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# TRADING UP KYOTO: A PROPOSAL TO AMEND THE PROTOCOL, PART I

DEEPA BADRINARAYANA\*

**Abstract:** This is the first of two Articles that analyze the dynamic and complex relation between international trade law and the Kyoto Protocol. These Articles argue that the Kyoto Protocol undermines efforts to negotiate a meaningful climate change treaty, and alternatively, they propose a new treaty framework to replace the Protocol. This first Article sets out the trade and climate treaty conflict and demonstrates that the problem cannot be addressed within the current framework of international trade law. Developing nations that are now emerging economies and major greenhouse gas emitters are not bound by targeted emissions reduction obligations under the Kyoto Protocol. Their exclusion in an era of trade liberalization under rules of the World Trade Organization (WTO) creates loss of competition and leakage concerns among developed country signatories. These concerns have caused developed nations, such as the United States, to reject Kyoto Protocol obligations. Others, notably Canada, Japan, and Russia, have also rejected continued obligations under the Protocol. Solutions to these problems conflict with WTO rules, as demonstrated by efforts by some nations to promote their renewable energy sector in a manner that also addresses competition concerns. Specifically, countries have provided renewable energy subsidies (RES), but conditioned their availability on the use of domestic content. WTO member nations have challenged such RES under WTO rules, including specific agreements, notably the Agreement on Subsidies and Countervailing Measures (ASCM) and Trade-Related Investment Measures (TRIMs). In one recent dispute, a WTO Panel ruled that the RES violate WTO law. Further, these measures do not qualify for environmental exceptions under WTO law, for both legal and normative reasons. A new climate change treaty is needed in 2015 to address the loss of competition and leakage problems.

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## INTRODUCTION

In 2011 three major greenhouse gas emitters, Canada, Japan, and Russia, rejected the second phase of targeted, time-bound emissions reduction obligations under the Kyoto Protocol.<sup>1</sup> They joined the ranks of other major greenhouse gas (GHG) emitters, notably China and United States, which have consistently refused to undertake binding emissions reduction obligations. Climate change negotiations to reduce these emissions have essentially reached a stalemate.<sup>2</sup>

A key obstacle to achieving consensus is concern about the disparate and negative economic implications of excluding some major emitters from legally binding emissions reduction obligations under the Kyoto Protocol.<sup>3</sup> For example, the United States has consistently re-

<sup>1</sup> UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, OUTCOME OF THE WORK OF THE AD HOC WORKING GROUP ON FURTHER COMMITMENTS FOR ANNEX I PARTIES UNDER THE KYOTO PROTOCOL AT ITS SIXTEENTH SESSION 6 (2001), available at [http://unfccc.int/files/meetings/durban\\_nov\\_2011/decisions/application/pdf/awgkp\\_outcome.pdf](http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/awgkp_outcome.pdf) and <http://perma.cc/05XXvqwZ4d> [hereinafter COP 16].

<sup>2</sup> *What Doha Did*, ECONOMIST (Dec. 15 2012), <http://www.economist.com/news/international/21568355-no-progress-today-slightly-better-chance-progress-tomorrow-what-doha-did> and <http://perma.cc/04WiAfHdm78> (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 undertaking modest emissions reduction obligations).

<sup>3</sup> See Kyoto Protocol to the United Nations Framework Convention on Climate Change art. 3, Annex B, *opened for signature* Mar. 16, 1998, 2302 U.N.T.S. 148 (entered into force Feb. 16, 2005) [hereinafter Kyoto Protocol] (imposing emissions reduction obligations on Annex I countries only, and excluding large developing nations such as India and China); William R. Moomaw, *Can the International Treaty System Address Climate Change?*, 37 FLETCHER F. OF WORLD AFF., Winter 2013, at 105, 109–10 (noting a continuing lack of progress in climate change negotiations based on the outside status of the United States and the political conflicts between developed and developing nations); Cass R. Sunstein, *Of Montreal and Kyoto: A Tale of Two Protocols*, 31 HARV. ENVTL. L. REV. 1, 4–5 (2007) [hereinafter Sunstein, *Of Montreal and Kyoto*] (noting that the United States did not ratify the Protocol despite a rapid growth in internal GHG emissions, and that developing nations such as China and India are not subject to emissions reduction obligations); Cass R. Sunstein, *The World vs. the United States and China? The Complex Climate Change Incentives of the Leading Greenhouse Gas Emitters*, 55 UCLA L. REV. 1675, 1681–82, 1688 (2008) (noting that the United States and China have not agreed to binding emissions reduction obligations, and that it is against their domestic self-interest to do so in the future). Although several scholars have argued that the economic case for climate change is not an adequate reason for inaction by the United States, and might indeed be misguided, the reality remains that the United States has refused to take action, and a series of countries have followed it. Compare Eric A. Posner & Cass R. Sunstein, *Climate Change Justice*, 96 GEO. L.J. 1565, 1576 (2008) (arguing that U.S. participation would have greater costs than benefits for the United States, while simultaneously not contributing to global emissions reductions absent broader participation by all emitters), and Jason Scott Johnston, *Climate Change Confusion and the Supreme Court: The Misguided Regulation of Greenhouse Gas Emissions Under the Clean Air Act*, 84 NOTRE

fused to undertake emissions reduction obligations on the grounds that it will face a loss of economic competitiveness,<sup>4</sup> unless other major emitters, such as China, undertake comparable obligations.<sup>5</sup> Even though the United States has agreed to re-engage in negotiations, its position is unlikely to change without emerging economies undertaking comparable emissions reduction obligations.<sup>6</sup>

It is also agreed that treating current major emitters on par with past emitters would be inequitable to countries aspiring to develop economically.<sup>7</sup> Emerging economies continue to cite to their historical-

DAME L. REV. 1, 21–41 (2008) (noting that the cost to the United States of reducing emissions would be great, and noting potential benefits from a warmer climate), *with* Jody Freeman & Andrew Guzman, *Climate Change and U.S. Interests*, 109 COLUM. L. REV. 1531, 1539 (2009) (arguing that several spillover effects have been ignored by those estimating that the cost of climate action to the United States will be greater than the benefits), *and* Daniel A. Farber, *The Case for Climate Compensation: Justice for Climate Change Victims in a Complex World*, 2008 UTAH L. REV. 377, 397–400 (arguing that the United States has a moral obligation to reduce emissions).

<sup>4</sup> Although the term “competitiveness” has several connotations, it is used here to mean loss of market share or market access due to increased costs of regulatory compliance. *See* Joshua Meltzer & Katherine Sierra, *Trade and Climate Change*, HARV. INT’L REV. (Dec. 7, 2011), <http://hir.harvard.edu/disease/trade-and-climatechange>, *available at* <http://perma.cc/0AZAYzUn7y> (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”).

<sup>5</sup> *See, e.g.*, 155 CONG. REC. S202 (daily ed. Jan. 8, 2009) (statement of Sen. Inhofe that the United States should not bear \$300 billion in costs and erode America’s manufacturing base, which would travel to developing countries such as China and India), *available at* <http://www.gpo.gov/fdsys/pkg/CREC-2009-01-08/pdf/CREC-2009-01-08-pt1-PgS202.pdf> and <http://perma.cc/MMW6-4UWY>; 154 CONG. REC. S4022 (daily ed. May 12, 2008) (statement of Sen. Voinovich that the United States should not suffer economically while countries such as China and India can continue to emit without consequence), *available at* <http://www.gpo.gov/fdsys/pkg/CREC-2008-05-12/pdf/CREC-2008-05-12-pt1-PgS4022.pdf> and <http://perma.cc/NW5Z-Z8UL>. At the latest meeting of the Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Doha, neither the United States nor China committed to legally binding emissions obligations under the Kyoto Protocol. *See* Tim Profeta, *Weaker Kyoto Protocol Extended at International Climate Negotiations*, NAT’L GEOGRAPHIC (Dec. 13, 2012), <http://newswatch.nationalgeographic.com/2012/12/13/weaker-kyoto-protocol-extended-at-international-climate-negotiations>, *available at* <http://perma.cc/5ZPT-FYCR> (noting that the United States and China continue to remain outside the Kyoto Protocol).

<sup>6</sup> At the Bali COP meeting to UNFCCC, the United States committed to engage in negotiations on an international treaty to reduce emissions but refused to accept the principle of “common but differentiated responsibility” outlined in the Kyoto Protocol. *See* Bali Action Plan ¶ I (2007), *available at* [http://unfccc.int/files/meetings/cop\\_13/application/pdf/cp\\_bali\\_action.pdf](http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_action.pdf) and <http://perma.cc/ZMQ8-EHQ3>; Moomaw, *supra* note 3, at 109.

<sup>7</sup> *See* United Nations Conference on Environment and Development: Framework Convention on Climate Change, *opened for signature* June 4, 1992, 1771 U.N.T.S. 107, 166, 169, 170 (entered into force Mar. 21, 1994) [hereinafter UNFCCC]. The Preamble notes that developed countries are responsible for the “largest share of historical and current global

ly low emissions as a reason to reject emissions reduction obligations comparable to those required of developed nations, demanding instead that developed countries bear the greater share of the economic burden.<sup>8</sup> This situation has created an economic challenge to negotiating a meaningful and effective climate change treaty.

An effective treaty framework to reduce emissions requires a legal solution to this economic puzzle.<sup>9</sup> Such a solution hinges on understanding and addressing the legal root of the economic problem, which has not been addressed in the cost-benefit equation that scholars have considered so far.<sup>10</sup> The issue is not just that the United States will have to bear high costs of climate change mitigation.<sup>11</sup> The problem is a global economic order shaped by international trade law, particularly the rules of the World Trade Organization (WTO), and its intersection with climate change mitigation law and policy.<sup>12</sup>

A combination of trade and climate change rules affects climate change mitigation efforts.<sup>13</sup> WTO law facilitates the movement of goods by lowering tariffs and limiting non-tariff barriers, including unilateral environmental measures.<sup>14</sup> All major GHG emitting nations are WTO

[GHG] emissions,” unlike developing countries, whose share is likely to grow as they develop. Article 3(1) states that considering equity and the principle of common but differentiated responsibility, developed countries should undertake the bulk of emissions reduction obligations. Article 3(4) also recognizes that developing countries have a right to sustainable development. *Id.*

<sup>8</sup> See, e.g., Meena Menon, *Doha Dithers on Equity*, HINDU (Dec. 15, 2012), <http://www.thehindu.com/sci-tech/energy-and-environment/doha-dithers-on-equity/article4204040.ece>, available at <http://perma.cc/PH9S-3CP2> (reporting that both India and China continue to support equity-based allocation of responsibility in a future climate change agreement).

<sup>9</sup> See Fiona Harvey, *Lord Stern: Developing Countries Must Make Deeper Emissions Cuts*, GUARDIAN (Dec. 3, 2012), <http://www.theguardian.com/environment/2012/dec/04/lord-stern-developing-countries-deeper-emissions-cuts>, available at <http://perma.cc/T6KX-UWLE>.

<sup>10</sup> See *supra* note 3 (discussion of cost-benefit analysis).

<sup>11</sup> See Sunstein, *Of Montreal and Kyoto*, *supra* note 3, at 34.

<sup>12</sup> Noted trade scholar John H. Jackson anticipated such a possible problem during the formative years of the WTO negotiations, but the issue was not addressed within WTO law. See John H. Jackson, *World Trade Rules and Environmental Policies: Congruence or Conflict*, 49 WASH. & LEE L. REV. 1227, 1249–50 (1992) (“[T]he situation where the environmental degradation is of a type that impacts on the world as a whole . . . is perhaps the trickiest area for which to develop appropriate policy.”). WTO law encompasses a central agreement, the General Agreement on Trade and Tariffs (GATT), and a series of specific agreements on trade-related issues. See *infra* notes 97–112 and accompanying text.

<sup>13</sup> Frank H. Murkowski, *The Kyoto Protocol Is Not the Answer to Climate Change*, 37 HARV. J. ON LEGIS. 345, 358 (2000) (arguing that climate policy to mitigate climate change should not be limited to a few countries in an era of global trade liberalization).

<sup>14</sup> See generally JOHN H. JACKSON, WILLIAM J. DAVELY & ALAN O. SYKES, INTERNATIONAL ECONOMIC RELATIONS 637–46 (5th ed. 2008) (discussing the conflict between trade and

Members.<sup>15</sup> Furthermore, the Kyoto Protocol requires Annex I signatories to reduce their emissions within a set timetable.<sup>16</sup> Not all major GHG emitting nations, however, are signatories or Annex I countries.<sup>17</sup> This asymmetry in legal obligations creates economic and loss of competitiveness concerns and affects climate change mitigation efforts in several ways.

First, Annex I signatories to the Kyoto Protocol cannot impose import restrictions on goods produced with a high carbon footprint because such restrictions would constitute a unilateral trade barrier contrary to WTO rules.<sup>18</sup> Thus, if an Annex I signatory transitions to low carbon methods to produce goods, it must still allow imports from non-Annex I countries that were produced using carbon-intensive processes. Attempted trade-restrictive measures might not qualify for environmental exceptions under the General Agreement on Tariffs and Trade (GATT),<sup>19</sup> particularly absent an international environmental agreement that limits carbon-intensive production of goods, because WTO jurisprudence on applying environmental exceptions applies to products, and not to manufacturing processes.<sup>20</sup>

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environment); JOSEPH E. STIGLITZ, MAKING GLOBALIZATION WORK 7–8 (2006) (discussing the significance of WTO rules to international commerce and the challenges relative to issues such as environmental protection).

<sup>15</sup> See *Members and Observers*, WTO, [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/org6\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm) (last visited Jan. 7, 2014), available at <http://perma.cc/M8D8-QDKD> (providing a list of WTO members as of March 2, 2013).

<sup>16</sup> Kyoto Protocol, *supra* note 3, art. 3(1). Annex I signatories consist of developed countries that have accepted primary responsibility for emissions reduction and financial support to developing countries, under UNFCCC. See *id.* Annex B.

<sup>17</sup> See, e.g., Profeta, *supra* note 5 (noting that the United States and China remain outside the Kyoto Protocol).

<sup>18</sup> See *infra* notes 97–112 and accompanying text.

<sup>19</sup> General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194 [hereinafter GATT], available at [http://www.wto.org/english/docs\\_e/legal\\_e/legal\\_e.htm](http://www.wto.org/english/docs_e/legal_e/legal_e.htm) and <http://perma.cc/A74T-B34N>.

<sup>20</sup> This issue refers to the process and production method problem (PPM). Because WTO rules discipline trade in goods (and services), members can generally impose restrictions on products, but generally not on the production method. Even though processes may be subject to domestic regulation of WTO Members in some instances where they are related to the product, such as food products and sanitary conditions, Members may not regulate processes that have no bearing on the product directly and seek an Article XX exception thereof. Thus, products that do not directly impact the environment might not be subject to unilateral domestic regulation, even though the process of producing such a product might have negative environmental consequences. For a nuanced discussion of PPMs and the scope of their application under WTO rules, see Steve Charnowitz, *The Law of Environmental 'PPMs' in the WTO: Debunking the Myth of Illegality*, 27 YALE J. INT'L L. 59, 75–83, 103–05 (2002) (discussing specific cases in which WTO jurisprudence on PPMs limited members' ability to take environmental protection measures). See generally Sanford

The Kyoto Protocol does not provide a multilateral mechanism to control production methods; instead, it establishes a market mechanism to reduce GHG emissions.<sup>21</sup> Moreover, Articles 2(1), 2(3), and 3(14) of the Protocol, and Articles 2, 3, and 5 of the United Nations Framework Convention on Climate Change (UNFCCC), specifically encourage non-trade restrictive measures to mitigate climate change<sup>22</sup> and steer clear of trade sanctions as a solution to reduce emissions.<sup>23</sup> Consequently, domestic manufacturers in Annex I countries may face increased production costs due to restrictions on fossil fuel use, whereas non-Annex I major emitters could produce goods without imposing emissions restrictions.<sup>24</sup> American businesses and the U.S. Senate cited

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E. Gaines, *Processes and Production Methods: How to Produce Sound Policy for Environmental PPM-Based Trade Measures*, 27 COLUM. J. ENVTL. L. 383 (2002) (arguing that environmental PPM-measures should be adjudicated under a strengthened GATT Article XX). Scholars have addressed PPMs and climate policy. See, e.g., Bernd G. Janzen, *International Trade Law and the Carbon Leakage Problem: Are Unilateral U.S. Import Restrictions the Solution?*, 8 SUSTAINABLE DEV. L. & POL'Y 22, 24–26 (2008) (discussing some EU proposals and the proposed American Climate Security Act of 2007, which would impose border control on imports to ensure that they complied with legal requirements to reduce GHG emissions, and arguing that such a measure might be a PPM that violates WTO rules); Andrew Green & Tracey Epps, *Is There a Role for Trade Measures in Addressing Climate Change?*, 15 U.C. DAVIS J. INT'L L. & POL'Y 1, 8, 12, 21–23 (2008).

<sup>21</sup> See Kyoto Protocol, *supra* note 3, art. 17.

<sup>22</sup> Kyoto Protocol, *supra* note 3, art. 2(1), 2(3), 3(14); UNFCCC, *supra* note 7, arts. 2, 3, 5. Both treaties identify possible conflicts between trade and climate policy and state that nations should not use arbitrary and discriminatory trade measures. See José Romero & Karine Siegwart, *A Survey of Kyoto Tools for Greenhouse Gas Reductions: Speculations on Post-Kyoto Scenarios*, in INTERNATIONAL TRADE REGULATION AND THE MITIGATION OF CLIMATE CHANGE 13, 14–15 (Thomas Cottier et al. eds., 2009) (citing to UNFCCC and Kyoto Protocol provisions that specifically refer to the relation between trade and climate change). But see 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, *supra*, 48, 52 (interpreting UNFCCC Article 3(4)'s restriction against imposing arbitrary and discriminatory trade measures to mean that other unilateral trade measures are not prohibited by UNFCCC).

<sup>23</sup> See UNFCCC, *supra* note 7, art. 3.5 (“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.”). Scholars have criticized the use of trade sanctions as a potential solution to emissions reductions as disruptive. See generally Jagdish Bhagwati & Petros C. Mavroidis, *Is Trade Sanction Against U.S. Exports for Failure to Sign Kyoto Protocol WTO-Legal?*, 6 WORLD TRADE REV. 300 (2007) (arguing that it would be poor politics for the European Union to impose trade sanctions against the U.S. for failing to sign the Kyoto Protocol).

<sup>24</sup> See 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) (“[S]ix U.S. industries—petroleum, refining, paper and pulp, nonmetallic mineral products, chemicals, and ferrous and nonferrous metals—face potential competitiveness losses.”).

loss-of-competitiveness concerns in advising President Clinton against signing the Kyoto Protocol.<sup>25</sup>

Second, lower trade barriers facilitate the overall mobility of businesses, goods, and services. Theoretically, businesses in Annex I countries can relocate production activities to non-Annex I countries to escape regulations.<sup>26</sup> If an Annex I nation generally bans the use of certain goods, including fossil fuels such as coal, affected businesses can export the goods to satisfy demand in unregulated markets. For example, limits on coal use in Washington State have increased coal export from the state to China.<sup>27</sup> The result is a leakage<sup>28</sup> problem that

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<sup>25</sup> S. Res. 98, 105th Cong., 143 CONG. REC. 5, 782 (1997); BUS. ROUNDTABLE, THE KYOTO PROTOCOL: A GAP ANALYSIS 1–2 (1998); see also Letter from Robert N. Burt, Environment Task Force Chairman, Business Roundtable, to President William J. Clinton (May 12, 1998) (on file with author); Letter from Robert N. Burt, Environment Task Force Chairman, Business Roundtable, to Senator Chuck Hagel, Chairman, Senate Foreign Relations Committee (July 8, 1997) (on file with author) (citing loss of competition as an important concern for American businesses if the United States were to sign the Kyoto Protocol without emerging economies undertaking similar obligations).

<sup>26</sup> See JULIA REINAUD, INT’L ENERGY AGENCY, ISSUES BEHIND COMPETITIVENESS AND CARBON LEAKAGE 3 (2008), available at [http://www.iea.org/publications/freepublications/publication/Competitiveness\\_and\\_Carbon\\_Leakage.pdf](http://www.iea.org/publications/freepublications/publication/Competitiveness_and_Carbon_Leakage.pdf) and <http://perma.cc/S62X-JM7M> [hereinafter IEA CARBON LEAKAGE REPORT] (“[D]ifferences in returns on capital associated with unilateral mitigation action provide incentives for firms to relocate capital to countries with less stringent climate policies.”); WORLD BANK, WORLD DEVELOPMENT REPORT 2010: DEVELOPMENT AND CLIMATE CHANGE 253 (2010) (“[S]ome relocation of energy-intensive industries may already be happening to countries that do not face caps on their greenhouse gas emissions.”); see also 155 CONG. REC. S202, *supra* note 5 (statement of Sen. Inhofe); 154 CONG. REC. S4022, *supra* note 5 (statement of Sen. Voinovich).

<sup>27</sup> See 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, 677–78 (2011) (noting that coal consumption is increasing in China and India, and that Washington state is setting up a port to export coal to China). Leakage has generally been low in the case of the European Union, but over-allocation of carbon allowances has diminished the effectiveness of its emissions reduction efforts. *Id.* at 689; see also Mark Gallucci, *Washington Could Boost Coal Exports Despite Green Governor*, BLOOMBERG NEWS (Nov. 26, 2012), <http://www.bloomberg.com/news/2012-11-26/washington-could-boost-coal-exports-despite-green-governor.html>, available at <http://perma.cc/A85E-GQF5>; Mark Golden, *Reduce Greenhouse Gas by Exporting Coal? Yes, Says Stanford Economist*, STANFORD REPORT (Jan. 15, 2013), <http://news.stanford.edu/news/2013/january/coal-asia-environment-011513.html>, available at <http://perma.cc/MJJ9-Y8SU> (noting the potential export of coal to China and arguing that such exports would reduce U.S. emissions, but not considering the general impact on the climate).

