Fordham International Law Journal

Volume 39, *Issue* 2 *Article* 1

”Gatting” the New Climate Treaty Right: Leveraging Energy Subsidies to Promote Multilateralism

Deepa Badrinarayana*

*Dale E. Fowler School of Law Chapman university

”Gatting” the New Climate Treaty Right: Leveraging Energy Subsidies to Promote Multilateralism

Deepa Badrinarayana

Abstract

In a previous paper, Trading Up Kyoto: A Proposal for Amending the Protocol, I argued that not only do international trade rules, specifically the operation of the World Trade Organization (”WTO”) agreements, hinder international climate change treaty negotiations, but also that applying exceptions to circumvent trade rules is doctrinally difficult and normatively unsettling, primarily because of WTO jurisprudence, the colorable intent of nations that are violating WTO rules in the guise of mitigating climate change, and the challenges to creating environmental exceptions to trade rules to facilitate emissions reduction. To illustrate this point, I focused on ongoing trade disputes involving a few renewable energy subsidies through which some nations are apparently seeking to reduce their emissions. I then argued that an effective climate change treaty should counteract the impact of trade and trade rules. In this Article, I argue that nations should negotiate a plan to phase out harmful subsidies, particularly fossil fuel subsidies. The idea of eliminating subsidies is not new. It has been considered an important solution to reduce greenhouse gas emissions, and one that can complement WTO rules. This Article adds another dimension to this solution, i.e. leveraging subsidies within the new climate change treaty to encourage multilateralism. Multilateralism is essential to address the leakage and competition problems arising from the nonparticipation of all major greenhouse gas emitters. Effective unilateral measures to counter leakage violate WTO rules. I argue that nations can counteract this problem by incorporating into the new climate change treaty a mechanism to phase out harmful subsidies in exchange for a right to provide beneficial subsidies as one policy tool that would promote climate change mitigation efforts significantly. This proposal would complement, and not replace, existing provisions; would comply with WTO rules; would mimic other international environmental treaties, notably CITES, the Basel Convention, and the Montreal Protocol, which have addressed tensions between trade and an environmental problem by incorporating trade measures within the treaty.

KEYWORDS: Climate change; Kyoto Protocal; Subsidies; WTO; Leverage; Climate Change Treaty

ARTICLE

"GATTING" THE NEW CLIMATE TREATY RIGHT: LEVERAGING ENERGY SUBSIDIES TO PROMOTE MULTILATERALISM

Deepa Badrinarayana[*]

ABSTRACT

In a previous paper, Trading Up Kyoto: A Proposal for Amending the Protocol*, I argued that not only do international trade rules, specifically the operation of the World Trade Organization ("WTO") agreements, hinder international climate change treaty negotiations, but also that applying exceptions to circumvent trade rules is doctrinally difficult and normatively unsettling, primarily because of WTO jurisprudence, the colorable intent of nations that are violating WTO rules in the guise of mitigating climate change, and the challenges to creating environmental exceptions to trade rules to facilitate emissions reduction. To illustrate this point, I focused on ongoing trade disputes involving a few renewable energy subsidies through which some nations are apparently seeking to reduce their emissions. I then argued that an effective climate change treaty should counteract the impact of trade and trade rules.*

In this Article, I argue that nations should negotiate a plan to phase out harmful subsidies, particularly fossil fuel subsidies. The idea of eliminating subsidies is not new. It has been considered an important solution to reduce greenhouse gas emissions, and one that can complement WTO rules. This Article adds another dimension to this solution, i.e. leveraging subsidies within the new climate change

---

* Dale E. Fowler School of Law Chapman University. The author is grateful to the support of Dean Daniel Bogart and Donald Kochan for their support. The author would also like to thank participants at workshops held in Colorado University School of Law, UC Irvine School of Law, Denver School of Law and Washington University School of Law, including Professors William Boyd, Ann Carlson, Robin Craig, Jonathan Glater, Sarah Krakoff, Doug Kyser, David Min, Justin Pidot, George "Rock" Pring, and Jedediah Purdy.

treaty to encourage multilateralism. Multilateralism is essential to address the leakage and competition problems arising from the non-participation of all major greenhouse gas emitters. Effective unilateral measures to counter leakage violate WTO rules. I argue that nations can counteract this problem by incorporating into the new climate change treaty a mechanism to phase out harmful subsidies in exchange for a right to provide beneficial subsidies as one policy tool that would promote climate change mitigation efforts significantly. This proposal would complement, and not replace, existing provisions; would comply with WTO rules; would mimic other international environmental treaties, notably CITES, the Basel Convention, and the Montreal Protocol, which have addressed tensions between trade and an environmental problem by incorporating trade measures within the treaty.

ABSTRACT.....179
INTRODUCTION 180
I. CLIMATE CHANGE, LEAKAGE, THE LIMITS OF THE KYOTO PROTOCOL, AND UNILATERAL TRADE MEASURES.....186
II. THE DUAL IMPORTANCE OF SUBSIDIES IN MITIGATING CLIMATE CHANGE.....194
A. WTO Rule on Subsidies: the Agreement on Subsidies and Countervailing Measures.....194
B. The Challenge with Regulating Fossil Fuel Subsidies 196
C. The ASCM Challenge to Renewable Energy Subsidies....197
III. LEVERAGING ENERGY SUBSIDIES 199
A. Trade conflict has been resolved by MEAs.....199
B. The New Climate Change Treaty Can Resolve the Trade Conflict 201
CONCLUSION.....204

INTRODUCTION

An important roadblock to negotiating an effective climate change treaty has been the lack of multilateral cooperation caused by the tension between some industrialized and industrializing nations. Industrializing nations such as China and India with currently high greenhouse gas emissions have rejected binding emissions reduction

obligations, citing to the principle of common but differentiated responsibility.[1] Industrialized countries, notably the United States, have refused legal obligations, anticipating that the exclusion of industrializing nations will cause leakage problems;[2] by becoming havens for industries to relocate; by providing markets for regulated products such as coal and fossil fuels;[3] and by producing high carbon-emitting goods for countries where such production is regulated.[4] Leakage occurs when emissions in a particular sector increase in another jurisdiction because of regulation of emissions of that sector in a particular jurisdiction; in other words, a displacement of an activity that increases emissions outside the regulated place. Concerns about leakage and its impact on competition have led major emitters, notably the United States, to reject the Kyoto Protocol;[5] several countries have followed suit with regard to the second period of

---

1. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Mar. 16, 1998, 2302 U.N.T.S. 148 [hereinafter Kyoto Protocol or the Protocol]; Report of the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol on its seventh session, held in Durban from 28 November to 11 December 2011, U.N. Doc. FCCC/KP/CMP/2011/10/Add.1 (Mar. 15, 2012) [hereinafter UNFCCC].

2. Carbon leakage is: "the ration of emissions increase from a specific sector outside the country (as a result of a policy affecting that sector in the country) over the emission reductions in the sector (again, as a result of the environmental policy). When handling this issue, the aim is to address environmental effectiveness, not industrial policy." Julia Reinaud, *Issues Behind Competitiveness and Carbon Leakage*, INTERNATIONAL ENERGY AGENCY, 3 (Oct. 2008), http://www.iea.org/papers/2008/Competitiveness_and_Carbon_Leakage.pdf [hereinafter IEA Carbon Leakage Report].

3. *See* Jeffery Frankel, *Addressing the Leakage/Competitiveness Issue in Climate Change Policy Proposals*, *in* CLIMATE CHANGE, TRADE, AND COMPETITIVENESS: IS A COLLISION INEVITABLE? 69, 70 (Lael Brainard & Isaac Sorkin, eds. 2009) [hereinafter *Addressing the Leakage*].

4. *See* DUNCAN BRACK, MICHAEL GRUBB & CRAIG WINDRAM, INTERNATIONAL TRADE AND CLIMATE CHANGE POLICIES 35-37 (2000) [hereinafter BRACK]; IEA Carbon Leakage Report, *supra* note 2; Adam J. Moser, *Pragmatism Not Dogmatism: The Inconvenient Need for Border Adjustment Tariffs Based on What is Known About Climate Change, Trade, and China*, 12 VT. J. ENVTL. L. 675, 689 (2011).

