. *But see* Pauwelyn, Testimony, *supra* note 15.

be satisfied. Moreover, GATT Article III.2 states that imports cannot be subject to internal taxes or other internal charges in excess of those applied to like domestic products. Similarly, Footnote 1 to Article 1.1 of the ASCM states:

> [T]he exemption of an exported product from duties or taxes borne by the like product when destined for domestic consumption, or the remission of such duties or taxes in amounts not in excess of those which have accrued, shall not be deemed to be a subsidy.

The free distribution of allowances means, of course, that domestic producers are not subject to a charge for which BAs are being sought.[199] This would be comparable to allowing BTAs for an excise tax from which a domestic producer is exempt. de Cendra concludes that auctioning of permits would seem to be a prerequisite for the legality of border adjustments.[200] It may thus be legally necessary, as well as politically desirable, to allow border adjustments only for a fraction of the cost of permits equal to the percentage of permits that are sold.[201] Alternatively, BAs could be allowed

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199. Quick says that it is difficult to argue that the current ETS system, in which 95 percent of permits are allocated free of charge, constitutes a charge on products. Quick, *supra* note 5, at 164. Holzer asks, "would there be anything that these companies could be compensated for?" Holzer, *supra* note 15, at 63. Quick also notes that one could argue that, for the same reason, the current ETS system does not satisfy the requirement of paragraph (g) of Article XX that measures must be applied "in conjunction with restrictions on domestic production or consumption." Quick, *supra* note 5, at 172-73. For the latter proposition Quick cites the following words from the decision of the Appellate Body in *AB Report – Reformulated Gasoline*:

> [I]f *no* restrictions on domestically-produced like products are imposed at all, and all limitations are placed upon imported products *alone*, the measure cannot be accepted as primarily or even substantially designed for implementing conservationist goals. The measure would simply be naked discrimination for protecting locally-produced goods. (emphasis in original)

AB Report – Reformulated Gasoline, *supra* note 129, at 22. He adds, however, that the European cap and trade system does have the effect of restricting domestic production, since domestic producers have a variety of choices of how to comply with the ETS rules. *Id*.

200. de Cendra, *supra* note 12, at 145.

201. Neuhoff writes, "[B]order adjustments can only be applied to the extent that installations pay for their allowances. Border adjustment is not possible to the extent installations receive free allowances. . . ." Karsten Neuhoff, The Political

for the average cost of allowances. Import BAs, limited in this way, would presumably be implemented on a sector-by-sector basis. But what if, in a given sector, existing domestic emitters receive free allowances, but new entrants must purchase them, or some emitters (e.g., small emitters) are excluded from the need to hold permits? Genasci opines that basing BAs on the cost of permits borne by those not receiving free permits would violate national treatment, which "would hold that the imported good should face the lowest level of charges faced by any domestic like product."[202]

It would seem necessary to calculate export BAs on a firm-specific basis, since sector-specific BAs could result in subsidies for the exports of particular firms.[203] Making the requisite calculations accurately for particular traded products would be virtually impossible.

C. BAs for the Cost of Permits Acquired in the Secondary Market

Under a cap and trade system, permits may be acquired on the secondary market. Whether BAs should be allowed for the cost of permits acquired in this way raises issues that do not arise in the context of BTAs for carbon taxes. Consider first acquisition on the secondary market of permits originally purchased from a government. Assuming for argument's sake that the cost of such permits is adjustable, whether or not the cost of permits acquired on the secondary market is adjustable may depend on how one interprets the OECD definition of a tax as "compulsory, unrequited payments to general government." Although the holding of permits is arguably compulsory and perhaps unrequited, payment is not made directly to a government.[204]

The adjustability of the cost of acquiring on the secondary market permits that were originally granted without charge increases uncertainty, as do falling prices of permits. Genasci concludes that allowing full BAs when

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Economy of a World with Different Carbon Prices, in Competitive Distortions and Leakage In a World of Different Carbon Prices: Trade, Competitiveness and Employment Challenges When Meeting the Post-2012 Climate Commitments in the European Union 9, 19 (European Parliament 2008). Cosbey observes that non-discrimination requires that "If domestic producers in certain sectors are given free allocations of emission permits, for example, then their foreign counterparts must also get such treatment." Cosbey, *supra* note 86, at 3; *see also* Ismer & Neuhoff, *supra* note 1, at 144.