<sup>28</sup> See IEA CARBON LEAKAGE REPORT, *supra* note 26, at 3 (defining carbon leakage as “the ratio of emissions increase from a specific sector outside the country . . . over the emission reductions in the sector”).

undermines mitigation efforts by facilitating continued supply of cheaper fossil fuels globally.<sup>29</sup>

This competition and leakage problem cannot be addressed within the parameters of WTO law, and trade law solutions to address such problems are difficult to implement.<sup>30</sup> Broad trade measures, such as imposing border carbon taxes or using the Generalized System of Preferences (GSP) to provide incentives for developing countries to reduce their emissions, require uniform application, which creates separate challenges.<sup>31</sup>

An alternative solution to address this problem—granting subsidies to promote the use of renewable energy under conditions that make such energy competitive with fossil fuels—faces WTO challenges that cannot be addressed within the parameters of WTO law.<sup>32</sup> Renewable energy subsidies (RES) appear desirable from climate mitigation, energy diversification, and economic perspectives.<sup>33</sup> They can help reduce reliance on fossil fuels that accelerate climate change,<sup>34</sup> increase energy security by promoting energy portfolio diversification to ease the burgeoning global demand for energy,<sup>35</sup> or even provide global

<sup>29</sup> See *id.* at 39 (rejecting a conclusion that a carbon cap will result in a 100 percent increase in emissions, but noting that “if full auctioning of CO<sub>2</sub> allowances became the general rule of allocation, for some of the most carbon-intensive industries such as cement, blast-furnace steel and some basic chemicals, carbon leakage could be significant enough to warrant [countervailing] policy intervention”); WORLD BANK, *supra* note 26, at 253 (noting that even though high-income countries are bigger net exporters of energy-intensive products, emissions reduction policies could lead to leakage with manufacturers moving to low-income countries); Joost Pauwelyn, *U.S. Federal Climate Policy and Competitiveness Concerns: The Limits and Options of International Trade Law* 2, 6 (Duke University, Working Paper NI WP 07-02, 2007), available at <http://goo.gl/1u5mmk> and <http://perma.cc/V4Z-P8FS> (noting that in certain sectors, carbon leakage occurs and causes increases in emissions, even if some claims might be exaggerated); Vanden Brink, *supra* note 24, at 92–93; Moser, *supra* note 27, at 678 (noting that leakage can cause industries to shift to countries such as China, which are attractive destinations for foreign direct investments, and can undermine advancement of cleaner technology).

<sup>30</sup> See *infra* notes 134–147 and accompanying text.

<sup>31</sup> See, e.g., Vanden Brink, *supra* note 24, at 97–99, 102–05 (arguing that recently proposed bills that would apply border adjustments in a non-uniform manner violate WTO law). These trade measures are discussed in detail in Deepa Badrinarayana, *Trading Up Kyoto: A Proposal to Amend the Protocol, Part II* (forthcoming).

<sup>32</sup> See *infra* notes 148–241 and accompanying text.

<sup>33</sup> See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, RENEWABLE ENERGY SOURCES AND CLIMATE CHANGE MITIGATION 7 (Otmar Edenhofer et al. eds., 2012).

<sup>34</sup> Steven Ferrey et al., *Fire and Ice: World Renewable Energy and Carbon Control Mechanisms Confront Constitutional Barriers*, 20 DUKE ENVTL. L. & POL’Y F. 125, 131 (2010) (observing the potential for renewable energy to become an important low-carbon energy source by 2050).

<sup>35</sup> See *id.* at 171.

benefits in the form of cheaper renewable goods on the tab of foreign taxpayers.<sup>36</sup>

Government support for renewable energy, however, hinges on policies that raise competition problems.<sup>37</sup> Some countries have conditioned RES on satisfying additional requirements, such as use of domestic content or export performance, to boost the local economy and gain a competition advantage by capturing market share, thereby reducing market access to market players from other countries.<sup>38</sup> Such conditions are protectionist in nature and contrary to both the general objectives and some specific rules of the WTO,<sup>39</sup> as illustrated by a series of disputes that are emerging before the WTO.<sup>40</sup>

Between 2010 and 2013, the Canadian province of Ontario, the People's Republic of China, India, and the European Union (EU) each passed laws that provide financial assistance to promote renewable en-

<sup>36</sup> Andrew Green & Michael Trebilcock, *Enforcing WTO Obligations: What Can We Learn from Export Subsidies?*, 10 J. INT'L. ECON. L. 653, 660–61, 663 (2007) (noting that export subsidies will enable firms to sell at lower prices, thereby increasing trade and enabling politicians to provide directed benefits, and arguing that developing countries that cannot introduce institutional and policy changes can establish export zones to promote greater growth); Alan Sykes, *The Questionable Case for Subsidies Regulation: A Comparative Perspective*, 2 J. LEGAL ANALYSIS 473, 476, 517–18 (2010) (noting that the appropriate response to an export subsidy should be a “thank you note to the embassy,” and that considering the benefits and disadvantages of subsidies, prohibition should not be permitted unless overall welfare reduction is established).

<sup>37</sup> In the context of requesting the energy budget for the fiscal year 2013, Secretary of Energy Steven Chu noted:

The United States is competing in a global race for the clean energy jobs of the future . . . . The choice we face as a nation is simple: do we want clean energy technologies of tomorrow to be invented in America by American innovators, made by American workers and sold around the world, or do we want to concede those jobs to our competitors? We can and must compete for those jobs. This budget includes responsible investments in an American economy that is built to last.

*What Would the President's Proposed 2013 Budget Mean to the Energy Department?*, ENERGY.GOV, (Feb. 14, 2012), <http://energy.gov/articles/what-would-presidents-proposed-2013-budget-mean-energy-department>, available at <http://perma.cc/R6KZ-YJGM>.

<sup>38</sup> See *infra* notes 210–241 and accompanying text.

<sup>39</sup> 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) (arguing that the aim of GATT is to increase market access to exporters by requiring importing countries to change their policies); Kyle Bagwell 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).

<sup>40</sup> See *infra* notes 210–241 and accompanying text.

ergy.<sup>41</sup> The financial assistance in each case, however, is conditional.<sup>42</sup> China's subsidies to its solar and wind equipment manufacturers are conditioned on export performance and domestic content use.<sup>43</sup> The feed-in tariff laws of Canada, the EU, and India alternatively guarantee certain purchase prices to renewable electricity producers only if they use domestic content.<sup>44</sup>

These types of conditional assistance, known as prohibited subsidies, can violate Article 3.2 of the WTO Agreement on Subsidies and Countervailing Measures (ASCM).<sup>45</sup> They also violate Article 2.1 read in conjunction with paragraph 1(a) of the Agreement on Trade Related-Investment Measures (TRIMs),<sup>46</sup> and Article III:4 of GATT.<sup>47</sup> Indeed, a posse of WTO member states has filed complaints through the WTO dispute settlement process and challenged the legality of these subsidies under WTO law.<sup>48</sup>

Each of the four disputes initiated before the WTO—the United States against China,<sup>49</sup> Japan and the EU against Canada,<sup>50</sup> China against the EU,<sup>51</sup> and the United States against India<sup>52</sup>—is currently at

<sup>41</sup> See *infra* notes 210–241 and accompanying text.

<sup>42</sup> See *infra* notes 210–241 and accompanying text.

<sup>43</sup> See *infra* notes 210–220 and accompanying text (discussing China's laws that resulted in the disputes).

<sup>44</sup> See *infra* notes 221–241 and accompanying text (discussing the three disputes and related laws).

<sup>45</sup> Agreement on Subsidies and Countervailing Measures art. 3.2, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1869 U.N.T.S. 14 [hereinafter ASCM], available at [http://www.wto.org/english/docs\\_e/legal\\_e/24-scm.pdf](http://www.wto.org/english/docs_e/legal_e/24-scm.pdf) and <http://perma.cc/A4Y9-QSW7>; see *infra* notes 177–200 and accompanying text.

<sup>46</sup> 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], available at [http://www.wto.org/english/docs\\_e/legal\\_e/18-trims.pdf](http://www.wto.org/english/docs_e/legal_e/18-trims.pdf) and <http://perma.cc/JE6D-77QD>; see *infra* notes 201–209 and accompanying text.

<sup>47</sup> GATT, *supra* note 19, art. III(4).

<sup>48</sup> See *infra* notes 210–241 and accompanying text (discussing the WTO dispute settlement system).

<sup>49</sup> Request for Consultations by the United States, *China—Measures Concerning Wind Power Equipment*, WT/DS419/1 (Jan. 6, 2011) [hereinafter *China—Wind Equipment*], available at <http://goo.gl/2c6d6Q> and <http://perma.cc/L5NH-93SB>.

<sup>50</sup> Panel Report, *Canada—Measures Relating to the Feed-In Tariff Program*, WT/DS412/R, WT/DS426/R (Dec. 19, 2012) [hereinafter *Canada—Feed-In Tariffs Panel Decision*], available at <http://goo.gl/xmUtaq> and <http://perma.cc/RAR6-2JA9>.

<sup>51</sup> Request for Consultations by China, *European Union and Certain Member States—Certain Measures Concerning the Renewable Energy Generation Sector*, WT/DS452/1 (Nov. 7, 2012) [hereinafter *EU—Renewable Energy*], available at <http://goo.gl/W1qLIX> and <http://perma.cc/JH7H-GVEX>.

different stages of dispute resolution. The EU–Renewable Energy and India–Solar disputes have not proceeded to the Panel stage as of January 2014.<sup>53</sup> The WTO challenge against China was also in the consultation stage but has become dormant after China withdrew its wind subsidies,<sup>54</sup> and the United States has imposed anti-dumping tariffs on China’s solar panels, after a finding by the International Trade Commission (ITC) that the Chinese subsidies harmed the United States.<sup>55</sup> The EU has taken steps towards imposing similar tariffs.<sup>56</sup> China, however, has challenged some of the measures under WTO law and was in the Panel proceeding stage as of January 2014.<sup>57</sup>

Canada has recently lost its appeal of the WTO Panel decision in the *Canada–Feed-In Tariff* dispute.<sup>58</sup> The Panel found that the Ontario government’s financial assistance to renewable electricity producers did

<sup>52</sup> Request for Consultations by the United States, *India–Certain Measure Relating to Solar Cells and Solar Modules*, WT/DS456/1 [hereinafter *India–Solar*], available at <http://goo.gl/ckmH9A> and <http://perma.cc/NH9U-48S9>.

<sup>53</sup> See *id.*; *EU–Renewable Energy*, *supra* note 51.

<sup>54</sup> *China Ends Wind Power Equipment Subsidies Challenged by the United States in WTO Dispute*, OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE (June 2011), <http://www.ustr.gov/about-us/press-office/press-releases/2011/june/china-ends-wind-power-equipment-subsidies-challenged>, available at <http://perma.cc/H8YL-GULY> [hereinafter *China Ends Wind Power Subsidies*].

<sup>55</sup> Jeff Uscher, *Chinese Solar Makers Face Punitive Tariffs*, FORBES (Nov. 9, 2012), <http://www.forbes.com/sites/benzingainsights/2012/11/09/chinese-solar-panel-makers-face-punitive-tariffs>, available at <http://perma.cc/CV66-PZTN>; Charles W. Thurston, *Breaking: ITC Makes Unanimous Decision on Chinese Cells and Modules*, RENEWABLE ENERGY WORLD (Nov. 7, 2012), <http://www.renewableenergyworld.com/rea/news/article/2012/11/commerce-slams-chinese-cell-modules-with-final-duties>, available at <http://perma.cc/3KGL-SHQK>.

<sup>56</sup> See Ethan Bilby, *EU to Register Chinese Solar Panels in Move Towards Duties: Sources*, REUTERS (Feb. 13, 2013), <http://www.reuters.com/article/2013/02/20/us-eu-china-solar-idUSBRE91J15V20130220>, available at <http://perma.cc/56UU-S3LB> (reporting that the European Commission has authorized a move to register solar panels as a first step toward imposing anti-dumping duties, if an investigation reveals that Chinese solar panels import at rates below cost of production because of subsidies).

<sup>57</sup> See *United States–Countervailing Duty Measures on Certain Products from China*, WORLD TRADE ORGANIZATION (Nov. 26 2012), [http://wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds437\\_e.htm](http://wto.org/english/tratop_e/dispu_e/cases_e/ds437_e.htm), available at <http://perma.cc/DB5L-G2F3> (noting that a Panel Report is forthcoming); *United States–Countervailing and Anti-Dumping Measures on Certain Products from China*, WORLD TRADE ORGANIZATION (Dec. 17, 2012), [http://wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds449\\_e.htm](http://wto.org/english/tratop_e/dispu_e/cases_e/ds449_e.htm), available at <http://perma.cc/8D5M-NYWC> (noting that a Panel Report is forthcoming).

<sup>58</sup> See Appellate Body Report, *Canada–Certain Measures Affecting the Renewable Energy Generation Sector*, ¶ 6.1(b)(v), WT/DS412/AB/R (May 6, 2013); Appellate Body Report, *Canada–Measures Relating to the Feed-In Tariff Program*, ¶ 6.1(a)(vi), WT/DS426/AB/R (May 6, 2013) [hereinafter *Canada–Feed-In Tariffs AB Report*], available at <http://goo.gl/a4Szot> and <http://perma.cc/X7HN-2PFZ>. The AB Report is a consolidation of both cases, DS412 and DS426.

not qualify as a prohibited subsidy under ASCM because it did not confer a “benefit” to electricity producers.<sup>59</sup> The Panel nevertheless ruled that the domestic content requirement violated the TRIMs, which disallow nations from imposing domestic content requirements.<sup>60</sup> In effect, the Panel’s decision undermines Canada’s effort to promote renewable energy while simultaneously boosting the local economy and counteracting competition.<sup>61</sup>

At first glance, the ruling in *Canada-Feed-In Tariffs* appears to preclude an analysis regarding the applicability of ASCM to RES. The decision, however, hinges on the Panel’s reasoning that a market value cannot be identified in the electricity sector in Canada to evaluate whether the financial contribution confers a benefit.<sup>62</sup> As noted by the Appellate Body, and as discussed later in this Article, other benchmarks could be considered.<sup>63</sup>

Even if ASCM is not triggered, the Panel’s decision regarding the applicability of TRIMs can render conditional RES ineffective as a strategy to address competition and leakage problems.<sup>64</sup> Absent the protectionist conditions, the RES are unlikely to boost the national economy.<sup>65</sup> This concern will be especially acute considering initial reports that even without the conditional subsidies, the United States might not be in a position to compete with China’s solar and wind equipment

<sup>59</sup> See *Canada-Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 7.328. The Appellate Body reversed this portion of the decision without ruling on whether a benefit was conferred under ASCM. See *Canada-Feed-In Tariffs AB Report*, *supra* note 58, ¶ 5.246.

<sup>60</sup> *Canada-Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 8.2, 8.6. These findings were upheld on appeal. *Canada-Feed-In Tariffs AB Report*, *supra* note 58, ¶ 6.1(b)(v), WT/DS412/AB/R, and ¶ 6.1(a)(vi), WT/DS426/AB/R.

<sup>61</sup> See Peter R. Murphy, *Canada: World Trade Organization Rules Against Ontario’s Feed-In Tariff Program*, MONDAQ (Dec. 31, 2012), <http://www.mondaq.com/canada/x/213564/Oil+Gas+Electricity/World+Trade+Organization+Rules+Against+Ontarios+FeedIn+Tariff+Program>, available at <http://perma.cc/74ZQ-2H73>.

<sup>62</sup> See *Canada-Feed-In Tariffs AB Report*, *supra* note 58, ¶¶ 5.12–.14.

<sup>63</sup> *Id.* ¶¶ 5.216–.219.

<sup>64</sup> JOSE ETCHEVERRY, RENEWABLE ENERGY UPDATE FROM ONTARIO: FEED-IN TARIFF YIELDS STRONG MARKET RESPONSE 3 (2010), available at <http://www.canrea.ca/site/wp-content/uploads/2010/04/fit-update-from-ontario-april-10-2010.pdf> and <http://perma.cc/P79K-WY6C>.

<sup>65</sup> See MANUEL FRONDEL ET AL., RUHR-UNIVERSITÄT BOCHUM DEP’T OF ECON., ECONOMIC IMPACTS FROM THE PROMOTION OF RENEWABLE ENERGY TECHNOLOGIES: THE GERMAN EXPERIENCE 20 (2009), available at <http://www.econstor.eu/bitstream/10419/29912/1/614062047.pdf> and <http://perma.cc/YG6W-NBH7> (arguing that Germany’s subsidization of the renewable energy industry has failed to provide sufficient environmental and economic rewards and that other countries should reconsider subsidizing clean technologies that are not competitive in the marketplace on their own merits).

manufacturers.<sup>66</sup> Thus, WTO rules render conditional RES an inadequate solution to address the economic challenges to climate change mitigation.<sup>67</sup>

Scholars have proposed at least two possible solutions to this legal problem arising from the intersection between trade rules and RES.<sup>68</sup> One option is to encourage countries to provide matching subsidies to catalyze the renewable energy industry.<sup>69</sup> The other option is to carve out an environmental exception to the prohibited subsidies under GATT.<sup>70</sup> Both proposals have significant merits but are inadequate solutions.

Granting matching subsidies, or starting a subsidy “war,” could indeed catalyze renewable energy expansion and promote the goals of climate change mitigation and energy diversification.<sup>71</sup> Subsidies reduce the cost of producing renewable energy equipment, lower the retail cost of these goods, and make them affordable on a larger scale, even if at the cost of taxpayers.<sup>72</sup> Such reductions in cost could jumpstart the transition to renewable sources of energy that reduce carbon emissions. Similarly, purchase price guarantees under a feed-in tariff program can encourage investments in renewable energy production.<sup>73</sup> Such benefits have even led some scholars to criticize ASCM as an inadequate tool in distinguishing distorting subsidies from benefi-

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<sup>66</sup> See Diane Cardwell, *Solar Tariffs Upheld, but May Not Help in U.S.*, N.Y. TIMES, Nov. 7, 2012, at B1 (reporting that due to supply chain strategies and market share, the U.S. solar industry might be unable to compete in the market).

<sup>67</sup> See AHRUNABHA GHOSH & HIMANI GANGANIA, INT’L CTR. FOR TRADE AND SUSTAINABLE DEV., GOVERNING CLEAN ENERGY SUBSIDIES: WHAT, WHEN, AND HOW LEGAL? 40–42 (2012), available at <http://ictsd.org/downloads/2012/09/governing-clean-energy-subsidies-what-why-and-how-legal.pdf> and <http://perma.cc/7Q2F-DXJ3>.

<sup>68</sup> See Joseph E. Stiglitz, *A New Agenda for Global Warming*, ECONOMIST’S VOICE, July 2006, at 2; INGRID JEGOU & LUCA RUBINI, ICTSD PROGRAMME ON COMPETITIVENESS AND SUSTAINABLE DEVELOPMENT, THE ALLOCATION OF EMISSION ALLOWANCES FREE OF CHARGE: LEGAL AND ECONOMIC CONSIDERATIONS 47 (2011) (“[T]here are no decisive legal obstacles to the application of GATT Article XX to climate change subsidies . . . this move may be policy-wise desirable.”).

<sup>69</sup> See Stiglitz, *supra* note 68, at 2.

<sup>70</sup> See JEGOU & RUBINI, *supra* note 68, at 38–47.

<sup>71</sup> David Grinlinton & LeRoy Paddock, *The Role of Tariffs in Supporting the Expansion of Solar Industry Production*, 41 U. TOL. L. REV. 943, 944–45 (2010).

<sup>72</sup> See Green & Trebilcock, *supra* note 36, at 660–61 (supporting export subsidies but criticizing expenses to taxpayers).

<sup>73</sup> See *Canada–Feed-In-Tariffs Panel Decision*, *supra* note 50, ¶ 7.110 (noting several examples of how Canada’s FIT program has spurred suppliers to invest in renewable energy technology). See generally Grinlinton & Paddock, *supra* note 71 (discussing the role of feed-in tariffs in promoting investments in renewable energy technology).

cial subsidies,<sup>74</sup> as well as an obstacle to delivering trade, economic, and political benefits.<sup>75</sup>

A tacit agreement to ignore prohibited subsidies, however, is an insufficient solution in this instance. Ignoring ASCM rules that directly prohibit subsidies conditioned on domestic use or export performance compromises two fundamental objectives of WTO agreements: increasing market access and reducing protectionism.<sup>76</sup> Some countries do not have the financial capacity to subsidize renewable energy equipment or renewable energy production, but they might be able to compete in the market if other countries do not provide prohibited subsidies.<sup>77</sup> Only a select number of countries are in a position to provide market-capturing subsidies if ASCM violations remain unchallenged.<sup>78</sup>

Furthermore, allowing subsidies is just one part of the problem. Ignoring conditional subsidies would violate other WTO rules, including TRIMs, as well as fundamental principles of GATT, such as national treatment, and thus would seriously undermine well-established international trade law.<sup>79</sup> Exceptions might apply, but they should be justifiable and available within the legal framework. As discussed below, a case for carving out exceptions to WTO rules is difficult to sustain.<sup>80</sup>

The second solution, applying GATT environmental exceptions, is also inadequate and might even be normatively unjustifiable.<sup>81</sup> On the surface, GATT Article XX, which recognizes certain general exceptions to WTO rules, would seem to apply to conditional RES subsidies.<sup>82</sup> Article XX(b) has measures to protect non-renewable natural resources, and Article XX(g) has measures to protect human, plant, and animal

<sup>74</sup> See Sykes, *supra* note 36, at 473–74, 506–11 (discussing problems with determining whether a subsidy violates the agreement and specifically criticizing current WTO law on subsidies).