5. The United States did not receive support domestically for signing the Kyoto Protocol, and it has been hard to pass comprehensive federal legislation because of concerns about competition. *See generally*, S. Res. 98, 105th Cong. (1997) (the U.S. Senate unanimously, 95-0, advised the Clinton Administration not to accept binding obligations under the Kyoto Protocol unless developing countries undertook comparable obligations); THE BUSINESS ROUNDTABLE, THE KYOTO PROTOCOL: A GAP ANALYSIS (1998). *See also* Letter from Robert N. Burt, Environmental Task Force Chairman, Business Round Table, to President William J. Clinton (May 12, 1998) (on file with author); Letter from John J. Castellini, President, Business Round Table, to Senator Chuck Hagel, Chairman, Senate Foreign Relations Committee (June 21, 2005) (citing loss of competition as a key concern for American businesses if the United States were to sign the Kyoto Protocol without emerging economies undertaking similar obligations).

commitment under the Kyoto Protocol.[6] Moreover, if industrializing countries continue to develop without any checks on their emissions, the global pool of emissions will increase; unlike in the case of other types of air pollution, per capita growth is unlikely to reduce emissions without targeted intervention.[7]

Removing this roadblock will require a solution that can reduce leakage and competition concerns, and/or persuade all major emitters to agree to a comparable emissions reduction policy. Ongoing negotiations on a new climate change treaty show no signs of having addressed the problem. The voluntary agreement between the United States and China to ensure that China's emissions will peak by 2030 is one such example,[8] but this will not ensure that the problem of leakage will be solved, because such a voluntary agreement does not automatically translate into a legal commitment to reduce emissions, and other countries, notably India, are not on board. The negotiating draft for a new climate treaty to which countries agreed in Lima similarly rests emissions reduction on voluntary measures.[9]

Current proposals to address the leakage problem through trade measures, such as imposing border taxes on goods produced with high carbon emissions[10] and easing barriers to technology transfer, including tariffs,[11] are inadequate for economic reasons, as well as

---

6. *What Doha Did*, THE ECONOMIST (Dec. 15, 2012), http://www.economist.com/news/international/21568355-no-progress-today-slightly-better-chance-progress-tomorrow-what-doha-did (noting that the meeting did not produce any concrete decision, with some countries such as Canada, Japan, and Russia withdrawing from the Protocol and those committed to undertaking modest emissions reduction obligations); UNFCCC, *supra* note 1.

7. *See generally* Jeffrey Frankel, *Climate and Trade: Links between the Kyoto Protocol and WTO*, ENVIRONMENT (Sept. 2005), at 11-13 (referring to the Review of Economics and Statistics and stating that there was no evidence that increase in a country's per capita income would reduce its emission, and arguing rather that increase in income would increase emissions).

8. *See generally id.*

9. *U.N. Members Agree Deal at Lima Climate Talks*, BBC NEWS (Dec. 14, 2014), http://www.bbc.com/news/science-environment-30468048.

10. *See* Warwick J. McKibbin & Peter J. Wilcoxen, *The Economic and Environmental Effects of Border Tax Adjustments for Climate Policy*, *in* CLIMATE CHANGE, TRADE, AND COMPETITIVENESS: IS A COLLISION INEVITABLE?, *supra* note 3; 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?, *supra* note 3, at 35-37.

11. Thomas L. Brewer, *Technology Transfers and Climate Change: International Flows, Barriers, and Frameworks*, *in* CLIMATE CHANGE, TRADE, AND COMPETITIVENESS: IS A COLLISION INEVITABLE?, *supra* note 3, at 105.

because of their potential to conflict with World Trade Organization ("WTO") rules.[12] Moreover, efforts to address climate change issues through multilateral negotiations within the WTO are slow.[13] Of greater concern is the fact that many of these measures are unilateral, or will be imposed by a few countries against developing countries; such an approach deters, instead of promoting, international cooperation on climate change mitigation, which calls for multilateralism.[14]

Unilateral efforts to reduce greenhouse gas emissions by promoting renewable energy through subsidies also run into a problem with WTO rules to the extent that the subsidies affect other WTO members' ability to gain market access.[15] Ignoring WTO rules for renewable energy subsidies, or allowing them to be an exception to WTO rules under General Agreement on Tariffs and Trade ("GATT") Article XX is not doctrinally or normatively desirable.[16] At the same time challenges to renewable energy subsidies under WTO

---

12. *See Addressing the Leakage*, *supra* note 3, at 71 (discussing various trade measures, including proposals by the United States and the European Union, and concluding that these measures are either unlawful under the WTO rules and/or that they are politically undesirable); McKibbin, *supra* note 10, at 1-3, 22-23 (discussing border carbon tax and concluding that they are not economically optimal tools for reducing greenhouse gas emissions, because the benefits would be small in comparison to the complexity of administering BCTAs and their "deleterious effects on international trade"); Bordoff, *supra* note 10, at 37-54 (discussing proposals under several U.S. climate bills and concluding that these laws would either potentially violate WTO rules, or, if structured to be in compliance with WTO rules, be ineffective in addressing the problem); Joost Pauwelyn, *U.S. Federal Climate Policy and Competitiveness Concerns: The Limits and Options of International Trade Law*, 6 (Duke University Sch. of Law, Working Paper No. NI WP 07-02, 2007), http://www.climateactionproject.com/docs/internationaltradelaw.pdf (noting that in certain sectors carbon leakage occurs and causes increases in emissions, even if some claims may be exaggerated); Ryan Vanden Brink, *Competitiveness Border Adjustments in U.S. Climate Change Proposals Violate GATT: Suggestions to Utilize GATT's Environmental Exceptions,* 21 COLO. J. INT'L ENVTL. L. & POL'Y 85, 92-93 (2010) (noting that six U.S. industries could suffer competitive losses: "petroleum, refining, paper and pulp, nonmetallic mineral products, chemicals and ferrous and nonferrous metals").

13. *See* Chris Wold et. al., *Leveraging Climate Change Benefits Through the World Trade Organization: Are Fossil Fuel Subsidies Actionable?*, 43 GEO. J. INT'L L. 635, 647-49 (2012).

14. *See generally Addressing the Leakage*, *supra* note 3, at 76. *See also* Rep. of the United Nations Conference on Environment and Development, U.N. Doc. A/CONF.151/26 (Vol. I) (Aug. 12, 1992) (Principle 12 of the Rio Declaration stating that countries should resolve environmental problems through multilateral, rather than unilateral, efforts).

15. *See generally* Deepa Badrinarayana, *Trading up Kyoto: A Proposal to Amend the Protocol, Part I*, 41 B.C. ENVTL. AFF. L. REV. 1 (2014).

16. *Id*.

agreements do not promote multilateralism and can potentially unhinge domestic efforts to reduce greenhouse gas emissions.[17]

Given the challenges to addressing leakage problems through trade measures, the new climate change treaty must foster multilateral action, either by encouraging all major emitters to accept comparable, quantifiable emissions reduction obligations, or by neutralizing the impact of non-cooperation by all major greenhouse gas emitters, as other environmental treaties that have faced trade-related challenges to addressing the environmental problem have done.[18] A notable example is the Montreal Protocol on Substances that Deplete the Ozone Layer,[19] which not only provides a mechanism to eliminate ozone-depleting substances, but also imposes a ban on trade in ozone-depleting substances with non-Parties unless they comply with mechanisms similar to those contained in the Montreal Protocol.[20] The Kyoto Protocol and the UN Framework Convention on Climate Change ("UNFCCC") do not provide such a mechanism, which is essential to plug the leakage problem. Instead, they echo the language contained in the GATT,[21] to ensure that mitigation measures do not affect trade.[22] The new climate change treaty can, and should, provide a mechanism to address this problem.

---

17. *See* Timothy Meyer, *Energy Subsidies and the World Trade Organization*, 17 ASIL INSIGHTS, Issue 22, (2013), at 7-9 (noting that nations whose disputes are challenged, such as India, are requesting for information on domestic subsidies offered by state and local governments in the United States, and arguing that were sub-national subsidies to be successfully challenged before WTO, they would undermine efforts to mitigate climate change).

18. *See* BRACK, *supra* note 4, at 18 (noting that, "[e]ffectively . . . [Multilateral Environmental Agreements (MEAs)] restrict trade either because the trade itself is causing the environmental damage, and/or as an enforcement measure, to ensure that the agreement's objectives are not undermined by non-participation").

19. Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, S. Treaty Doc. No. 100-10 (1987), 1522 U.N.T.S. 3 [hereinafter Montreal Protocol].

20. *Id.* art. 4(3); *see also* BRACK, *supra* note 4.

