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Renewable energy disputes in the World Trade Organization[♠]

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I. Introduction

This paper examines selected legal aspects of the multilateral trade system regarding renewable energy promotion. It argues that the WTO rules are capable of promoting environmental protection objectives. The multilateral trade system aims at the eventual total liberalization of cross-border trade through the removal of as many trade barriers – such as tariffs, quantitative restrictions, and trade-distortive practices – as may be politically acceptable to the economic areas involved.

For their part, the governing structures of the economic areas concerned – for the most part, the governments of sovereign states – are faced with the task of addressing a much broader set of interests than those pertaining to trade. However, the accession of sovereign actors and regional economic unions (such as the EU) to international treaty-based organizations (such as the WTO), and their acceptance of the relevant international obligations often commensurately condition their policy-making. In that respect, it is not uncommon for, say, certain measures that WTO members take in order to address some subjective policy objective that is, on the face of it, extraneous to cross-border trade, to infringe upon their international obligations – for instance, such measures may infringe upon obligations owed by WTO members under their WTO membership in a manner that is not in line with WTO rules.

This paper is principally concerned with how the existing multilateral trade system, based on the WTO, countenances the promotion of renewables. We carry out this examination by discussing certain WTO norms that have, or may, come to bear on measures that WTO members take which have a distortive or restrictive effect on cross-border intra-WTO trade and which have been argued in connection with environmental protection and/or with renewable energy,[1] and by reviewing the relevant WTO jurisprudence. This contribution is therefore part of the so-called "trade and …" debate, which relates to concerns surrounding the fragmentation of the international legal system, and of international law, along thematic or other lines that lead to artifacts such as 'international' 'economic' law and international 'energy' law.

The International Law Commission set up a Study Group on fragmentation which issued its report to the United Nations General Assembly in 2006. In that report, the Study Group referred to the reasons that fragmentation of the international legal system has arisen, identified the advent of special regimes – including not only legal orders, but also fields of law such as 'international' 'trade' law – that reinforced perceptions that these were 'self-contained', itself a fallacy when, among other things, any special legal regime set up further to interstate contracting is predicated upon general international law to function.[2] Starting from

[1] While the WTO and its norms apply to intra-WTO trade, they may also have implications for trade flows involving a nexus between States where at least one party is a WTO member. For instance, the requirement under Article I GATT (regarding the principle that WTO members ought to treat all their WTO peers as they would their 'most-favored nation') makes clear that any trade privilege that a WTO member affords to any other State must, in effect, be unconditionally extended to all of its WTO peers. Naturally, this does not create obligations for non-WTO members.

[2] See the International Law Commission, Report of the Study Group, Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law (A/CN.4/L.682) (13 April 2006) (§15, at p. 14), where it is stated that: "The rationale for the Commission's treatment of fragmentation is that the emergence of new and special types of law, "self-contained regimes" and geographically or functionally limited treaty-systems creates

the premise that the world's ecosystems, their preservation, and climate change mitigation are global public goods, there is a nexus between energy and climate change, which encompasses a range of issues such as clean energy subsidies, and emission-related levies (e.g., carbon taxes, and border adjustment taxes for carbon emissions). International law is threatened by incoherence due to its fragmentation, and there is a need to bring greater coherence not least for the promotion of environmental protection through the entire normative context that is international law.[3] One would need to look at various special regimes (such as the WTO, the EU, the NAFTA) and institutions (such as civil society and markets) for resolving disputes that pitch environmental objectives against other (say, investment protection, market liberalization) objectives in a manner that sufficiently promotes environmental objectives so that we come closer to achieving more coherent global environmental governance.

After the introduction, Section II provides some background for context purposes. We shall then briefly refer to some general global energy data and to some data that are more specific to renewable energy in Section III. In Section IV, we shall sum up arguments in relation to the suitability of the existing multilateral system to sufficiently balance the interstate environmental objectives with those relating to interstate trade liberalization objectives. This section will also make reference to disputes at the WTO over subsidies for renewable energy. Section V advocates implementing stronger governance of energy trade and provides an analysis of the WTO's treatment of renewable energy. It also discusses the impact of subsidies on different forms of energy and whether feed-in tariffs count as subsidies in the WTO context. Section VI concludes the paper.

II. Setting the scene

Environmental degradation occurs due to a variety of reasons, including processes that are entirely inherent to nature.[4] However, in recent history, the rate of environmental degradation has been ostensibly more rapid than during the

problems of coherence in international law. New types of specialized law do not emerge accidentally but seek to respond to new technical and functional requirements. The emergence of "environmental law" is a response to growing concern over the state of the international environment. "Trade law" develops as an instrument to regulate international economic relations. "Human rights law" aims to protect the interests of individuals and "international criminal law" gives legal expression to the "fight against impunity". Each rule-complex or "regime" comes with its own principles, its own form of expertise and its own "ethos", not necessarily identical to the ethos of neighbouring specialization. "Trade law" and "environmental law", for example, have highly specific objectives and rely on principles that may often point in different directions. In order for the new law to be efficient, it often includes new types of treaty clauses or practices that may not be compatible with old general law or the law of some other specialized branch. Very often new rules or regimes develop precisely in order to deviate from what was earlier provided by the general law. When such deviations or become general and frequent, the unity of the law suffers."

[3] On the fragmentation of international law, see the work of the International Law Commission, 58th session, Final Report of the study group on fragmentation, UN Doc. A/CN.4/L.682, and the conclusions of the study group on fragmentation, UN Doc. A/CN.4/L.702. On the specific case of international trade law, see also Leal-Arcas, R. "The Fragmentation of International Trade Law: Is Now the Time for Variable Geometry?" *The Journal of World Investment and Trade*, Vol. 12, No. 2, 2011, pp. 145-195.

[4] For further explanation, see Leal-Arcas, R. *Climate Change and International Trade*, Cheltenham: Edward Elgar, chapter 2, 2013.

previous millennia of organized human society.[5] What is more, we are fast approaching the tipping point after which environmental degradation may become irreversible.[6] This excessiveness in 'climate change' has largely been anthropogenic in that it flows from the effects of human activity. Moreover, environmental degradation operates dynamically in that the anthropogenic effects on the environment may themselves cause or contribute to further environmental degradation.

To illustrate this point, let us take the example of atmospheric greenhouse gases (GHGs),[7] which are almost entirely human-caused.[8] The concentration of GHGs in the atmosphere not only degrades the atmosphere, but also creates the 'greenhouse effect,' thus trapping a significant part of the Earth's energy and heat that would otherwise be reflected back into space. The effect of this phenomenon is the rise of the Earth's temperature, which, in turn, has far-reaching consequences – including severe weather events, desertification and the melting of polar water-bodies and territories – for ecosystems and the human, animal, and plant populations they sustain.

In light of the above, it is unsurprising that climate change is a concern to many a State and interstate actor. What is surprising, however, are the underwhelming efforts on the part of the international 'community' to meaningfully address climate change[9]. While a *gathering* – for lack of a better

[5] See the executive summary to the IEA 2013 '*Redrawing the Energy-Climate Map'* World Energy Outlook Special report, at p. 1.

[6] See the Intergovernmental Panel on Climate Change report "Climate Change 2007: Synthesis Report," 2007, where it is stated that: *"Anthropogenic warming could lead to some impacts that are abrupt or irreversible, depending upon the rate and magnitude of the climate change."*(at p. 53).

[7] Article 1 of the UN Framework Convention on Climate Change (UNFCCC) defines greenhouse gases as "*those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation*."

[8] During 2004, the breakdown of global GHG emissions was the following: 26% regarding the energy supply, 19% regarding industry, 17% regarding gases released from land-use change and forestry, 14% from agriculture, 13% regarding transport, 8% regarding residential, commercial, and service sectors, and 3% regarding waste. See IPCC, 2007: *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Inter-governmental Panel on Climate Change* [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds.)], Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press (at pp. 27 & 104). Nota bene: This appears to be the latest illustrative compilation of global GHG emission figures. It is worth noting that the breakdown of GHG indicates that the overwhelming majority of GHG emissions relates to CO2. The breakdown is: 57% from CO2 (produced due to fossil-fuel use), 17% from CO2 (related to biomass and deforestation), 14% from methane, 8% from nitrous oxide, and 8% from various fluorinated gases. These figures have been calculated by the US Environmental Protection Agency (EPA) based on data in the IPCC, 2007: *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Inter-governmental Panel on Climate Change* [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds.)], Cambridge University Press, Cambridge: United Kingdom and New York, NY: USA, report. (See http://www.epa.gov/climatechange/ghgemissions/global.html for the EPA's calculations).

[9] The 1992 UNFCCC and its 1997 Kyoto Protocol may have laid the foundations for a nigh-universal climate change mitigation regime that is predicated, amongst others, on the principle of *equity* (see Article 3.1 UNFCCC) that differentiates the climate change mitigation duties owed by the industrialized States from those owed by less- and least-developed States, according to their emitting history and their current capabilities. The UNFCCC and its Kyoto Protocol are significant multilateral steps for the cause of environmental protection; however, in the grander scheme of

word – of State actors indeed exists, in our view, this does not possess the characteristics of a community with equal interests. References to an *international community* often disguise the fact that what we are dealing with is, essentially, a collection of sovereign entities that, while formally enjoying the legal equality flowing from their sovereign status, in reality, are as highly disparate amongst themselves as their interests. How this may translate at the interstate cooperation level is that meaningful efforts to address climate change might founder on the fact that certain States – including those with significant hydrocarbon/fossil fuel[10] endowments and those whose privately- and/or State-owned enterprises have considerable interests in the conventional energy sector, along with highly polluting States with heavy industries – do not share the same sense of urgency as those States who seek to spearhead collective interstate efforts aimed at climate change mitigation (e.g., such as the group of small island developing States[11] that face existential threats by rising sea levels).[12] In this respect, we shall be avoiding the term *international community* and shall be utilizing references to *interstate cooperation*.

We see some instances of unilateralism with respect to measures taken on the basis of the need to address climate change; however, these are not enough. The EU's emissions trading system (ETS) is a case in point, where an economic area – namely the EU – that is also a WTO member in its own right had unilaterally, and much to the ire of several other States and WTO peers,[13] sought to include within its ETS all commercial aviation industry actors whose flight operations engaged EU territory. The EU finally suspended this policy under the pressure of the reaction that ensued, which could be seen as EU deference towards multilateralism[14]. Unsurprisingly, the EU had argued that such instances of

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things, they may have been of little consequence. We say this as we are astonished to note that, while the strength of the Kyoto Protocol lies in the fact that 191 out of 192 of its parties have ratified it (with the notable exception of the US), its Clean Development Mechanism (CDM) (pursuant to Article 12 of the Kyoto Protocol) has only resulted in a 1% containment of global CO2 levels. See Goldthau, A. and Witte, J.M. (eds.) *Global Energy Governance: The New Rules of the Game*, (Brookings Institution Press, 2010, at p. 146).

[10] We shall be referring to fossil fuel/hydrocarbon-based fuel as 'conventional' energy sources throughout the present paper.

[11] See www.un.org/special-rep/ohrlls/sid/list.htm.

[12] For a call to change the current approach to climate change mitigation and to suggest that major economies be more active in the fight against climate change, see Leal-Arcas, R. "Top-down versus Bottom-up Approaches for Climate Change Negotiations: An Analysis," *The IUP Journal of Governance and Public Policy*, Vol. 6, No. 4, pp. 7-52, December 2011; Leal-Arcas, R. "The BRICS and Climate Change," *International Affairs Forum*, pp. 1-5, 2013.

[13] See "India Joins China in EU Aviation Emissions Scheme Boycott," *Bridges Trade BioRes*, Vol. 12, No. 6, 22 March 2012, International Center for Trade and Sustainable Development, where it is stated that 20 countries met in Moscow, Russia, in February 2012 to discuss the possible adoption of counter-measures (available at http://ictsd.org/i/news/biores/129175/).