<sup>75</sup> See *id.* at 476, 517–18 (explaining that export subsidies create trade diversion, increase trade barriers, and jeopardize market access agreements).

<sup>76</sup> See GATT, *supra* note 19, Preamble. For a discussion of prohibited subsidies, see *infra* notes 177–209 and accompanying text.

<sup>77</sup> See ARVIND PANAGARIYA, WORLD BANK, EVALUATING THE CASE FOR EXPORT SUBSIDIES 3 (2000), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=629126](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=629126) and <http://perma.cc/YXP2-P65B> (arguing that small developing countries in particular might not be in a position to provide counter-subsidies).

<sup>78</sup> See GHOSH & GANGANIA, *supra* note 67, at 28 (providing examples of six large countries that have benefitted from subsidy policies).

<sup>79</sup> The need for trade liberalization is an issue beyond the scope of this Article.

<sup>80</sup> *Infra* notes 243–294 and accompanying text.

<sup>81</sup> *Infra* notes 295–402 and accompanying text.

<sup>82</sup> See GATT, *supra* note 19, art. XX; JEGOU & RUBINI, *supra* note 68, at 47 (“[T]here are no decisive legal obstacles to the application of GATT Article XX to climate change subsidies . . . this move may be policy-wise desirable.”).

health.<sup>83</sup> Arguably, climate change, which is characterized as the greatest environmental challenge of this century, should qualify for these environmental exceptions.<sup>84</sup> The fact that Parties in these disputes have not invoked environmental exceptions, nor denied the role of renewable energy in climate change mitigation, signals a reluctance to dispute the environmental benefits of RES. Considering the Panel's decision in *Canada-Feed-In-Tariffs*, however, it is likely that respondents to RES disputes will begin to invoke Article XX(b) and (g) exceptions. If countries were to take this position, as suggested by some scholars, the issue is whether the conditions that are challenged—export performance and domestic content use—can be excused under Article XX(b) and (g).<sup>85</sup> This Article argues, however, that Article XX exceptions cannot be applied to conditional RES, for several reasons.

First, ASCM, which disciplines prohibited subsidies, provides specific environmental exceptions to those rules. These specific exceptions are different from Article XX general exceptions. Moreover, they have expired. The exceptions were specifically and explicitly granted for a limited time, and intentionally limited in their scope and validity. Applying the general exceptions under GATT Article XX runs contrary, and without precedent, to the established scope of ASCM, the GATT General Interpretation clause, and Article 31 of the Vienna Convention on the Law of the Treaties. These rules generally provide that rules under a specific agreement prevail over rules in a general treaty.<sup>86</sup>

Second, even assuming that general exceptions could apply to specific agreements such as ASCM, as indeed they apply to TRIMs,<sup>87</sup> the legal requirements for invoking Article XX(b) and (g) are not satisfied. While renewable energy laws and policies can be construed as environmental measures to the extent that they promote climate mitigation efforts, conditional subsidies do not satisfy the requirements to apply the exceptions.<sup>88</sup> Article XX, including the chapeau, cannot be invoked to allow arbitrary and unjustified measures that are disguised trade restrictions.<sup>89</sup> The conditions attached to the subsidies are arbitrary and

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<sup>83</sup> GATT, *supra* note 19, art. XX.

<sup>84</sup> See generally Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153 (2009) (discussing the multiple layers of complexities, ranging from science to law and policy challenges, that climate change presents).

<sup>85</sup> See, e.g., JEGOU & RUBINI, *supra* note 68, at 47.

<sup>86</sup> See *infra* notes 297–317 and accompanying text.

<sup>87</sup> See TRIMs Agreement, *supra* note 46, art. 3.

<sup>88</sup> *Infra* notes 318–402 and accompanying text.

<sup>89</sup> *Infra* notes 386–402 and accompanying text.

unjustified because they impose protectionist conditions in violation of WTO rules even though alternative means exist to achieve the goals of climate change mitigation, such as providing unconditional subsidies.<sup>90</sup>

Third, the normative basis for applying Article XX and ASCM jurisprudence to RES disputes is tenuous. Generally, scholars have argued that the fact that nations have a sovereign prerogative to pursue legitimate environmental protection goals is a reason for applying Article XX environmental exceptions to trade-restrictive environmental measures.<sup>91</sup> This argument fails in the case of the RES disputes. None of the four disputed subsidies appear to be motivated solely by legitimate environmental protection concerns—instead they appear to be at least partially motivated by protectionist goals to counteract competition concerns. Notably, Canada, China, and India have refused to accept binding emissions reduction treaty obligations, even though they are among the major emitters of climate change-causing GHGs. Canada recently refused to commit to a second phase of emissions reduction goals under the Kyoto Protocol.<sup>92</sup> Within the current legal framework, Ontario's commitment to climate change mitigation cannot serve as a reason to excuse Canada, as a WTO member, to violate international trade rules.<sup>93</sup> While the EU is steadfastly committed to the Kyoto Protocol, its feed-in tariff laws also appear to be motivated by competition concerns rather than purely climate mitigation interests.<sup>94</sup>

In conclusion, arguments to either disregard ASCM or allow RES through the operation of GATT Article XX are both inadequate solu-

<sup>90</sup> *Infra* notes 328–338 and accompanying text.

<sup>91</sup> See, e.g., Ragosta et al., *WTO Dispute Settlement: The System Is Flawed and Must Be Fixed*, 31 INT'L LAW. 697, 704–05 (2003) (noting that the United States has surrendered some degree of sovereignty on environmental issues by agreeing to abide by the WTO dispute process); Eric L. Richards & Martin A. McCrory, *The Sea Turtle Dispute: Implications for Sovereignty, the Environment, and International Trade Law*, 71 U. COLO. L. REV. 295, 296 (2000) (arguing that America's loss of sovereignty under the WTO rules has slowed progress on environmental protection). See generally William R. Sprance, *The World Trade Organization and United States' Sovereignty: The Political and Procedural Realities of the System*, 13 AM. U. INT'L L. REV. 1225 (1998) (setting out the various sovereignty-based arguments against the WTO); see also Jackson, *supra* note 12, at 1249 (noting that states should have a sovereign right to decide their own environmental policies, though in a context of allowing states a prerogative to choose trade over environmental protection).

<sup>92</sup> Ian Austen, *Canada Announces Exit from Kyoto Climate Treaty*, N.Y. TIMES, Dec. 12, 2011, at A15.

<sup>93</sup> See *Canada—Feed-In Tariffs AB Report*, *supra* note 58, ¶ 6.1(b)(v), WT/DS412/AB/R, ¶ 6.1(a)(vi), WT/DS426/AB/R (holding that Canada's conditional RES subsidies violated GATT and TRIM).

<sup>94</sup> *Infra* notes 366–376 and accompanying text.

tions to redress trade law challenges to RES.<sup>95</sup> As such, the specific and narrow case of conditional subsidies demonstrates that a solution to the conflict between climate change mitigation efforts and competition caused by the operation of WTO rules cannot be resolved within the parameters of WTO law.<sup>96</sup> The need of the hour is a robust climate treaty that is designed to mitigate economic concerns within its framework to reduce GHG emissions and that serves as an exception, to the extent necessary, to the operation of international trade rules.

This Article analyzes the climate-competition puzzle and presents the above arguments in four additional parts. Part I lays out the legal background and the intersection between WTO law and the Kyoto Protocol. Part II discusses the challenges arising from the intersection between trade and climate change treaties, including the limits of some proposals to address the problem by reforming international trade law. Part III analyzes the nexus between RES, climate mitigation action, and WTO law. Part IV explains the WTO disputes regarding conditional RES and argues that Article XX(b) and (g) exceptions cannot apply to ASCM and may not be invoked in the case of conditional subsidies that are aimed primarily at mitigating competition concerns, for legal and normative reasons. Through this analysis, this Article sets the foundation for the second installment of this Article, namely a proposal for the design of a new climate treaty.

## I. LEGAL BACKGROUND TO THE TRADE, CLIMATE CHANGE AND COMPETITION CHALLENGE

This part sets out the basic scheme of WTO law and the Kyoto Protocol and explains how international trade rules interact and conflict with climate change rules to create competition and leakage problems.

### A. *The World Trade Organization and Its Laws in Brief*

The WTO was established in 1994 to administer the multilateral trading system and is comprised of agreements governing trade in goods and services.<sup>97</sup> WTO Member states are required to ratify all the

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<sup>95</sup> See *infra* notes 242–402 and accompanying text.

<sup>96</sup> See generally Bradley J. Condon, *Climate Change and Unresolved Issues in WTO Law*, 12(4) J. OF INT'L ECON. L. 895, available at <http://jtel.oxfordjournals.org/content/12/4/895.full.pdf> and <http://perma.cc/3MQZ-53QM> (noting unresolved issues in WTO law regarding climate change).

<sup>97</sup> Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, 1867 U.N.T.S. 194, available at [http://www.wto.org/english/docs\\_e/legal\\_e/legal\\_e.htm](http://www.wto.org/english/docs_e/legal_e/legal_e.htm)

agreements within the multilateral trading system.<sup>98</sup> The foundational agreement on trade is GATT.<sup>99</sup> GATT sets out fundamental principles to reduce discriminatory barriers to free trade and to liberalize trade in goods and services, notably most-favored nation (MFN) and national treatment, set out in Articles I and III, respectively.

Article III requires all Member states to treat imports from other Member nations on par with “like” domestic goods. Any advantage or benefit conferred to domestic goods should also be offered to imports.<sup>100</sup> Article I requires Member states to extend any favorable treatment that is given to products originating in or destined for one country to “like products” originating in or destined for all other Members.<sup>101</sup> Only a limited number of exceptions are permitted for developing countries, and only under certain conditions.<sup>102</sup>

In addition to GATT, several specific agreements on various trade-related issues govern Member states. The specific agreements relevant to this Article include the TRIMs and ASCM.<sup>103</sup> These agreements aim to reduce protectionist barriers to free trade. The general and specific agreements operate together to reduce tariffs and non-tariff barriers to trade.<sup>104</sup>

WTO agreements recognize a few exceptions to the rules.<sup>105</sup> A notable example is Article XX of GATT, which recognizes environmental and public health exceptions, among others.<sup>106</sup> As discussed below, these exceptions are limited in application and are subject to the core GATT principles—MFN and national treatment.<sup>107</sup>

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and <http://perma.cc/9826-U5ES>. See generally JOHN H. JACKSON, *THE WORLD TRADING SYSTEM* (2d ed. 1997) (discussing the history of the establishment of WTO rules). See John H. Jackson, *Reflections on International Economic Law*, 17 U. PA. J. INT’L ECON. L. 17, 21–23 (1996) [hereinafter Jackson, *Reflections*] for a discussion on the establishment of the WTO.

<sup>98</sup> See Jackson, *Reflections*, *supra* note 97, at 22 (“All the principal treaty agreement clauses will now become required for each WTO member.”).

<sup>99</sup> GATT, *supra* note 19.

<sup>100</sup> *Id.* art. III(4).

<sup>101</sup> *Id.* art. I(1).

<sup>102</sup> *Id.* art. I(2).

<sup>103</sup> See *infra* notes 177–209 and accompanying text.

<sup>104</sup> See GATT, *supra* note 19, Preamble (proclaiming that signatories desire “substantial reductions of tariffs and other barriers to trade”).

<sup>105</sup> GATT, *supra* note 19, arts. XIV, XX, XXI.

<sup>106</sup> *Id.* art. XX.

<sup>107</sup> *Infra* notes 318–402 and accompanying text.

In the event of a trade conflict, Parties can pursue dispute settlement under the Dispute Settlement Agreement.<sup>108</sup> The dispute may be initiated and settled through consultations,<sup>109</sup> and if consultations fail, a Panel will adjudicate on the matter.<sup>110</sup> A Panel decision may be appealed before the Appellate Body on matters of law.<sup>111</sup> If a disputed measure is found to violate GATT or other agreements, remedies range from compliance to imposition of countervailing duties. If all remedies fail, the successful Member state can impose sanctions.<sup>112</sup>

### B. *The Climate Treaties: The United Nations Framework Convention on Climate Change and the Kyoto Protocol*

Climate change mitigation efforts are governed by two principal treaties and a series of decisions taken by the Conference of Parties (COP) to the UNFCCC.<sup>113</sup> The UNFCCC sets out the basic principles and general obligations of nations.<sup>114</sup> Based on the principle of common but differentiated responsibility, UNFCCC classifies nations into Annex I and Annex II countries. Annex I comprises developed nations, including former Soviet Union countries that are considered economies in transition.<sup>115</sup> Annex II comprises developed nations, except emerging economies.<sup>116</sup> Both Annex I and II signatories have a general responsibility to reduce GHG emissions,<sup>117</sup> but Annex II nations are responsible for providing economic assistance for technology transfer to developing countries, as well as for mitigation and adaptation efforts.<sup>118</sup>

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<sup>108</sup> Understanding on Rules and Procedures Governing the Settlement of Disputes, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 U.N.T.S. 401 [hereinafter DSU], available at [http://www.wto.org/english/docs\\_e/legal\\_e/28-dsu.pdf](http://www.wto.org/english/docs_e/legal_e/28-dsu.pdf) and <http://perma.cc/H5AA-YACC>; see David Palmeter & Petros C. Mavroidis, *The WTO Legal System: Sources of Law*, 92 AM. J. INT'L L. 398, 399 (1998).

<sup>109</sup> DSU, *supra* note 108, arts. 4, 5.

<sup>110</sup> *Id.* art. 6.

<sup>111</sup> *Id.* art. 17(4).

<sup>112</sup> *Id.* arts. 21, 22.

<sup>113</sup> UNFCCC, *supra* note 7; Kyoto Protocol, *supra* note 3; see also *Meetings*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, <http://unfccc.int/meetings/items/6240.php> (last visited Jan. 8, 2014) available at <http://perma.cc/DVE6-PF2T>.

<sup>114</sup> See UNFCCC, *supra* note 7, arts. 2, 3, 4.

<sup>115</sup> *Id.* Annex I.

<sup>116</sup> *Id.* Annex II.

<sup>117</sup> *Id.* art. 4(1).

<sup>118</sup> *Id.* art. 4(3)–4(5).

The Kyoto Protocol to UNFCCC provides the legal scheme to implement the goals of UNFCCC.<sup>119</sup> To achieve a balance between rights of developing countries and obligations of developed countries, it creates a property right to emit carbon dioxide.<sup>120</sup> Based on historic differences in emissions, the Protocol requires only Annex I signatories to reduce their emissions by a particular percentage, based on the baseline year 1990.<sup>121</sup> Each Annex I signatory is allocated a certain amount of emissions allowance per year, known as the “Assigned Amount,” and is required to reduce its emissions by 5 percent below the 1990 emissions level.<sup>122</sup> Economies in transition can follow a different baseline year.<sup>123</sup> GHGs covered are set out in Annex A to the Kyoto Protocol, and assigned amounts (emissions allowances) are listed in Annex B.<sup>124</sup> The first commitment period for reducing emissions ran between 2008 and 2012.<sup>125</sup>

The Protocol provides three flexible mechanisms to facilitate emissions reduction: joint implementation, a clean development mechanism (CDM), and emissions trading.<sup>126</sup> Each mechanism is designed to enable Parties to locate the most economically efficient means to transition from fossil fuels to alternative energy. The emissions trading scheme establishes carbon dioxide as a commodity that can be traded and priced in the market.<sup>127</sup> This mechanism aims to promote investments in low carbon technology by legally limiting the availability of CO<sub>2</sub> in the market and thereby increasing the price of carbon in the long run.<sup>128</sup> Joint implementation permits Annex I signatories to invest in projects in other countries with higher investment returns, to promote low CO<sub>2</sub>-emitting technology.<sup>129</sup> The CDM allows developed countries to invest in low carbon technology in developing countries in exchange for credits that count toward their legal obligation to reduce

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<sup>119</sup> Kyoto Protocol, *supra* note 3.

<sup>120</sup> *See id.* arts. 3, 17; EDWIN WOERDMAN, THE INSTITUTIONAL ECONOMICS OF MARKET-BASED CLIMATE POLICY 10–11 (2004) (noting that Article 17 of the Kyoto Protocol establishes an international market for GHG emissions).

<sup>121</sup> Kyoto Protocol, *supra* note 3, art. 3(1).

<sup>122</sup> *Id.*

<sup>123</sup> *Id.* art. 3(5).

<sup>124</sup> *Id.* Annex A, Annex B.

<sup>125</sup> Kyle W. Danish, *The International Regime*, in GLOBAL CLIMATE CHANGE AND U.S. LAW 31 (Michael Gerrard ed., 2007).

<sup>126</sup> Kyoto Protocol, *supra* note 3, arts. 6, 12, 17; *see* Danish, *supra* note 125, at 42.

<sup>127</sup> *See* WOERDMAN, *supra* note 120, at 10–11.

<sup>128</sup> *See* Danish, *supra* note 125, at 42–43.

<sup>129</sup> *See id.* at 44.

GHG emissions.<sup>130</sup> Additionally, major emitting nations have agreed, as part of COP meeting declarations such as the Copenhagen Accord and the Durban Platform, to provide funding to assist developing countries in climate mitigation and adaptation efforts.<sup>131</sup>

No emissions reduction obligations or funding obligations are imposed on non-Annex I and non-Annex II signatories.<sup>132</sup> This includes all developing countries and encompasses emerging economies such as Brazil, China, and India. This exclusion has become a bone of contention as nations continue to negotiate a post-2012 legal framework.<sup>133</sup>

### C. *The Competition and Leakage Problem*

The cumulative effect of WTO and climate change treaties creates leakage and loss of competitiveness challenges that undermine collective climate change mitigation efforts.<sup>134</sup> WTO regulation of trade barriers and discriminatory treatment has created increasingly open borders for goods, services, and investments and has thereby provided opportunities to achieve global economic efficiency.<sup>135</sup> Such malleability of borders enables firms in Annex I countries to avoid GHG emissions regulations by moving to other markets, notably emerging economies such as Brazil, China, or India, which do not have comparable emissions reduction obligations.<sup>136</sup> Certain carbon-intensive sectors might be particularly vulnerable to the leakage problem.<sup>137</sup> For exam-

<sup>130</sup> See *id.* at 46.

<sup>131</sup> See RICHARD K. LATTANZIO, CONGRESSIONAL RESEARCH SERVICE, INTERNATIONAL CLIMATE CHANGE FINANCING: THE GREEN CLIMATE FUND (GCF) 1–7 (2013), available at <http://www.fas.org/sgp/crs/misc/R41889.pdf> and <http://perma.cc/3VRJ-ES82> (discussing the history of the Green Climate Fund).

<sup>132</sup> See Danish, *supra* note 125, at 34–35.

<sup>133</sup> See *id.* at 53 (“Another fundamental criticism of the Protocol is that it does not extend commitments to developing countries, including major emitters such as China and India.”).

<sup>134</sup> See IEA CARBON LEAKAGE REPORT, *supra* note 26, at 3 (“[D]ifferences in returns on capital associated with unilateral mitigation action provides incentives for firms to relocate capital to countries with less stringent climate policies.”).

<sup>135</sup> See, e.g., *infra* notes 177–209 and accompanying text (discussing WTO regulation of protectionist subsidies).

<sup>136</sup> See Moser, *supra* note 27, at 677–78 (“Leakage causes negative impacts not only by allowing emissions to shift from one country to another, but, more importantly, by inhibiting the advancement of clean energy technologies. This is especially true for countries like China, that are developing and are favored targets for foreign direct investment.”)

<sup>137</sup> See IEA CARBON LEAKAGE REPORT, *supra* note 26, at 39 (“[I]f full auctioning of CO<sub>2</sub> allowances became the general rule of allocation, for some of the most carbon-intensive industries such as cement, blast-furnace steel and some basic chemicals, carbon leakage could be significant enough to warrant countervailing policy intervention.”); see also Pau-

ple, even though Washington State is regulating coal consumption,<sup>138</sup> there is an increase in coal export from Washington State to China.<sup>139</sup> Furthermore, Annex I countries cannot impose higher tariffs on imported goods produced in non-Annex I countries within the framework of WTO rules, except in certain limited circumstances.<sup>140</sup> Consequently, firms in Annex I countries, which are subject to environmental restrictions that aren't imposed on non-Annex I competitors, can suffer loss of competitiveness, a problem that is already a documented consequence of lopsided environmental and labor regulations in WTO member states.<sup>141</sup>

Addressing these problems under WTO law presents several legal hurdles. Suggested solutions range from the imposition of border tax adjustments under Article II:2(a) of GATT to providing incentives to developing countries under the generalized system of preferences, but each presents several problems, particularly that of ensuring WTO-compliant enforcement.<sup>142</sup>

Even though exceptions could be invoked, the Kyoto Protocol does not provide the legal arsenal. Not only does the exclusion of emerging major economies that are also major GHG emitters increase leakage and competitiveness problems, but the three main Kyoto Protocol mechanisms for reducing emissions—CDM, emissions trading, and joint implementation—provide a limited remedy that does not address these problems.<sup>143</sup> Furthermore, Article 3(5) of UNFCCC and

welyn, *supra* note 36, at 6 (noting that the carbon leakage problem might be exaggerated, but that in certain sectors carbon leakage occurs and causes increases in emissions); Vanden Brink, *supra* note 24, at 92–93 (noting that only six U.S. industries could suffer competitive losses—“petroleum, refining, paper and pulp, nonmetallic mineral products, chemicals and ferrous and nonferrous metals”); WORLD BANK, *supra* note 26, at 253 (noting that even though high-income countries are bigger net exporters of energy-intensive products, emissions reduction policies could lead to leakage with manufactures moving to low-income countries).