21. General Agreement on Tariffs and Trade 1994 (GATT 1994), Apr. 15, 1994, 1867 U.N.T.S. 187 [hereinafter GATT].

22. Article 3(5) of UNFCCC states:

> [t]he Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

Article 2(3) of the Kyoto Protocol reads:

> [t]he Parties included in Annex I shall strive to implement policies and measures under this Article in such a way as to minimize adverse effects, including the

One option would be to impose a ban on greenhouse gas-emitting substances, in the same manner that the Montreal Protocol does for ozone-depleting substances, with a ban on trade with non-parties. However, such an approach is likely to fail for several reasons, among them the fact that too many countries produce and consume greenhouse gas-emitting substances,[23] which would present an insurmountable collective bargaining problem.[24] Moreover, it is debatable whether a trade ban on fossil fuels would conform to WTO rules, especially provisions that discriminate among non-parties; this is an important issue, since developing countries' rejection of trade measures within the Kyoto Protocol stemmed from fear that such measures would constitute disguised protectionism.[25]

This Article presents another option to promote multilateralism within the new climate change treaty without violating WTO rules: leveraging energy subsidies. The idea of leveraging energy subsidies draws on the dual role of subsidies in affecting climate change mitigation—subsidies to fossil fuels that affect emissions reduction goals,[26] but remain unchallenged before the WTO; and subsidies to renewable energy to reduce emissions, but are disputed under WTO law. If the goal is to mitigate climate change, the opposite should occur: renewable energy subsidies should remain unchallenged, whereas fossil fuel subsidies should be challenged. Both scenarios are hard to envisage. Renewable energy affects competition and market access, and is an essential domestic policy tool for climate change mitigation. Fossil fuel subsidies are not only offered by many countries that may be unwilling to challenge the subsidies for fear of retaliatory challenges, but also it would be hard to prove violation of the Agreement on Subsidies and Countervailing Measures

---

adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties and in particular those identified in Article 4, paragraphs 8 and 9, of the Convention, taking into account Article 3 of the Convention. The Conference of the Parties serving as the meeting of the Parties to this Protocol may take further action, as appropriate, to promote the implementation of the provisions of this paragraph.

23. In the case of the Montreal Protocol, industrialized countries, notably France and Britain were the two major producers of greenhouse gas emissions. BRACK, *supra* note 4.

24. *See generally* Cass R. Sunstein, *Of Montreal and Kyoto: A Tale of Two Protocols*, 31 HARV. ENVTL. L. REV. 1, 34 (2007).

25. BRACK, *supra* note 4, at 18.

26. Wold et al., *supra* note 13, at 641.

("ASCM")[27] in the case of fossil fuel subsidies.[28] Nations could solve this subsidies dilemma by agreeing to allow subsidies to renewable energy, in exchange for elimination of subsidies to fossil fuels, especially given the substantial momentum to eliminate fossil fuel subsidies and efforts to expand renewable energy.

This Article does not attempt to provide details for what would essentially be a complex political negotiation, nor does it present the leveraging option as an alternative to other mechanisms under the Kyoto Protocol. Rather, it argues how a leveraging approach could be structured to comply with WTO rules, in particular ASCM provisions, which prohibit subsidies. The Article discusses the idea in three parts. Part II summarizes the problem with trade-related approaches to addressing leakage through unilateral solutions. Part III sets out the dual importance of subsidies in mitigating climate change. It explains the problem with eliminating fossil fuel subsidies, and the WTO-related challenges to providing renewable energy subsidies. Part IV discusses the basic framework for leveraging subsidies. It identifies core WTO rules that such an arrangement should satisfy to avoid conflict, and also explains how negotiators can achieve compliance drawing from some existing international environmental treaties.

I. *CLIMATE CHANGE, LEAKAGE, THE LIMITS OF THE KYOTO PROTOCOL, AND UNILATERAL TRADE MEASURES*

There is a direct connection between trade and greenhouse gas emissions.[29] Trade increases the scale of economic activities, which increases greenhouse gas emissions, especially when fossil fuels are the main source of energy consumption.[30] The Kyoto Protocol, however, does not incorporate trade measures to address this problem. Instead, it relies on market mechanisms, such as clean development mechanism and emissions trading, in combination with time-targeted

---

27. Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization Annex 2, 1869 U.N.T.S. 401, Annex 1A, *in* WORLD TRADE ORGANIZATION, The Results of the Uruguay Round of Multilateral Trade Negotiations: The Legal Texts 355 (1999) [hereinafter ASCM].

28. Wold et al., *supra* note 13.

29. BRACK *supra* note 4, at 21-22.

30. *See generally Key World Energy Statistics*, INTERNATIONAL ENERGY AGENCY, 6 (2015), http://www.iea.org/publications/freepublications/publication/KeyWorld_Statistics_2015.pdf (setting out the energy consumption of countries).

legal obligations to reduce greenhouse gas emissions.[31] However, the Kyoto Protocol has proved inadequate to address the problem, because originally, China and India were not required to undertake quantifiable emissions reduction obligations. Consequently, other major greenhouse gas emitters rejected the Kyoto Protocol, citing leakage concerns.[32] Given the stalemate, scholars and nations have been exploring alternative, unilateral solutions to stem leakage, but implementing these solutions presents several problems, as discussed below.

One proposed solution to address the leakage and loss of competition problems is the imposition of border carbon tax adjustments ("BCTAs" or "BTAs"). Border tax adjustments to level the cost of exports and imports based on differences in fiscal measures are permitted under GATT Article II 2(a).[33] BCTAs would enable Annex I countries to impose higher taxes on imports from non-Annex I countries and level the playing field, or "comparative *dis*advantage" for regulated domestic goods.[34] Several proposed pieces of U.S. federal climate legislation, as well as European Union

---

31. KYLE W. DANISH, THE INTERNATIONAL REGIME, *in* GLOBAL CLIMATE CHANGE AND U.S. LAW (Michael Gerard ed., 2007); BRACK, *supra* note 4.

32. BRACK, *supra* note 4.

33. Valentina Durán Medina & Rodrigo Polanco Lazo, *A Legal View on Border Tax Adjustments and Climate Change: A Latin American Perspective*, 11 SUSTAINABLE DEV. L. & POL'Y 29 (2011). The GATT Working Party on Border Tax Adjustments (BTA) in its report adopted the Organization for Economic Cooperation and Development (OECD) definition of BTA as:

> 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).

GATT WORKING PARTY ON BORDER TAX ADJUSTMENTS, *Reports of the Working Party on Border Tax Adjustments*, L/3464 (Dec. 2, 1970), http://www.worldtradelaw.net/reports/gattpanels/bordertax.pdf; *see, e.g.*, Joseph Stiglitz, *A New Agenda for Global Warming*, ECONOMISTS' VOICE, 2 (July 2006) (suggesting that countries "should prohibit the importation of American goods produced using energy intensive technologies, or, at the very least, impose a high tax on them"); *see also* Pauwelyn, *supra* note 12, at 7-8 (collecting proposals by former French President, the European Union Commissioner, and others, favoring the imposition of taxes on goods produced with carbon-intensive technology).

34. Laura Neilsen, *Border Carbon Adjustments, The UNFCCC, and WTO Rules*, 103 AM. SOC'Y INT'L L. PROC. 369 (2009).

("EU") Directives incorporate BCTAs to address the problem of competitive loss.[35]

However, imposing BCTAs in a WTO-compliant manner is challenging. If Annex I nations provide free allowances to domestic producers, they will violate the non-discriminatory rules of GATT.[36] As such, if least-developing countries are excluded, BCTAs will be discriminatory.[37] Discriminatory application of BCTAs also precludes the application of GATT Article XX exceptions. BCTAs that are primarily imposed to protect competitiveness will not meet the "likeness" requirement, i.e. that they should be applied primarily on products.[38] Thus, BCTAs cannot mitigate the problems of leakage and loss of competitiveness. As such, several administrative hurdles to administering BCTAs have been identified; these may be hard to circumvent.[39]

---

35. Proposed U.S. federal climate legislation that imposed some of BTCA include: Lieberman-Warner Climate Security Act; American Clean Energy and Security Act (ACES) and Waxman-Markey Bill. For a discussion of BTAs or BTA-type measures under these proposed law, *see* Medina & Lazo, *supra* note 33; Doaa Abdel Motaal, "*Emissions Offshoring": Repercussions for International Trade,* 4 CARBON & CLIMATE L. REV. 466 (2011) (discussing Article 10a of the EU Directive proposing the inclusion of importers of products within the EU emissions trading system to avoid carbon leakage); Joshua Meltzer & Katherine Sierra, *Trade and Climate Change*, HARV. INT'L REV. (Dec. 7, 2011) (defining loss of competitiveness as "loss of market share particularly in carbon intensive products such as aluminum, cement, and steel imported from countries not facing carbon costs").