[14] The inclusion of the aviation industry in the EU's ETS was suspended on 30 April 2013 on the basis that multilateral negotiations on aviation industry emission containment are currently taking place in other organizations (see: http://ictsd.org/i/news/bridgesweekly/158472/). For information regarding this temporary suspension, see European Parliament, "CO2: MEPs want ETS exception for intercontinental flights and progress in ICAO," Press release, 26 February 2013, available at http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2f%2fEP%2f%2fTEXT%2bIM-PRESS%2b20130225IPR06039%2b0%2bDOC%2bXML%2bV0%2f%2fEN&language=EN. For an analysis of the inclusion of aviation in the EU's ETS, see Leal-Arcas, R. "Unilateral Trade-related Climate Change Measures," *The Journal of World Investment and Trade*, Vol. 13, No. 6, pp. 875-927, 2012.

unilateralism were necessary, if not justified, given the urgency that climate change caused and given the rather inadequate efforts of the international 'community' through its various relevant organizations, including the International Civil Aviation Organization.[15]

Having accepted that the threat of irreversible environmental degradation is real rather than imagined, and having understood that the political realities of interstate cooperation – namely the disparity of interests at play – are, to say the least, partly to blame for the lack of meaningful interstate action, it seems reasonable to expect that measures – be they unilateral or collective – aimed at climate change mitigation and adaptation ought to be systemically encouraged and supported. Such measures may be schemes at the domestic, regional, and/or interstate levels aimed at promoting the development and use of energy sources that are less polluting.[16] We have seen how the lion's share of GHG emissions derives from CO2 emissions that, in turn, are caused by, or linked to, the energy supply through the combustion of fossil fuels. Energy-related CO2 emissions reached 31.6 Gigatons (Gts) in 2012 – that is 31.6 billion tons of CO2[17].

Diversifying the global energy supply mix in a manner that increasingly draws from renewable sources could have far-reaching geo-economic and geo-strategic implications,[18] including the containment of GHG emissions to levels that

[15] On this issue, see http://ec.europa.eu/clima/policies/transport/aviation/index_en.htm, where it is stated that the EU had been pressing ICAO for more than 15 years to take meaningful action in relation to GHG emissions. Also at the same link, read the official EU narrative on this issue. The EU holds to the view, further to a December 2011 Court of Justice of the European Union case brought by some US airlines, that the inclusion of aviation in the EU ETS is compatible with the EU's international obligations (see case C-366/10).

[16] We shall be referring throughout this paper to such sources as renewable energy/renewables/renewable energy sources. In terms of what this term includes, we draw from how this concept is handled by the International Energy Agency (IEA) in its publications and periodical reports. See the FAQ page of the IEA, where it is stated that renewable energy is *"Energy derived from natural processes (e.g. sunlight and wind) that are replenished at a faster rate than they are consumed. Solar, wind, geothermal, hydro, and some forms of biomass are common sources of renewable energy"* (available at http://www.iea.org/aboutus/faqs/renewableenergy/). See also the 2012 IEA report, where the sort of energy sources that, for the purposes of this paper, we could aggregate together as 'renewable energy' are those that yield energy through the processing of: *'biofuels & waste', 'hydro', 'geothermal', 'solar', 'wind',* and *'heat'*. See International Energy Agency, 2012 Key World Energy Statistics, OECD/IEA, 2012 (at 6, at the legend to the 2010 pie-chart). Moreover, Article III of the International Renewable Energy Agency (IRENA) statute defines renewables to be: *"... all forms of energy produced from renewable sources in a sustainable manner, which include, inter alia: bioenergy; geothermal energy; hydropower; ocean energy, including inter alia tidal, wave and ocean thermal energy; solar energy; and wind energy".* In our view, certain energy sources that are more environmentally friendly due to their lower CO2 emissions when compared with fossil fuels – namely, biomass/biofuels – are rightly considered non-conventional energy sources. That said, given that they are produced by processing mainly plants that need to be replanted, strictly speaking, these sources are not *renewable* in the way that wind, solar, hydro, and geothermal are renewable. Despite this, we have also followed the practice of the IEA and IRENA to aggregate these too as *renewables.*

[17] See the executive summary to the IEA 2013 '*Redrawing the Energy-Climate Map'* World Energy Outlook Special report (at p. 1).

[18] See IPCC, 2011: Summary for Policymakers, in IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation [O. Edenhofer, R. Pichs-Madruga, Y. Sokona, K. Seyboth, P. Matschoss, S. Kadner, T. Zwickel, P. Eickemeier, G. Hansen, S. Schlömer, C. von Stechow (eds.)], Cambridge University Press, Cambridge: United Kingdom and New York, NY: USA (at pp. 4-26) for an exposition of the potential benefits of increasing the proportion of renewables in

would avert more costly future redress; the conservation of ecosystems and safeguarding the human, animal, and plant populations they sustain; more enhanced energy security for those States and groups of States that are net energy importers; and foreign relations that are less skewed by energy considerations. The scope of this paper relates to the implications of renewable energy for the environment, and how, therefore, measures taken to promote the development and take-up of renewable energy may engage the rules of the multilateral trade system.[19]

III. Facts and figures on renewable energy and its governance

The latest readily available global data compiled by the International Energy Agency (IEA) indicate that renewable energy sources made up 13.2% of the global energy supply mix in 2010, while conventional energy sources (oil, natural gas, and coal) made up 81.1% of the mix.[20] The figures for 1973 – the year used in successive IEA reports as a basis for comparison – were 12.4% and 86.7%, respectively.[21] In almost 40 years, the composition of the global primary energy supply has changed very little. Any reduction in the proportion of conventional energy sources has largely been replaced by the rise in the proportion of nuclear energy from 0.9% in 1973 to 5.7% by 2010.[22] While nuclear energy is an alternative energy source, it is far from environmentally friendly. As the disasters at the nuclear power plants of Chernobyl (Ukraine) in 1986 and Fukushima Dai-ichi (Japan) in 2011 tragically testify, nuclear energy poses nigh-apocalyptic consequences for human safety and the environment.

We fleetingly alluded to political realities (i.e., the disparate interests of States in preserving the *status quo* in relation to the primacy of conventional energy sources) that, generally, seem to undermine meaningful action to protect the environment. In relation to the global energy mix, there are other factors that stack the odds against the proliferation of renewables, such as pervasive fuel subsidies,[23] which have implications for conventional energy demand and, consequently retard the move towards a more environmentally friendly global

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the global supply energy mix. See also A. Ghosh, and H. Gangania, (2012) "Governing Clean Energy Subsidies: What, Why and How Legal?" International Centre for Trade and Sustainable Development (pp. 11-18) for an exposition of the various arguments for the promotion of renewable energy.

[19] A similar line of thought is to be found in Leal-Arcas, R. "Climate Change Mitigation from the Bottom Up: Using Preferential Trade Agreements to Promote Climate Change Mitigation," *Carbon and Climate Law Rev*, Vol. 7(1), pp. 34-42, 2013 (discussing how to promote climate change mitigation by using preferential trade agreements).

[20] Figures calculated based on data as these appear in International Energy Agency, 2012 Key World Energy Statistics, OECD/IEA, 2012 (at p. 6). During 2010, the global primary energy supply was 12,717 Million tons of oil equivalent (Mtoe). During 1973, it stood at 6,107 Mtoe.

[21] Ibid.

[22] Ibid.

[23] According to the IEA 2012 World Energy Outlook factsheet, *"[e]nergy subsidies – government measures that artificially lower the price of energy paid by consumers, raise the price received by producers or lower the cost of production – are large and pervasive. When they are well-designed, subsidies to renewables and low-carbon energy technologies can bring long-term economic and environmental benefits. However, when they are directed at fossil fuels, the costs generally outweigh the benefits*" (at p. 6). (http://www.worldenergyoutlook.org/media/weowebsite/2012/factsheets.pdf).

energy supply mix.[24] It should be noted that such conventional energy subsidies have been tolerated within the WTO system.[25]

In recent years, there has been an increase in subsidies directed at the promotion of renewable energy. The global figures for subsidies in the renewable energy sector increased from USD 39 billion in 2007 to USD 66 billion by 2010.[26] While this increase is laudable, the figures are eclipsed by the enormity of fossil-fuel-related subsidies that in 2010 stood at USD 409 billion.[27] The IEA projects that by 2035, a variety of positive developments could take place under its various policy scenarios, should renewables subsidies rise to USD 250 billion. For example, onshore wind could become competitive by 2020 in the EU and by 2030 in China,[28] and up to 3.4 gigatons – that is, 3.4 billion tons – of energy-related CO2 could be contained.[29]

At the interstate level, there are various initiatives that concern renewable energy. There are several intergovernmental organizations (IGOs) and/or supranational organizations – including the IEA, the EU, and the United Nations (UN) – whose remits to varying degrees concern renewable energy. What is more, there are numerous instances of interstate cooperation along the lines of transnational policy networks and discussions at summit meetings[30].

The most ostensibly renewables-related IGO is the International Renewable Energy Agency (IRENA),[31] which counts 116 member states (plus the EU in its own right) and another 44 in accession talks[32]. The declared purpose of IRENA is to promote the adoption and sustainable use of all forms of renewables in a manner that takes into account 'national priorities'[33]. IRENA lacks the power to make binding recommendations on its members and its members are under no obligation[34] to implement the advice they periodically receive from IRENA.

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[24] Howse, R. (2009), "World Trade Law and Renewable Energy: The Case of Non-Tariff Barriers," UNCTAD, (at p. 17); and J. Pershing and J. Mackenzie, "Removing Subsidies: Leveling the Playing Field for Renewable Energy Technologies," 2004, available at http://www.ren21.net/Portals/0/documents/irecs/renew2004/Removing%20subsidies.pdf.

[25] See Thomas Cottier's comments at the 2011 WTO public forum discussions on International Governance of Energy Trade: WTO and Energy Charter Treaty (available at http://www.wto.org/english/forums_e/public_forum11_e/programme_e.htm#session40).

[26] IEA 2012 World Energy Outlook factsheet (at p. 6).

[27] Ibid.

[28] Ibid.

[29] Ibid.

[30] See B. Sovacool and A. Florini, 'Examining the Complications of Global Energy Governance' (2012) 30(3) *Journal of Energy and Natural Resources Law*, and A. Steiner, T. Wälde, A. Bradbrook and F. Schutyser, 'International Institutional Arrangements in Support of Renewable Energy,' in D. Abmann, U. Laumanns and D. Uh (eds.), *Renewable Energy: A Global Review of Technologies, Policies, and Markets* (London: Earthscan, 2006, at pp. 152–165) for a rundown of such organizations and instances concerning renewable energy at the interstate governance/co-operation level. Some relevant examples are the Organización Latinoamericana de Energía, the World Council for Renewable Energies (the precursor to IRENA), the Inter-American Development Bank, the Organization of the Black Sea Economic Cooperation, the South Asian Association for Regional Cooperation, the Renewable Energy and Energy Efficiency Partnership, the Global Network on Energy for Sustainable Development, the International Institute for Energy Conservation, and the Global Energy Efficiency and Renewable Energy Fund (an EU associated scheme).

[31] See http://www.irena.org/menu/index.aspx?mnu=cat&PriMenuID=13&CatID=30.

[32] See http://www.irena.org/Menu/Index.aspx?mnu=Cat&PriMenuID=46&CatID=67.

[33] See Article II of the IRENA Statute.

[34] See Article IV(1)(a) of the IRENA Statute.

Having briefly referred to the instances of interstate co-operation concerned with renewables, we turn to another instance of interstate co-operation, albeit one with a very different mandate from those mentioned above, and with a much stronger normative effect – namely, the WTO. The WTO is the main component of the multilateral trade system since 1995. It evolved from the 1947 General Agreement on Tariffs and Trade (GATT), which it entirely incorporated. The WTO provides degrees of governance over the trade flows between its members to the extent that their policies and practices may engage WTO norms. We should also like to add that the WTO system is neither *expressly* concerned with energy trade in general, nor with renewables trade in particular. Unless expressly stated (for instance, there is a degree of divergence from standard WTO rules in the field of agricultural trade[35], trade in services[36] and, as had been the case, for clothing and textiles up to 2005[37]), WTO norms could potentially apply, and habitually apply, evenhandedly to all cross-border trade involving WTO members, including energy-related trade[38]. Consequently, cross-border trade in renewable energy goods and services that involve at least one WTO member is potentially within the WTO ambit.

The following section provides a *tour d'horizon* of the sort of WTO norms that have been, and might be, engaged by measures linked to the promotion of renewables, and a commentary on how the WTO system may generally countenance the promotion of renewables.

IV. The WTO and renewables

A. Initial remarks

The WTO system is inherently biased towards the objective of trade liberalization primarily through promoting market access.[39] Moreover, WTO jurisprudence has been effective in clarifying the content and application of WTO rules and, arguably, in discouraging unjustifiably discriminatory and/or non *bona-fide* trade-restrictive measures. Since the advent of the WTO, the multilateral trade system has been increasingly capable of balancing, among other things,

[35] See http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm3_e.htm for a rundown of the issues.

[36] WTO members are under no obligation to liberalize their services sectors. However, they are obligated to provide the same treatment to all WTO peers indiscriminately in relation to those sectors which they have previously liberalized in their respective Schedules of Commitments (see Articles II and XVI of the General Agreement on Trade in Services (GATS). What is more, WTO members are obligated, in relation to those sectors previously liberalized, to not discriminate between domestic service providers and those of their WTO peers (see Article XVII of the GATS).