<sup>138</sup> See Jeremy Lawrence, Note, *The Western Climate Initiative: Cross-Border Collaboration and Constitutional Structure in the United States and Canada*, 82 S. CAL. L. REV. 1225, 1228, 1238 (2009).

<sup>139</sup> Moser, *supra* note 27, at 677–78 (noting that coal consumption is increasing in China and India, and that Washington state is setting up a port to export coal to China). Leakage has generally been low for the EU, but over-allocation of carbon allowances has diminished the effectiveness of its emissions reduction efforts. *Id.* at 689.

<sup>140</sup> See *infra* notes 177–209 and accompanying text.

<sup>141</sup> To the extent that the problem already exists, leakage might be less pronounced. See, e.g., Moser, *supra* note 27, at 689.

<sup>142</sup> See Deepa Badrinarayana, *Trading Up Kyoto: A Proposal to Amend the Protocol, Part II* (forthcoming).

<sup>143</sup> See Kyoto Protocol, *supra* note 3, arts. 6, 12, 17; see also Moser, *supra* note 27, at 677–78 (noting potential carbon leakage from the U.S. to China and India via increased coal

Article 2(3) of the Kyoto Protocol reiterate the goal of preserving the trading system and not imposing trade barriers.<sup>144</sup>

Consequently, major emitters remain unmoved by economic or moral arguments to accept binding emissions reduction obligations.<sup>145</sup> On the contrary, an increasing number of major emitters are reconsidering their commitment under the current structure of the Kyoto Protocol.<sup>146</sup> Notably, Canada, Japan, and Russia bowed to competition pressure and rejected a second phase of emissions reduction obligations under the Protocol.<sup>147</sup> The RES issue discussed below demonstrates that the combination of WTO law and the Kyoto Protocol does not promote climate mitigation efforts, and that a solution does not lie within WTO rules alone due to the inherent pressure of competition that the divergent goals of the two treaties create.

## II. THE LINK BETWEEN RENEWABLE ENERGY SUBSIDIES, WTO LAW, AND CLIMATE CHANGE MITIGATION

This part introduces the important link between energy and climate mitigation action, as well as the unique legal challenges to diversifying energy to mitigate climate change in a global, liberalized economy. This part focuses particularly on competition problems associated with promoting renewable energy.

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exports); WORLD BANK, *supra* note 26, at 253 (noting that carbon leakage might be occurring in 2010, nearly 20 years after Kyoto.)

<sup>144</sup> UNFCCC Article 3(5), *supra* note 7. This article requires states to maintain the international economic system and requires Members to ensure that “[m]easures 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.” *Id.*; see also Michael McKenzie, *Climate Change and the Generalized System of Preferences*, 11 J. INT’L ECON. L. 679, 684 (2008) (“Article 3(5) of the UNFCCC specifically warns against the use of trade restrictions to combat climate change.”). This approach flows from Agenda 21, which recognizes increased market access as an important tool for addressing environmental problems. See United Nations Environment Programme, Agenda 21, UN Doc A/CONF.151/26 ¶ 2.5 (1992) (“[I]mproved market access for developing countries’ exports in conjunction with sound environmental policies would have positive environmental impact and therefore make an important contribution towards sustainable development.”). Article 2(3) of the Kyoto Protocol, *supra* note 3, urges Annex I Parties to minimize the negative impacts on international trade of climate change mitigation measures.

<sup>145</sup> See, e.g., Posner & Sunstein, *supra* note 3, at 1610–12 (noting that the Kyoto Protocol would place an unfair burden on the United States compared to developing countries, and dismissing both distributive justice and corrective justice as rationales for climate action).

<sup>146</sup> See *What Doha Did*, *supra* note 2.

<sup>147</sup> See COP 16, *supra* note 1, at 6.

Greenhouse gas (GHG) emissions reduction, notably reduction of carbon dioxide from fossil fuel sources, is a central climate change mitigation strategy.<sup>148</sup> Alternative sources of energy, such as renewable energy, that have lower carbon emissions are gaining importance as substitutes.<sup>149</sup> Renewable energy includes energy harnessed from renewable resources such as solar, wind, and water.<sup>150</sup> Availability of affordable renewable energy is critical to climate change mitigation.<sup>151</sup> Energy diversification also yields co-benefits from national security and economic standpoints. National energy portfolio diversification decreases fossil fuel imports and provides economic safeguards against price increases caused by higher global demand for fossil fuels.<sup>152</sup>

Without legal and policy intervention, however, fossil fuels will remain the primary source of energy through 2035,<sup>153</sup> for at least two reasons. First, existing law and policies do subsidize fossil fuels.<sup>154</sup> Second, renewable energy technology remains expensive and is not competitive with fossil fuel sources in the short term.<sup>155</sup>

The Kyoto Protocol's flexible mechanisms promote investments in alternative energy, including renewable energy, in Annex I as well as non-Annex I countries.<sup>156</sup> The clean development mechanism provides incentives to Annex I signatories to invest in carbon-reducing technologies, including renewable energy, in non-Annex I countries.<sup>157</sup> Joint implementation and emissions trading provide incentives for Annex I countries to invest in renewable energy.<sup>158</sup>

<sup>148</sup> See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 33, at 7.

<sup>149</sup> See *id.* at 7–9.

<sup>150</sup> *Id.* at 8–9.

<sup>151</sup> *Id.* at 7.

<sup>152</sup> See Ben Block, *Energy Agency Predicts High Prices in Future*, WORLDWATCH INST., <http://www.worldwatch.org/node/5936> (last visited Jan. 8, 2014), available at <http://perma.cc/TZ7H-UTSJ> (citing a report of the International Energy Agency that predicted rising energy prices to account for growing demand); cf. INT'L ENERGY AGENCY, KEY WORLD ENERGY STATISTICS 30 (2011), available at [http://iea.org/textbase/nppdf/free/2011/key\\_world\\_energy\\_stats.pdf](http://iea.org/textbase/nppdf/free/2011/key_world_energy_stats.pdf) and <http://perma.cc/6W45-5D4D> [hereinafter KEY ENERGY STATISTICS] (showing that total energy consumption in the world nearly doubled between 1973 and 2009).

<sup>153</sup> See KEY ENERGY STATISTICS, *supra* note 152, at 46 (predicting oil and coal to comprise more than half of the world's energy in 2035 under a current policy scenario).

<sup>154</sup> See, e.g., ENVTL. L. INST., ESTIMATING U.S. GOVERNMENT SUBSIDIES TO ENERGY SOURCES: 2002–2008, at 3 (2009) (“The federal government provided substantially larger subsidies to fossil fuels than to renewables.”).

<sup>155</sup> See Matthew L. Wald, *Cost Works Against Alternative and Renewable Energy Sources in Time of Recession*, N.Y. TIMES, Mar. 29, 2009, at A18.

<sup>156</sup> See Kyoto Protocol, *supra* note 3, arts. 6, 12.

<sup>157</sup> See Danish, *supra* note 125, at 46.

<sup>158</sup> Kyoto Protocol, *supra* note 3, arts. 6, 17.

Several major emitting nations, including non-signatories of the Kyoto Protocol, have adopted laws to catalyze renewable energy use.<sup>159</sup> For example, in the United States, thirty-one states and the District of Columbia have passed several renewable energy laws.<sup>160</sup> Most of these states have established Clean Energy Standards, Renewable Portfolio Standards, or Renewable Energy Standards.<sup>161</sup> Several of these laws require electricity suppliers to purchase a fixed percentage of electricity from renewable energy sources.<sup>162</sup> These are commonly known as feed-in tariffs.<sup>163</sup> Several other countries have passed laws and adopted various policies that provide economic incentives to promote renewable energy.<sup>164</sup> These include subsidized loans to manufacturers of renewa-

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<sup>159</sup> See Joel B. Eisen, *China'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); 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, 135–41 (2011) (evaluating China's energy law and challenges); 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, 8–14 (2011) (discussing Australia's energy law on renewable energy and arguing for a better incentive program to foster growth of renewable energy); Martin Lythgoe, *Renewable Generation in Argentina: Past Failures and a Plan for Future Success*, 31 HOUS. J. INT'L L. 263, 304–11 (2009) (discussing Argentina's model renewable energy law); Giovanna Golini, *Tradeable Green Certificate Systems in the E.U.*, 26 ENERGY L.J. 111, 113–33 (2005) (providing an overview of trading systems to promote renewable energy in many EU Member states); Steven Ferrey et al., *Fire and Ice: World Renewable Energy and Carbon Control Mechanisms Confront Constitutional Barriers*, 20 DUKE ENVTL. L. & POL'Y F. 125, 131–56 (2010) (outlining measures taken in the United States to promote renewable energy).

<sup>160</sup> See *Detailed Table of State Policies*, CENTER FOR CLIMATE AND ENERGY SOLUTIONS, <http://www.c2es.org/node/9340> (follow “Detailed Table of State Policies” hyperlink) (last visited Jan. 8, 2014), available at <http://perma.cc/G4N-N4Q3>. With the exception of solar and wind energy, which are discussed in this Article, the scope of CES or RPS/RES varies from state to state. See *Comparison of Qualifying Resources for Individual States' RPS and AEPS*, CENTER FOR CLIMATE AND ENERGY SOLUTIONS, <http://www.c2es.org/node/9340> (follow “Comparison of Qualifying Resources” hyperlink) (last visited Jan. 8, 2014), available at <http://perma.cc/G4N-N4Q3>. See generally Renewable Energy Comm., *Report of the Renewable Energy Committee*, 29 ENERGY L.J. 269 (2008) (cataloging recent state projects and judicial decisions involving renewable energy).

<sup>161</sup> *Clean Energy Standards*, CENTER FOR CLIMATE CHANGE AND ENERGY SOLUTIONS, <http://www.c2es.org/federal/policy-solutions/clean-energy-standards> (last visited Jan. 8, 2014), available at <http://perma.cc/W3JB-3F5B>.

<sup>162</sup> See *Feed-In Tariffs and Similar Programs*, U.S. ENERGY INFO. ADMIN., [http://www.eia.gov/electricity/policies/provider\\_programs.cfm](http://www.eia.gov/electricity/policies/provider_programs.cfm) (last visited Jan. 8, 2014), available at <http://perma.cc/4PTA-7CN6>.

<sup>163</sup> See *id.* For a discussion of specific feed-in tariffs, see *infra* notes 221–241 and accompanying text.

<sup>164</sup> See generally REN21, *RENEWABLES 2012 GLOBAL STATUS REPORT (2012)*, available at [http://www.ren21.net/Portals/0/documents/Resources/GSR2012\\_low%20res\\_FINAL.pdf](http://www.ren21.net/Portals/0/documents/Resources/GSR2012_low%20res_FINAL.pdf)

ble energy equipment, price guarantees and access to grids, and incentives to consumers.<sup>165</sup>

Nevertheless, there are several challenges to renewable energy expansion. These include checkered state laws,<sup>166</sup> poor energy distribution infrastructure,<sup>167</sup> challenges to siting wind and solar equipment,<sup>168</sup> expenses,<sup>169</sup> and questionable renewable energy legislation.<sup>170</sup> Additionally, energy diversification presents leakage and competition challenges.<sup>171</sup>

In countries such as the United States, where the national economy is anchored to fossil fuel industries, energy diversification threatens employment.<sup>172</sup> Popular support for renewable energy subsidies (RES) thus hinges on energy reform that yields economic benefits, such as job creation and national economic growth.<sup>173</sup> To address this issue, nations are designing subsidies to promote renewable energy, as well as

and <http://perma.cc/4KX7-YCR6> (discussing international renewable energy trends, law, and policy).

<sup>165</sup> See *id.* at 70–72; UNITED NATIONS ENERGY PROGRAMME, GLOBAL TRENDS IN RENEWABLE ENERGY INVESTMENT 12–13 (2012) (listing major investors in renewable energy).

<sup>166</sup> See, e.g., Jim Rossi, *The Shaky Political Economy Foundation of a National Renewable Electricity Requirement*, 2011 U. ILL. L. REV. 361, 365–71 (arguing that state RPS standards are imperfect and inconsistent).

<sup>167</sup> *Id.* at 377–79. See generally Steven Ferrey, *Restructuring a Green Grid: Legal Challenges to Accommodate New Renewable Energy Infrastructure*, 39 ENVTL. L. 977 (2009) (discussing strategies to establish infrastructure for renewable energy).

<sup>168</sup> Renewable Energy Comm., *supra* note 160, at 276; Alexandra B. Klass, *Renewable Energy and the Public Trust Doctrine*, 45 U.C. DAVIS L. REV. 1021, 1040–62 (2012) (discussing challenges to siting wind turbines and solar panels, and the role of the public trust doctrine in addressing the challenges); Patricia E. Salkin & Ashira Pelman Ostrow, *Cooperative Federalism and Wind: A New Framework for Achieving Sustainability*, 37 HOFSTRA L. REV. 1049, 1063–76 (2009) (discussing challenges to siting wind turbines).

<sup>169</sup> See, e.g., UNITED NATIONS ENERGY PROGRAMME, *supra* note 165, at 14 (noting that global economic pressure hinders investment in renewable energy); ENVTL. L. INST., *supra* note 154, at 3 (noting that fossil fuels were offered more than double the subsidies given to renewable energy); Wald, *supra* note 155, at A18 (noting the greater cost of renewable energy compared to fossil fuels).

<sup>170</sup> See, e.g., UNITED NATIONS ENERGY PROGRAMME, *supra* note 165, at 15 (detailing complaints about mismanaged renewable energy subsidies in the United States and Europe).

<sup>171</sup> See Moser, *supra* note 27, at 677–78 (noting potential carbon leakage from the United States to China and India via increased coal exports); WORLD BANK, *supra* note 26, at 253 (noting that statistical trends suggest carbon leakage was occurring as of 2010).

<sup>172</sup> See 155 CONG. REC. S202, *supra* note 5 (statement of Sen. Inhofe); 154 CONG. REC. S4022, *supra* note 5 (statement of Sen. Voinovich).

<sup>173</sup> See Kelvin Ross, *IEA Bids to Keep Climate Goals Alive Without Harming Economic Growth*, RENEWABLEENERGYWORLD.COM, <http://www.renewableenergyworld.com/rea/news/article/2013/06/iea-bids-to-keep-climate-goals-alive-without-harming-economic-growth> (last visited Jan. 8, 2014), available at <http://perma.cc/6TVF-NYSR>.

catalyze economic growth and creation of domestic employment.<sup>174</sup> The disputed subsidies that require minimum domestic content use discussed in this Article are examples.<sup>175</sup>

The problem is that such subsidies are protectionist in nature and violate World Trade Organization (WTO) law, which aims to reduce trade barriers and protectionism.<sup>176</sup> To the extent that these subsidies violate WTO rules and require countries to remove protectionist measures, they threaten climate change mitigation efforts because a country's self-interest in providing incentives might diminish if such incentives fail to address economic and competition issues. The RES disputes discussed below are important illustrations of this problem.

### III. RES DISPUTES: THE CONFLICT BETWEEN TRADE LAW AND CLIMATE CHANGE MITIGATION

The renewable energy subsidies (RES) disputes against Canada, China, and the European Union (EU) invoke, among other World Trade Organization (WTO) laws, the Agreement on Subsidies and Countervailing Measures (ASCM) and the Trade-Related Investment Measures (TRIMs) with respect to certain renewable energy subsidies. This part provides an overview of the ASCM and TRIMs, as well as the RES disputes involving Canada, China, and the EU.

#### A. ASCM in Brief

ASCM is a specific agreement under the umbrella of WTO. All WTO Members, including Canada, China, and all members of the EU, are signatories. The ASCM disciplines direct or indirect financial contribution made by a government, any public body, or a private body under the instruction of the government.<sup>177</sup> Grants, loans, equity infusion, loan guarantees, foregone revenues in the form of tax credits, and provision of goods or services other than general infrastructure, as well as certain types of price support, constitute financial contribution under ASCM.<sup>178</sup>

<sup>174</sup> See GHOSH & GANGANIA, *supra* note 67, at 28–36 (examining clean energy subsidies in six countries).

<sup>175</sup> See *infra* notes 210–241 and accompanying text.

<sup>176</sup> See, e.g., GATT, *supra* note 19, Preamble (proclaiming that signatories desire “substantial reductions of tariffs and other barriers to trade”).

<sup>177</sup> ASCM, *supra* note 45, art. 1.1(a)(1).

<sup>178</sup> *Id.* art. 1.1(a)(1)(i)–(iii). Any subsidy that confers a trade advantage to a Member, either by increasing exports or reducing imports of products under Article XVI(1), is also disciplined. *Id.* art. 1.1(a)(2).

ASCM does not disallow or regulate all financial contributions, only those that are specific to certain enterprises<sup>179</sup> and that confer a benefit.<sup>180</sup> Specificity means that a financial contribution is given to a certain sector, industry, or region,<sup>181</sup> or to a limited number of enterprises.<sup>182</sup> De facto or de jure subsidies that are contingent on export performance (export subsidies) or the use of domestic products over imported goods (local content use subsidies) are deemed specific.<sup>183</sup>

Providing a financial contribution that is generally unavailable in the marketplace constitutes a benefit.<sup>184</sup> A financial contribution that does not confer a benefit, or a benefit to which a government does not make a financial contribution, is not disciplined under ASCM.<sup>185</sup>

<sup>179</sup> *Id.* arts. 1.2, 2.1 (noting that a “specific” subsidy is one directed at “an enterprise or industry or group of enterprises or industries”).

<sup>180</sup> *Id.* art. 1.1 (b).

<sup>181</sup> *Id.* arts. 2.1, 2.2.

<sup>182</sup> *Id.* art. 2.2(c). A determination of specificity may be made if, based on an evaluation of economic activities and length of the subsidy program, it is determined that a limited number of enterprises use the subsidy, certain enterprises predominantly use the subsidy, certain enterprises are granted disproportionately large amounts of subsidy, or that discretionary authority exercised in granting the subsidy indicates specificity. *Id.*

<sup>183</sup> ASCM, *supra* note 45, arts. 3.1(a)–(b).

<sup>184</sup> *See id.* art. 14.

<sup>185</sup> *See* Appellate Body Report, *Brazil–Export Financing Programme for Aircraft*, ¶ 157, WT/DS46/AB/R (Aug. 2, 1999), available at <http://goo.gl/g5TRDe> and <http://perma.cc/8K4P-SX3G> (noting that “financial contribution” and “benefit” are two separate legal elements that must be read together to determine the existence of a subsidy); Appellate Body Report, *Canada–Measures Affecting the Export of Civilian Aircraft*, ¶ 156, WT/DS70/AB/R (Aug. 2, 1999) [hereinafter *Canada–Aircraft*], available at <http://goo.gl/KUTyS2> and <http://perma.cc/7F7-U3VK> (noting that “financial contribution” and “benefit” are two discrete elements in defining a subsidy); LUCA RUBINI, *THE DEFINITION OF SUBSIDY AND STATE AID: WTO AND EC LAW IN COMPARATIVE PERSPECTIVE* 108–09 (2010) (“The Appellate Body has promptly underlined that the ‘financial contribution’ is *separate from* the ‘benefit’ and that these two elements *together* determine whether a subsidy exists.”). The Appellate Body has also held that a financial contribution can be made directly or indirectly. Appellate Body Report, *United States–Countervailing Duty Investigation on Dynamic Random Access Memory Semiconductors (DRAMs) from Korea*, ¶¶ 107, 108, 114, WT/DS296/AB/R (June 27, 2005), available at <http://goo.gl/8VpAZ7> and <http://perma.cc/NH78-5XRZ>; Appellate Body Report, *United States–Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada*, ¶ 52 n.35, WT/DS257/AB/R (Jan. 19, 2004) [hereinafter *U.S.–Softwood Lumber*], available at <http://goo.gl/6k3gtm> and <http://perma.cc/9KXY-X4B2>; *see also* Panel Report, *United States–Measures Treating Export Restraints as Subsidies*, ¶ 8.53, WT/DS194/R (June 29, 2001), available at <http://goo.gl/ybsyuY> and <http://perma.cc/B83V-PVWX> (noting that subparagraph (iv) of ASCM identified the actor but did not expand coverage of financial contribution beyond that stated in subparagraphs (i)–(iii); RUBINI, *supra*, at 111.

The degree of restriction on subsidies under ASCM depends on the type of subsidy.<sup>186</sup> Domestic subsidies are actionable if they cause “adverse effects to the interests of other Members.”<sup>187</sup> The subsidy must (1) cause injury to the domestic industry of another WTO Member,<sup>188</sup> (2) nullify or impair benefits under the General Agreement on Tariffs and Trade (GATT),<sup>189</sup> or (3) cause “serious prejudice to [their] interests.”<sup>190</sup> Establishing any of these factors is a complex and cumbersome task.<sup>191</sup> If a complainant succeeds in an actionable subsidy claim,<sup>192</sup> the subsidizing Member must remove the adverse effect or the entire subsidy, or else face countervailing measures.<sup>193</sup> Although the case of China involved an actionable subsidy claim, this Article does not address actionable subsidies because of the fact-specific nature in evaluating whether the requirements are satisfied.