36. *See* Pauwelyn, *supra* note 12, at 17-23, 41-43 (listing steps towards imposing a legal BTCA and arguing that carbon taxes or cap and trade-based reduction obligations are more amenable to WTO-compliant BTCA charges).

37. Ryan Vanden Brink, *Competitiveness Border Adjustments in U.S. Climate Change Proposals Violate GATT: Suggestions to Utilize GATT's Environmental Exceptions*, 21 COLO. J. INT'L ENVTL. L & POL'Y 84, 92-93, 98, 100-05 (2010) (noting that proposed U.S. federal climate laws discriminate against de minimis emitters, least developed countries, countries with comparable emissions reduction law, and countries with whom the United States has bilateral agreement, and that they violate the national treatment requirement by denying importers flexibility via a cap and trade market); *see also* Medina & Lazo, *supra* note 33 (questioning whether countries measuring domestic industries' allowances or costs via low carbon emissions, but that of a foreign manufacturer's emissions via an industry average regardless of whether a particular manufacturer's actual [possibly low] emissions would be WTO compliant).

38. Pauwelyn, *supra* note 12, at 29; *see also* Brink, *supra* note 37, at 98 (noting that since BTCAs would be based on the country of origin and not on the type of product, they would be protectionist to the extent they are imposed to preserve competitiveness and not for environmental protection goals); ROBERT HOWSE & ANOTONIA L. 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, 62-63 (Thomas Cottier et al. eds., 2009).

39. Brink, *supra* note 37*,* at 99-100 (discussing options under American Climate Security Act and noting that the hardship in identifying a criteria for imposing taxes;

Moreover, even GATT-compliant BCTAs violate the Kyoto Protocol, because they tax developing countries, which are not required under the Protocol to reduce their greenhouse gas emissions.[40] Developing countries oppose the imposition of such unilateral measures by developed countries as being contrary to UNFCCC.[41] In fact, developing countries successfully opposed efforts by the United States and the European Union to incorporate BCTAs within a climate treaty at the fifteenth Conference of the Parties ("COP") to the UNFCCC in Copenhagen.[42]

A general ban on imports from countries without a cap and trade system is another proposed solution. These present similar challenges, notably:[43] establishing criteria to determine which foreign programs are comparable to the US cap and trade system; calculating "per unit" allowance; complying with the national treatment requirement under

---

determining the point of application, when a supplier buys credits instead of the importer; and applying taxes on non-primary goods to ensure that the measure is effective); *see also* Charles E. McLure Jr., *A Primer on the Legality of Border Adjustment for Carbon Prices: Through a GATT Darkly*, 4 CARBON & CLIMATE L. REV. 456, 461-62 (2011); Nielsen, *supra* note 34, at 369 (concluding that if BCTAs are applied to all products, it will create verification problems and monitoring problems).

40. Nielsen, *supra* note 34, at 2 (noting that imposing BTCA would violate the structure of UNFCCC, including its flexibility mechanism and in-built equitable considerations).

41. For instance, China and India have opposed BTCAs and developing countries such as Chile prefer multilateral solutions to climate change as opposed to unilateral measures; Chile is involved in energy-intensive copper mining and has more coal-power plants and fears that BTCAs will affect its competitiveness. *See* Medina & Lazo, *supra* note 33, at 33 (collecting responses of China and India against potential BTCAs and their WTO compatibility); *see also* Motaal, *supra* note 35, at 466; Martin Khor & Hira Jhamtani, *India, G77 propose Text Against Trade Protection in Copenhagen Draft*, SOUTH BULLETIN (2009) (discussing the response of China and G-77 countries to a proposal at Copenhagen to incorporate trade measures within a climate treaty and noting India's proposed text recording that unilateral trade measures would violate UNFCCC's provisions on the principle common but differentiated responsibility, on trade and climate change and on the correlation between mitigation action by developing countries and financial resources and technology transfer); Michael Levi, *Trade and Climate Change*, COUNCIL ON FOREIGN AFFAIRS (June 27, 2009), http://www.cfr.org/world/trade-climate-change/p19674 (cautioning that Congress should ensure that trade measures to redress climate change, including border taxes, "don't unnecessarily aggravate the external relationships that will be needed [for global cooperation]"); TRADE AND CLIMATE CHANGE, FOCUS C, World Development Report 2010, 255, http://siteresources.worldbank.org/INTWDR2010/Resources/5287678-1226014527953/Focus-C.pdf [hereinafter WD Report 2010] (disfavoring unilateral imposition of border taxes because "the burden [would] fall disproportionately on developing countries"); HOWSE & ELIASON, s*upra* note 38, at 69.

42. Medina & Lazo, *supra* note 33, at 29-30.

43. HOWSE & ELIASON, *supra* note 38, at 69 (referring to such a proposal by the International Brotherhood of Electrical Workers and AEP).

GATT, particularly when free allowances are allocated; distinguishing importers that take comparable measures from those that do not; and imposing the US system (or another system) as the benchmark when country-specific needs may be different.[44] Incidentally, other comparable measures such as carbon labeling requirements would present substantial challenges to implementation.[45]

Legal, diplomatic, and administrative difficulties make BTCAs or regulatory requirements unattractive for addressing the carbon leakage problem. BTCAs can also undermine both the international trading system[46] and international climate change agreements. Thus, BTCAs may have limited application, if any, in the short term, unless the basic framework of the Kyoto Protocol is changed or unless all major emitters accept comparable emissions reduction obligations.

An enabling clause generally allows developed countries to provide preferential treatment to developing countries.[47] In the past, developed countries have used tariff reduction incentives to persuade developing countries to address certain issues.[48] For example, the United States and the European Union provided preferential trade treatment to developing countries that agreed to eliminate communism or international environment or labor treaties.[49] The Global Support Program ("GSP") is attractive because it allows discriminatory treatment of member States, so long as the same advantage is granted to all similarly situated States.[50]

---

44. *Id.*

45. *See* WD Report 2010, *supra* note 41 (noting that providing information on the level of carbon produced throughout the manufacturing process would unduly burden developing countries and constrain trade, as well as misinform the public, unless the effect of carbon on the international supply chain has been properly studied).

46. Nielsen, *supra* note 34, at 369 (concluding that a complex web of carbon taxes can undermine the trading system).

47. For a brief explanation of the Global Support Program ("GSP"), *see* Lorand Bartels, *The WTO Legality of the EU's GSP+ Arrangement*, 10 J. INT'L L. 869, 872-73 (2007) (stating that an enabling clause is usually incorporated in a bilateral agreement that countries enter into under the WTO).

48. *See* Michael McKenzie, *Climate Change and the Generalized System of Preferences*, 11 J. INT'L ECON. L. 679, 685-87 (2008) (noting that China's industrial sector used 64% of its energy and that China uses five times more than Japan to reach the same GDP growth partially because of its investment in high-energy intensive activities).

49. *Id.* at 685-86.

50. *Id.* at 687-88 (discussing European Communities [EC] Tariff Preferences dispute, in which the Appellate Body decided that WTO's non-discrimination principle applied only to

Developed countries could engage developing countries in climate mitigation by providing them tariff preferences in exchange for commitment to emissions reduction goals. However, the nation providing GSP must establish that differential treatment supports "development, financial, and trade needs."[51] Some scholars have suggested that developed countries should incorporate GSP under UNFCCC and the Kyoto Protocol, even to developing countries that accept voluntary emissions reduction goals.[52]

GSP as a carrot appears to be a technically sound strategy, particularly when it is applied to promote trade in environmental goods. However, at least three challenges make it an unattractive option. The first two problems create a vicious cycle that may be difficult to break.

First, GSP can be made more beneficial if extended to emerging economies, such as China and India. But, developed countries are unlikely to grant preferential treatment to their close competitors. Granting preferential treatment to China or similarly situated economies could increase the trade deficits of developed countries such as the United States and is therefore an unlikely solution.