202. *See* Genasci, *supra* note 12, at 41.

203. *Id*. at 39.

204. Avner offers a novel analysis, suggesting that the requirement to hold permits, which have an opportunity cost, and submit them constitutes a tax, even if the permits are bought on secondary markets. He warns, however, that this interpretation "does not have authority with respect to GATT legal texts." Avner, *supra* note 15, at 18.

the government has not received an equal amount "would appear to constitute a rather obvious violation of GATT Article XVI.4, which prohibits rebates in excess of taxes that have been paid."[205] Regarding falling permit prices, he reasons that BAs "would need to be set at the lower of (a) the price paid by the exporter and (b) the payment actually received by the government. Such a system would be quite complex where there is a secondary market in emissions allowances in which prices fluctuate."[206]

D. BAs for the Costs of Capture and Storage of CDM

Capture and storage of CO_2 may offer a means of avoiding the need to hold emissions permits. Moreover, the Clean Development Mechanism, (CDM) under which credit is allowed for reducing carbon emissions in developing countries, has been touted as a way of meeting Kyoto targets for emissions abatement. This raises the question of whether border adjustments would be allowed for the cost of utilizing these techniques to avoid or meet requirements to surrender emissions permits. A negative answer seems likely, since the costs of capture and storage and CDM payments clearly do not meet the definition of a tax or other charge.[207]

VI. SUMMARY AND CONCLUSIONS

Although the GATT-legality of border adjustments for a carbon tax or the cost of emissions permits is ultimately uncertain, it is possible to draw the following conclusions — some of them more tentative than others — regarding this "riddle, wrapped in a mystery, inside an enigma."

(1) It is possible that the WTO would treat the cost of purchased emissions permits like a tax. In that case the conclusions regarding BTAs for carbon taxes would apply to border adjustments for these costs. If the cost of emissions permits is not considered a tax, no adjustments would be allowed under the GATT provisions dealing with taxes.[208]

(2) There is little reason to believe that conclusions regarding the GATT-legality of border adjustments for imports and for exports would be identical; more likely, adjustments for the two flows of trade would be

205. Genasci, *supra* note 12, at 39-40. Although written in the context of freely allocated permits that are bought on the open market, this conclusion seems equally apt in the case of free permits surrendered by entities who bought them from a government.

206. *Id*. at 40.

207. They might better be considered costs of satisfying regulatory requirements and thus subject to GATT Article III.4.

208. As noted above, whether BAs for the cost of emissions permits would be allowed under Article III.4 is not considered here. *Supra* note 183.

considered separately, perhaps under different standards. This is especially true of an appeal for an Article XX exception.

(3) It seems fairly certain that carbon taxes would not be considered to be direct taxes. If not they are not per se non-adjustable. It seems even less likely that the cost of emissions permits would be treated as a direct tax.

(4) It is likely that carbon taxes — and a fortiori the cost of emissions permits — would not be considered to be "prior stage cumulative indirect taxes" (PSCI taxes). But expert opinion on this is not unanimous. If carbon taxes are PSCI taxes, they are probably adjustable. If they are not, then the discussion of the adjustability of PSCI taxes is beside the point.

(5) Since CO_2 is not physically incorporated in traded products, carbon taxes are best seen as *taxes occultes*. If the cost of emissions permits is a tax, it is also *occulte*. Unfortunately, the 1970 Working Party on Border Tax Adjustments decided that the question of BTAs for *taxes occultes*, while unclear, was not important enough to justify further examination.[209] This lack of guidance helps explain why there is so much uncertainty concerning the GATT-legality of BTAs for carbon taxes, and thus BAs for the cost of emissions permits.