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<sup>186</sup> See ASCM, *supra* note 45, arts. 4, 7 (noting that prohibited subsidies may be withdrawn, and that subsidies with “adverse effects” may be remedied by modification).

<sup>187</sup> *Id.* art. 5.

<sup>188</sup> *Id.* art. 5(a). Domestic industry includes “producers as a whole of the like products or to those of them whose collective output of the products constitutes a major proportion of the total domestic production of those products.” Any producer who is connected to an importer or exporter, or who imports identical products from the subsidized producers or other sources, is not included in the definition. *Id.* art. 16.1. Injury is determined by considering whether there is significant increase in the import volume of subsidized goods, whether they undercut the price of “like” or identical domestic products, whether they depress prices significantly, and whether they affect “domestic producers of such products.” *Id.* arts. 15.1, 15.2.

<sup>189</sup> *Id.* art. 5(b).

<sup>190</sup> *Id.* art. 5(c).

<sup>191</sup> *Id.* art. 15.7. A causal link between a subsidy and material injury must be factually established, and the following factors must be considered cumulatively: (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. *Id.* Special prejudice exists if a subsidy effectively: (i) “displace[s] or [impedes] the exports of a like product of another Member into the market of the subsidizing Member,” (ii) “displaces or [impedes] the exports of a like product of another Member from a third country market,” (iii) significantly undercuts the price and competition of a like domestic product in the same market, or (iv) increases the global market share of the subsidized product more than its average share in the past three years. *Id.* art. 6.3. Furthermore, the ASCM disallows a finding of serious prejudice where there might be trade imbalances in the subsidized product because of voluntary or certain involuntary decisions made by the complaining member regarding export or import of the product. *Id.* art. 6.7.

<sup>192</sup> Usually, actionable subsidies are subject to an internal investigation, followed by consultations if a subsidy is determined to exist. If consultations fail, the Parties may refer the matter to a WTO Dispute Settlement Body. ASCM, *supra* note 45, art. 7.

<sup>193</sup> *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. See *id.* arts. 10–23.

Subsidies that are conditioned on export performance or local content use are prohibited under ASCM.<sup>194</sup> Unlike actionable subsidies, the remedy against a prohibited subsidy is withdrawal of the same, and if withdrawal fails, affected members can impose countervailing measures.<sup>195</sup>

ASCM specifically permits Members to provide certain subsidies. These non-actionable subsidies include subsidies to promote specific research and research-related purposes.<sup>196</sup> Until 2008,<sup>197</sup> ASCM also permitted subsidies to assist “existing facilities”<sup>198</sup> adapt to “new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burden on firms.”<sup>199</sup>

In sum, WTO regulation of subsidies can be classified into three categories: (1) prohibited subsidies (export and domestic content use subsidies), (2) actionable subsidies, and (3) non-actionable subsidies.<sup>200</sup> A Member granting a prohibited or actionable subsidy must withdraw the subsidy or its adverse effect, respectively. This Article addresses prohibited subsidies in relation to the four disputes.

### B. TRIMs in Brief

Governments have traditionally used trade-related investment measures to protect domestic industries by conditioning investments on certain requirements or by imposing limits on foreign direct investments (FDIs). For example, subsidies might be conditional on enterprises using domestic content, or FDIs might be controlled to promote specific industries.<sup>201</sup> Such measures run contrary to the WTO’s goal of trade liberalization and removal of protectionism.<sup>202</sup>

TRIMs regulates certain protectionist investment measures. Article 2 primarily requires WTO Members to comply with GATT Articles III

<sup>194</sup> *Id.* arts. 3.1, 3.2.

<sup>195</sup> *Id.* arts. 4.7, 4.10, 4.11.

<sup>196</sup> *Id.* arts. 8.1, 8.2(a).

<sup>197</sup> *Id.* art. 8.2(c) (i)–(v).

<sup>198</sup> ASCM, *supra* note 45, art. 8.2(c) & n.33 (defining existing facilities as those that were in existence at least two years before the environmental regulation was passed).

<sup>199</sup> *Id.* art. 8.2(c).

<sup>200</sup> *Id.* arts. 3, 5, 8.

<sup>201</sup> See Robert H. Edwards, Jr. & Simon N. Lester, *Towards a More Comprehensive World Trade Organization Agreement on Trade Related Investment Measures*, 33 STAN. J. INT’L L. 169, 176–86 (1997) (discussing the types of controls that countries generally impose on investments, as well as specific examples of nations that impose such controls).

<sup>202</sup> See, e.g., GATT, *supra* note 19, Preamble.

and XI.<sup>203</sup> The Annex to TRIMs provides an illustrative list of measures that violate these provisions.<sup>204</sup> Measures that violate GATT Article III include mandatory or enforceable domestic law and, specifically, laws that make the availability of an advantage conditional on domestic content use.<sup>205</sup> This provision is akin to the prohibited subsidies disciplined under ASCM.<sup>206</sup> In addition to monitoring compliance under an administrative mechanism,<sup>207</sup> WTO Members can resolve any disputes under TRIMs through the WTO dispute settlement mechanism.<sup>208</sup> Unlike ASCM, Article III expressly stipulates that GATT exceptions, including Article XX exceptions, apply to TRIMs.<sup>209</sup>

### C. The RES Disputes

This section briefly explains the four disputes relating to RES and focuses primarily on the issue of prohibited subsidies and TRIMs. Because the details of two disputes, EU–Feed-In Tariffs and India–Solar, are evolving, and because the China–Renewable Energy subsidy is pending China’s challenge to some of the United States’s countervailing measures, this section and the Article draw primarily on the Canada–Feed-In Tariff dispute, which a WTO Panel and the Appellate Body recently decided.

#### I. China–Wind and Solar Equipment

After an investigation in response to a petition of AFL-CIO before the U.S. Trade Representative (USTR), the United States filed a WTO complaint against China’s subsidies to its renewable energy sector.<sup>210</sup>

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<sup>203</sup> TRIMs Agreement, *supra* note 46, art. 2.1. The referenced GATT articles govern national treatment and quantitative restrictions. *See* GATT, *supra* note 19, arts. III, XI.

<sup>204</sup> TRIMs Agreement, *supra* note 46, art. 2(2), Annex.

<sup>205</sup> *Id.* Annex, ¶ 1 (noting that domestic measures requiring “the purchase or use by an enterprise of products of domestic origin or from any domestic sources, whether specified in terms of particular products, in terms of volume or value of products, or in terms of a proportion of volume or value of its local production” are inconsistent with Article III of GATT 1994).

<sup>206</sup> *See* ASCM, *supra* note 45, art. 3.1(b).

<sup>207</sup> TRIMs Agreement, *supra* note 46, art. 7 (establishing a Committee on Trade-Related Investment Measures to monitor Members’ compliance with the TRIMs Agreement).

<sup>208</sup> *Id.* art. 8.

<sup>209</sup> *Id.* art. 3.

<sup>210</sup> Petition for Relief Under Section 301 of the Trade Act of 1974, as Amended: China’s Policies Affecting Trade and Investment in Green Technology, Sept. 9, 2010 [hereinafter Section 301 Petition], *available at* <http://www.ustr.gov/sites/default/files/09-09->

The petition alleged that China's Renewable Energy Law provided several of its wind and solar equipment manufacturers with a financial benefit conditioned on domestic content use or export performance, which would be prohibited subsidies.<sup>211</sup> Petitioners claimed that China discriminated against foreign producers in China by favoring domestic producers or by requiring local content use from such producers as a prerequisite to receive permits.<sup>212</sup> Petitioners also argued that China discriminated against foreign applicants under the Kyoto Protocol's clean development mechanism, in violation of Article III:4 of GATT,<sup>213</sup> by imposing several localization practices. These practices included requiring foreign producers to partner with a local industry and share research and development, mandating the use of local suppliers for parts, and imposing price control on minerals.<sup>214</sup>

The USTR investigation concluded that China's subsidies violated ASCM,<sup>215</sup> and the United States initiated WTO dispute settlement proceedings.<sup>216</sup> In its complaint, the United States challenged a Chinese Special Fund program that required the use of domestic content.<sup>217</sup> The EU and Japan joined as third parties.<sup>218</sup> The United States and China settled the dispute through consultations, and China revoked some of the challenged subsidies.<sup>219</sup> The United States has imposed

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2010%20Petition.pdf and <http://perma.cc/V3AH-DHVX>; *China-Wind Equipment*, *supra* note 49.

<sup>211</sup> Section 301 Petition, *supra* note 210, at 89–99 (alleging that in exchange for using domestic wind turbines, China's "Ride the Wind" Program provided a low interest loan to export buyers and a power purchase guarantee to wind farm operators, and gave favorable tax treatment to foreign joint ventures). China's Export Credit program allegedly granted research funding and support for enterprises to undertake infrastructure projects in Africa, contingent upon export performance. It also allegedly provided generous export credit insurance to green technologies or products through Sinosure, a large insurance company. *Id.* at 73, 76–78.

<sup>212</sup> *Id.* at 104–14.

<sup>213</sup> *Id.* at 99–104.

<sup>214</sup> *Id.* at 91–99. The remainder of this Article focuses only on subsidies.

<sup>215</sup> See *China Ends Wind Power Subsidies*, *supra* note 54 (noting that the USTR investigation resulted in allegations before the WTO that the disputed subsidies violated the ASCM).

<sup>216</sup> See *China-Wind Equipment*, *supra* note 49.

<sup>217</sup> *Id.* (claiming that China's *Notice of the Ministry of Finance on Issuing the Provisional Measure on Administration of Special Fund for Industrialization of Wind Power Equipment, including the Annex on Provisional Measures on Administration of Special Fund for Industrialization of Wind Power Equipment*, and relevant documents, violated the ASCM).

<sup>218</sup> Request to Join Consultations by the European Union, *China-Measures Concerning Wind Power Equipment*, WT/DS419/2 (Jan. 14, 2011); Request to Join Consultations by Japan, *China-Measures Concerning Wind Power Equipment*, WT/DS419/3 (Jan. 19, 2011).

<sup>219</sup> See *China Ends Wind Power Subsidies*, *supra* note 54.

countervailing tariffs to neutralize the effect of some actionable subsidies on solar panels that China continues to provide.<sup>220</sup>

## 2. Canada–Feed-In Tariff

In 2011, Japan and the EU separately challenged an energy law of a Canadian province, Ontario’s Green Energy and Green Economy Act of 2009 (OGEA), before the WTO. The WTO consolidated the two disputes: *Canada–Certain Measures Affecting the Renewable Energy Generation Sector*,<sup>221</sup> and *Canada–Measures Relating to the Feed-In Tariff Program*.<sup>222</sup>

The challenged law, OGEA, establishes a feed-in tariff (FIT) program to encourage renewable energy production and use.<sup>223</sup> The program provides renewable energy producers guaranteed electricity prices, access to grids, and long-term contracts. It conditions the FIT benefits on producers using a minimum amount of equipment from Ontario.<sup>224</sup> Depending on the type of renewable energy and the electricity generated, the required domestic content ranged from 25% to 60% in 2011.<sup>225</sup> OGEA requires the Ontario Power Authority (OPA) to implement FIT according to the directions of the Ministry of Energy and Infrastructure, the authority that imposed the challenged domestic

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<sup>220</sup> See Keith Bradsher & Diane Cardwell, *China Solar Panels Face Big Tariffs*, N.Y. TIMES, May 18, 2012, at B1; Crystalline Silicon Photovoltaic Cells and Modules from China, Inv. Nos. 701-TA-41 and 731-TA-1190, U.S. Trade Comm’n Pub. 4295 (Dec. 2011) (preliminary) [hereinafter *China Solar Investigation*], available at [http://www.usitc.gov/trade\\_remedy/731\\_ad\\_701\\_cvd/investigations/2011/bottom\\_mount\\_refrigerators/final/PDF/Publication\\_4295\\_Solar%20cells.pdf](http://www.usitc.gov/trade_remedy/731_ad_701_cvd/investigations/2011/bottom_mount_refrigerators/final/PDF/Publication_4295_Solar%20cells.pdf) and <http://perma.cc/J4J2-LHH7>.

<sup>221</sup> Request for Consultations by Japan, *Canada–Certain Measures Affecting the Renewable Energy Generation Sector*, WT/DS412/1 (Sept. 16, 2010) [hereinafter *Canada–Japan Panel Request*], available at <http://goo.gl/im3QPE> and <http://perma.cc/7XAH-X8UB>.

<sup>222</sup> Request for Consultations by the European Union, *Canada–Measures Related to the Feed-In Tariff Program*, WT/DS426/1 (Aug. 16, 2011) [hereinafter *Canada–EU Panel Request*], available at <http://goo.gl/IUoOiH> and <http://perma.cc/ESJ9-DX5Q>.

<sup>223</sup> Green Energy and Green Economy Act of 2009, § 7(4) [hereinafter OGEA], available at [http://www.e-laws.gov.on.ca/html/source/statutes/english/2009/elaws\\_src\\_s09012\\_e.htm](http://www.e-laws.gov.on.ca/html/source/statutes/english/2009/elaws_src_s09012_e.htm) and <http://perma.cc/MCJ9-96D8> (“[F]eed-in tariff program’ means a program for procurement, including a procurement process, providing standard program rules, standard contracts and standard pricing regarding classes of generation facilities differentiated by energy source or fuel type, generator capacity and the manner by which the generation facility is used, deployed, installed or located.”).

<sup>224</sup> See *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 3.1(b).

<sup>225</sup> See Marie Wilke, *Getting FIT for the WTO: Canadian Green Energy Support Under Scrutiny*, INT’L CENTRE FOR TRADE AND SUSTAINABLE DEV., <http://ictsd.org/i/news/bioresreview/103562> (April 2011), available at <http://perma.cc/VE6-CJVE>.

content requirements.<sup>226</sup> Japan claimed in its challenge that OGEA violated ASCM, GATT's most-favored nation (MFN) treatment clause and national treatment provisions, and the TRIMs.<sup>227</sup> Other WTO Members reserved their right to join the dispute as third parties.<sup>228</sup>

The EU challenged OGEA on the same grounds.<sup>229</sup> Other WTO Members reserved rights to join as third parties in this dispute as well.<sup>230</sup> Pursuant to Canada's request, the WTO Panel consolidated the disputes.<sup>231</sup> The crux of the complaints was that Canada violated ASCM by providing prohibited subsidies that benefit producers.<sup>232</sup>

In its first written submission to the WTO Panel, Canada asserted that OGEA did not confer a benefit and that the purchase amounted to a government procurement, which is permitted under ASCM.<sup>233</sup> Canada argued that it purchased electricity from producers, and at the same time it challenged the benchmark that Japan and the EU used to prove that OGEA conferred a benefit.<sup>234</sup> Although a majority of the Panel agreed with Canada on the ASCM argument, the Panel nevertheless found that the measure violated TRIMs in imposing domestic content requirements.

<sup>226</sup> OGEA, *supra* note 223, § 7(3) (“[T]he Minister shall issue, and the OPA shall follow in preparing its feed-in tariff program, directions that set out the goals relating to domestic content to be achieved during the period to be covered by the program.”).

<sup>227</sup> *Canada–Japan Panel Request*, *supra* note 221.

<sup>228</sup> These include Australia, Brazil, China, Chinese Taipei, El Salvador, the European Union, Honduras, India, Korea, Mexico, Norway, Saudi Arabia, and the United States. See *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 1.8.

<sup>229</sup> Europe alleged that OPA's domestic content requirement in 2012 violated the ASCM. *Canada–EU Panel Request*, *supra* note 222.

<sup>230</sup> See *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 1.8.

<sup>231</sup> *Panels Set Up on X-Ray Scanners, Chicken Broiler Products and Renewable Energy Equipment*, WORLD TRADE ORGANIZATION, [http://www.wto.org/english/news\\_e/news12\\_e/dsb\\_20jan12\\_e.htm](http://www.wto.org/english/news_e/news12_e/dsb_20jan12_e.htm) (Jan. 20, 2012), available at <http://perma.cc/JH3E-W82J> (scroll down to section entitled “DS426: Canada—measures relating to the feed-in tariff program”).

<sup>232</sup> *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 3.1(a), 3.4(a). Both countries also claimed violations of TRIMs and GATT art. III(2), but this Article does not discuss this issue. *Id.* ¶¶ 3.1(b)–(c), 3.4(b)–(c).

<sup>233</sup> Panel Report, *Canada–Certain Measures Affecting the Renewable Energy Generation Sector; Canada–Measures Relating to the Feed-In Tariff Program*, A-73–A-75 WT/DS412.R/Add.1; WT/DS426/R/Add.1 (Dec. 19, 2012) [hereinafter *Canada–Feed-In Tariffs Addendum*], available at <http://goo.gl/xmUtaq> and <http://perma.cc/RAR6-2JA9>. Under the ASCM, the following financial contributions are not considered “benefits”: (1) equity capital provided according to usual investment practices of private investors in the territory, (2) government loans or loan guarantees that are offered on terms similar to commercial loans, and (3) government procurement of goods and services at market value. ASCM, *supra* note 45, art. 14(a)–(d).

<sup>234</sup> *Canada–Feed-In Tariffs Addendum*, *supra* note 233, at A-73–A-75.

Contrary to the views of some scholars, Canada did not raise an environmental defense, in particular climate change mitigation, in its first response to the complaint.<sup>235</sup> Even if Canada had raised the defense, such an argument probably could not withstand the scrutiny of WTO law.<sup>236</sup>

### 3. Evolving Disputes: EU–Renewable Energy, and India–Solar Cells

A few European nations, notably Greece and Italy, have adopted FIT legislation similar to Ontario’s OGEA to encourage renewable energy production.<sup>237</sup> In turn, China challenged these measures as violating ASCM, TRIMs, and GATT MFN and national treatment provisions.<sup>238</sup> The parties began consultation, and have not reached the Panel stage as of January 2014.

Similarly, under WTO law the United States has challenged a series of programs and standards, including feed-in tariff measures, adopted by India’s Ministry of Renewable Energy and New Power through its Jawaharlal Nehru National Solar Mission (NSM).<sup>239</sup> According to the United States, some of the measures under NSM provide feed-in tariffs conditioned on solar energy producers using domestically produced solar cells and modules, which is domestic content use.<sup>240</sup> The United States has contended that the measures violate GATT, ASCM, and TRIMs provisions that have been the subject of the other three disputes.<sup>241</sup> The matter has not reached the Panel stage as of January 2014.

The EU–Renewable Energy and India–Solar Cells and Solar Modules disputes have left open the question whether an environmental defense can be raised for sustaining the subsidies. They also demonstrate the underpinnings of the competition issue. Again, as discussed

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<sup>235</sup> See *id.* at A-71–A-73 (addressing the GATT claim without reference to the Article XX exceptions); Brief for International Institute for Sustainable Development et al. as amicus curiae, *Canada—Certain Measures Affecting the Renewable Energy Generation Sector* (DS412), World Trade Organization Panel, May 10, 2012 [hereinafter *Canada Amicus Curiae Brief*], available at [http://www.iisd.org/pdf/2012/eccojustice\\_amicus\\_curiae\\_brief.pdf](http://www.iisd.org/pdf/2012/eccojustice_amicus_curiae_brief.pdf) and <http://perma.cc/7X8R-KXQ6>.

<sup>236</sup> See *infra* notes 295–402 and accompanying text.

<sup>237</sup> See *EU–Renewable Energy*, *supra* note 51, at 1–3.

<sup>238</sup> *Id.*

<sup>239</sup> *India–Solar*, *supra* note 52, at 1–2.

<sup>240</sup> *Id.*

<sup>241</sup> *Id.* India has denied that the measures violate WTO law. See Amiti Sen, *India to Defend Local-Buy Policy in Solar Mission as U.S., EU Protest*, *ECON. TIMES* (Feb. 3, 2012), [http://articles.economicstimes.indiatimes.com/2012-02-03/news/31021273\\_1\\_solar-mission-trade-related-investment-measures-solar-energy](http://articles.economicstimes.indiatimes.com/2012-02-03/news/31021273_1_solar-mission-trade-related-investment-measures-solar-energy), available at <http://perma.cc/PX9K-79CN>.

below and particularly with reference to the Canada–Feed-In Tariff Panel decision, an environmental defense to sustain the programs will fail under current WTO law.

#### IV. THE RES PROBLEM: BEYOND THE PALE OF ARTICLE XX

This part primarily examines whether prohibited subsidies under the Agreement on Subsidies and Countervailing Measures (ASCM) or measures under the Trade-Related Investment Measures (TRIMs) should qualify for environmental exceptions, and whether the ASCM should be amended to accommodate renewable energy subsidies (RES). This part also provides a brief overview of the Canada Feed-In Tariff Panel decision to provide a background to the General Agreement on Tariffs and Trade (GATT) Article XX discussion. This Article does not evaluate factual data in pending disputes because of limited information, but some legal problems with the Panel decision are briefly discussed below.<sup>242</sup>

##### A. ASCM, TRIMs, and RES, with Specific Reference to the WTO *Canada-Feed-In Tariff Decision*

The first issue in applying an environmental exception is whether the challenged measures violate ASCM provisions. This requires a determination that the measures are subsidies, namely that the government provides financial support that confers a benefit.<sup>243</sup> The disputed measures before the World Trade Organization (WTO) in all four disputes examined in this Article were provided by the government. In *China–Wind and Solar Equipment*, China’s Special Fund provided Chinese wind turbine and solar manufacturers subsidies conditioned on export performance and domestic content use.<sup>244</sup> The disputed financial contributions were provided by government entities in China to specific sectors.<sup>245</sup> Measures to support renewable energy were directed through government entities, which is probable in a highly centralized government system.<sup>246</sup> The fact that China agreed to withdraw the sub-

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<sup>242</sup> Under DSU, documents related to pending disputes are confidential, though this panel is open to limited public attendance. See DSU, *supra* note 108, art. 18.2.