Second, several developed countries have not signed the Kyoto Protocol because of competition concerns. Developing countries are unlikely to accept emissions reduction obligations in exchange for preferential treatment unless developed countries accept emissions reduction obligations as well. Developing countries may also be skeptical about competition impacts.

---

similarly situated countries, i.e. per the Appellate Body "all GPS beneficiaries that have the development, financial, and trade needs" in relation to the issue in question).

51. *Id.* at 688 (referring to the Appellate Body decision in EC Tariff Preferences dispute that the issue regarding which GSP is invoked should be capable of being "effectively addressed" by tariff preferences, and that a rational connection between the preference and the issue addressed should be established).

52. *Id.* at 689-90 (also noting that the system should be limited to signatories of the climate treaties and that the system could be modeled along the lines of the EU Agreements regarding drugs and labor and environment standards). The author argues that the requirement that the preference must address "development, financial, and trade needs" can be satisfied by pointing to international agreements and other instruments that note that unmitigated climate change will be an impediment to economic growth. The author also refers to Article 3(4) of UNFCCC, which states that "economic development is essential for adopting measures to address climate change," and notes that this provision can be interpreted to satisfy the requirement that a rational connection must exist between the tariff preference and climate action.

Third, a GSP could be created to facilitate trade in environmental goods. However, technology transfer obligations are already incorporated in the Kyoto Protocol, which includes the clean development mechanism ("CDM").[53] Since developed countries have accepted an obligation to transfer technology, conditional incentives may be less attractive to developing countries. Further, as discussed below, separate WTO negotiations are underway to reduce tariffs for environmental goods, but present unique challenges.[54]

Developing countries have proposed to lower intellectual property rights ("IPRs") to increase cooperation under the Kyoto Protocol. This could indirectly and potentially address leakage and competition problems in the long run, but promote climate-beneficial technology, thereby reducing global emissions.[55] Both UNFCCC and the Kyoto Protocol recognize the importance of technology transfer;[56] at its sixteenth meeting in Cancun, Mexico, COP established a Technology Mechanism to catalyze the development and transfer of technology for climate mitigation and adaptation.[57]

World Trade Organization members also initiated negotiations at the Doha Trade Round to remove tariffs and lower intellectual property barriers, such as reducing IPR protection time or mandating compulsory licensing for environmental goods and technology.[58] The negotiations have stalled for various reasons.[59]

---

53. Kyoto Protocol, *supra* note 1, arts. 11(2)(b), at 12.

54. Pascal Lamy, *Global Problems Do Not Respond To Unilateral Fixes; Copenhagen Must Be Our Focus*, WTO, June 26, 2000, http://www.wto.org/english/news_e/news09_e/dgpl_29jun09_e.htm.

55. Sunstein, *supra* note 24**;** Moser, *supra* note 4 (noting that without affordable technology developing nations will have little or no incentive to change their energy consumption pattern); Neel Maitra, *Access to Environmentally Sound Technology in the Developing World: A Proposed Alternative to Compulsory Licensing*, 35 COLUM. J. ENVTL. L. 407 (2010) (discussing scholarship on facilitating transfer of technology, tracing the importance of transfer of technology).

56. *See* Kyoto Protocol, *supra* note 1; UNFCCC, *supra* note 1.

57. *The Technology Mechanism of the Convention*, UNFCCC, http://unfccc.int/ttclear/templates/render_cms_page?TEM_home; *see also* Brewer, *supra* note 11, at 93-115 (discussing the challenges to technology transfers and the legal barriers to some proposed solutions).

58. McKenzie, *supra* note 48, at 694-95 (noting that developed countries should provide GSP to environmental goods and services through the Doha round of negotiations); Meltzer & Sierra, *supra* note 35 (noting that developing countries seek reduction of intellectual property-based trade barriers as part of climate negotiations); Lamy, *supra* note 54 (referring also to WTO's Information Technology Agreement, through which participants eliminated duties on IT products, as a model and advocating the "opening of trade to environmentally-friendly goods and services in the context of the Doha Round . . . including goods such as wind

There is no agreement on the criteria for defining environmental goods; presently there are multiple definitions of an environmental good.[60] Developed countries are skeptical whether all nations will respect IPR for a short period; Annex I nations rejected efforts to reduce IPR protection at Doha.[61] There is also uncertainty about the effectiveness of these measures in lowering standards.[62]

The solution to relax intellectual property protection presents pragmatic problems, as well. Since IPRs can potentially create incentives for technological innovation, both businesses and governments may be unwilling to cede their competitive edge with respect to certain technology, especially to countries with weaker legal protections. Moreover, as discussions below demonstrate, nations are investing in alternative technology to promote economic growth and hone their competitive edge. It will be hard to contract out of these goals, without a cohesive international climate treaty.

Thus, unless nations can provide incentives for environmental goods and technology outside the Doha framework and unilaterally

---

turbines, solar cooking appliances, and photovoltaic cells. We must make this technology more accessible to all"); Maitra, *supra* note 55, at 415-28 (discussing trade-related aspects of intellectual property rights [TRIPs], the issue of compulsory licensing, and its scope in facilitating the deployment of climate friendly technology); Matthew Rimmer, *A Proposal for a Clean Technology Directive: European Patent Law and Climate Change*, 3 RENEWABLE ENERGY L. & POL'Y REV. 195 (2011) (discussing reports published by the United Nations Environment Programme [UNEP] and the European Patent Office [EPO] on the linkage between climate mitigation technology and intellectual property); José Romero & Karine Siegwart, A SURVEY OF KYOTO TOOLS FOR GREENHOUSE GAS REDUCTION: SPECULATION ON POST-KYOTO SCENARIOS*, in* INTERNATIONAL TRADE REGULATION AND THE MITIGATION OF CLIMATE CHANGE 13, 15-16, 19 (Thomas Cottier et al eds., 2009) (noting that developing countries have sought shorter intellectual property right protection periods for environmental goods and noting that Doha negotiations were launched to encourage mutual supportiveness between trade and environment, as well as to catalyze sustainable development as specified in UNFCCC Article 3:5).

59. WD Report 2010, *supra* note 41, at 245 (arguing that nations should not wait for Doha negotiations to facilitate technology transfer, because in the meantime the United States and the European Union would impose BCTAs); *see also* Nielsen, *supra* note 34.

60. Meltzer & Sierra, *supra* note 35 (citing to the task given to WTO's Committee on Trade and Environment in Special Session [CTESS] to identify a list of goods and noting that it identified six technologies related to renewable energy, energy, efficiency, and storage and referring to the definition of the UN Conference on Trade and Development [UNCTAD], which takes into account the environmental impact of a good throughout its lifecycle, including production, processing, consumption, and waste disposal," as well as goods whose "end use" is to address environmental problems).

61. Romero & Siegwart, *supra* note 58, at 19; Maitra, *supra* note 55 (discussing the challenges to compulsory licensing).

62. Meltzer & Sierra, *supra* note 35.

lower tariffs,[63] trade law measures to facilitate technology transfer are not a short-term solution to the leakage and competition problems.

II. *THE DUAL IMPORTANCE OF SUBSIDIES IN MITIGATING CLIMATE CHANGE*

This section discusses WTO rules on subsidies briefly. It then addresses the challenges to addressing fossil fuel and renewable energy subsidies, with specific focus on WTO rules.

A. *WTO Rule on Subsidies: the Agreement on Subsidies and Countervailing Measures*

Subsidies are important tools to shape economic growth, but they can also foster protectionism and affect market access.[64] The WTO Agreement on Subsidies and Countervailing Measures[65] therefore regulates subsidies. ASCM defines subsidies broadly to include direct and indirect financial contributions,[66] but regulates only subsidies that are "specific" to an enterprise and confer a "benefit."[67] Unless all three criteria are met, WTO rules will not regulate subsidies.[68]

---

63. HOWSE & ELIASON, *supra* note 38, at 83-84 (noting that so long as tariff reduction is transparent and complies with Most Favored Nation (MFN) requirements, nations can reduce tariffs for environmental goods).

64. Kyle Bagwell & Robert W. Staiger, *The WTO as a Mechanism for Securing Market Access Property Rights: Implications for Global Labor and Environmental Issues*, 15 J. ECON. PERSP. 69, 72 (2001) (generally arguing that the aim of GATT is to increase market access to exporters by requiring importing countries to change their policies, and which would be affected if export subsidies were provided); José E. Alvarez, et. al., *It's a Question of Market Access,* 96 AM. J. INT'L L. 56, 59 (2002) (arguing that the aim of GATT is to increase market access by negotiating mutually beneficial terms and protecting against unilateral government infringement).