[37] The Agreement on Textiles and Clothing (ATC), which permitted departures from the general WTO rules, terminated on 1 January 2005. Its expiry means that trade in textile and clothing products is no longer subject to quotas under a special regime outside normal WTO rules, but is now governed by the general WTO rules and disciplines.

[38] See R. Leal-Arcas and A. Filis, 'The Fragmented Governance of the Global Energy Economy: A Legal-Institutional Analysis, (2013) *Journal of World Energy Law and Business*, Vol. 6, Issue 4, pp. 1-58 (at pp. 21-22 and *passim*) and WTO, 'World Trade Report 2010: Trade in Natural Resources' (2010), for a more thorough exposition of the relationship between WTO and energy trade.

[39] See for instance the quintessence of the General Agreement on Tariffs and Trade 1994, the principal multilateral agreement of the WTO.

environmental protection objectives against those of trade liberalization in cases where tension arises.[40]

The WTO system does not handle general energy trade, or particular renewables trade, any differently from any other trade sector that is within its scope. In that respect, WTO norms apply to disputes or questions raised in connection with renewable energy. That said, the key objective that underpins the promotion of renewable energy – namely environmental protection – could amount to grounds that regulate how WTO norms are applied and/or, in certain cases, to grounds that displace those norms. For instance, the core obligations under the WTO system relate to the principle of non-discrimination, which is a fundamental pillar of the multilateral trade system, given that the system is predicated on the necessity for trade liberalization.[41]

While there have been calls for an energy-specific multilateral agreement to be adopted within the WTO auspices,[42] these have yet to result in a WTO agreement that is energy-specific. Arguably, the Energy Charter Treaty (ECT) – an international treaty relating to various aspects, including trade, investment, and

[40] See Leal-Arcas, R. and Filis, A. "Certain legal aspects of the multilateral trade system and the promotion of renewable energy," in Lim, C.L. and Mercurio, B. (eds.) *International Economic Law after the Crisis: A Tale of Fragmented Disciplines*, Cambridge University Press, forthcoming; also published as *Queen Mary School of Law Legal Studies Research Paper No. 166/2014*, pp. 1-37. See also Marceau, G. "The WTO's Efforts to Balance Economic Development and Environmental Protection: A Short Review of Appellate Body Jurisprudence," *Latin American Journal of International Trade Law*, Vol. 1, Issue 1, 2013.

[41] See the preamble to the Marrakesh Agreement Establishing the World Trade Organization (WTO Agreement), which states that: "*The Parties to this Agreement, Recognizing that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development;…Being desirous of contributing to these objectives by entering into reciprocal and mutually advantageous arrangements directed to the substantial reduction of tariffs and other barriers to trade and to the elimination of discriminatory treatment in international trade relations*...." (emphasis added).

[42] See T. Cottier *et al*., 'Energy in WTO Law and Policy' in T. Cottier and P. Delimatsis (eds.), *The Prospects of International Trade Regulation: From Fragmentation to Coherence*, Cambridge: Cambridge University Press, 2011 (at pp. 211-244); in relation to a speculative proposal for a Sustainable Energy Trade Agreement (SETA), see Kennedy, M. (2012), "Legal Options for a Sustainable Energy Trade Agreement," International Centre for Trade and Sustainable Development (ICTSD). Furthermore, see the following May 2013 ICTSD news-item: http://ictsd.org/i/news/bridgesweekly/162166/, reporting proceedings from a workshop held at the WTO Headquarters in Geneva, where several attendees commented on the need for the WTO system to better accommodate the promotion of renewables and energy particularities. We would add that such statements generally support the misperception that the current normative framework may be woefully inadequate. While we believe that guidelines based on the WTO rules and jurisprudence would be helpful to WTO members – imaginably, these could be drafted by the WTO legal division in cooperation with the WTO's Committee on Trade and the Environment, and any other relevant WTO organ – the rules and jurisprudence, as they currently stand, do not obstruct measures taken to promote renewable energy, so long as such measures are, generally, *bona fide*, not unduly discriminatory, and not unduly restrictive. It is therefore one thing to call for far-reaching – through, e.g., guidelines and clarifications – systemic encouragement of the scaling-up and taking-up of renewables, and quite another to attempt to do away with the existing safeguards in WTO rules and jurisprudence that seek to prevent abuse (e.g., discriminatory treatment and/or protectionism).

environmental protection, of its parties' respective energy sectors – may fit that bill. The ECT could appropriately be regarded as an interstate arrangement that arose out of the GATT/WTO system, given that the ECT was concluded as an alternative to previously unsuccessful efforts on the part of several developed net energy-importing WTO members to have an energy-specific agreement adopted within the WTO.[43]

In the absence of a specific energy-trade agreement, the WTO system and its multilaterally covered agreements are the principal structures that provide governance in cross-border energy trade, including cross-border renewable energy trade, to the extent that such trade flows involve a WTO member.[44] In addition, the multilateral trade rules that come to bear on such trade flows may further be enhanced by the rules contained in the WTO's *plurilateral* agreements so long as the WTO member(s) concerned have acceded to these and have, therefore, assumed that further layer of WTO obligation. An example of one such plurilateral agreement would be the Agreement on Government Procurement (GPA), to which a minority of WTO members are party,[45] and which may be relevant in instances, say, where a WTO member which is a party to the GPA takes some trade-distortive measure connected to government procurement.

For their part, measures aimed at the promotion of renewable energy can be highly varied[46] and, consequently, might each engage a variety of WTO norms; norms, however, that are not necessarily all applicable in every single case that involves a measure claiming to promote renewables. In that respect, any assessment of a measure's WTO compatibility would have to be performed on a case-by-case basis and in relation to the facts of each case. For instance, policy elements that encourage the use of locally sourced or assembled components (known in WTO parlance to be based on *local content requirements*/LCRs) as a condition for, say, a renewables-related subsidy may engage Article III GATT[47] and the Agreement on Trade-Related Investment Measures (the TRIMs

[43] See T. Wälde, *The Energy Charter Treaty: An East-West Gateway for Investment and Trade* (Kluwer Law International, 1996).

[44] The Agreement Establishing the WTO, signed in Marrakesh on 15 April 1994, sets the WTO's terms of reference. Annexes to this Agreement specify which the covered agreements are. The GATT is the principal multilateral trade agreement under the WTO concerning tradable goods. See the Agreement Establishing the WTO's Annex 1A. Note that Annexes 1 & 4 to the Agreement Establishing the WTO distinguish between 'multilateral' and 'plurilateral' WTO agreements, with the former binding upon the entire WTO membership, while the normative effect of the latter set relies on WTO members having specifically acceded to this class of international agreements. The entire WTO system is predicated on the core principle of non-discrimination by prohibiting discrimination along the following two axes: among WTO peers (Article I of the GATT) and among domestic and imported tradables (Article III of the GATT). Certain trade-distortive measures argued to have been taken to promote renewables may, and often do, engage any, or both, of these twin aspects of the non-discrimination principle.

[45] Currently there are 41 parties to the GPA, including all 28 EU members (with the Netherlands in its own right and on account of Aruba). Note that the EU is not a party in its own right to the GPA. (See http://www.wto.org/english/tratop_e/gproc_e/memobs_e.htm#pArt ies).

[46] In terms of the diverse typology of policy tools to promote renewables, see Ghosh, Arunabha and Gangania, Himani (2012) "Governing Clean Energy Subsidies: What, Why and How Legal?" International Centre for Trade and Sustainable Development (at pp. 20-26).

[47] However, there are exceptions to this when, for instance, the LCR relates to government procurement of which there is no subsequent commercial resale or other commercial use. Such LCR would be in line with WTO rules. (See Article III:1 and Article III:8 GATT).

Agreement)[48] in terms of the WTO agreements that bind all WTO members automatically by virtue of their WTO membership.[49] In fact, this has been the principal ground upon which an aspect of a Canadian pro-renewables policy was struck down as an unjustifiable breach of WTO rules.[50] Therefore, the issues that arise at the juncture of renewables-related policy and WTO obligations often engage questions on the treatment of imports.

Moreover, certain measures may rely on the subsidization of the renewables generation industry by financial incentives for market actors, and, say, by subsidizing partly or entirely the cost of technologies for households to generate renewable electricity. Those examples alone could illustrate how different WTO norms might be engaged; while there is little in the WTO rules to obstruct a government from assuming or otherwise supporting, say, the cost of renewable technologies for *households* to generate their own electricity, this is, generally, not the case, were a government to subsidize a specific sector in a manner that, by conferring a benefit to that sector, consequently, injures the domestic industry of another WTO member. Again, it would be necessary to examine all relevant aspects of a measure and its effect to establish whether imports are indeed injured and whether this may be justified under WTO rules. The Agreement on Subsidies and Countervailing Measures (SCM Agreement) defines what may be a subsidy, provides a typology of subsidies to list those that are *prohibited*, *actionable*, and *non-actionable*, and lists the available remedies.[51]

Building on the previous example involving households, another brief example of WTO incompatibility would be where a government financially supports only such households that install, say, domestically manufactured and/or assembled renewable energy technologies, given that, amongst other things, such a measure would clearly favor domestic producers/market actors, and thus disadvantage identical or substitutable imported goods vis-à-vis domestically produced goods. Such a measure would, on its face, be offending a principal tenet of the WTO system that *like* products, once over the border, be treated in a non-discriminatory manner, irrespective of whether they are imports or domestically-produced.[52] Such measures are unlikely to be permitted under the general exceptions (cf., Article XX of the GATT), given that, should imported goods do as

[48] The TRIMs Agreement is also an Annex 1A (to the Agreement Establishing the WTO) covered multilateral agreement and, therefore, binding on all WTO members. Paragraph 1(a) of the Annex to the TRIMs Agreement makes clear that trade-related investment measures requiring the use or purchase of domestic products are inconsistent with Article III GATT.

[49] That is to say, to the 'multilateral' agreements, as opposed to the 'plurilateral' WTO agreements that only bind those parties that opt in.

[50] See *Canada — Certain Measures Affecting the Renewable Energy Generation Sector* (WT/DS412/AB/R), and *Canada — Measures Relating to the Feed-in Tariff Program* (WT/DS426/AB/R). In the circumstances, the regional government of Ontario – for which Canada was responsible vis-à-vis the WTO – had a pro-renewables policy in place, which made the benefits of that policy conditional upon the use of locally sourced or assembled equipment on the part of the beneficiaries under that policy.

[51] The SCM Agreement is also a covered agreement listed in Annex 1A of the Agreement Establishing the WTO. Article 1 defines subsidies; Article 3 defines which subsidies are prohibited; Article 4 relates to remedies for prohibited subsidies; Article 5 relates to actionable subsidies; Article 7 to remedies for actionable subsidies; and Article 8 defines what type of subsidies may be non-actionable. For further details on how WTO subsidies provisions apply to renewable energy, see Leal-Arcas, R. *Climate Change and International Trade*, Edward Elgar, 2013, pp. 136-150.

[52] See Article III of the GATT.

good a job as those domestically sourced, the consequent discrimination may actually be mercantilist protectionism veiled by environmental protection pretexts.[53]

What is more, what often defines the outcome of a dispute before the WTO Dispute Settlement Body's (DSB) adjudicative organs – namely, at first instance, the Panel, and, on final appeal, the Appellate Body – are the issues that parties choose to raise along with how they choose to argue these, thus somewhat restricting the ability of the adjudicative bodies concerned to approaching the dispute in a more autonomously coherent manner.[54]

B. Environmental protection objectives and the WTO

Throughout Section IV, we shall be looking at the specific WTO norms that have been, and are likely to be, engaged by trade-distortive measures that WTO members may seek to argue have been taken to promote renewables. Before doing so, it may be helpful to briefly consider how environmental concerns have been handled within the GATT/WTO system since the beginning. Essentially, the GATT/WTO system is concerned with trade liberalization. Its advent was shortly after the end of World War II as part of broader efforts to formalize interstate cooperation along pro-market development lines during the Cold War. The GATT was agreed within the context of the 1944 United Nations Monetary and Financial Conference, at Bretton Woods, New Hampshire (United States), along with the other 'Bretton Woods' institutions – namely, the International Monetary Fund and the International Bank of Reconstruction and Development (commonly known as the World Bank). In that sense, its pro-market/pro-trade liberalization bias is inherent and systemic.[55] For the purposes of the GATT, all other policy objectives, while not unimportant, were relegated as systemically *external* considerations.