<sup>243</sup> *Supra* notes 177–200 and accompanying text.

<sup>244</sup> *China–Wind Equipment*, *supra* note 49.

<sup>245</sup> *Id.*; *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50.

<sup>246</sup> *China–Wind Equipment*, *supra* note 49.

sively indicates that the United States's prohibited subsidies claim might have been tenable.<sup>247</sup>

In determining whether to impose tariffs on Chinese materials for solar panels, the U.S. International Trade Commission (ITC) only decided whether imports from China caused material injury to similar domestic products.<sup>248</sup> Nevertheless, as the decision states, the investigation was based on the allegation that the Chinese government granted export subsidies.<sup>249</sup> The incidental claims to which the ITC refers in its decision, as well as the reports and the imposition of tariffs, suggest that China made a financial contribution to its industries that conferred a benefit in violation of ASCM.<sup>250</sup> Unless China rejects the imposition of tariffs and appeals the decision, evaluating the factual data underlying the ITC decision will be difficult.

Likewise, in the Canada RES dispute, the Ontario Power Authority (OPA), a government entity, implemented legislation on renewable energy under the direction of the Minister for Energy.<sup>251</sup> Although a Canadian province (and not the federal government of Canada) passed Ontario's Green Energy and Green Economy Act of 2009 (OGEA), and even though the law only provides a promise, it still constitutes a government measure because price guarantees are a government "price support" under ASCM Article 1.1(a)(2).<sup>252</sup> These price guarantees are comparable to the stumpage arrangement that a Canadian province granted to harvesters and that was the subject of dispute in *US-Softwood Lumber IV*.<sup>253</sup> In that dispute, the WTO Appellate Body found that harvesting rights granted by Canada's provincial governments constituted a government price support, which satisfied the ASCM requirement that the measure should be a government financial support.<sup>254</sup> Canada did not challenge this contention in the feed-in tariff dispute before the Panel, but submitted before the Appellate Body that a government intervention constituted a form of "income or price support" only if it

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<sup>247</sup> See *China Ends Wind Power Subsidies*, *supra* note 54.

<sup>248</sup> China Solar Investigation, *supra* note 220, at 3–30.

<sup>249</sup> *Id.* at I-4. One of the critical issues was also that much of China's challenged solar equipment was exported, which implies that the grant of subsidies could have imposed export requirements. *Id.* at II-8.

<sup>250</sup> See China Solar Investigation, *supra* note 220, at II-8; see also *China Rejects U.S. Panel Ruling that Solar Imports Harm Industry*, BLOOMBERG NEWS (Dec. 3, 2011), <http://www.bloomberg.com/news/2011-12-04/china-rejects-u-s-trade-panel-s-ruling-that-solar-imports-harm-industry.html>, available at <http://perma.cc/NRB2-LHHP>.

<sup>251</sup> *Canada-Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 7.195.

<sup>252</sup> See *id.* ¶¶ 7.234–235.

<sup>253</sup> See *U.S.-Softwood Lumber*, *supra* note 185, ¶ 45.

<sup>254</sup> *Id.* ¶ 167.

interfered with an existing market for the good and if it affected exports and imports.<sup>255</sup>

The government measures in *EU–Renewable Energy* and *India–Solar* are price guarantees provided by the respective governments. Thus, the challenged price guarantees provided by the governments of Canada, China, EU nations, and India constitute financial contributions under Article 1 of ASCM.

The contentious issue revolves around the question of whether the financial contribution confers a benefit—a financial arrangement that the recipient could not obtain in the marketplace.<sup>256</sup> As the Appellate Body held in *Canada–Aircraft*, for a benefit to be conferred, a financial contribution must first be made.<sup>257</sup> Under Article 1.1(b) of the ASCM, a government contribution is considered to confer a benefit if an investment decision runs contrary to the market practice of private investors in the territory.<sup>258</sup> The ASCM provides a list of benchmarks in Article 14 to establish whether a financial contribution constitutes a benefit.<sup>259</sup> Notably, a comparison is made between the market price in an exporting market and the price at which the good is procured.<sup>260</sup> Another test is whether the contribution reduces the cost of production.<sup>261</sup> In two decisions, *U.S.–Countervailing Measures Concerning Certain Products from the European Communities* and *Canada–Aircraft*, the Appellate Body indicated a strong preference for a market price analysis.<sup>262</sup> Therefore, the test frequently used is whether the financial contribution is one that a recipient would not have received under market conditions.

Evaluating whether the disputed measures, particularly feed-in tariffs that guarantee electricity prices, confer a benefit is arduous, be-

<sup>255</sup> See *Canada–Feed-In Tariffs AB Report*, *supra* note 58, ¶ 2.180.

<sup>256</sup> See, e.g., *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 5.159–166.

<sup>257</sup> See *Canada–Aircraft*, *supra* note 185, ¶ 157.

<sup>258</sup> See ASCM, *supra* note 45, art. 1.1; *Canada–Aircraft*, *supra* note 185, ¶ 157.

<sup>259</sup> See ASCM, *supra* note 45, art. 14.

<sup>260</sup> See *id.* art. 14(d).

<sup>261</sup> See Appellate Body Report, *Canada–Measures Affecting the Importation of Milk and the Exportation of Dairy Products*, ¶ 87, WT/DS103/AB/R (Dec. 3, 2001), available at <http://goo.gl/v5Ntzl> and <http://perma.cc/ASF3-W7L7>; Appellate Body Report, *European Communities–Export Subsidies on Sugar*, ¶ 131, WT/DS265/AB/R (Apr. 28, 2005), available at <http://goo.gl/oqPLds> and <http://perma.cc/Y3Z7-UK3B>.

<sup>262</sup> See Appellate Body Report, *United States–Countervailing Measures Concerning Certain Products from the European Communities*, ¶¶ 96, 98, 99, 102, WT/DS212/AB/R (Dec. 9, 2002) (quoting *Canada–Aircraft*, *supra* note 185, ¶ 157), available at <http://goo.gl/Z6iRTq> and <http://perma.cc/7XXJ-CRMT> (“In our view, the marketplace provides an appropriate basis for comparison in determining whether a ‘benefit’ has been ‘conferred’ . . . .”) (emphasis added).

cause nearly all electricity generation and consumption in the renewable energy sector occurs internally and is supported by government legislation, whether in China, Canada, the EU, or India.<sup>263</sup> In many countries, energy markets are distorted in one form or another.<sup>264</sup> Most countries provide some form of support to their renewable energy sector or provide subsidies to other energy sectors, such as fossil fuel or nuclear energy producers.<sup>265</sup> It is therefore difficult to evaluate objectively whether and how much a private investor would have invested, or to determine a price absent government subsidy.<sup>266</sup>

The WTO Panel in the Canada RES dispute recognized this problem.<sup>267</sup> To resolve the issue, the Panel applied the Appellate Body decision in *U.S.—Softwood Lumber IV* in which the Appellate Body found that where a government had a “predominant” role in determining sale prices for private suppliers, that price could not serve as a benchmark for determining whether a benefit or “more than adequate compensation” was conferred.<sup>268</sup> At the same time, the Panel determined that so long as government intervention did not render the application of Article 14 “circular,” a pure or perfect marketplace was not essential to making a “benefits” determination.<sup>269</sup>

The Panel in *Canada—Feed-In Tariffs* therefore adopted the following benchmark to make a “benefits” determination: “whether the rates of return associated with the FIT and microFIT Contracts [were] significantly above the average cost of capital in Canada for projects having a comparable risk profile.”<sup>270</sup> In assessing whether the capital costs were higher, the Panel refused to consider the wholesale price in Canada or

<sup>263</sup> See *supra* notes 210–241 and accompanying text.

<sup>264</sup> See, e.g., EUROPEAN COMMISSION, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: MAKING THE INTERNAL ENERGY MARKET WORK 2–7 (2012), available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0663:FIN:EN:PDF> and <http://perma.cc/PE3M-C64N> (noting that policies of individual EU member states are hindering establishment of open and transparent markets); *Canada—Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 7.283 (noting that governments and regulators frequently intervene in energy markets to ensure price stability).

<sup>265</sup> See, e.g., GHOSH & GANGANIA, *supra* note 67, at 1 (estimating that leading economies spend \$400 billion to \$600 billion annually on fossil fuel subsidies, and noting that subsidies for renewable energy totaled roughly \$66 billion in 2010).

<sup>266</sup> See *infra* notes 267–283 and accompanying text.

<sup>267</sup> See *Canada—Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 7.276–292 (analyzing whether Ontario’s FIT program constituted a benefit by examining Ontario’s wholesale energy market).

<sup>268</sup> *Id.* ¶ 7.274.

<sup>269</sup> *Id.* ¶ 7.274–275, ¶ 7.309.

<sup>270</sup> *Id.* ¶ 7.324.

other jurisdictions from which Canada imported electricity, such as New York, Alberta, and New England.<sup>271</sup> It also refused to consider the risk premium for comparable energy projects such as nuclear and hydroelectricity, unless complainants produced additional data and investigation reports.<sup>272</sup> Applying the benchmark as it were, the Panel found that complainants had not produced sufficient evidence to establish that OGEA conferred a benefit on producers.<sup>273</sup> Thus, it found that Canada's price support was not a subsidy under ASCM.<sup>274</sup>

The Panel's reasoning on the applicable benchmark is unpersuasive for two reasons. First, although the market price assessment problem in this RES dispute is similar to that in *U.S.—Softwood Lumber IV*, the benchmark applied is vastly different.<sup>275</sup> In *U.S.—Softwood Lumber IV*, the Appellate Body rejected Canada's contention that only "private prices" in the country providing a financial contribution could be considered.<sup>276</sup> The Appellate Body found that other methods could be used if "private prices in that country are distorted because of the government's predominant role in providing those goods."<sup>277</sup> In the *Canada—Feed-In Tariffs* dispute, the Panel essentially rejected any such alternative market price on the ground that no market price free of government intervention existed in any market, even though Canada *did not oppose complainants' argument* to consider the market prices in other markets, such as New York.<sup>278</sup>

Considering the Panel's conclusion, the Panel should have used the second test to determine whether a benefit was conferred, namely whether the contribution reduced the cost of production.<sup>279</sup> As a dissenting Panel member noted, "facilitating the entry of certain technologies into the market that does exist—such as it is—by way of a finan-

<sup>271</sup> *Id.* ¶ 7.310.

<sup>272</sup> *Id.* ¶ 7.326.

<sup>273</sup> *Canada—Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 7.327.

<sup>274</sup> *Id.* ¶ 7.328.

<sup>275</sup> Compare *Canada—Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 7.300–310, with *U.S.—Softwood Lumber*, *supra* note 185, ¶ 90.

<sup>276</sup> *U.S.—Softwood Lumber*, *supra* note 185, ¶¶ 78–79, ¶ 119.

<sup>277</sup> *Id.* ¶ 90.

<sup>278</sup> *Canada—Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 7.300–310 (noting that outside markets mentioned by complainants, and not challenged by Canada, were not capable on their own of providing adequate compensation to generators).

<sup>279</sup> The Appellate Body agreed that the Panel's benefit analysis was too narrow. See *Canada—Feed-In Tariffs AB Report*, *supra* note 58, ¶¶ 5.212–220 (concluding that the Panel should have considered other benchmarks when analyzing whether a benefit existed).

cial contribution can itself be considered to confer a benefit.”<sup>280</sup> Canada’s admission that solar photovoltaic (PV) and wind power operators would not be in a position to enter the traditional wholesale market without the price guarantees signals that the government conferred a benefit as defined by Article 1.1 of ASCM.<sup>281</sup> The majority Panel, however, did not consider these factors.<sup>282</sup> The decision therefore fails to provide convincing reasons for its finding that complainants have not established that a benefit was conferred.<sup>283</sup>

Furthermore, the Panel decision does not promote RES and can in no way be construed as a positive interpretation for purposes of climate change mitigation efforts. Even though the Panel decided that ASCM was not triggered, it found that the domestic content use condition violated GATT III:4 and TRIMs Article 2.1.<sup>284</sup> The Appellate Body upheld the Panel on these points.<sup>285</sup> The decision has prompted Canada to bring OGEA in compliance with the two WTO laws by scaling back the domestic content requirement.<sup>286</sup>

The Panel’s decision essentially requires the Ontario government to pursue unilateral action to reduce emissions, which triggers concerns about competitiveness. As Canada pointed out, the feed-in tariff (FIT) program aims to promote renewable energy to compensate for an anticipated energy deficit due to the closure of coal power plants by 2014 and nuclear energy maintenance.<sup>287</sup> Seemingly, the domestic content use requirement was an effort to stimulate investments in green

<sup>280</sup> *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 9.3 (dissenting opinion of one member of the panel).

<sup>281</sup> *See id.* ¶ 9.23.

<sup>282</sup> *See id.* ¶¶ 7.320–.327 (majority opinion) (holding complainants’ alternative benchmarks for determining a benefit to be inadequate, and observing that a better benchmark might be a comparison between relevant rates of return of the challenged contracts and relevant average cost of capital in Canada.)

<sup>283</sup> *See Canada–Feed-In Tariffs AB Report*, *supra* note 58, ¶¶ 5.219 (reversing the Panel’s findings that complainants had failed to establish a benefit). The Appellate Body, however, could not determine whether the challenged measures conferred a benefit. *Id.* ¶ 5.246. Ontario has agreed to comply with the Panel decision. *See* Memorandum from the Minister of Energy to Colin Andersen, Chief Executive Officer, Ontario Power Authority (Aug. 16, 2013), *available at* <http://powerauthority.on.ca/sites/default/files/page/DirectionAdministrativeMatters-renewables-Aug16-2013.pdf> and <http://perma.cc/LBY2-GXXS> [hereinafter Ontario Memorandum] (noting that the Ministry intends to bring the FIT program into compliance with the WTO decision by reducing domestic content requirements).

<sup>284</sup> *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 7.167.

<sup>285</sup> *Canada–Feed-In Tariffs AB Report*, *supra* note 58, ¶ 5.85.

<sup>286</sup> *See* Ontario Memorandum, *supra* note 283.

<sup>287</sup> *See Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 7.216, ¶ 7.322.

energy to mitigate the impacts of such closures.<sup>288</sup> If that incentive is removed, the future of FIT might be jeopardized. The decision will therefore test Ontario's commitment to renewable energy.

To the extent that support for OGEA wanes due to the removal of a domestic content use requirement—after all, the question would then revert back to using taxpayer money to fund price guarantees without any other economic benefit—the Panel's decision will affect renewable energy production and thus hinder climate change mitigation efforts.<sup>289</sup> Such an outcome contradicts the Panel's own reason for rejecting the complainants' argument that absent the Ontario government's FIT program, producers would have to compete in a competitive wholesale market, that is, "a system that pursues *human health and environmental* objectives through the inclusion of facilities using solar PV and wind technologies into the supply-mix" could not be achieved without FITs.<sup>290</sup> Undeniably, the importance of FITs and similar measures to promote renewable energy and climate change mitigation is well-recognized. Indeed, one of the Greek laws challenged by China in its dispute against the European Union (EU) states climate change mitigation as a desired objective of the measure,<sup>291</sup> as does India's NSM.<sup>292</sup>

Therefore, even though disputants have not raised an environmental defense to date, if their ability to provide subsidies that promote renewable energy and climate change mitigation, in a way that also addresses competition concerns, is limited by WTO law, countries are likely to consider the applicability of environmental exceptions to sustain these measures.<sup>293</sup> As the discussion below (in the context of ASCM and TRIMs) demonstrates, however, the environmental aspects of the prob-

<sup>288</sup> See Wilke, *supra* note 225 ("Ontario on its part introduced the local content requirement with the aim of attracting foreign investment and creating jobs by spurring domestic demand for green energy products.").

<sup>289</sup> See Ontario Memorandum, *supra* note 283.

<sup>290</sup> *Canada—Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 7.309.

<sup>291</sup> See Request for Consultations by China, *European Union and Certain Member States—Certain Measures Affecting the Renewable Energy Sector*, ¶ 5(i), WT/DS452/1 (Nov. 7, 2012), available at <http://goo.gl/W1qLIX> and <http://perma.cc/5LAF-59TQ>. The law is titled "Accelerating the development of renewable energy sources to Combat Climate Change and other provisions relating to the Ministry of Environment, Energy and Climate Change." *Id.*

<sup>292</sup> See Ministry of New and Renewable Energy, *Mission Statement*, GOV'T OF INDIA, <http://www.mnre.gov.in/solar-mission/jnsm/mission-document-3> (last visited Jan. 8, 2014), available at <http://perma.cc/Q662-LL7Y>.

<sup>293</sup> See JEGOU & RUBINI, *supra* note 68, at 47 (noting that Article XX exceptions may apply to subsidies, and that such an application might be desirable from a policy standpoint).

lem cannot be addressed under the current WTO treaty framework, even if the matter were scrutinized from a “trade and environment” lens.<sup>294</sup>

### B. RES Do Not Qualify for GATT Article XX(b) and (g) Exceptions

This section analyzes the scope and limits of applying GATT Article XX exceptions to RES. Even though Canada did not invoke an Article XX environmental exception, as proposed by at least one amicus curie brief, this section refers to the *Canada–Feed-In Tariffs* dispute to demonstrate that Article XX exceptions to RES challenges cannot be sustained under ASCM or TRIMs, even though the latter specifically recognizes GATT exceptions.<sup>295</sup> This analysis seeks to inform the general discussion on applying Article XX to climate change disputes and highlight the need for meaningful international climate treaty action.<sup>296</sup>

If environmental exceptions were applied to address prohibited subsidies, such as domestic content or export restriction subsidies, two preliminary issues must be addressed to extend Article XX exceptions: (1) regarding ASCM, whether Article XX general exceptions can apply to ASCM, and (2) regarding ASCM and TRIMs, whether the subsidies qualify for an Article XX exception. Each issue is considered below.

## 1. Applying Article XX Exceptions to ASCM Disputes

ASCM provides a narrow environmental exception, which has now expired.<sup>297</sup> Unlike other specific WTO Agreements, notably TRIMs, ASCM does not incorporate Article XX exceptions.<sup>298</sup> Nevertheless, scholars have argued that Article XX should apply to ASCM disputes.<sup>299</sup>

<sup>294</sup> See *infra* notes 297–317 and accompanying text.

<sup>295</sup> TRIMs Agreement, *supra* note 46, art. 3; Canada Amicus Curiae Brief, *supra* note 235; Simon Lester, *GATT Article XX, Environmental Measures, and the SCM Agreement*, INT'L ECON. L. BLOG (Aug. 29, 2011, 12:19 PM), [http://worldtradelaw.typepad.com/ielplblog/trade\\_and\\_environment](http://worldtradelaw.typepad.com/ielplblog/trade_and_environment), available at <http://perma.cc/RC6K-V6UM>.

<sup>296</sup> See *infra* notes 295–402 and accompanying text.

<sup>297</sup> See ASCM, *supra* note 45, art. 8.2(c).

<sup>298</sup> Compare *id.* arts. 8.1–8.5 (listing non-actionable subsidies, with no reference to GATT), with TRIMs Agreement, *supra* note 46, art. 3 (“All exceptions under GATT 1994 shall apply, as appropriate, to the provisions of this Agreement.”).

<sup>299</sup> JEGOU & RUBINI, *supra* note 68, at 47 (“[T]here are no decisive legal obstacles to the application of GATT Article XX to climate change subsidies . . . this move may be policy-wise desirable.”); Christopher Tran, *Using GATT, Art XX to Justify Climate Change Measures in Claims Under the WTO Agreement*, 27 ENVTL. & PLAN. L. REV. 346, 355–56 (2010) (“Another option, potentially open on the current agreements, is to invoke GATT, Art XX to

This subsection argues that GATT Article XX exceptions cannot apply to ASCM disputes.

According to the GATT General Interpretative Note to Annex IA, in case of conflict between GATT and a specific WTO Agreement, the specific agreement prevails over GATT to the extent of that conflict.<sup>300</sup> A conflict exists when two provisions cannot be respected simultaneously. Absent a conflict, a matter would first be addressed under the specific agreement, and then by the relevant GATT provisions.<sup>301</sup>

Arguments for extending Article XX exceptions to ASCM emphasize the close linkage between GATT and ASCM.<sup>302</sup> Although the ASCM does not specifically refer to Article XX, it also does not specifically exclude the application of Article XX.<sup>303</sup> Thus, Article XX is a “fall back” to ASCM provisions.<sup>304</sup> This argument implicitly assumes that there will be no conflict in applying the general and specific agreements.

There is indeed no general conflict between the two relevant treaty provisions—GATT Article XX(b) and (g) and ASCM Article 8.2(c). Both allow WTO Members to deviate from their treaty obligations for environmental reasons.<sup>305</sup> The scope of the two provisions is different, however, and therefore cannot be read interchangeably, or even in conjunction.

Under ASCM Article 8.2, Members could only provide a one-time assistance of up to twenty percent to existing facilities to adapt to new environmental regulation that was directly linked to reducing the pol-

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justify SCM inconsistency—an argument slowly coming to prominence among commentators.”).

<sup>300</sup> General Interpretative Note to Annex IA, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1, 1867 U.N.T.S. 187, available at [http://www.wto.org/english/docs\\_e/legal\\_e/05-anx1a\\_e.htm](http://www.wto.org/english/docs_e/legal_e/05-anx1a_e.htm) and <http://perma.cc/GY69-CTLE> (“In the event of conflict between a provision of the General Agreement on Tariffs and Trade 1994 and a provision of another [Annex IA] agreement . . . the provision of the other agreement shall prevail to the extent of the conflict.”).