65. ASCM*, supra* note 27.

66. *Id.* art. 1. ASCM's definition of subsidies includes, "financial contribution by a government or any public body within the territory of a [m]ember [a government]," that can be made in the form of "direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfers of funds or liabilities (e.g. loan guarantees);" foregone revenue "(e.g. fiscal incentives such as tax credits);" provision of "goods and services other than general infrastructure" or goods purchase; direction or payment to a private body to provide the above incentives, as well as any form of income or price support that affect exports or imports.

67. *Id.* art. 1.1(b).

68. Appellate Body Report, *Brazil-Export Financing Programme for Aircraft,* ¶ 151, WTO Doc. WT/DS46/AB/R (adopted Aug. 20, 1999); Appellate Body Report *Canada-Measures Affecting the Export of Civilian Aircraft*, ¶ 156, WTO Doc., WT/DS70/AB/R (adopted Aug. 4, 2000); LUCA RUBINI, THE DEFINITION OF SUBSIDY AND STATE AID: WTO AND EC LAW IN COMPARATIVE PERSPECTIVE, 108-09, 111 (2010). The Appellate Body noted

ASCM identifies two types of subsidies: conditional subsidies and actionable subsidies. Conditional subsidies impose export or local content requirement conditions on the beneficiary. ASCM prohibits conditional subsidies.[69] Actionable subsidies are not prohibited, but are disallowed if the subsidies cause "adverse effects to the interests of other [m]embers," in the form of "injury to the domestic industry," "nullification or impairment of benefits accruing directly or indirectly," or "serious prejudice to the interests."[70] Injury exists when there is a significant increase in the import volume of subsidized goods or when they affect the price of "like" domestic products, or affect domestic producers of such products. Special prejudice exists if a subsidy effectively: (i) "displace[s] or [impedes] the exports of a like product of another [m]ember into the market of the subsidizing [m]ember;" (ii) displaces or [impedes] the exports of a like product of another [m]ember from a third country market;" (iii) significantly undercuts the price and competition of a like domestic product in the same market; (iv) increases the global market share of the subsidized product more than its average share in the past three years.[71] If an investigation reveals that a subsidy has been granted, the affected member can initiate consultations with the subsidizing State, which can provide voluntary undertakings or some other mutually agreeable solution may be reached.[72] If the members cannot resolve their dispute, the complaining member can proceed to the dispute settlement process.[73] Following the final decision, by a panel or the Appellate Body, the subsidizing member must either remove the adverse effect or withdraw the subsidy.[74] The complainant may

---

in these reports that the financial contribution requirement should be read together with the conferring benefit requirement. Appellate Body Report, *United States- Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (DRAMS)*, ¶¶ 107, 108, 114, WTO Doc., WT/DS296/AB/R (adopted Mar. 14, 2006); Appellate Body Report, *United States—Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada IV*, ¶ 52, n. 35, ¶ 8.53, WTO Doc., WT/DS257/AB/R (adopted Oct. 12, 2006) (noting that subparagraph (iv) identified the actor, but did not expand coverage of financial contribution beyond that stated in SUBPARAGRAPHS (i)—(iii)).

69. ASCM, *supra* note 27, art. 3.2.

70. *Id*. art. 5.

71. *Id*. art. 6.3 (a)-(d). Further, the ASCM disallows a finding of serious prejudice, where there may be trade imbalances in the subsidized product due to voluntary or some involuntary decisions made by the complaining member regarding export or import of the product. *See id*. art. 6.7 (a)-(f).

72. *See id.* arts. 7, 18.

73. *Id.* art. 7.7.

74. *Id.* art. 7.8.

impose countervailing measures in accordance with the ASCM, if the subsidies are not removed, in accordance with ASCM provisions.[75]

B. *The Challenge with Regulating Fossil Fuel Subsidies*

Fossil fuel subsidies run into the billions of dollars,[76] even though it is generally accepted that they deter climate change mitigation efforts and must therefore be eliminated: the Kyoto Protocol recognizes the importance of eliminating harmful subsidies;[77] scholars have suggested that elimination of fossil fuel subsidies should be a subject of trade negotiations within the WTO[78] and of international economic institutions,[79] and world leaders have acknowledged the importance of eliminating fossil fuel subsidies.[80] The problem is that despite a general consensus that fossil fuels should be eliminated both from an environmental and trade perspective, fossil fuel subsidies are not only prevalent but are on the rise, and challenging these subsidies under the ASCM[81] is daunting, because of the legal requirements that must be met to address the problem. Establishing a causal link between a subsidy and an "injury" is a complex process. Investigators must consider numerous factors,[82]

---

75. *Id.* art. 7.9. Part V of the ASCM has detailed provisions regarding the process for imposing countervailing measures, including calculation of benefits and injury.

76. Int'l Energy Agency, Clean Energy Progress Report 15 (2011).

77. Article 2 of the Kyoto Protocol states that Annex I Parties should, depending on their national circumstance, implement policies or measures to progressively reduce or phase out "subsidies in all greenhouse gas emitting sectors" that are contrary to the "Convention and the application of market instruments." Kyoto Protocol, *supra* note 1, art. 2, Annex B.

78. *See generally Climate and Trade*, *supra* note 7, at 8, 12-13 (arguing that eliminating fossil fuel subsidies is a win-win solution for climate change mitigation and trade liberation goals).

79. *See* Larry Elliott, *Scrap Fossil Fuel Subsidies Now and Bring in Carbon Tax, Says World Bank Chief*, THE GUARDIAN (Apr. 13, 2015), http://www.theguardian.com/environment/2015/apr/13/fossil-fuel-subsidies-say-burn-more-carbon-world-bank-president.

80. *See* Leaders' Statement, *The Pittsburgh Summit, Group of 20, ¶ 24, Sept. 24 - 25, 2009*, http://www.treasury.gov/resource-center/international/g7-g20/Documents/pittsburgh_summit_leaders_statement_250909.pdf. Two US senators have proposed legislation, End Polluter Welfare Act, to end subsidies to fossil fuel industry. End Polluter Welfare Act, H.R. 1930, 114th Cong. (2015), http://www.sanders.senate.gov/imo/media/doc/EPW_Act_fact_sheet.pdf.

81. *ASCM, supra* note 27.

82. ASCM Article 15(4) states:

> The examination of the impact of the subsidized imports on the domestic industry shall include an evaluation of all relevant economic factors and indices having a bearing on the state of the industry, including actual and potential decline in output, sales, market share, profits, productivity, return on investments, or utilization of

including factors that cause injury independent of the subsidies.[83] A causal link between a subsidy and material injury must be factually established and the following factors must be cumulatively considered: (i) the trade effects of the subsidy; (ii) significant increase of subsidized imports; (iii) an imminent, substantial increase in exports to complainant's domestic market; (iv) "significant depressing or suppressing effect on domestic prices" that will increase demand for imported goods;" and (v) product inventories.[84] A subsidy that does not cause injury to the domestic industry of the complaining member is not actionable. Further, the injury should be to a like domestic product, which may be hard to establish given the fact that there are only a few fossil fuel producing States, and they are unlikely to challenge each other's subsidies for fear of retaliation, and it is unlikely that a consuming State can establish injury to a like domestic product.[85]

C. *The ASCM Challenge to Renewable Energy Subsidies*

Renewable energy is crucial to reduce greenhouse gas emissions. In an effort to expand renewable energy subsidies, several governments at the national and sub-national levels have provided subsidies for their renewable energy industry.[86] However, some of the

---

capacity; factors affecting domestic prices; actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital or investments and, in the case of agriculture, whether there has been an increased burden on government support programmes. This list is not exhaustive, nor can one or several of these factors necessarily give decisive guidance. *Id.* art. 15.4.

83. Non-subsidy factors include: volume and prices of non-subsidized imports of identical products, any changes in demand or consumption patterns, any competitive factors between foreign and domestic producers, or changes in technology and "the export performance and productivity of the domestic industry." *Id.* art. 15.5.

84. *Id.* art. 15.7.

85. Wold et. al, *supra* note 13 (discussing the problem of fossil fuel subsidies and arguing that in most cases it would be difficult to challenge these subsidies under ASCM, with the exception of electricity; but the article does not consider the political ramifications of such challenges).