Within the GATT regime, the principal vehicle to accommodate other policy objectives – including environmental protection – has been Article XX of the GATT. This provision contains *general exceptions* to GATT/WTO obligations that, if applicable, may justify derogation on the part of WTO members. The grounds of derogation pertinent to the ecosystem are: Article XX(b), concerning measures *necessary* for the protection of human, animal and plant life or health; and Article XX(g), regarding measures *in relation* to the conservation of

[53] The Article XX general exceptions, if applicable, could allow WTO members to derogate from their core obligations under the GATT and potentially other covered agreements. Articles XX(b) and (g) are the exceptions evidently related to the ecosystem. Article XX(b) contemplates that trade-restrictive measures necessary to protect human, animal, or plant health or life could potentially be justified, and Article XX(g) contemplates that trade-restrictive measures taken to conserve exhaustible natural resources could potentially be justified. There is a wealth of WTO jurisprudence that further articulates the application of these two grounds. We shall refer to the relevant cases elsewhere in this paper. What is more, it is worth noting that the *chapeau* to Article XX conditions the application of the general exceptions to ensure that it is not used to offer protection to domestic industry or to discriminate between trade partners. Thus, the *chapeau* reiterates the non-discriminatory dual principle upon which the WTO system is predicated, namely Article I (most-favored nation treatment) and Article III (national treatment) of the GATT.

[54] See the Understanding on Rules and Procedures Governing the Settlement of Disputes (being Annex 2 of the Agreement Establishing the WTO), where Articles 7 & 17.6 suggest that the terms of reference of the Panel and Appellate Body, respectively, unless otherwise agreed by the parties in dispute, ought to follow the issues and pleadings of the parties.

[55] See the preamble to the GATT 1947.

exhaustible natural resources.[56] During the GATT era (i.e., in the pre-WTO era, before the conclusion of the Uruguay Round of trade negotiations, which resulted in the Agreement on the Establishment of the WTO in 1994), interpretations of Article XX had been very scarce.[57] This, however, changed with the advent of the WTO system.

The advent of the WTO system in 1995 also saw the inclusion of the notion of 'sustainable development' in the preamble of the Agreement Establishing the WTO (to which the GATT 1994 and all other covered agreements are annexed). Furthermore, in 2001, WTO members issued the Doha Ministerial statement, in which they affirmed the importance of 'sustainable development'[58] to the multilateral trade system. This is not an inconsiderable addition for the purposes of interpreting treaty obligations; the principle of effective treaty interpretation presumes that all relevant textual elements ought to be afforded what may be their appropriate weight in the circumstances.

1. US - Shrimp

The WTO's Appellate Body, in its determination of the *US-Shrimp* case,[59] expressly referred to the need to utilize the addition of 'sustainable development' in its determinations.[60] Gabrielle Marceau goes further to refer to this interpretative development, which has paid heed to the 'sustainable development' objective, as the: *"consecration of WTO Members' fundamental right to take measures to protect the environment…at a level they consider appropriate"* (emphasis added).[61]

A further development during the WTO years has been the establishment of the Committee on Trade and Environment (CTE)[62] – a deliberative and advisory body set up to examine the interplay between trade and the environment – created under the 1994 Ministerial Decision on Trade and Environment.[63]

In fact, in the WTO era, there have also been disputes resolved by the WTO's DSB adjudicative bodies that, in effect, have extended the level of environmental protection acceptable within the WTO. In the *US – Shrimp Turtle* case, it was confirmed that the meaning of GATT Article XX(g) notion of *exhaustible natural resources* had evolved to contain living beings (in that specific case, these being sea turtle populations). The Appellate Body did this by taking an evolutionary-teleological take on interpreting that notion. What is more, the interpretation of this notion was, to an extent, colored by extraneous

[56] For an analysis, see Abu-Gosh, E. and Leal-Arcas, R. "The Conservation of Exhaustible Natural Resources in the GATT and WTO: Implications for the Conservation of Oil Resources," *The Journal of World Investment and Trade* Vol. 14, No. 3, pp. 480-531, 2013.

[57] See G. Marceau, "The WTO's Efforts to Balance Economic Development and Environmental Protection: A Short Review of Appellate Body Jurisprudence," *Latin American Journal of International Trade Law*, Vol. 1, Issue 1, 2013 (at p. 293).

[58] WT/MIN(01)/DEC/1, (20 November 2001), at point 6 of the Declaration. See http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm.

[59] *United States — Import Prohibition of Certain Shrimp and Shrimp Products* (12 October 1998) (WT/DS58/AB/R).

[60] See the Appellate Body report, at § 153-155.

[61] G. Marceau, "The WTO's Efforts to Balance Economic Development and Environmental Protection: A Short Review of Appellate Body Jurisprudence," *Latin American Journal of International Trade Law*, Vol. 1, Issue 1, 2013 (at p. 294).

[62] See http://www.wto.org/english/tratop_e/envir_e/wrk_committee_e.htm for background information on the CTE.

[63] Accessible at http://www.wto.org/english/docs_e/legal_e/56-dtenv.pdf.

considerations, given that the Appellate Body examined other international agreements to which not all WTO members had been parties. This allowed the Appellate Body, in interpreting the obligations of WTO members, to take into account contemporary concerns expressed at the level of interstate cooperation.[64]

It is worth stating that the WTO adjudicative agencies have, on balance, adhered to the general international law rules on interpretation in a manner that has been consistent with general international law so as to give appropriate weight to agreements that are outside the WTO's scope. The Appellate Body has corrected interpretative errors at the lower adjudicative level,[65] thus not ceasing to regard treaty-based systems – such as the WTO – as being operative against the backdrop of general international law, and, might we add, thus not ceasing to regard the treaties themselves as anything other than *creatures*[66] of public international law.

2. US – Gasoline

The *US – Gasoline* case[67] is another seminal case illustrating the extent to which the WTO system may be amenable to environmental protection. While the case was resolved against the party who sought to rely on an Article XX(g) ground to derogate – namely, the US[68] – the case has important implications for environmental protection, given that the Panel in that case held that 'clean air', may, for the purposes of Article XX(g) be considered an *exhaustible natural resource*;[69] a finding subsequently upheld by the Appellate Body on appeal. It is an important development for environmental protection within the WTO system and jurisprudence. In fact, the Panel had drawn from previous (GATT era) jurisprudence, where resources capable of renewal –such as air and living organisms – had been considered *exhaustible natural resources* within the meaning of Article XX(g) of the GATT and, thus, that trade-restrictive measures in relation to their conservation or in order to protect the life or health of human, animal, or plant populations may be justified under Article XX(g).[70]

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[64] See the Appellate Body report in the *US-Shrimp* dispute, where it is stated that: "The words of Article XX(g) […] must be read in the light of contemporary concerns of the community of nations about the protection and conservation of the environment" (at §129). This is a fine example of *systemic integration*, where the entire international law edifice is approached cohesively and its elements sympathetically to one another. This systemically integrative approach had previously been confirmed by the Appellate Body in *United States – Standards for Reformulated and Conventional Gasoline*, 29 April 1996 (WT/DS2/AB/R), where the Appellate Body had stated that the GATT ought not be considered "*in clinical isolation of public international law"* (see p. 17 of the *US-Gasoline* Appellate Body report).

[65] See M. Fitzmaurice & P. Merkouris, "Canons of Treaty Interpretation: Selected Case Studies from the World Trade Organization and the North American Free Trade Agreement," in M. Fitzmaurice *et al* (eds.) *Treaty Interpretation and the Vienna Convention on the Law of Treaties: 30 Years On*, Leiden: Martinus Nijhoff Publishers 2010, Leiden (at pp. 234-237).

[66] See C. McLachlan 'The Principle of Systemic Integration and Article 31(3)(C) of the Vienna Convention, *ICLQ* Vol. 54, April 2005 [279-320], (at p. 280).

[67] *United States – Standards for Reformulated and Conventional Gasoline* (WT/DS2/AB/R).

[68] The Appellate Body found that the measure in question discriminated unjustifiably against imports and therefore did not satisfy the non-discrimination requirements of the chapeau of Article XX and of the remaining part of Article XX(g).

[69] See Panel Report, §. 6.37.

[70] In *US-Gasoline*, the Panel stated that: "the fact that a resource was renewable could not be an objection. A past panel had accepted that renewable stocks of salmon could constitute an exhaustible natural resource" (see §6.37, at p. 44 of the Panel report). The case cited by the Panel had been a GATT-era dispute, namely, the *Canada - Measures Affecting Exports of Unprocessed Herring and Salmon* (BISD 35S/98) (adopted on 22 March 1988), dispute in which herring and

What is more, in the *US-Gasoline* case, in finding against the US measure and thus disallowing its justification under Article XX(g), the Appellate Body clearly felt the need to reiterate that the specific finding does not compromise in any way the *autonomy* of WTO members to take environmental protection measures that may be trade-restrictive/distortive so long as they are WTO consistent, which largely means they are *bona fide* and non-discriminatory.[71]

It is worth noting at this point that, while, undoubtedly, there is a preference within the WTO system for multilateralism[72] in trade-restrictive measures taken in pursuit of legitimate objectives – including environmental protection – as the Appellate Body's comments in *US-Gasoline* suggest, this does not negate WTO members' right to autonomously – i.e., unilaterally – take such measures.[73]

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salmon were considered exhaustible natural resources for the purposes of Article XX(g). In that case, however, Canada could not cite Article XX given that it applied the measure in question discriminatorily in favor of the domestic fisheries processing industry. Note also that dolphins were considered exhaustible natural resources for the purposes of Article XX(g) as per the Panel report (not adopted) in the *United States - Restrictions on Imports of Tuna* dispute (DS29/R) (see §5.13).

[71] In *US-Gasoline*, the Appellate Body stated that: *"It is of some importance that the Appellate Body point out what this does not mean. It does not mean, or imply, that the ability of any WTO Member to take measures to control air pollution or, more generally, to protect the environment, is at issue. That would be to ignore the fact that Article XX of the General Agreement contains provisions designed to permit important state interests - including the protection of human health, as well as the conservation of exhaustible natural resources – to find expression. The provisions of Article XX were not changed as a result of the Uruguay Round of Multilateral Trade Negotiations. Indeed, in the preamble to the WTO Agreement and in the* [1994 Ministerial] *Decision on Trade and Environment there is specific acknowledgement to be found about the importance of coordinating policies on trade and the environment. WTO Members have a large measure of autonomy to determine their own policies on the environment (including its relationship with trade), their environmental objectives and the environmental legislation they enact and implement. So far as concerns the WTO, that autonomy is circumscribed only by the need to respect the requirements of the General Agreement and the other covered agreements"* (emphasis added) (WT/DS2/AB/R, at pp. 29-30).

[72] See Articles 1.1 & 2.4 of the Agreement on Technical Barriers to Trade (TBT Agreement). The TBT Agreement is also in the Annex 1A to the Agreement Establishing the WTO and, therefore, binding on all WTO members. See also the 1994 Ministerial Decision on Trade and Environment, where it is stated that there should be: "…adherence to effective multilateral disciplines to ensure responsiveness of the multilateral trading system to environmental objectives set forth in Agenda 21 and the Rio Declaration, in particular Principle 12." In relation to Principle 12 of the Rio Declaration, it relates to the 1992 UN Conference on Environment and Development, where participants declared their commitment: *"Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global problems should, as far as possible, be based on an international consensus*."

[73] Comments as appear in the above footnote. What is more, in the *US-Shrimp* case, the Appellate Body, while citing a list of WTO documents and other agreements in which a preference for multilateralism is articulated, stated that: "WTO Members are free to adopt their own policies aimed at protecting the environment as long as, in so doing, they fulfill their obligations and respect the rights of other Members under the *WTO Agreement…"* (at p. 71, Appellate Body report).

3. The SPS Agreement

The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement[74]) further contemplates the relationship between WTO trade obligations and environmental protection. It acknowledges that it may be appropriate for WTO members to take such trade-restrictive measures that seek to protect the life or health of human, animal, and plant populations within their territory (Article 2.1). The SPS Agreement tightly conditions recourse to justificatory grounds in order to prohibit its discriminatory application (Article 2.3), and to ensure that there is *some* scientific basis to such trade-restrictive measures (Articles 3.2 and 3.3). That said, it affords discretion to members to take measures that seek to offer a higher degree of protection than what may be possible, say, under international standards.[75] In other words, it is for members to determine the level of risk they are willing to assume. In the *European Communities – Measures Affecting Asbestos and Asbestos-containing Products* case,[76] the Appellate Body reiterated the prerogative of WTO members to determine the level of risk[77] so long as this exercise, predictably, is *bona fide* and not unjustifiably discriminatory in relation to the treatment of trade partners and of imports vis-à-vis domestic products.