<sup>301</sup> See, e.g., Panel Report, *European Communities—Trade Description of Sardines*, ¶¶ 7.14–.16, WT/DS231/R (May 29, 2002), available at <http://goo.gl/qRTIIC> and <http://perma.cc/8UAW-5VMZ> (“[A] panel should normally consider the more specific agreement before the more general agreement.”).

<sup>302</sup> See Canada Amicus Curiae Brief, *supra* note 235, ¶¶ 25–30 (pointing to numerous references in ASCM to GATT and arguing that the specific subsidies agreement is drawn from GATT 1994); JEGOU & RUBINI, *supra* note 68, at 40 (noting that the ASCM is directly connected to the GATT, and that the WTO is a single undertaking with integrated legal provisions).

<sup>303</sup> JEGOU & RUBINI, *supra* note 68, at 40.

<sup>304</sup> *Id.* at 9–13.

<sup>305</sup> See GATT, *supra* note 19, art. XX(b), art. XX(g); ASCM, *supra* note 45, art. 8.2(c).

lution.<sup>306</sup> Members could not provide assistance towards manufacturing and replacement costs, and had to extend the benefit to all enterprises that had to adapt to new production process or equipment.<sup>307</sup> ASCM provides a narrow and specific environmental exception, unlike Article XX(b) and (g), which provide broader exceptions, for protecting health or conserving an exhaustible natural resource.<sup>308</sup> If drafters intended to provide such an expansive exception under ASCM, they could have either specifically incorporated GATT exceptions, as in the case of TRIMs, or at least not provided a limited exception, but they did not.<sup>309</sup>

Furthermore, the expiration of ASCM environmental exceptions shows that WTO Members intended to end all exceptions to actionable or prohibited subsidies.<sup>310</sup> Creating an exception for subsidies under Article XX would run contrary to such an intent. Thus, applying GATT Article XX to ASCM subsidies would conflict with the terms of ASCM. Therefore, according to GATT Interpretative Note to Annex 1A, the specific agreement should prevail, and an environmental exception cannot be applied to prohibited subsidies, even if they promote renewable energy and ultimately climate change mitigation.<sup>311</sup>

The question then becomes whether the environmental exception to ASCM should be revived. Reviving the exception, however, would not solve the problem of prohibited subsidies. For example, even if ASCM Article 8.2 were current, OGEA would not qualify because it does not primarily impose new environmental requirements, but instead promotes a new energy source with a general objective of achieving climate change mitigation.<sup>312</sup> OGEA is generally only an effort to diversify Ontario's energy mix to provide energy while maintaining nuclear facilities, and to reduce emissions.<sup>313</sup> Moreover, some of the subsidies exceed the twenty-percent limit and are being provided on a continuing

<sup>306</sup> ASCM, *supra* note 45, arts. 8.2(c)(i)–(ii), 8.2(c)(iv).

<sup>307</sup> *Id.* arts. 8.2(c)(iii)–(v).

<sup>308</sup> Compare GATT, *supra* note 19, art. XX(b), art. XX(g), with ASCM, *supra* note 45, art. 8.2(c).

<sup>309</sup> Cf. JEGOU & RUBINI, *supra* note 68, at 40 (noting that ASCM provisions on non-actionable subsidies were allowed to expire in 1999).

<sup>310</sup> *Id.*

<sup>311</sup> For a contrary view, see *id.* at 40 (arguing that GATT art. XX can apply to ASCM disputes because the environmental exception covered by the two are distinct and because ASCM does not explicitly state that GATT art. XX does not apply).

<sup>312</sup> See Wilke, *supra* note 225 (noting that Ontario's FIT program was intended to spur investments in green energy).

<sup>313</sup> See *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 7.216, ¶ 7.322.

basis and not as a one-time assistance.<sup>314</sup> It is equally doubtful that domestic content use requirement is necessary for a firm to install new equipment or adapt to new production processes.<sup>315</sup> The issue of creating an environmental exception is perhaps one that requires the attention of WTO Members, but the mere absence of an exception is an insufficient reason to extend Article XX exceptions to ASCM.

Moreover, applying Article XX to ASCM is contrary to Article 31 of the Vienna Convention on the Law of Treaties, which states: “A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.”<sup>316</sup>

An ordinary interpretation of ASCM in light of the limited environmental exception and its expiry is that Article 8.2 served a specific objective, which was to allow a certain amount of subsidies for a limited time to assist enterprises to adapt to new environmental regulations. Applying GATT Article XX(b) or (g) would also expand the scope of the environmental exception beyond the limitations set out in Article 8.2, because they are more expansive in nature and do not impose restrictions on the amount or number of times when financial assistance may be granted.<sup>317</sup> Applying GATT environmental exceptions would also extend the application of an exception beyond the specified time period explicitly stipulated in ASCM. Therefore, Article 31 of the Vienna Convention does not support an interpretation extending GATT Article XX exceptions to ASCM subsidies.

Even if Article XX exceptions were to apply to ASCM, subsidies can be found to be valid only if they satisfy the requirements under Article XX. As discussed below, RES do not meet the Article XX exceptions and are therefore normatively undesirable.

## 2. Whether RES Qualify for Article XX Exceptions

WTO Members can claim exceptions under GATT Article XX(b) and (g) if three requirements are satisfied: (1) the measure must fall within the subject matter of the exception, (2) the measure must be

<sup>314</sup> See *id.* ¶¶ 7.64–65 (noting that under the FIT program, Ontario pays a guaranteed price for electricity under twenty- or forty-year contracts, for as long as the electricity is delivered).

<sup>315</sup> Notably, Ontario intends to continue the FIT program without the domestic use requirement. See Ontario Memorandum, *supra* note 283.

<sup>316</sup> Vienna Convention on the Law of Treaties, 8 I.L.M. 679, 691–92 (1969).

<sup>317</sup> Compare GATT, *supra* note 19, art. XX(b), art. XX(g), with ASCM, *supra* note 45, art. 8.2(c).

necessary or relating to the subject matter, and (3) the measure must conform to the chapeau to Article XX.<sup>318</sup> As discussed below, even if Article XX were to extend to ASCM,<sup>319</sup> or TRIMs, sustaining claims and applying the exceptions in relation to RES will be difficult for doctrinal and normative reasons.

a. *Article XX(b)*

Under GATT Article XX(b), WTO Members can take measures that are “necessary to protect human, animal or plant life or health.”<sup>320</sup> Each component must be satisfied, namely the measure must be necessary and must protect human, animal, or plant life or health.

i. Disputed RES Can Protect Human, Animal, or Plant Life or Health (HAP Life or Health)

An argument for applying Article XX(b) to a disputed RES is that such subsidies are intended to mitigate climate change, which presents a risk to HAP life or health. According to *EC–Asbestos*, a panel, as trier of fact, may consider scientific evidence in assessing whether a risk to HAP exists.<sup>321</sup> The Panel in *EC–Asbestos* consulted scientific experts and studies published by international bodies in making its determination that asbestos presented a risk to HAP.<sup>322</sup>

Contrary views notwithstanding, a majority of scientists agree that climate change presents a risk to HAP life or health. According to the Intergovernmental Panel on Climate Change (IPCC) climate change can be considered as a risk to HAP life and health because it is predict-

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<sup>318</sup> See Panel Report, *United States Restrictions on Imports of Tuna*, DS29/R, ¶ 5.12 (June 1994), reprinted in 33 I.L.M. 839 (1994) (unadopted); Panel Report, *United States–Standards for Reformulated and Conventional Gasoline*, WT/DS2/R, ¶ 6.20 (Jan. 29, 1996) [hereinafter *U.S.–Gasoline*], available at <http://goo.gl/w8iPU> and <http://perma.cc/9Z9G-T3LC>.

<sup>319</sup> See JEGOU & RUBINI, *supra* note 68, at 38–41 (arguing for the application of Article XX exceptions to ASCM in the context of allocating free allowances).

<sup>320</sup> GATT, *supra* note 19, art. XX(b).

<sup>321</sup> See Appellate Body Report, *European Communities–Measures Affecting Asbestos and Asbestos-Containing Products*, ¶¶ 163–66, WT/DS135/AB/R (Mar. 12, 2001) [hereinafter *EC–Asbestos*], available at <http://goo.gl/ycnO8W> and <http://perma.cc/R5G9-7R5S>. In this dispute, the Government of France imposed trade embargos on goods that contained asbestos fibres to protect the health and safety of workers handling such products. Canada challenged the Decree on several grounds, and the EC successfully defended the measure under Article XX(b). *Id.* ¶¶ 1–4. In deciding Canada’s appeal, the Appellate Body affirmed the Panel’s finding and found that the Panel had the discretion to evaluate scientific evidence, and that the Appellate Body would only intervene if it found that the Panel had abused its discretion. *Id.* ¶ 162.

<sup>322</sup> *Id.* ¶ 162.

ed to cause sea-level rise that can destroy property, increase disease outbreaks, and endanger human life.<sup>323</sup> Parties to the United Nations Framework Convention on Climate Change (UNFCCC) acknowledge, in its Preamble, that climate change presents risks to HAP life or health.<sup>324</sup> RES also fall within the subject matter covered by Article XX(b) because renewable energy will help reduce CO<sub>2</sub> emissions by supplanting fossil fuels that produce CO<sub>2</sub>, thereby mitigating climate change and helping to protect HAP life or health.<sup>325</sup>

Unless persuasive evidence to the contrary is produced and considered favorably by a Panel,<sup>326</sup> it is unlikely that a WTO dispute settlement body would disagree that climate change presents risks to HAP life or health. A claimant, however, must also establish that the measure was necessary.<sup>327</sup>

## ii. Export Subsidies and Domestic Content Use Do Not Meet the “Necessary” Criteria

Applying GATT Article XX(b) hinges on the question of whether prohibited subsidies under ASCM (subsidies conditioned on export performance or domestic content use) or subsidies that violate TRIMs (those that impose restrictions on domestic content) are necessary to mitigate climate change and protect risks to HAP life or health.

For a measure to be considered necessary under Article XX(b), “alternative measures either consistent or less inconsistent” with GATT should not be available.<sup>328</sup> An alternative measure should be reasonable

<sup>323</sup> CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: IMPACTS, ADAPTATION AND VULNERABILITY 7–22 (Martin Parry et al. eds., 2007), available at [http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4\\_wg2\\_full\\_report.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4_wg2_full_report.pdf).

<sup>324</sup> UNFCCC, *supra* note 7, Preamble (acknowledging that the adverse effects of climate change are a “common concern of human kind” and expressing concern that increased GHG concentrations in the atmosphere “may adversely affect natural ecosystems and humankind.”). Article 1(1) defines adverse effects of climate change as “changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.” *Id.* art. 1(1).

<sup>325</sup> See *supra* notes 148–175 and accompanying text.

<sup>326</sup> As the Appellate Body noted in *EC–Asbestos*, governments could act in good faith on the basis of “divergent opinion coming from qualified and respected sources.” *EC–Asbestos*, *supra* note 321, ¶ 178 (citing Appellate Body Report, *EC–Measures Concerning Meat and Meat Products (Hormones)*, ¶ 194, WT/DS26/AB/R (Feb. 13, 1998)).

<sup>327</sup> GATT, *supra* note 19, art. XX(b); see *infra* notes 328–338 and accompanying text.

<sup>328</sup> See *U.S.–Gasoline*, *supra* note 318, ¶ 6.24; *EC–Asbestos*, *supra* note 321, ¶¶ 171–175 (declining to reverse the Panel holding on the “necessary” standard under Article XX(b)).

and not impossible to implement, but mere administrative difficulties will not render an alternative unreasonable.<sup>329</sup> According to the Appellate Body, “[t]he 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.”<sup>330</sup>

RES that catalyze energy reforms promote climate change mitigation by reducing the cost of renewable equipment or encouraging investment in renewable energy.<sup>331</sup> Export performance and domestic content use-based subsidies, however, are not necessary to promote climate change mitigation.<sup>332</sup> Although RES can promote climate change mitigation, attaching conditions such as domestic content requirements suggests that market capture and protectionism are the primary objectives of the subsidies.<sup>333</sup> Such objectives undermine common goals and values of market access under WTO law.<sup>334</sup>

Moreover, reasonable alternatives to mitigate climate change, other than imposing domestic content requirements, are available. For example, countries could provide subsidies without imposing domestic content or export performance requirements.<sup>335</sup> They could also pursue climate change mitigation action under the Kyoto Protocol.<sup>336</sup> For example, China could accept legally binding emissions obligations and, pursuant to the same, decommission coal power plants instead of expanding its coal capability.<sup>337</sup> Canada and the EU could unilaterally re-

The Appellate Body also referred to other arguments made by Canada in this regard, including the quantification of the risk and the level of risk as determined by France. The Appellate Body addressed the arguments in the context of the test for protecting HAP life or health, however, and also noted that France could choose to regulate high risks but permit products that presented a low risk of cancer. *Id.* ¶¶ 164–168.

<sup>329</sup> *EC–Asbestos*, *supra* note 321, ¶ 169.

<sup>330</sup> *Id.* ¶ 172 (quoting Appellate Body Report, *Korea–Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, ¶ 162, WT/DS161/AB/R, WT/DS169/AB/R (Dec. 11, 2000)).

<sup>331</sup> See Nancy Pfund & Ben Healey, *Should the Government Subsidize Alternative Energy?*, YALE SCHOOL OF MGMT. (Dec. 2011), <http://insights.som.yale.edu/insights/should-government-subsidize-alternative-energy>, available at <http://perma.cc/WR3S-WAVY>.

<sup>332</sup> See *infra* notes 336–340 and accompanying text.

<sup>333</sup> See, e.g., *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 7.7, 8.5, 8.9 (affirming the complaint that the domestic use requirement was a form of WTO-inconsistent protection to certain energy producers).

<sup>334</sup> See Bagwell & Staiger, *supra* note 39, at 71 (noting that GATT is designed to facilitate exchanges of market access between government).

<sup>335</sup> See, e.g., Ontario Memorandum, *supra* note 283 (affirming that Ontario will continue its FIT program while drastically scaling back its domestic use requirement).

<sup>336</sup> See Kyoto Protocol, *supra* note 3, arts. 6, 12, 17.

<sup>337</sup> See KEY ENERGY STATISTICS, *supra* note 152, at 14 (showing historical growth in Chinese coal production); Moser, *supra* note 27, at 677 (noting the fast-growing demand for coal in China).

duce existing tariffs on renewable energy equipment to reduce the cost of electricity. At a national level, Canada could monitor its expansive tar sands production, which is allegedly contributing to an increase in emissions and is currently subject to regulation by the EU, despite Canada's protests.<sup>338</sup> All of these are reasonable alternatives. The existence of reasonable alternatives indicates that conditional RES are not necessary to protect HAP life and health.

b. *Article XX(g)*

GATT Article XX(g) creates an exception for measures "relating to the conservation of exhaustible natural resources, if such measures are made in conjunction with restrictions on domestic production or consumption."<sup>339</sup> The necessary elements to invoke an Article XX(g) exception are therefore: (1) the measure should aim to conserve exhaustible natural resources, (2) the measure should be related to the conservation goal, and (3) the measure should be made in conjunction with restrictions on domestic production and consumption.

i. RES Are Aimed at Conserving Exhaustible Natural Resources

WTO dispute settlement bodies have ruled that the term "natural resource" is evolutionary, especially considering the goal of sustainable development incorporated in the Preamble to the Marrakesh Agreement.<sup>340</sup> According to the Appellate Body, in *U.S.—Shrimp* the term "exhaustible natural resource" now encompasses both living and non-living resources.<sup>341</sup> The key question is whether exhaustible natural resources would be conserved by RES.

To the extent that RES promote climate change mitigation, they promote the conservation of exhaustible natural resources. The Earth's atmosphere is conserved by maintaining its greenhouse gas (GHG)

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<sup>338</sup> See Arthur Neslen, *EU Faces Down Tar Sands Industry*, EURACTIV.COM, <http://www.euractiv.com/climate-environment/eu-faces-tar-sands-industry-news-508140> (last visited Jan. 8, 2014), available at <http://perma.cc/QRK5-MEZA>.

<sup>339</sup> GATT, *supra* note 19, art. XX(g).

<sup>340</sup> Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products*, ¶ 130, WT/DS58/AB/R (Nov. 6, 1998) [hereinafter *U.S.—Shrimp*], available at <http://goo.gl/9IG10t> and <http://perma.cc/Z7PN-R5NT>.

<sup>341</sup> *Id.* ¶ 131.

balance, and the Earth's living and non-living exhaustible natural resources, which are threatened by climate change, are also conserved.<sup>342</sup>

The Panel decision in *U.S.—Gasoline* supports the proposition that the Earth's atmosphere is an exhaustible natural resource.<sup>343</sup> In that case, the United States defended Clean Air Act regulations to control ozone pollution from vehicles on the premise that clean air was an exhaustible natural resource.<sup>344</sup> In particular, the United States contended that certain pollutants could exhaust the air quality, if they persisted over a long time period.<sup>345</sup>

The WTO Panel agreed that “clean air was a resource . . . [that] could be depleted.”<sup>346</sup> The Panel rejected the argument that clean air was not exhaustible because it could be renewed.<sup>347</sup> Instead, the Panel compared clean air to resources such as renewable stocks of salmon, which an earlier Panel had considered as an exhaustible natural resource.<sup>348</sup> A capacity for renewal did not render the resource non-exhaustible.<sup>349</sup> The Panel found that “a policy to reduce the depletion of clean air was a policy to conserve a natural resource within the meaning of Article XX(g).”<sup>350</sup> The Appellate Body in *U.S.—Shrimp* followed the reasoning of the Panel in *U.S.—Gasoline* that renewability does not render a resource inexhaustible.<sup>351</sup> Thus, living resources such as turtles that could reproduce were nevertheless considered exhaustible, without appropriate intervention.<sup>352</sup>

<sup>342</sup> See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 33, at 7, 18–20 (noting the environmental benefits of renewable energy, including climate change mitigation through reduced GHG emissions).

<sup>343</sup> See *U.S.—Gasoline*, *supra* note 318, ¶¶ 6.36–37.

<sup>344</sup> *Id.* ¶¶ 2.1, 3.59.

<sup>345</sup> *Id.* ¶ 3.59. The Appellate Body reversed the Panel decision on other grounds. Appellate Body Report, *United States—Standards for Reformulated and Conventional Gasoline*, 29, WT/DS2/9 (April 29, 1996) [hereinafter *U.S.—Gasoline AB Report*], available at <http://goo.gl/LyRVwh> and <http://perma.cc/DNB5-32HW>. The complainants did not appeal, and the Appellate Body did not address, the Panel's decision that clean air was an exhaustible natural resource. See *id.* at 14–19.

<sup>346</sup> *U.S.—Gasoline*, *supra* note 318, ¶ 6.37.

<sup>347</sup> *Id.* (“[T]he fact that a resource was renewable could not be an objection.”).

<sup>348</sup> *Id.* (citing Panel Report, *Canada—Measures Affecting Exports of Unprocessed Herring and Salmon*, ¶ 4.4 (Mar. 22, 1988), GATT B.I.S.D. (35th Supp.)) [hereinafter *Canada—Herring and Salmon*].

<sup>349</sup> *Id.*

<sup>350</sup> *Id.*

<sup>351</sup> *U.S.—Shrimp*, *supra* note 340, ¶ 128 (“We do not believe that ‘exhaustible’ natural resources and ‘renewable’ natural resources are mutually exclusive.”).

<sup>352</sup> See *id.* ¶ 134.

The Earth's atmosphere is likewise exhaustible.<sup>353</sup> The atmosphere, which contains naturally occurring GHGs such as carbon dioxide, is a non-living resource. The proper functioning of the Earth's atmosphere depends on the relative stability and balance in its composition.<sup>354</sup> If the atmospheric composition and balance is disturbed, the atmospheric support system will be compromised, as projected by scientists.<sup>355</sup> An unstable atmosphere threatens life and property on Earth.<sup>356</sup>

Even though several natural factors affect the atmospheric composition, few are as threatening to the atmosphere as anthropogenic emissions of GHGs.<sup>357</sup> Like anthropogenic emissions of chlorofluorocarbons, which compromised the ability of the ozone layer to protect life on Earth, anthropogenic GHG emissions, such as carbon dioxide, are projected to diminish the optimal functioning of the Earth's atmosphere.<sup>358</sup> Thus, the Earth's atmosphere is an exhaustible natural resource under Article XX(g).

Similarly, support exists for the proposition that conserving the Earth's atmosphere conserves several living and non-living natural resources that are threatened by climate change.<sup>359</sup> As the United States argued in *U.S.—Gasoline*, poor air quality could exhaust natural resources such as "lakes, streams, parks, crops, and forests," and thus measures to conserve air quality constitute measures to conserve exhaustible natural resources under Article XX(g).<sup>360</sup> The depletion of the Earth's atmospheric balance threatens to exhaust a range of natural

<sup>353</sup> See *U.S.—Gasoline*, *supra* note 318, ¶¶ 6.36–37.

<sup>354</sup> See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 37 (2007), available at [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf).

<sup>355</sup> See *id.* (noting that changes in the atmospheric concentration of GHGs and aerosols drive climate change).

<sup>356</sup> See, e.g., *Climate Impacts on Society*, ENVTL. PROT. AGENCY, <http://www.epa.gov/climatechange/impacts-adaptation/society.html#Economic> (last visited Jan. 7, 2014), available at <http://perma.cc/5ZFHEBEN>.

<sup>357</sup> See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 354, at 37–54 (projecting future climate change due to anthropogenic GHG emissions, and listing potential negative effects for human health and the stability of the ecosystem).