(6) Much of the debate over the GATT-legality of BTAs for carbon taxes (aside from viewpoints that assume that such taxes are PSCI taxes) has revolved around (a) whether carbon taxes, being based on PPMs, are levied on products, and if so, (b) whether products that differ in carbon intensity are "like" — a necessary condition for adjustability based on actual carbon content. The outcome of this debate is relevant for judging the GATT-legality of border adjustments for the cost of emissions permits, if such costs are seen as taxes.

(7) Some observers believe that carbon taxes would be adjustable, but others — and pronouncements in WTO publications — suggest that this belief is incorrect, because taxes based on PPMs are not levied on products.

(8) The WTO decision in the *Superfund* case — and the fact that the U.S. tax on ozone depleting chemicals (ODCs) has never been challenged — has been interpreted to mean that border adjustments for a carbon tax or the cost of emissions permits, both of which involve charging for an input that is not incorporated into the traded product, might pass scrutiny.

(9) It appears that differences in PPMs do not make physically identical products unlike. In that case, BAs could not be based on the carbon content of traded goods.

(10) Experience with the *Superfund* and ODC taxes suggests that it would be acceptable to base border adjustments for imports on the predominant method of production in the importing country, providing there is an option to demonstrate that the imports are produced using less carbon-intensive methods.

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209. Working Party on BTAs, *supra* note 4 at ¶ 15.

(11) Basing border adjustments for imports on best available technology (BAT) would assure that imports are not taxed more heavily than domestic products and would thus likely be GATT-legal. But, like PMP, use of BAT would imply that imports would often not be subject to charges high enough to reflect their actual carbon content. Moreover, there would be no incentive to reduce emissions.

(12) Border adjustments under a mixed system — applied only to trade with countries that do not have comparably effective programs to curb emissions — would clearly violate the most favored nation provision of the GATT.

(13) Even if border adjustments, including especially those under a mixed system, failed to pass muster under the basic rules of the GATT and ASCM, they might be found acceptable under the Article XX exception for measures necessary to protect health or, more likely, for those relating to the conservation of exhaustible natural resources.

(14) The decision in the *Shrimp-Turtle* case supports the view that BAs based on PPMs may be granted an exception under GATT Article XX.

(15) For a successful appeal under the chapeau of Article XX, it is crucial that the measures in question not be applied in such a manner as to constitute either arbitrary or unjustifiable discrimination between countries where the same conditions prevail or a disguised restriction on international trade. Import BAs probably would not be allowed if the trading partner is an advanced country that has in place a rigorous scheme to reduce emissions and they might not be allowed if it is a developing country.

(16) If border adjustments are to be GATT-legal under either the basic international trade rules or one of the Article XX exceptions, they must be designed carefully and administered fairly.

(17) Policymakers may need to consider carefully whether to try to satisfy the basic trade rules (e.g., by eschewing the mixed system) or one of the Article XX exceptions (by adopting such a system), since one approach may doom the other.

(18) Border adjustments are most likely to be allowed for the cost of emissions permits that are purchased from a government, rather than being distributed without charge or bought on the secondary market.

(19) If some permits are distributed without charge, it would probably be necessary to limit border adjustments to the fraction of the permits that are auctioned.

(20) It seems unlikely that the WTO would allow border adjustments for the cost of permits bought on the secondary market, of capture and storage, or of CDM.

(21) Since upstream producers are likely to set prices to reflect the opportunity cost of emissions permits and the costs of capture and storage and CDM, as well as the costs of permits bought from governments or on the secondary market, failure to allow border adjustments for the value of freely

allocated permits or for all such costs would leave downstream producers at a competitive disadvantage and encourage carbon leakage.

(22) Virtually all of the above conclusions must be considered tentative, in the absence of guidance from the WTO.