4. The TBT Agreement

Another relevant aspect of the WTO system and measures taken in relation to a wide range of policy objectives is the Agreement on Technical Barriers to Trade (TBT Agreement). The general obligation under the TBT Agreement is that technical regulations taken on the part of members in pursuit of certain legitimate policy objectives not be unduly restrictive, discriminatorily applied, or otherwise improperly used. The TBT Agreement does not provide derogation grounds *per se* in the sense that Article XX of the GATT does. What it does is allude to a non-exhaustive list of legitimate objectives that may be behind a WTO member's technical regulation.[78] That said, in one recital in the preamble, it is made clear that WTO members preserve their rights in relation to, amongst other things, environmental protection.[79] What is more, the TBT Agreement systemically defers to the SPS Agreement for measures that may more appropriately fall within the scope of the latter.[80] Gabrielle Marceau considers that the TBT Agreement could potentially be more accommodative than Article XX of the GATT.[81]

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[74] The SPS Agreement is an Annex 1A (to the Agreement Establishing the WTO) multilateral WTO covered agreement, binding on the entire WTO membership.
[75] See Article 3.3 SPS Agreement.
[76] WT/DS135/AB/R.
[77] Ibid., at §168.
[78] Article 2.2 TBT Agreement.
[79] *"Recognizing that no country should be prevented from taking measures necessary to ensure the quality of its exports, or for the protection of human, animal or plant life or health, of the environment, or for the prevention of deceptive practices, at the levels it considers appropriate, subject to the requirement that they are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail or a disguised restriction on international trade, and are otherwise in accordance with the provisions of this Agreement"* (emphasis added).
[80] See Article 1.5 TBT Agreement.
[81] Marceau persuasively argues that: "*TBT Article 2.2 "provides a non-exhaustive, open list of legitimate objectives" and the complaining Member bears the burden of proving that the responding Member's objective is not legitimate. The practical effect of this difference is that some policy objectives that would not be permissible to justify a prima facie GATT breach through*

5. The SCM Agreement

A further pro-environment aspect of the WTO system is contained in the SCM Agreement, which permits, as non-actionable, such subsidies that are directly related to making existing industrial facilities more environmentally friendly.[82] Furthermore, under Article 8 of the SCM Agreement, government subsidies for, say, renewables research could potentially be acceptable so long as certain conditions are met to ensure it is not protectionism under the veneer of environmentalism.[83] Article 8, however, expired in 1999[84] and no new list of non-actionable subsidies appears to have been agreed upon.[85]

6. Discussion

All the above developments point towards a multilateral trade system that has evolved to its current WTO form to better and more meaningfully integrate non-core objectives – e.g., environmental protection – with its core trade liberalization objectives. And towards a system that affords, if not preserves, the necessary policy space for WTO members to continue to pursue a wider range of policy objectives, including those linked to environmental protection.

While it is evident from the above that the multilateral trade system has evolved to better accommodate environmental protection objectives, we have also witnessed a significant development in WTO jurisprudence to strengthen the safeguards against abuse.[86] This has happened to ensure that trade restrictive

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GATT Article XX will be admitted under TBT Article 2.2 as legitimate objectives capable of justifying technical regulations that create obstacles to trade. Already in the US – COOL dispute [i.e., *United States – Certain Country of Origin Labelling (COOL) Requirements, (WT/DS384/DS386)*], *an objective that would most probably not have come within any of the sub-paragraphs of GATT Article XX the US objective of providing consumers with information on the countries in which the livestock from which the meat they purchase is produced were born, raised, and slaughtered, was considered legitimate for the purposes of TBT Article 2.2*." G. Marceau, "The WTO's Efforts to Balance Economic Development and Environmental Protection: A Short Review of Appellate Body Jurisprudence," *Latin American Journal of International Trade Law*, Vol. 1, Issue 1, 2013 (at p. 311).

[82] See Article 8.2(c) of the SCM Agreement, which lays down the conditions for non-actionable subsidies, including that the environmental protection levels an existing facility seeks to meet be prescribed by law and that the subsidy not exceed 20% of the total cost of adaptation.

[83] See Article 8.2(a) of the SCM Agreement in relation to the conditions that emphasize the need for the benefit of any such subsidy to accrue to the beneficiary during the pre-competitive stage.

[84] See Article 31 of the SCM Agreement, which states that the provisions of Article 8 of the SCM Agreement, amongst others, shall apply not more than five years after the date that the Agreement on the Establishment of the WTO comes into force.

[85] See Ghosh, Arunabha and Gangania, Himani (2012) "Governing Clean Energy Subsidies: What, Why and How Legal?" *International Centre for Trade and Sustainable Development*, (at p. 39).

[86] There is a wealth of cases that contain findings that, in effect, regulate reliance on GATT Article XX. For the purposes of this paper, however, we are not drilling down to such level in this subsection, as we are mainly concerned with presenting aspects of the WTO system that are amenable to environmental protection objectives. Such cases are aspects of the *US-Gasoline*, which articulates the relationship between the measure and the policy objective it seeks to advance (the *means* and *ends* relationship); *Brazil — Measures Affecting Imports of Retreaded Tyres* (WT/DS332) and *Korea - Measures Affecting Imports of Fresh, Chilled and Frozen Beef* (WT/DS161/WT/DS169), which are concerned, amongst other things, with the necessary degree of proximity between the means and ends; and *China – Measures Related to the Exportation of Various Raw Materials* (WT/DS394/WT/DS 395/WT/DS398) in relation to analyzing the relationship between the means and ends to also examine when the measure in question was likely to have any positive impact for the objective cited by a State defending its trade-restrictive measure. See G. Marceau, "The WTO's Efforts to Balance Economic Development and Environmental Protection: A Short Review of Appellate Body Jurisprudence," *Latin American*

measures remain *bona fide* and that the multilateral trade system remains credible. There is a raft of cases relating to Article XX of the GATT derogatory grounds, where recourse to it has been disciplined to ensure that it is not abused. The adjudicative bodies of the WTO have sought to articulate what ought to be the relationship between a trade restrictive measure at issue and the GATT Article XX derogatory grounds cited. While such an exercise would depend on the actual Article XX paragraph(s) that a WTO member chooses to cite,[87] the chapeau to Article XX makes clear that such measures that are arbitrary and unjustifiable discrimination between WTO peers and/or disguised restriction on international trade may not be justified under Article XX.

While the purpose of the present paper is to discuss pro-renewable energy measures and their relationship to WTO rules, we have provided Section IV about environmental protection in relation to WTO rules,[88] as these are issues that we see frequently arising in disputes involving such measures.

C. The promotion of renewables and the WTO

This section makes reference to disputes at the WTO over subsidies for renewable energy.[89]

1. The *Canada Renewables* cases

Government measures connected to the promotion of renewables may be highly divergent. In the recent WTO disputes in which Canada responded to complaints raised by the EU[90] and Japan,[91] the pro-renewables measures that could be teased out of the facts of these cases were: the offer on the part of the provincial government of Ontario of financial support for those who fed into the electricity grid energy that was derived from renewable sources, and the favoring of local renewables technology manufacturing and/or assembling industries. In relation to

Journal of International Trade Law, Vol. 1, Issue 1, 2013 (pp. 297-300) for a recent rundown of the relevant cases.

[87] Note that the wording between groups of Article XX grounds (namely, the use of "necessary" in paragraphs (a), (b) and (d); "relating to" in paragraphs (c), (e) and (g); "in pursuance of" in paragraph (h); "essential" in paragraph (j); "for the protection of" in paragraph (f); and "involving" in paragraph (i)) varies, which suggests that its effect on the required degree of relationship between the objective behind the trade-restrictive measure and the measure taken may vary. See the Appellate Body's comments in the *US-Gasoline* dispute, where it refers to the significance of textual nuances (at pp. 17-19).

[88] See http://www.wto.org/english/tratop_e/envir_e/climate_change_e.pdf for a WTO take on the intersection between the WTO system and climate change. For a more general discussion on the link between trade and climate change, see Leal-Arcas, R. *Climate Change and International Trade*, Edward Elgar, 2013.

[89] On renewable energy and the WTO, see Rubini, L. "*Ain't Wastin' Time no More*: Subsidies for Renewable Energy, The SCM Agreement, Policy Space, and Law Reform," *Journal of International Economic Law*, advance access published 25 April 2012; Howse, R. (2009), "World Trade Law and Renewable Energy: The Case of Non-Tariff Barriers," UNCTAD/DITC/TED/2008/5; Howse, R. and Eliason, A. "Domestic and International Strategies to Address Climate Change: An Overview of the WTO Legal Issues," in Cottier, T. *et al*., (eds.) *International Trade Regulation and the Mitigation of Climate Change*, Cambridge: Cambridge University Press, 2009, pp. 48-93.

[90] *Canada — Measures Relating to the Feed-in Tariff Program*, (WT/DS426/AB/R). Appellate Body report published *in tandem* with *Canada — Certain Measures Affecting the Renewable Energy Generation Sector* (*Canada — Renewable Energy*) (WT/DS412/AB/R).

[91] *Canada — Certain Measures Affecting the Renewable Energy Generation Sector*, (WT/DS412/AB/R). Appellate Body report published *in tandem* with *Canada — Measures Relating to the Feed-in Tariff Program*, (WT/DS426/AB/R).

the latter, we say this because the offer of financial support[92] to those generating electricity through renewable sources (wind and solar means, in these particular cases) was contingent upon their drawing a substantial part (50-60%)[93] of the technological components from domestic manufacturers or assemblers. In that sense, these two distinct, yet linked, measures engage different aspects of the WTO. While the former measure may immediately call into question the consistency of a subsidy-like measure with WTO rules and, more broadly, of appropriate levels of government support and market intervention, the latter, most crucially, engages several WTO rules that relate to local content requirements (LCR).

The pleadings and findings in the *Canada-Renewable Energy* and *Canada-Feed-In Tariff Program* disputes brought to the fore a catalogue of matters engaged, including the WTO's core non-discrimination provisions (Articles I and III of the GATT) as well as provisions in the SCM Agreement, the GPA,[94] and in the Agreement on Trade-Related Investment Measures (TRIMs Agreement).[95]

The production of electricity through renewable means is less regular than through the combustion of hydrocarbons or through nuclear fission. Energy production through the harnessing of, say, solar and wind power is contingent upon weather conditions. There can be no steady production outside the vagaries of the weather. What is more, the cost of the necessary infrastructure makes this field of the renewables industry uncompetitive when compared with conventional energy production.[96] The short of it in relation to these cases is that the Appellate Body – having upheld some and having nullified other earlier findings by the Panel – ended up recommending that Canada abandon the LCR component of its measure as it found this to be, amongst other things, an unjustifiable breach of Article III of the GATT in relation to the non-discrimination principle that imported products be treated similarly to *like* domestic products (i.e., the 'national treatment' aspect of the non-discrimination principle that underpins the multilateral trade system).

The complainants had sought to have the measure examined primarily under the specific provisions in the SCM and TRIMs Agreements as they considered these to be the *lex specialis* applicable to the measure in question. Article 3.1(b) of the SCM Agreement expressly places subsidies contingent on LCRs in the prohibited category[97] and paragraph 1(a) in the Annex to the TRIMs Agreement makes clear that trade-related investment measures requiring the use or purchase of domestic products are inconsistent with Article III of the GATT. In that sense, both Agreements condemn LCRs. While no loophole exists in the SCM Agreement for measures containing LCRs, the TRIMs Agreement admits some

[92] Let us refer to this as the feed-in tariff and micro feed-in tariff contracts, as well as by the shorter 'FITs and micro-FITs contracts.'

[93] There are various figures ranging from 25% to 60%. However, from 2012, the range has been 50%-60%. See joint Appellate Report (at p. 18).

[94] As stated earlier, the GPA is a plurilateral agreement annexed to the Agreement Establishing the WTO. Canada and Japan are parties to the GPA. The EU is listed as a party *"with respect to its 28 member states"*, which suggests it is not a party in its own right. See http://www.wto.org/english/tratop_e/gproc_e/memobs_e.htm. In any event, the GPA has been cited in the Appellate Body report in side comments (pp. 50 & 58).

[95] The TRIMs Agreement is also an Annex 1A (to the Agreement Establishing the WTO) covered multilateral agreement and, therefore, binding on all WTO members.

[96] See §5.174 (at p. 124) of the Appellate Body joint report.