86. Joel B. Eisen, C*hina's Renewable Energy Law: A Platform for Green Leadership?*, 35 WM. & MARY ENVTL. L. & POL'Y REV. 1, 18-33 (2010) (discussing China's law and policy); Steven Ferrey, Chad Laurent & Cameron Ferrey, *Fire and Ice: World Renewable Energy and Carbon Control Mechanisms Confront Constitutional Barriers*, 20 DUKE ENVTL. L. & POL'Y F. 125 (2010) (outlining measures taken in the United States to promote renewable energy); Giovanna Golini, *Tradable Green Certificate Systems in the E.U.*, 26 ENERGY L.J. 111 (2005) (providing an overview of trading systems to promote renewable energy in many EU member states); Martin Lythgoe*, Renewable Generation in Argentina: Past Failures and a Plan for Future Success*, 31 HOUS. J. INT'L L. 263, 306-11 (2009) (discussing Argentina's

subsidies have come under scrutiny, as either prohibited conditional subsidies or actionable subsidies under ASCM.[87] There are four disputes before the WTO dispute settlement—United States against China,[88] Japan and EU against Canada,[89] China against the European Union,[90] and United States against India.[91] The WTO Panel and the Appellate Body found in one of the disputes, *Canada-Feed-In Tariff WTO*, that the province of Ontario's subsidies were in violation of the WTO Agreement on Trade-related Investment Measures ("TRIMs").[92] In *China Solar Investigations*, the US International Trade Commission ("ITC") decided that China's imports caused material injury to like domestic products, and therefore the United

---

model renewable energy law); Joshua Prentice, *Making Effective Use of Australia's Natural Resources—The Record of Australian Renewable Energy Law under the Renewable Energy (Electricity) Act 2000 (Cth)*, 1 RENEWABLE ENERGY L. & POL'Y REV. 5 (2011) (discussing Australia's energy law on renewable energy and arguing for a better incentive program to foster growth of renewable energy); Hao Zhang, *China's Low Carbon Strategy: The Role of Renewable Energy Law in Advancing Renewable Energy*, 2 RENEWABLE ENERGY L. & POL'Y REV. 133 (2011) (evaluating China's energy law and challenges). In the United States, legislative or regulatory measure to promote renewable energy takes the form of either Clean Energy Standards ("CES") or Renewable Portfolio Standard ("RPS") or Renewable Energy Standards ("RES"). To date, 31 states and the District of Columbia have adopted either CES or RPS to promote a range of renewable and/or alternative energy. Clean Energy Standards, CTR. FOR CLIMATE CHANGE AND ENERGY SOLS., http://www.c2es.org/federal/policy-solutions/clean-energy-standards (last visited Oct. 4, 2015). Through these legal measures states require electricity suppliers to purchase a fixed percentage from renewable energy. A chart of legislation and regulations passed by states is available at http://www.c2es.org/docUploads/State%20rps%20aeps%20details.pdf (last visited Oct. 4, 2015).

With exception of solar and wind energy, which are discussed in this article, the scope of CES or RPS/RES varies from state to state. A chart of energy sources that states include in their CES or RPS/RES is available at http://www.c2es.org/docUploads/State%20rps%20eligible%20resources.pdf (last visited Oct. 4, 2015).

87. Badrinarayana, *supra* note 15.

88. China-Measures Concerning Wind Power Equipment, WTO Dispute DS419, (Dec. 22, 2010), [hereinafter China-Wind Equipment].

89. Canada-Certain Measures Affecting the Renewable Energy Generation Sector, Canada-Measures Relating to the Feed-In Tariff Program, WTO Doc. WT/DS412/R, WT/DS426/R (Dec. 19, 2012) [hereinafter Canada-Feed-in Tariffs].

90. European Union and certain member states — Certain Measures Concerning the Renewable Energy Sector, WTO Dispute DS452 (Nov. 5, 2012) [hereinafter EU-Renewable Energy].

91. India—Certain Measure relating to Solar Cells and Solar Modules, WTO Dispute DS456 (Feb. 13, 2013) [hereinafter India-Solar].

92. Agreement on Trade-Related Investment Measures art. 2.1, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1868 U.N.T.S.186 [hereinafter TRIMs Agreement].

States government is poised to impose nearly 200% countervailing duties on wind turbine components from China.[93]

Even though renewable energy subsidies are beneficial for climate change mitigation, they are unlikely to qualify for an Article XX exception under GATT,[94] because they are neither the least restrictive trade measures—particularly conditional subsidies—and because they are applied in a discriminatory manner.[95] Further, allowing these subsidies within the WTO framework is not desirable from a normative perspective, because countries seeking them have not accepted binding obligations under the Kyoto Protocol. Yet, it is undeniable that renewable energy subsides are important to diversify States' energy portfolios as part of climate change mitigation efforts. Such efforts, however, should be undertaken under the new climate change treaty.

III. *LEVERAGING ENERGY SUBSIDIES*

This Section presents a broad idea for leveraging energy subsidies to encourage multilateralism in the new climate change agreement. It briefly discusses some treaties that have taken a similar approach, as well as presents arguments as to why such an approach would be WTO compliant.

A. *Trade conflict has been resolved by MEAs*

Prior to the negotiation of the UNFCCC and the Kyoto Protocol, in cases where an international environmental issue intersected with trade, nations incorporated provisions within the international environmental treaty that addressed trade-related matters such as curbing markets for environmentally unfriendly products, providing mechanisms to catalyze multilateralism and eliminating free-rider problems to prevent leakage.[96] Three treaties exemplify this approach: the Convention on International Trade in Endangered Species ("CITES"), the Montreal Protocol on the Depletion of the Ozone

93. *U.S.-China Clean Energy Rift Deepens with Wind Tower Countervailing Duty Announcements*, INT'L CTR. FOR TRADE & SUSTAINABLE DEV. (June 6, 2012), http://www.ictsd.org/bridges-news/bridges/news/us-china-clean-energy-rift-deepens-with-wind-tower-countervailing-duty.

94. Badrinarayana, *supra* note 15.

95. *Id*.

96. BRACK, *supra* note 4, at 17-18.

Layer (the "Montreal Protocol"), and the Basel Convention on the trade in Hazardous Waste (the "Basel Convention"). Each treaty, as discussed below, addressed the trade-related concerns either by imposing trade restrictions or by banning trade with non-Parties.

CITES prohibits trade in species listed as threatened with extinction, and prohibits trade in such species with non-parties.[97] The trade is regulated through a permitting process, and thus non-parties cannot engage in trade in threatened species without proving that they comply with a regulatory scheme comparable to CITES. The Basel Convention regulates trade in hazardous waste by prohibiting trade in waste among non-parties, unless the non-party can obtain a permit by showing the existence of a waste management system comparable to that established under the Basel Convention.[98] The Montreal Protocol sets out incremental phasing out or elimination requirements for ozone depleting substances, or controlled substances[99] that are listed in Annexes to the Montreal Protocol and that are subject to periodic amendments. Article 4 addresses potential leakage problems by controlling trade with non-parties to the Montreal Protocol in the following ways, among others: it bans import of ozone depleting substances, or controlled substances, from States that are not party to the Protocol;[100] prohibits export of controlled substances to non-party States;[101] "discourages" export of technology to produce and to utilize controlled substances to non-party States;[102] requires parties to "refrain from providing new subsidies, aid, credits, guarantees or insurance programmes for the export to States not party to [the Montreal] Protocol of products, equipment, plants or technology that would facilitate the production of controlled substances;"[103] but does

97. THE CONVENTION OF INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA, http:// www.cites.org/eng/disc/what.shtml (last visited Nov. 17, 2015) [hereinafter CITES].

98. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal art. 4(5), Mar. 22, 1989, 1673 U.N.T.S. 126.

99. Montreal Protocol, Article 1(4) defines controlled substances "as a substance in Annex A, Annex B, Annex C or Annex E to this Protocol, whether existing alone or in a mixture. It includes the isomers of any such substance, except as specified in the relevant Annex, but excludes any controlled substance or mixture which is in a manufactured product other than a container used for the transportation or storage of that substance." Montreal Protocol, *supra* note 19.

100. *Id.* art. 4(1).

101. *Id.* art. 4(2).

102. *Id*. art. 4(5).