<sup>358</sup> See *id.* at 44–54 (projecting impacts of climate change under various emissions scenarios).

<sup>359</sup> See generally Gian-Reto Walther, *Community and Ecosystem Responses to Recent Climate Change*, 365 PHIL. TRANSACTIONS OF THE ROYAL SOC'Y OF LONDON B: BIOLOGICAL SCIENCES 2019 (2010) (listing adverse effects of climate change on animal species, water ecosystems, and forest ecosystems).

<sup>360</sup> *U.S.—Gasoline*, *supra* note 318, ¶ 6.36.

resources.<sup>361</sup> According to the IPCC, climate change is a threat to natural ecosystems and species, among other resources.<sup>362</sup> The loss of atmospheric balance is predicted to cause severe weather-related events that can unleash catastrophic consequences, including loss of agricultural productivity, which is essential for life on Earth.<sup>363</sup> Consequently, a measure to conserve the Earth's atmosphere is a measure to conserve exhaustible natural resources.<sup>364</sup>

Therefore, to the extent that RES promote climate change mitigation efforts by conserving the Earth's atmosphere, upon which other exhaustible and non-living resources rely, RES satisfy the Article XX(g) requirement that a measure conserves exhaustible natural resources.<sup>365</sup>

## ii. RES Are Not "Related to" the Conservation Goal

The second requirement to apply GATT Article XX(g) is that a measure must be "related to" the conservation goal, which in this case means climate change mitigation.<sup>366</sup> According to WTO Appellate Body decisions, to satisfy this requirement the measure should be "*primarily aimed at*" conservation,<sup>367</sup> and "[t]he means . . . in principle, [must be] reasonably related to the ends."<sup>368</sup> Specifically, there must be a "relationship between the general structure and design of the measure . . . and the policy goal . . . [of] conservation . . ."<sup>369</sup> Thus, to qualify for an Article XX(g) exception, RES must be primarily aimed at or have a close relationship to climate change mitigation.

As in *U.S.—Gasoline*, RES are reasonably related to the goal of conserving natural resources because they promote renewable energy, which aids climate change efforts, which in turn will enable conserva-

<sup>361</sup> See generally Walther, *supra* note 359 (documenting the effects of climate change on several ecological networks).

<sup>362</sup> See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 354, at 8–12.

<sup>363</sup> *Id.* at 17–18.

<sup>364</sup> See, e.g., *U.S.—Gasoline*, *supra* note 318, ¶¶ 6.36–37 (holding that clean air is an exhaustible natural resource); *U.S.—Shrimp*, *supra* note 340, ¶¶ 132–134 (holding endangered sea turtles to be an exhaustible natural resource).

<sup>365</sup> See *supra* notes 340–364 and accompanying text.

<sup>366</sup> See GATT, *supra* note 19, art. XX(g).

<sup>367</sup> *U.S.—Gasoline*, *supra* note 318, ¶ 6.39 (citing to *Canada—Herring and Salmon*, *supra* note 348).

<sup>368</sup> *U.S.—Shrimp*, *supra* note 340, ¶ 141. The Appellate Body found a "substantial" relationship between U.S. law aimed at protecting endangered sea turtles and the larger policy of conserving a natural resource. *Id.*

<sup>369</sup> *Id.* ¶ 137.

tion of natural resources.<sup>370</sup> The WTO Panel's observation in *Canada–Feed-In Tariff*—that it would be difficult to pursue human health and environmental objectives when generating electricity, without government intervention to add solar PV and wind technologies into the mix—also supports the argument that there is a nexus between RES and the goal of conservation of exhaustible natural resources.<sup>371</sup>

The argument, however, is untenable when RES are conditioned on export performance or domestic content use because they are then not narrowly defined to serve the conservation goal.<sup>372</sup> Additionally, conditional subsidies are not “primarily aimed” at the conservation goal, because (1) the conservation goal can be achieved by providing unconditional subsidies, and (2) there is no “genuine relationship” between the conditional subsidies and the conservation of natural resources.<sup>373</sup> Prohibited subsidies or conditions that violate TRIMs might help conserve natural resources via climate change mitigation, but their primary goals appear to be interfering with market access and protecting domestic industry.<sup>374</sup> This conclusion is almost inescapable given that the countries involved in RES disputes have rejected Kyoto Protocol obligations and/or continue to invest in fossil fuel energy resources: Canada, China and India are not bound by Kyoto Protocol emissions reduction obligations, and coal imports are on the upswing in China, India, and the EU.<sup>375</sup> Therefore, by their structure and design, conditional RES are not “related” to the conservation goal articulated in Article XX(g).<sup>376</sup>

<sup>370</sup> See *U.S.–Gasoline AB Report*, *supra* note 345, at 14–19 (holding that U.S. regulation of gasoline was reasonably related to the goal of conservation of clean air).

<sup>371</sup> See *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶ 7.309.

<sup>372</sup> Cf. *U.S.–Shrimp*, *supra* note 340, ¶¶ 135–142 (holding that a disputed trade measure regulating shrimp harvesting was narrow enough to “relate to” conservation of a natural resource, because it only regulated harvesting practices that threatened endangered sea turtles).

<sup>373</sup> See *supra* notes 331–338 and accompanying text.

<sup>374</sup> See, e.g., *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 7.7, 8.5, 8.9 (affirming complaint that domestic use requirement was a form of WTO-inconsistent protection to certain energy producers).

<sup>375</sup> See CORINA HAITA, INTERNATIONAL CENTER FOR CLIMATE GOVERNANCE, *THE STATE OF COMPLIANCE IN THE KYOTO PROTOCOL 2* (2012) (stating that “China and India do not have commitment targets within the Kyoto Protocol”); COP 16, *supra* note 1, at 6 (noting that Canada has rejected further emissions targets); Peter Galuszka, *With China and India Ravenous for Energy, Coal’s Future Seems Assured*, N.Y. TIMES, Nov. 13, 2012, at B6 (noting increased demand for coal in China, and noting that Europe and India are increasing coal imports).

<sup>376</sup> GATT, *supra* note 19, art. XX(g).

### iii. RES Are Not Made in Conjunction with Restriction on Domestic Production

According to the Appellate Body decision in *U.S.—Gasoline*, a measure or restriction must be even-handed—it must also apply to domestic production and consumption.<sup>377</sup> In both *U.S.—Gasoline* and *U.S.—Shrimp*, the WTO dispute settlement bodies found that the measures in question, gasoline standards and trawling regulation, respectively, were even-handed because the measures regulated both domestic and foreign producers.<sup>378</sup>

Since RES are not active measures that impose restrictions such as compliance with gasoline quality or fishing methods, it is difficult to construe how the “even-handedness” standard applies. An argument can nevertheless be made that the RES fail the test of evenhandedness to the extent that they affect foreign producers of associated goods differently.<sup>379</sup>

Under the design of RES law and policy, foreign producers can lose market access in one of two ways. Export performance-based subsidies restrict access to third-country markets,<sup>380</sup> while subsidies conditioned on domestic content use restrict access to markets within the subsidizing country.<sup>381</sup> For example, one of the key contentions in *China—Wind and Solar Equipment* was that China’s export performance-based subsidies resulted in the United States losing its access to EU markets.<sup>382</sup> Likewise, Canada, the EU, and India’s FIT programs increase access to certain goods for domestic producers of renewable energy equipment, but restrict access to exporters of the same.<sup>383</sup> To the

<sup>377</sup> *U.S.—Gasoline AB Report*, *supra* note 345, at 20–21 (“The [Article XX(g)] clause is a requirement of *even-handedness* in the imposition of restrictions, in the name of conservation, upon the production or consumption of exhaustible natural resources.”); *see also U.S.—Shrimp*, *supra* note 340, ¶ 143.

<sup>378</sup> *U.S.—Gasoline AB Report*, *supra* note 345, at 21; *U.S.—Shrimp*, *supra* note 340, ¶ 144.

<sup>379</sup> *See, e.g.*, Section 301 Petition, *supra* note 210, at 45–52 (arguing that China’s export restraints failed the test of even-handedness). China has since revoked the disputed law. *See China Ends Wind Power Subsidies*, *supra* note 54.

<sup>380</sup> *See* Section 301 Petition, *supra* note 210, at 11 (“China’s policies have . . . displaced U.S. exports to China and to third country markets—affecting trade flows that reached \$16 billion in 2009.”).

<sup>381</sup> *See, e.g., id.* at 182–83 (noting that China’s domestic subsidies have restricted U.S. access to China’s green technology market); *Canada—Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 3.1(a), 3.4(a) (noting complainants’ argument that Ontario’s domestic use content subsidy imposed market access restrictions on Japan and the European Union).

<sup>382</sup> *See* Section 301 Petition, *supra* note 210, at 11.

<sup>383</sup> *See Canada—Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 3.1(a), 3.4(a); *EU—Renewable Energy*, *supra* note 51, at 3; *India—Solar*, *supra* note 52, at 2.

extent that these programs treat domestic and foreign producers differently, they are not even-handed.<sup>384</sup> The disputed RES do not seem to meet the third requirement for invoking Article XX(g)—that they be made in conjunction with restrictions on domestic production.<sup>385</sup>

### c. *Chapeau to Article XX*

In addition to the specific requirements under each sub-section, the chapeau to GATT Article XX must also be satisfied to invoke the exceptions.<sup>386</sup> Under the chapeau, Article XX exceptions will not apply if a measure (1) arbitrarily discriminates between countries where the same condition prevails, (2) imposes an unjustifiable trade measure, and (3) is a disguised restriction on trade.<sup>387</sup> There is no bright line test, however, to distinguish “arbitrary discrimination,” “unjustifiable discrimination,” and “disguised restriction.”<sup>388</sup> As the Appellate Body in *U.S.—Gasoline* noted, they “may . . . be read side-by-side; they impart meaning to one another.”<sup>389</sup> Any arbitrary or unjustified measure could also constitute a disguised trade measure.<sup>390</sup>

The objective of this requirement is to check against an “abuse of the exceptions” of Article XX and ensure that a Member does not “frustrate or defeat the legal obligations of the holder of the right under the substantive rules of the [GATT] . . . .”<sup>391</sup> It also enables a dispute settlement body to ensure that a measure is applied “reasonably, with due regard both to the legal duties of the party claiming the exceptions and the legal rights of the other parties concerned.”<sup>392</sup>

<sup>384</sup> See *U.S.—Gasoline AB Report*, *supra* note 345, at 20–21.

<sup>385</sup> See GATT, *supra* note 19, art. XX(g); *U.S.—Gasoline AB Report*, *supra* note 345, at 20–21.

<sup>386</sup> See, e.g., *U.S.—Gasoline AB Report*, *supra* note 345, at 22 (“In order that the justifying protection of Article XX may be extended to [a disputed measure] . . . it must also satisfy the requirements imposed by the opening clauses of Article XX.”).

<sup>387</sup> *Id.* at 23; see GATT, *supra* note 19, art. XX.

<sup>388</sup> *U.S.—Gasoline AB Report*, *supra* note 345, at 23 (noting that the chapeau is not without ambiguity, particularly when considering the standard to be applied in determining the existence of the three requirements).

<sup>389</sup> *Id.* at 25.

<sup>390</sup> *Id.*

<sup>391</sup> *Id.* at 22. The Appellate Body in *U.S.—Shrimp* observed that the chapeau ensured that exceptions would be “limited and conditional.” *U.S.—Shrimp*, *supra* note 340, ¶ 157.

<sup>392</sup> *U.S.—Gasoline AB Report*, *supra* note 345, at 22. The Appellate Body in *U.S.—Shrimp* noted that its task was to find a balance “between the right of a Member to invoke an exception under Article XX and the rights of the other Members under varying substantive provisions . . . [so as not to] distort and nullify or impair the balance of rights and obligations constructed by the Members themselves.” *U.S.—Shrimp*, *supra* note 340, ¶ 159.

In applying the chapeau, the Appellate Body in *U.S.—Shrimp* observed that a policy that was not based on “diplomacy” or international consensus, and that had a discriminatory impact, was unjustified.<sup>393</sup> The Appellate Body further observed that the rigid and inflexible application of a disputed measure, even when similar economic conditions prevailed, was discriminatory.<sup>394</sup> Thus, the U.S. policy of providing import permits to importers that used turtle excluder devices, but refusing permits to importers that had comparable, even if different, methods for excluding turtles, was found to be discriminatory and unjustified.<sup>395</sup>

RES that require domestic content use or export performance do not satisfy the requirements under the chapeau to Article XX. The conditional subsidies are not based on international consensus or diplomacy. Although the Kyoto Protocol recognizes renewable energy as an important climate mitigation tool, it does not recognize conditional subsidies as the means for promoting renewable energy and thus mitigating climate change.<sup>396</sup> The Kyoto Protocol and UNFCCC also emphasize that climate mitigation measures should not affect international trade.<sup>397</sup> Moreover, many of the countries involved in the RES disputes have rejected Kyoto Protocol obligations, and to that extent they are not acting on the basis of international consensus or diplomacy.<sup>398</sup> The importance given to international consensus in *U.S.—Shrimp* suggests that conditional RES are unjustified and arbitrary under the Article XX chapeau.<sup>399</sup>

The RES conditions also have a discriminatory impact and constitute disguised trade measures. In particular, domestic content requirements will impact foreign producers of renewable energy equipment, because a failure to use domestic goods will result in a loss of market access.<sup>400</sup> As discussed above, countries can provide financial support to firms to promote renewable energy, without imposing any restrictions

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<sup>393</sup> *U.S.—Shrimp*, *supra* note 340, ¶¶ 166–167, 176.

<sup>394</sup> *Id.* ¶ 177.

<sup>395</sup> *See id.* ¶ 184.

<sup>396</sup> *See* Kyoto Protocol, *supra* note 3, art. 2 (encouraging research and development of renewable energy, without mentioning subsidies).

<sup>397</sup> *See* Kyoto Protocol, *supra* note 3, arts. 2(1), 2(3), 3(14); UNFCCC, *supra* note 7, arts. 2, 3, 5.

<sup>398</sup> *See supra* notes 1–8 and accompanying text.

<sup>399</sup> *See U.S.—Shrimp*, *supra* note 340, ¶¶ 166–167, 176.

<sup>400</sup> *See supra* notes 210–241 and accompanying text (discussing subsidies with domestic content requirements).

that impact trade.<sup>401</sup> The imposition of domestic content requirements as a condition for qualifying government assistance is therefore discriminatory and constitutes a disguised trade measure to the extent that it affects market access to certain imports.<sup>402</sup>

Therefore, whether a WTO Member provides subsidies or takes an investment measure, the imposition of conditions such as export performance or domestic content requirements cannot qualify for environmental exceptions under WTO law, especially absent a cogent international treaty framework.

### CONCLUSION

The challenges of resolving conflicts between trade and environmental law and policy are long-standing, and the case of climate change mitigation is no exception. The confluence of World Trade Organization (WTO) law and climate mitigation treaties presents unique legal challenges, however, as illustrated by a study of the disputed renewable energy subsidies (RES). Granting RES to catalyze investment in, and use of, renewable energy is a promising means of mitigating climate change. Subsidies to equipment manufacturers or energy producers in the form of feed-in tariff guarantees could catalyze changes in energy consumption behavior and promote greenhouse gas (GHG) emissions reduction.

The problem, however, is that some major economies do not view RES only as a climate change mitigation strategy. These economies also see in RES a unique economic opportunity, be it to capture market access or to alleviate competition and leakage concerns associated with climate change mitigation efforts, including transitioning from fossil fuels to renewable energy technology. To harness this economic opportunity, countries in the disputed cases have attached conditions for beneficiaries to qualify for RES, which are in clear violation of WTO law.

When countries became WTO Members, they agreed to reduce protectionism and facilitate movement of goods across borders through

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<sup>401</sup> See *supra* notes 331–338. For a practical example, see Ontario Memorandum, *supra* note 283 (affirming that Ontario will continue its FIT program while drastically scaling back its domestic use requirement).

<sup>402</sup> See, e.g., Section 301 Petition, *supra* note 210, at 182–83 (noting that China's domestic subsidies have restricted U.S. access to China's green technology market); *Canada–Feed-In Tariffs Panel Decision*, *supra* note 50, ¶¶ 3.1(a), 3.4(a) (noting complainants' argument that Ontario's domestic use content subsidy imposed market access restrictions on Japan and the European Union).

a series of rules. Those rules, specifically General Agreement on Tariffs and Trade (GATT) most-favored nation and national treatment provisions, the Agreement on Subsidies and Countervailing Measures (ASCM), and Trade-Related Investment Measures (TRIMs), govern behavior of nations and define the limits within which financial support can be provided to domestic industries. Subsidies that violate the rules of trade law undermine the commitment to internationally accepted rules. Financial assistance conditioned upon domestic content use violates WTO rules, according to the Panel decision in *Canada–Feed-In Tariff*. Such assistance also likely violates ASCM, notwithstanding the Panel’s decision in *Canada–Feed-In Tariff*.

The question, then, is whether in the interest of climate change mitigation, conditional subsidies can qualify for environmental exceptions to WTO rules, under GATT Article XX(b) and (g). Despite the importance of RES as a solution to reduce GHG emissions, the conditional subsidies are unlikely to qualify for an environmental exception, because WTO exceptions cannot be applied in the abstract. They must correlate to the objectives for which such exceptions are carved out in WTO rules. Not only should the specific requirements for applying the exceptions be satisfied, but also measures pursuant to the exceptions should conform to fundamental WTO rules, notably non-discrimination and equal treatment. The measures must also be as least trade restrictive as possible. Regarding ASCM, there is an additional issue of whether GATT Article XX can apply to subsidies, when specific environmental exceptions under ASCM have expired.

Insofar as ASCM is concerned, applying GATT Article XX environmental exceptions would expand the scope of the latter beyond the apparent legislative intent and run contrary both to the GATT Interpretative Note, Annex IA and the Vienna Convention on the Law of Treaties. Even if one assumes that GATT Article XX exceptions would apply to ASCM, as it does to TRIMs, the legal conditions for extending the exceptions to the disputed subsidies are not satisfied.

Without a doubt, RES promote the objectives for which Article XX(b) and (g) exceptions are created, to protect human, animal, and plant life and health, and to conserve exhaustible natural resources, respectively. Scientific evidence of threats to ecosystems, habitats, and general weather conditions supports the proposition that measures to mitigate climate change would protect human, animal, and plant life and health. Likewise, based on WTO jurisprudence, a case can be made for the proposition that the Earth’s atmosphere and the life systems that it protects are exhaustible natural resources, and thus

measures to protect the Earth's atmosphere constitute measures to conserve exhaustible natural resources.

As indicated by Article XX(b) and (g), however, as well as by WTO Panel and Appellate Body decisions, it is not adequate to demonstrate that measures contrary to general WTO law pursue the objectives stated in the exceptions. In applying the exceptions, a fine balance should be struck between the objectives of environmental protection and trade liberalization. Thus, a measure that achieves environmental protection goals should not unduly unravel fundamental WTO legal principles, notably non-discrimination, non-arbitrariness, and trade liberalization. To achieve this delicate balance, a measure for which Article XX exceptions are invoked should restrict trade as little as possible and apply equally to all WTO Members.

Domestic content requirements and export performance conditions fail to strike the balance between environmental protection and trade goals, even though they have potential for achieving emissions reduction. These conditions are not necessary to achieve emissions reduction goals—countries can grant unconditional RES, and these would equally serve the goal of mitigating climate change. The conditions are discriminatory and arbitrary, because they protect domestic industries and deny market access to importers from other WTO Members. To the extent that the conditions are not essential to achieve the environmental protection objective, they constitute disguised trade measures that serve national economic self-interest more than an interest in global climate change mitigation.

The argument against extending the environmental exceptions becomes stronger when one considers the general commitment of the subsidizing countries to climate change. In particular, Canada, China, and India have rejected targeted emissions reduction obligations under the Kyoto Protocol. If all major emitters committed to the Kyoto Protocol, the issue of competition would be mitigated and probably result in greater compliance with both international trade and climate change treaties. Despite the European Union's (EU) commitment to the Kyoto Protocol and to renewable energy, the EU continues to expand its coal power generation, which signals a lesser commitment to climate change mitigation. Granting environmental exceptions to these countries will not guarantee that the goals of climate change mitigation will be achieved. Thus, the direct link between RES and climate change mitigation notwithstanding, the legal case for granting GATT Article XX exceptions to conditional RES is at best a weak one.

Applying the Article XX exceptions would unravel WTO law without a guarantee that emissions reduction goals will be promoted.

Whether a global trading system is preferable or not is a separate issue and one left for countries to decide based on their national interest. At present, it would be bad law and poor policy to undo a fairly well-established legal system. At the very least, the system reaffirms collective action, which is difficult to achieve at the international level.

The implication of not extending Article XX exceptions to conditional RES is that in all likelihood, countries might lose an important incentive to grant RES on the taxpayers' tab, namely addressing competition and leakage problems associated with climate change mitigation. A combination of disparate legal obligations to reduce emissions and a liberalized trading system threatens the ability of some nations to reduce emissions and yet be competitive. The combination also triggers leakage problems. When the option to preclude these problems by applying trade-restrictive solutions such as conditional RES is removed, so is the incentive to provide RES. The issue of competition and leakage associated with climate change mitigation efforts cannot be solved under existing international trade law.

A better solution would be to negotiate a climate treaty that addresses trade concerns and that facilitates the application of trade measures to promote climate change mitigation efforts. As nations negotiate a successor treaty to the Kyoto Protocol, they should consider not only strategies to reduce emissions, but also strategies to balance their trade interests to minimize the negative impact on competition and leakage.