[97] Readily we see the prohibition of any subsidy that seeks to boost exports or substitute imports.

departure by its reference to Article III of the GATT. We say this because, while Article III of the GATT prohibits discriminatory treatment of imports vis-à-vis domestic products[98] and prohibits the use of LCRs,[99] it permits derogation in relation to government procurement so long as there is no subsequent commercial dimension to this procurement.[100] The Appellate Body rejected the argument that both of these instruments were somehow more specific to the measure and considered that the measure could appropriately be examined under Article III of the GATT. Also, the Appellate Body rejected the view that, when confronted with claims engaging all three instruments (namely the GATT, the SCM and TRIMs Agreements), it ought take into consideration and examine these in a sequence that promoted the last two.[101]

As one may expect, the Appellate Body report contains several nuanced interpretations over various matters, including terms from the GATT, the SCM and TRIMs Agreements and their respective jurisprudence.[102] It is outside the immediate scope of this paper to review these here. However, what we want to emphasize is that this report *does not* condemn pro-renewables policies or measures *per se*. What it does condemn are unnecessarily discriminatory practices that favor domestic commercial production. The measure was ultimately found to be inconsistent because it unjustifiably discriminated between domestic and imported products (under Article III of the GATT and, as a trade-related investment measure, also under Article 2.1 of the TRIMs Agreement); and not because preferential rates were paid to Ontario's renewable energy producers under their FIT and micro-FIT contacts.[103]

The Panel and the Appellate Body attempted to carry out an analysis under the SCM Agreement. The Appellate Body upheld the Panel's earlier finding that the payment of higher rates for renewables-derived electricity under the FIT and micro-FIT contracts had been a 'purchase of goods' for the purposes of Article 1.1(a)(1)(iii) of the SCM Agreement. However, in relation to satisfying the other aspect that a subsidy exists – namely, that there is a 'benefit' that may accrue to another (as per Article 1.1(b) of the SCM Agreement) – the Appellate Body was unable to carry out an assessment of 'benefit,' given, in this case, the complexities of establishing what is the likely market benchmark that ought to be used to assess what the 'benefit' had been in that particular case. Also, in assessing what may have been the 'subsidy' and its 'benefit,' the parties were concerned with those who benefited from the higher tariffs under the FIT and micro-FIT contracts – that is to say, the renewable energy producers – rather than the domestic producers and/or assemblers of the renewables' technology who, despite their being third parties, clearly benefited under the LCRs of the FIT and micro-FIT contracts vis-à-vis foreign producers and/or assemblers of such technologies. Eventually, there were sufficient grounds to find against Canada under Article III of the GATT.

[98] Article III:4 GATT.
[99] Article III:1 GATT.
[100] Article III:8 GATT.
[101] See §5.5, p. 84, of the Appellate Body joint report.
[102] Issues examined were, amongst others, the extent to which the measure amounted to government purchases, whether it had been for government purposes (nota bene: there was recourse to the French and Spanish version of the text of GATT 1994 to establish the meaning of 'purposes'), and what the conditions were which governed the government procurement.
[103] See §5.84, at p. 103, of the Appellate Body joint report.

Finally, the political reasons behind Canada's insistence to defend the LCR aspect of its measure – namely, regional job-creation – is a trade-restrictive 'externality' for the purposes of WTO rules that cannot be accommodated when it exceeds the limits afforded to WTO members under, amongst others, Article XX of the GATT, Article III:8 of the GATT, and Article 8 of the SCM Agreement. However, the objectives of job creation and of environmental protection are inherently different and, while the multilateral trade system has evolved to better accommodate environmental protection, this is not so in relation to job creation.

In *Canada—Renewable Energy* and *Canada—Feed-in Tariff Program*, the EU successfully complained against a renewables-related measure that offended its trade interests. In this joint case, the WTO rejected those aspects of a measure that were wholly unnecessary for the renewables cause *per se*. The LCR aspect of the policy favored domestic producers and disadvantaged importers in a manner that was protectionist, without substantially enhancing the renewables cause *per se*. For the party taking the pro-renewables measure in question, the negative outcome in that case cannot be said to be a defeat for the renewables cause, given that it neither discourages FITs nor does it discourage the take-up of renewables. Consequently, any accusation against the EU as applying double standards would be misinformed and unfair, given that the specific aspects of the EU policies that are the subject of complaints are qualitatively different, do not amount to protectionism of EU domestic production *per se*, are arguably far from being capricious, and, in the final analysis, are taken in a disinterested manner on the part of the EU and in the face of unabated environmental degradation.

2. Other WTO cases connected to renewable energy[104]

2.1) *China — Wind Power*[105]

In December 2010, the US requested consultations with China concerning certain measures it alleged benefited wind-power technology manufacturers in China.[106] The US contended, amongst other things, that such measures appeared to be contingent upon the use of domestically produced goods and, therefore, inconsistent with Article 3 of the SCM Agreement. The US argued that, as these measures appear to be subsidies that had not been notified to the WTO, they also breached, amongst others, Article XVI of the GATT regarding subsidies and Article 25 of the SCM Agreement regarding the duty to notify.[107]

A recountal of the case[108]

Although *China—Measures Concerning Wind Power Equipment* was amicably settled between the U.S. and China,[109] it is nevertheless relevant to discuss the

[104] This section refers to other renewable energy-related complaints that have engaged the WTO dispute settlement processes; however, not all cases necessarily resulted in determinations.
[105] WT/DS419.
[106] *China – Measures Concerning Wind Power Equipment*, Request for Consultations by the United States, January 6, 2011, WT/DS419/1; see also Office of the United States Trade Representative, "United States Requests WTO Dispute Settlement Consultations on China's Subsidies for Wind Power Equipment Manufacturers," Press Release, December 2010, available at http://www.ustr.gov/about-us/press-office/press-releases/2010/december/united-states-requests-wto-dispute-settlement-con.
[107] See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds419_e.htm.
[108] This section draws from Leal-Arcas, R. *Climate Change and International Trade*, Edward Elgar, 2013, pp. 147-150.

merits of this case. In December 2010, the U.S. filed a complaint against China before the WTO regarding certain measures providing public funds, grants, or awards to enterprises that manufacture wind power equipment. The U.S. argued that certain measures undertaken by the Chinese government in support of its wind power industry are contrary to Article 3 of the SCM Agreement. The U.S. complaint was based on a petition that was filed with the Office of the U.S. Trade Representative by the Steelworkers Union in September 2010 pursuant to Section 301 of the Trade Act of 1974.[110] In that petition, the Steelworkers Union complained of a wide range of policies undertaken by China to "stimulate and protect its domestic producers of green technology, from wind and solar energy products to advanced batteries and energy-efficient vehicles."[111] Their petition argued that these policies have permitted China to become the dominant global supplier of green technology, and have "drained manufacturing investment from the U.S. to China, transferred valuable technology and research and development activities to China, cost American workers the high-skilled green jobs of the future, and increased the U.S. trade deficit."[112]

The Steelworkers petition identified 5 categories of China's policies that, in their view, are contrary to WTO rules:

1) restrictions on access by foreign nations and firms to critical materials necessary for the manufacture of green technologies.[113] These include solar panels, wind turbines, advanced batteries, and energy efficient lighting. According to the petition, "China produces more than 90 percent of the world's supply of these minerals"[114] necessary for the production of these technologies, and "uses a variety of means to restrict exports of these materials to users in the U.S. and other countries;"[115]

2) the use of subsidies contingent on export or domestic content, such as subsidies for the manufacture and development of green technology that are conditioned on the use of domestic over imported inputs;[116]

3) discrimination against foreign firms and goods in bidding out the construction of wind farms and solar power plants;[117]

4) requirements for foreign companies to transfer technology, even if, when China joined the WTO in 2001, it committed not to ask foreign firms to transfer technology as a condition of making investment agreements with Chinese state-owned enterprises or financial institutions, or granting technology licenses to Chinese partners;[118] and

[109] See Office of the United States Trade Representative, "China Ends Wind Power Equipment Subsidies Challenged by the Unites States in WTO Dispute," Press Release (June 2011), available at http://www.ustr.gov/about-us/press-office/press-releases/2011/june/china-ends-wind-power-equipment-subsidies-challenged.

[110] Petition for Relief under Section 301 of the Trade Act of 1974, as Amended: China's Policies Affecting Trade and Investment in Green Technology, September 9, 2010, available at http://www.ustr.gov/sites/default/files/09-09-2010%20Petition.pdf.

[111] Ibid., p. 1.

[112] Ibid., pp. 1-2.

[113] Ibid., p. 2.

[114] Ibid.

[115] Ibid., pp. 2-3.

[116] Ibid., p. 3.

[117] Ibid., pp. 3-4.

[118] Ibid., p. 4.

5) the provision of domestic subsidies alleged to be trade-distorting, "including in the solar, wind, biomass, geothermal, hydropower, nuclear, advanced battery, alternative vehicle, and energy-efficient consumer product, sectors."[119]

The U.S. complaint addressed only category number 2, that is, the provision of subsidies contingent on export or domestic content.[120] It targeted measures which appear in regulations[121] that establish a special fund to support the wind power equipment manufacturing sector in China.[122] This fund is stated to be for the purpose of "encouraging corporate R&D activities on market demanded products,"[123] and it is purported that it will be allocated as "incentives instead of subsidies." [124] The U.S. complaint appears to focus, in particular, on the qualifications of wind power manufacturing companies applying for a grant from the fund, which are set out in Article 6(4) of the Appendix of the Management Regulations on Special Fund for Wind Power Manufacturing Sector in China, which requires that "the wind turbine component of blades, gearboxes and generators must be manufactured by Chinese companies or Chinese controlled stock companies. Converters and bearings manufacturing are encouraged."

The U.S. complaint alleged that the subsidies appear to be "prohibited subsidies" according to Article 3 of the SCM Agreement.[125] The complaint also alleged breaches of a number of provisions of the SCM Agreement (namely Articles 25.1, 25.2, 25.3, and 25.4) as well as Article XVI.1 of the GATT 1994 requiring the notification of subsidies.[126] Moreover, the U.S. also argued that China has breached the terms on which it acceded to the WTO which required translation of measures into one or more of the official languages of the WTO, thereby failing to comply with its obligation under Part I, paragraph 1.2 of its Protocol of Accession.[127]

The U.S.-China consultations took place in February 2011, when the Chinese government agreed to put an end to the special fund.[128] The dispute therefore concluded amicably. It is reasonable to say that the U.S. complaint seems relatively narrow, given that it dealt only with one of the many policies that the Steelworkers Union brought forward in its petition.

2.2) *US — Countervailing Measures (China)*[129]

In May 2012, China requested consultations with the US concerning countervailing duties that the US was levying on certain Chinese products, including renewable energy technologies, on the basis that they are state-owned

[119] Ibid., p. 5.
[120] USTR, "United States Requests WTO Dispute Settlement Consultations on China's Subsidies for Wind Power Equipment Manufacturers," available at http://www.ustr.gov/about-us/press-office/press-releases/2010/december/united-states-requests-wto-dispute-settlement-con.
[121] Ministry of Finance Document [2008] No. 476, "Management Regulations on Special Fund for Wind Power Manufacturing Sector in China," available at http://www.cresp.org.cn/uploadfiles/2/981/mof_476_eng.pdf.
[122] Ibid., Appendix, Article 1.
[123] Ibid., Appendix, Article 2.
[124] Idem.
[125] *China—Measures Concerning Wind Power Equipment*, WT/DS419/1, p. 1.
[126] Ibid.
[127] Ibid.
[128] Drajem, M. "China Agrees to End Wind-Power Subsidies After WTO Case, Trade Office Says," *Bloomberg* News, 7 June 2011, available at http://www.bloomberg.com/news/2011-06-07/china-agrees-to-end-wind-power-subsidies-after-wto-case-trade-office-says.html.
[129] WT/DS437.

enterprise products with subsidized inputs on the part of the Chinese government. China also challenged the US Department of Commerce's presumption that enterprises with majority government ownership ought to be treated as *public bodies* for the purposes of WTO rules.[130] China claimed that the measures in question infringed upon the following provisions: Article VI of the GATT; Articles 1, 2, 11, 12, and 14 of the SCM Agreement; and Article 15 of the Protocol of Accession of China to the WTO. A Panel was established in September 2012 and its composition was determined in November 2012. The Panel report was circulated to WTO Members in July 2014.[131]

2.3) *EU and a Member State – Importation of Biodiesels*[132]

In August 2012, Argentina requested consultations with the EU and Spain concerning certain measures affecting biofuel imports into the EU and how related data collection practices discriminated against certain biofuels imports. Argentina claimed the measure was inconsistent with, amongst others, Articles III and XI of the GATT as well as Article 2 of the TRIMs Agreement. In December 2012, Argentina requested a panel be established, which was then deferred by the DSB.

2.4) *US – Countervailing and Anti-Dumping Measures (China)*[133]

In September 2012, China requested consultations with the US in relation to US measures that affected, amongst other Chinese exports, wind-power technologies. These measures related to the following: US legislation that permitted the application of countervailing measures (i.e., a type of trade-balancing remedy permissible, subject to conditions, under WTO law) to tradables from 'non-market' economies; the countervailing duties pursuant to that legislation; and to countermeasures taken by the US in relation to its subjective findings of dumping practices on the part of China. China claimed that the measures in question are inconsistent with the following provisions: Articles 10, 15, 19, 21 and 32 of the SCM Agreement; Articles VI, and X of the GATT; and Article 9 of the Anti-Dumping Agreement (ADA).[134] The DSB established a Panel in December 2012, which the WTO Director-General composed in March 2013. In March 2014, the panel report was issued and circulated to WTO Members. In April 2014, China appealed to the Appellate Body. In July 2014, the Appellate Body report was circulated to WTO Members. In July 2014, the DSB adopted the Appellate Body report and the panel report, as modified by the Appellate Body report.