103. *Id.* art. 4(6).

not restrict trade that could promote directly or indirectly reduce the controlled substances.[104] It also regulates trade with parties that fail to comply with their obligations under the Kyoto Protocol by banning exports from a non-complying party for all purposes except destruction of a controlled substance.[105] The Montreal Protocol also provides some countries ten years' time to comply with the treaty, based on the levels of their consumption of the controlled substances.[106]

B. *The New Climate Change Treaty Can Resolve the Trade Conflict*

Negotiators of the new climate change treaty should take a hard look at solutions to environmental problems in previous treaties and take the approach of managing trade conflicts through the new climate change treaty.[107] To be sure, the trade conflict in the case of climate change is much more complex and expansive than in any other international environmental problems, including ozone depletion. Numerous sectors and sources are involved. Equally though, the consequences of unchecked carbon dioxide emissions increase will be catastrophic; more so than in the case of any other environmental problem. So, nations should focus on controlling trade in goods that trigger climate change. Fossil fuels, notably oil and coal are two of the biggest sources of greenhouse gas emissions; they are also globally-traded commodities. Thus, controlling trade in fossil fuels can greatly contribute to the goal of mitigating climate change.

This Article does not suggest that negotiators should simply copy any particular provision from a previous treaty. Indeed, the traditional approach under previous international environmental treaties, particularly a ban on trade in the polluting product or a ban on non-Parties is untenable for several reasons. Given the complexity of the fossil fuel trade, its production and consumption on a large geo-political scale, the absence of immediate, viable economic

---

104. *Id.* art. 4(7).

105. *Id*. art. 4A.

106. *Id.* art. 5.

107. WTO Committee on Trade and Environment Report 1996 notes, "Trade measures based on specifically agreed-upon provisions can also be needed in certain cases to achieve the environmental objectives of an MEA, particularly where trade is related directly to the source of an environmental problem. They have played an important role in some MEAs in the past, and they may be needed to play a similarly important role in certain cases in the future." Comm. on Trade and Env't, Rep. (1996) of the Comm. on Trade and Env't, WTO Doc. WT/CTE/1 (Nov. 12, 1996), at ¶ 173.

alternatives, and the cost of alternatives, a complete ban is unrealistic, especially because the implications for major oil-producing States are so immense that achieving a consensus for a proposal to completely ban oil production would be impossible to achieve.[108]

However, parties can incorporate provisions to eliminate subsidies for fossil fuels within the new climate change treaty. The Kyoto Protocol currently requires Annex I parties to phase out "subsidies in all greenhouse gas emitting sectors that run counter to the objective of the [UNFCCC] and the application of market instruments."[109] However, despite this provision, subsidies in the fossil fuel sector persist, and despite pledges made by the G-20 to eliminate fossil fuel subsidies,[110] many countries, including Annex I States, continue to subsidize fossil fuels.[111] Further, efforts to negotiate terms to eliminate subsidies within the WTO framework have been extremely slow.[112] Negotiating a schedule or firm framework for eliminating subsidies within the new climate change treaty would be a better approach. Such an approach is also in line with the ASCM efforts to eliminate market-distorting subsidies, and indeed, the Director-General of WTO has expressed the importance of eliminating fossil fuel subsidies and exploring the linkage between the WTO laws and fossil fuel subsidies.[113]

To be sure, such an approach could trigger opposition from several States, including developing countries and oil-exporting States that have historically advocated a cautious approach to emissions reduction policies, and reinforce the leakage problem instead of solving it. What is necessary is an incentive that would persuade all major greenhouse gas emitting States to join the "Kyoto Club."[114]

---

108. Sunstein, *supra* note 24.

109. Kyoto Protocol, *supra* note 1, art. (2)(1)(a)(v).

110. 3rd G-20 Summit Meeting, *The Pittsburgh Summit Declaration Sept. 24-25, 2009*, ¶ 24.

111. Wold et al. *supra* note 13, at 637-38 (discussing the pledges made by countries at the G20 meeting, as well as pledges made by countries within the Asia-Pacific Economic Cooperation [APEC], and concluding that subsidies for fossil fuels continue to rise).

112. *See generally* Kerryn Lang et al., *Increasing the Momentum of Fossil-Fuel Subsidy Reform: A Roadmap for International Cooperation*, INT'L INSTITUTE FOR SUSTAINABLE DEV., 11-12 (2010).

113. *See* Meyer, *supra* note 17, at 2 (quoting the WTO Director-General Harshavardhana Singh).

114. Jagdish Bhagwati, *Reflections on Climate Change and Trade*, *in* CLIMATE CHANGE, TRADE, AND COMPETITIVENESS: IS A COLLISION INEVITABLE?, *supra* note 3, at 171, (noting that there is no incentive for all countries to join the Kyoto Protocol, in the same way that there

One such incentive, at least insofar as certain developing States such as China and India are concerned, could be a limited pass on subsidies for the renewable energy sector.

Ongoing disputes before domestic forums and the WTO dispute settlement bodies regarding the validity of a host of renewable energy subsidies among major greenhouse gas emitting States signal a policy towards renewable energy expansion.[115] If the new climate change treaty explicitly permits renewable energy subsidies for a limited time, and tie it to the phasing out or elimination of fossil fuel subsidies, it could create an incentive for major greenhouse gas emitters to join the treaty.

Whether oil-exporting States, notably Middle East nations, would support such a mechanism is a separate matter. However, since most oil-exporting States are not major industrial players, their non-cooperation is unlikely to trigger leakage concerns. The more critical concern is the compatibility of a provision permitting renewable energy subsidies under a climate change treaty with ASCM. On its face, subsidies to promote renewable energy are likely to be actionable, if not prohibited.[116] However, to the extent that these subsidies are structured in a manner that they comply with some basic tenets of WTO rules, they could qualify for environmental exceptions under GATT Article XX;[117] indeed prior to its expiration, ASCM specifically included non-actionable subsidies, i.e. subsidies to assist "existing facilities"[118] to adapt to new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burden on firms. ASCM also set out the terms under which the subsidies: (i) could only be a one-time, non-recurring measure; (ii) cover only up to 20 percent of the cost, (iii) not cover any replacement or operational costs; (iv) directly cover of avoiding nuisance or pollution; and (v) be available to all firms that can adopt the new technology.[119] Moreover, all members had to report such

---

was an incentive to join GATT and related agreements, despite the absence of short term incentives).

115. Badrinarayana, *supra* note 15; Kati Kulovesi, *International Trade Disputes on Renewable Energy: Testing Ground for the Mutual Supportiveness of WTO Law and Climate Change Law*, 23(3) REV. EUR. COMP. & INT'L ENVTL L. 342, 348-50 (2014).

116. Badrinarayana, *supra* note 15.

117. *Id*.

118. ASCM, *supra* note 27, at 239 n.33 (defining existing facilities as those that were in existence at least two years before the environmental regulation was passed).

119. *Id.* at 239.

subsidies to the Committee on Subsidies and Countervailing Measures, and any WTO member could request information on the subsidies, as well as initiate investigations.[120] The new treaty can similarly incorporate terms to ensure cohesiveness with WTO rules.

Moreover, to the extent that a subsidy appears to violate WTO rules, a WTO member always has recourse to the WTO dispute settlement mechanism. The situation would be no different from the Montreal Protocol, under which States ban trade in a product with non-Parties. However, to date no challenge has been raised under the Montreal Protocol, despite the discriminatory provision.[121]

CONCLUSION

Multilateral efforts to mitigate climate change have stalled, primarily because of leakage and competition concerns arising from the non-participation of industrializing nations in a time-targeted, quantifiable emissions reduction scheme. Unilateral solutions to address the problem have been impeded by WTO rules, or are inadequate to effectively overcome the problem. Moreover, WTO rules are also affecting renewable energy subsidies that could foster reduction of greenhouse gas emissions. In a previous article, this author argued that this problem should be addressed within the framework of a new climate change treaty. This Article, drawing from literature on the impact of fossil fuel subsidies on greenhouse gas emissions reduction in conjunction with the opposition under WTO law to renewable energy, argues that States should incorporate a mechanism that phases out fossil fuel subsidies, while at the same time providing an incentive in the form of a limited right to provide domestic renewable energy subsidies. The detailed architecture of such a provision is best left to political negotiations. However, given the fact that most effective multilateral environmental treaties address trade issues related to the environmental problem within the environmental treaty, the fact that these agreements have not been challenged before the WTO, and the fact that the ASCM previously provided for environmental exceptions, States can leverage energy subsidies as one tool to promote multilateralism within the new climate change treaty.

---

120. *Id.* at 239-40.

121. BRACK, *supra* note 4.