[130] This is despite an earlier (nota bene: the report was circulated in March 2011) Appellate Body determination in a case brought by China against the US, where the Appellate Body reversed the Panel's interpretation of the term "public body" in Article 1.1(a)(1) of the SCM Agreement and found that a public body is an entity that possesses, exercises, or is vested with, governmental authority, and where it found that the US had acted inconsistently with Articles 1.1(a)(1), 10, and 32.1 of the SCM Agreement, in finding that certain State-owned enterprises constituted public bodies. See *United States — Definitive Anti-Dumping and Countervailing Duties on Certain Products from China* (WT/DS379).

[131] See https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds437_e.htm.

[132] WT/DS443.

[133] WT/DS449.

[134] The ADA is officially listed as the *Agreement on Implementation of Article VI of the GATT 1994* and is an Annex 1A (to the Agreement Establishing the WTO) multilateral agreement binding on all WTO members.

2.5) *EU and Certain Member States – Renewable Energy Measures*[135]

In November 2012, China requested consultations with the EU, Greece and Italy in relation to certain measures, including domestic content restrictions that affect the renewable energy generation sector relating to the feed-in tariff (FIT) programs of EU Member States, including Italy and Greece. China cited ten separate pieces of EU and Member State legislation that it claimed affected its trade interests. Amongst the WTO rules cited by China are the following: Articles I and III of the GATT; Article 3.1(b) of the SCM Agreement; and Article 2 of the TRIMs Agreement.

2.6) *India – Solar Cells Measures*[136]

In February 2013, the US requested consultations with India in relation to certain measures linked to renewable energy generation in India that contained a local content requirement for solar energy technologies. On the face of it, this measure would injure *like* imports as it encouraged use of domestic components. The US claims that this is inconsistent with: Article III of the GATT; Article 2 of the TRIMs Agreement; Articles 3, 6, and 25 of the SCM Agreement, and that it directly or indirectly nullifies or impairs the benefits that accrue to the US due to India's and its own WTO membership.

In February 2014, the US requested supplementary consultations concerning certain measures of India relating to domestic content requirements under "Phase II" of the Jawaharlal Nehru National Solar Mission for solar cells and solar modules. In April 2014, the US requested the establishment of a panel. The panel was composed in September 2014.

2.7) *EU and Certain Member States – Importation and Marketing of Biodiesel and Measures Supporting the Biodiesel Industry* (hereinafter '*EU-Biodiesel*')[137]

In May 2013, Argentina requested consultations with the EU and its Member States regarding the measures it felt affected the importation, marketing, and sale/demand of Argentinean biofuels in the EU. Argentina's request relates to two types of EU and Member State measures: (a) measures to promote the use of renewable energy and to introduce a mechanism to control and reduce GHG emissions; and (b) measures to establish support schemes for the biodiesel sector. Argentina considers that the measures in question are inconsistent with, amongst others, Articles I and III GATT; Articles 1, 2, 3, 5, and 6 of the SCM Agreement; Article 2 of the TRIMs Agreement; and Articles 2 and 5 of the Technical Barriers to Trade Agreement (TBT Agreement). Argentina referred to the TBT Agreement, which clearly expresses a preference for multilateralism[138] in that any technical barriers to trade – in this case, arguably, the EU's definition of *'sustainable'* – be based on international standards and not be more restrictive than necessary in addressing some legitimate objective(s) contemplated by the TBT Agreement.[139]

Argentina contests EU measures, and Member State implementation legislation pertinent to these, that define as 'sustainable' such energy sources that reduce GHG emissions by at least 35% when compared to fossil fuels. Its soya-related biofuels products reduce emissions by no more than 31%, thus not

[135] WT/DS452.
[136] WT/DS456.
[137] WT/DS459.
[138] See the interplay of Articles 1.1 and 2.4 of the TBT Agreement.
[139] Article 2.2 of the TBT Agreement.

qualifying under the EU definition. Argentina further challenges an EU measure requiring that certain fossil-fuel distributors also make available *sustainable* fuel through their distribution operations, given that its biofuels would be excluded. Argentina contends that this results in treatment less favorable for its own products.

1.1.1. Facts

As the Argentinian complaint *EU-Biodiesel*[140] attests, a range of WTO rules are potentially engaged by specifications, or other measures that affect the internal sale of imports, laid down by WTO members. The two principal aspects of the Argentinian complaint are that the 'sustainability' and GHG emissions savings requirements of the provisions on *biofuels* under the 2009 Renewable Energy Directive, and in relation to Member State implementation legislation and measures, are arbitrary and unduly disadvantage Argentinian exports. [141] Argentinian biofuels exports were considered by the EU to not achieve emission savings above 31%.[142] Moreover, the options open to Argentinian exporters to prove to the EU authorities the sustainability credentials of their exports were unsatisfactory and/or burdensome.[143]

The Argentinian government, among other things, complained that the EU's 35% emission savings requirement was arbitrary, not justified scientifically, and not based on a recognized international norm or standard. [144] It also complained about EU measures (pertinent to, among other things, the 2009 Renewable Energy Directive and Directive 2009/30/EC),[145] which require petrol companies that release fuels/diesel products for consumption to also release for consumption certain amounts of *sustainable* biofuels. Argentina asserts that the measures in question discriminate against Argentinian exports, given that they do not qualify for this classification. Consequently, Argentinian exports neither qualify to be included into the compulsory scheme that burdens downstream oil companies, nor do they qualify to benefit from the import duty reduction applicable to biofuel imports considered by the EU to be *sustainable*.[146] There were further complaints in the Argentinian notification document, but they were essentially about these two matters: the 35% emission saving requirement and the use of the term *sustainable*, for which Argentinian imports do not qualify.[147]

1.1.2. Legal issues

The Argentinian government felt that the goods in question – i.e., biofuels that qualify *vis-à-vis* its biofuel exports, which do not qualify under the EU rules – were sufficiently *alike* for the purposes of the WTO non-discrimination rules

[140] WT/DS459.
[141] See the notification of the complaint by Argentina (WT/DS459/1, at p. 3, 23 May 2013, Request for Consultations by Argentina) for the fuller account of the complaint.
[142] Idem.
[143] Ibid., at p. 10.
[144] Ibid., at p. 3.
[145] Amending Directive 98/70/EC as regards the specification of petrol, diesel, and gas-oil and introducing a mechanism to monitor and reduce GHG emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC.
[146] WT/DS459/1, at p. 9.
[147] Ibid., at p. 3.

(Articles I and III GATT) for them to be afforded less favorable treatment in a manner justified under WTO rules.

The Argentinian government felt that the measures in question appeared to be technical regulations that had trade-restrictive implications for Argentinian biofuel exports. Citing Articles 2.1, 2.2, 5.1, and 5.2 of the TBT Agreement, the Argentinian government argued that the measures amounted to unnecessary obstacles to international trade, given that they appeared to the Argentinian government to be more trade-restrictive than necessary to fulfill a legitimate objective. Argentina cited the TBT Agreement, which clearly expresses a preference for multilateralism, to make the point that any technical barriers to trade be based on international standards.

In relation to the requirement that petrol downstream companies make biofuels available, and to certain aspects of the tax reduction policies of the EU and its Member States, Argentina argued that, given that only EU-produced biofuels appeared to qualify for these, these measures also amounted to *prohibited*[148] and to *actionable*[149] subsidies within the meaning of the SCM Agreement.[150] Argentina also felt that another aspect of a (Polish) measure that affected the internal marketing and sale of biofuels amounted to an investment measure that violated obligations under Articles 2.1 and 2.2 of the TRIMs Agreement.[151]

1.1.3. Analysis

The complaint is in the consultations stages between the parties. Any discussion below is speculative and based on the brief outline of the arguments in Argentina's complaint notification[152] and in analyses of the issues by others elsewhere.

Invariably, an appraisal of these claims would depend on a determination of whether the products in question are sufficiently *like* in order to subsequently assess whether any discriminatory treatment is, in the circumstances, justified. In that sense, determinations of products as *like* do not automatically lead to the conclusion that instances of unequal treatment between *like* products are unjustified, given that the Article XX GATT general exceptions and/or other considerations – e.g., under Article III:8 GATT – may also apply.

However, in this case, the products in question – namely biofuels that meet the EU sustainability and emission savings criteria, and biofuels that fail to do so – could be argued to be sufficiently *like* within the context of WTO norms. On the other hand, should the complaint come before a Panel within the context of the WTO's dispute settlement mechanism, the EU is likely to argue that the two products being compared are sufficiently distinct, given the emission savings and sustainability aspects of the biofuels that qualify. For instance, the emission saving aspects of products could set them apart and justify differential treatment argued on the basis on this distinction being related to the physical characteristics of the products – e.g., the level of emissions released following its combustion. However, biofuels sustainably sourced and those from land outside the scope of the EU definition of *sustainable* are not any different in so far as their physical

[148] Articles 3.1(b) and 3.2 of the SCM Agreement.
[149] Articles 5(b) and/or 5(c) of the SCM Agreement.
[150] WT/DS459/1, p. 6.
[151] Ibid., at p. 11.
[152] WT/DS459/1.

characteristics are concerned and, in such circumstances, the difference in the product to justify differential treatment is less evident.

The EU, for its part, may choose to argue that sustainable biofuels from conventional land (i.e., not under, or in need of, any natural conservation/protection regime) is sufficiently dissimilar to/unlike biofuels of uncertain or of problematic provenance. This would be a distinction of products argued in relation to differences in *process and production methods*. Arguing such grounds for differential treatment is a highly complex matter within WTO jurisprudence.

The notion of *similar* or *like* products is highly complex and adjusts to the specific circumstances in any given dispute. In fact, there has been an *accordion* analogy to highlight the flexibility of the notion of *like*.[153] In 1970, the GATT Working Party on Border Tax Adjustments, it its report, set out the basic approach for interpreting what are *like* or *similar* products, emphasizing that there should be a case-by-case approach to allow various considerations to be taken into account – including the product's end uses in a given market, consumers' tastes and habits, and the product's properties, nature, and quality.[154]

There is much controversy as to whether differential treatment of products on the basis of process and production methods (PPMs) could be in line with WTO norms, given that PPMs do not attach to the physical characteristics of products *per se.* On the other hand, the notion of *like* is not restricted to a primary or exclusive assessment of the physical characteristics of the products in question.

Shortly after the adoption of the 2009 Renewable Energy Directive, Andrew Mitchell and Christopher Tran published a scholarly paper on the WTO consistency of the 2009 Directive.[155] Among the various issues arising at the juncture of the Directive and WTO rules, they analyzed the potential created by the 2009 Directive for there to be differential treatment between biofuels that satisfied the Directive criteria and biofuels that failed to do so. They felt that treating products differently on account of their emission savings could potentially be justified. However, differential treatment based on a PPM – e.g., the land sustainability criterion – was most likely inconsistent with WTO rules, given that the two sets of biofuels were likely to come from two different sets of exporting countries and that there was likely, therefore, to be discrimination between WTO peers. While differential treatment may be justified under WTO rules, it should not discriminate between exporters (Article I GATT).[156]

Mitchell and Tran argue that the definition of what is 'sustainable' in the 2009 Renewable Energy Directive is a matter that engages the TBT Agreement and that, given the strong preference for international standards [157] and collaborative approaches to standards development where no international

[153] See the Appellate Body's comments in *Japan – Taxation on Alcoholic Beverages* (AB) (WT/DS8/AB/R), (at p. 21).
[154] See Report of the GATT Working Party on Border Tax Adjustments, 20 November 1970, L/3464.
[155] Mitchell, A. & Tran, C. "The Consistency of the EU Renewable Energy Directive with the WTO Agreements," *Georgetown Business, Economics & Regulatory Law Research Paper* No. 1485549, October 2009.
[156] Ibid., at p. 3.
[157] See Article 2.4 of the TBT Agreement, referring to international standards.

standards exist,[158] the 2009 Directive may be in breach.[159] What is more, the TBT Agreement states the necessity of a technical measure to meet an objective.[160] Therefore, Mitchell and Tran argue that the fact that the EU measure does not provide for some sort of *pro-rata* approach to the taxation of biofuel imports not fulfilling the criteria of the 2009 Directive illustrates that the measure may not be necessary when there appears to be a less trade-restrictive option (such as a *pro-rata* based measure for those imports that do not qualify).[161]

Some commentators have taken a less nuanced approach to PPMs, finding these to be unacceptable under WTO rules,[162] while others take a more nuanced approach by highlighting the various relevant developments within WTO law and practice.[163] The better opinion appears to be that which Potts advances in his thorough analysis of the relationship between PPMs and GATT, where he concludes:

> "*Our analysis of the relationship between PPM-based measures and the GATT suggests that not only is there no evidence of a legal rule against the use of such measures within the GATT, but even more, that the existence of such a rule would appear to be inconsistent with the essential logic applied in GATT jurisprudence to date…On the basis of existing GATT case law, PPM policies are fully permissible, so long as the basic non-discrimination requirements of the agreement are maintained. While such an understanding provides important inroads for the integration of sustainability interests within trade policy, it does nothing to address the systemic dis-equilibrium in the abilities of developed and developing countries to comply with specific PPM requirements."*[164]

As we have stated, the *EU-Biodiesel* complaint remains the subject of consultations between the parties involved and there is no progress reported so far.[165] However, we have presented the above to illustrate the sort of issues that the EU's environmental protection and, more specifically, its renewable energy policies have thrown up in relation to the extra-EU normative context, and to also highlight the complexity that exists at the WTO normative level.

2.8) *Recurring issues in renewables-related WTO cases*

An overview of the above complaints suggests that the commonest issue complainants raise is that some LCR aspect of a measure has been harmful to their industries and is unjustified under WTO rules. Other issues appear to be whether countermeasures taken to address dumping concerns have been justified in the circumstances, and whether some technical barrier exists – such as a definition

[158] See Article 2.5 of the TBT Agreement, referring to the need to consult with those particularly affected, along with a duty on the part of the party taking the measure in question to account for its measure.
[159] Mitchell & Tran (2009), (at p. 10).
[160] Article 2.2 of the TBT Agreement.
[161] Mitchell & Tran (2009), (at p. 12).
[162] See Cottier, T. *et al.*, "Energy in WTO law and policy," (at p. 20). Available at http://www.wto.org/english/res_e/publications_e/wtr10_forum_e/wtr10_7may10_e.pdf.
[163] See Potts, J. "The Legality of PPMs under the GATT: Challenges and Opportunities for Sustainable Trade Policy," International Institute for Sustainable Development, 2008, (cf., the notes to p. 1).
[164] Ibid., at pp. 35-36.
[165] http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds459_e.htm.

employed by a WTO member – that leads to less favorable treatment for imports. As we have stated, the above listed disputes, for the most part, are at the early stages of the dispute resolution process. However, there is WTO jurisprudence that, although not directly concerned with renewables, has implications for renewables within the WTO.

The issues that arise in the list of complaints above often hinge on whether *like* products are treated even-handedly. Articles III:2 and III:4 of the GATT refer to the obligation to treat *like* products in a non-discriminatory manner. Therefore, the first step in assessing whether less favorable treatment indeed exists is itself complicated by the need to establish that there is sufficient *likeness* between the products for an allegation to be legally relevant. What establishes *likeness* is determined on a case-by-case basis. While the competitive relationship between the products in question is clearly material to a determination of *likeness*, it is not the sole determinant, nor are all products in a strong competitive relationship with one another necessarily *like* products under the WTO rules.[166]

Likeness could potentially depend on a wide range of issues, including the physical characteristics of the products, end uses, consumer habits and sensibilities,[167] with the possibility that other factors may, in certain cases, also be relevant for establishing whether there is *likeness*. Once likeness has been established, the question is to then establish whether imports have been treated less favorably than domestic products.[168] In that sense, Article III of the GATT is aimed at preventing against protectionism[169] and, therefore, determinations of *likeness* cannot be restricted to an inflexible array of issues to be taken into consideration. *Likeness* considerations could be relevant to, say, complaints alleging that electricity produced through renewable means is treated more favorably than other products that exist in a competitive relationship and, on a number of parameters – including substitutability, physical likeness, and others – are sufficiently *alike.*

Potentially, an importer of electricity may argue that the higher tariffs paid to, or preferential price levels set by government for, renewable-energy domestic producers breach Article III of the GATT. Here there is a series of questions that would have to be addressed. For instance, are the electricity imports, which are alleged to be treated less favorably, *like* products for the purposes of Article III of the GATT? A determination of *likeness* could foreseeably focus on how this electricity has been produced. While a single unit of electricity is identical to any other unit of electricity – and, therefore, while the physical aspects of electricity may make electricity derived from different energy sources (e.g., conventional (fossil fuel), nuclear, or renewables) a *like* product – their production method may well make these sufficiently *unlike*.[170]

[166] See §99 (at p. 37) of the Appellate Body Report, *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R, adopted 5 April 2001.
[167] For instance, consumer sensibilities around the use of asbestos were held to be sufficiently material in establishing likeness in *EC-Asbestos* (WT/DS135/AB/R).
[168] See the report by the United Nations Conference on Trade and Development, World Trade Law and Renewable Energy: The Case of Non-Tariff Barriers, New York and Geneva, 2009, for a fuller analysis on this two-step test in the relevant WTO jurisprudence (at pp. 5-7, and *passim*).
[169] See Appellate Body report, *Japan – Taxation on Alcoholic Beverages*, (WT/DS8/AB/R), at p. 16.
[170] Howse, R. (2009), World Trade Law and Renewable Energy: The Case of Non-Tariff Barriers, 2009, UNCTAD, at p. 3.

It is worth noting that, in the Canada cases, the Appellate Body – albeit for the purposes of assessing what might be the appropriate market benchmark for an assessment of 'benefit' under Article 1.1(b) of the SCM Agreement – contemplated the differences between the electricity generation industries drawing from conventional sources and those drawing from renewables as being rather distinct.[171] In that respect, less favorable treatment towards electricity produced by conventional or nuclear means and that of electricity produced by renewables may be entirely justified under WTO rules if they are determined to be *unlike, so long as* domestically produced electricity derived by conventional or nuclear means is also treated in an even-handed manner. Otherwise, the complaint by foreign electricity producers could be structured on the less favorable treatment accorded to those *like* products – namely, imported electricity produced by conventional or nuclear means *vis-à-vis* domestically produced electricity produced by conventional or nuclear means, given that discriminatory treatment could then be said to exist between *like* products.

Other issues that appear repeatedly in the renewables-related complaints we have listed earlier relate to whether a particular measure actually amounts to a prohibited or otherwise actionable subsidy within the context of the SCM Agreement. Again, making such a determination relies on a thorough review of all relevant aspects of a measure. Does the measure involve some sort of material support on the part of a government to its domestic industry in a manner that is trade-distortive? In that sense, 'government' or 'public body' (or even a 'private body' where it is clear or imputed that it exercises some government-like functions[172]) and 'subsidy' have a specific meaning within the SCM Agreement; there must be some sort of 'financial contribution' [173] *or* price or income support;[174] it must confer a 'benefit' on the recipient;[175] and, unless it involves a subsidy that on its face is prohibited,[176] in order for it to be actionable, it would be necessary to establish that the subsidy is 'specific,' [177] that it has 'adverse effects'[178] on the trade interests of another WTO member, and that the level of support is above the permissible limits of Article 8 of the SCM Agreement.

Findings as to whether the above elements are present in a measure that is the subject of a complaint are not without their complexities. There would be little doubt that a measure aimed at the development of the renewables industries – e.g., by providing interest-free or low-interest loans to the domestic renewable energy technology industry – would be a clear case of a financial contribution that confers a benefit and that is specific to a particular industry. It is less clear on first

[171] See Appellate Body joint report, §5.174, at p. 124.
[172] See Article 1.1(a)(1)(i) & (iii) of the SCM Agreement.
[173] Article 1.1(a)(1) of the SCM Agreement.
[174] Article 1.1(a)(2) of the SCM Agreement. In relation to findings as to whether a financial contribution exists, it is not necessary for a State to be financially burdened or forego, say, tax income, given that the material support it gives may be indirect and, at the same time, fulfill the requirement of Article 1 of the SCM Agreement. See A. Jerjian, "The Feed-in Tariff Controversy: Renewable Energy Challenges in WTO Law," for a review of the relevant WTO jurisprudence relating to Article 1 of the SCM Agreement (at pp. 5-8), available at http://www.sielnet.org/Resources/Documents/SIEL%20CUP%202012%20highly%20comended%20%20-%20article%20by%20Jerjian.doc.
[175] Article 1.1(b) of the SCM Agreement.
[176] E.g. such subsidies designed to boost export performance or import substitution as per Article 3 of the SCM Agreement.
[177] Article 2 of the SCM Agreement.
[178] Article 5 of the SCM Agreement.

inspection whether it would be inconsistent with WTO rules. While such a measure would appear less likely, on the face of it, to amount to a prohibited subsidy aimed at export stimulation or import substitution *per se*, it is likely to be actionable under Article 5 of the SCM Agreement, should it have adverse effects on the trade interests of other WTO members; and should the level of support conferred by it be outside the permissible limits stipulated in Article 8 of the SCM Agreement.

We acknowledge that there may be various measures connected to the promotion of renewables that may infringe upon WTO rules; not only those measures that are linked to feed-in tariff renewables schemes. However, the relationship between FIT schemes and WTO rules seems to have attracted a fair amount of scholarly attention and scrutiny.[179] The purpose of this paper has been to present sufficient high-level background in relation to environmental protection and the WTO system in which to then situate the relationship between renewables promotion and the WTO system. The rules and jurisprudence appear to suggest that *bona fide* non-discriminatory measures linked to environmental protection objectives – including the promotion of renewable energy – are not actually blocked or otherwise discouraged within the multilateral trade system, particularly since the advent of the WTO.

V. Energizing the discussion

No discussion of climate change and sustainable development can fail to address energy, which plays a crucial role both in climate change mitigation as well as in achieving sustainable development goals. In this context, our world faces two major challenges when it comes to energy. For one thing, almost one person in five on the planet still lacks access to electricity,[180] and almost three billion people still use wood, coal, charcoal or animal waste—none of which are "clean" fuels—for cooking and heating.[181] Not only are such traditional energy sources inefficient and unreliable, they also have serious consequences for people's health. Combined with the fact that they mainly use three-stone fires and traditional mud stoves with no functioning chimneys, the resulting pollution levels are dangerous.

According to the World Energy Outlook, "As a consequence of the pollutants emitted by these devices, pollution levels inside households cooking with biomass are often many times higher than typical outdoor levels, even those in highly polluted cities."[182] The World Health Organization estimates that "nearly 2 million people die prematurely from illness attributable to indoor air pollution from household solid fuel use; Nearly 50% of pneumonia deaths among children under five are due to particulate matter inhaled from indoor air pollution; More than 1 million people a year die from chronic obstructive respiratory disease

[179] See, amongst others, A. Jerjian, 'The Feed-in Tariff Controversy: Renewable Energy Challenges in WTO Law.' Jerjian carries out an extensive analysis of how FIT schemes for renewables engage WTO rules. See also M. Wilke (2011) "Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules: An Initial Legal Review," Trade and Sustainable Energy Series, Issue Paper No. 4, International Centre for Trade and Sustainable Development.

[180] See http://www.se4all.org/our-vision/our-objectives/universal-energy/.

[181] See http://www.who.int/mediacentre/factsheets/fs292/en/.

[182] See www.worldenergyoutlook.org/resources/energydevelopment/energypovertyhealthwhocollaboration.

(COPD) that develop [sic] due to exposure to such indoor air pollution."[183] In fact, the number of premature deaths from household air pollution is greater than the number of premature deaths from malaria or tuberculosis.[184] With such serious repercussions for human health and the environment, it is no wonder that the lack of modern energy services poses a major obstacle to sustainable development, and, according to the United Nations (UN), it "is a major barrier to eradicating poverty and building shared prosperity."[185]

The other main global energy challenge is that, in places with access to modern energy services, the lion's share of energy usage stems from fossil fuels. In fact, the latest available data compiled by the International Energy Agency (IEA) indicate that conventional energy sources (fossil fuels such as oil, natural gas, and coal) made up 81.1% of the mix, while renewable energy sources made up only 13.2% of the global energy supply mix in 2010.[186] Burning fossil fuels, of course, results in emissions of GHGs such as carbon dioxide, and this contributes to global warming. Exploring alternative energy options—energy that is clean and efficient—is crucial.

In this sense, the two major energy challenges in the world today are closely tied, and the only way forward is to increase access to energy for all—but energy that is clean, efficient, and renewable. Continuing in the current vein is not an option. The UN is calling for *sustainable energy for all*, a vision based on three interlinked objectives:

1. Ensure universal access to modern energy services.
2. Double the global rate of improvement in energy efficiency.
3. Double the share of renewable energy in the global energy mix.[187]

This section examines two trade-related mechanisms for achieving these energy goals: (i) better governance of global energy trade—governance that promotes equitable access to resources and streamlined, efficient processes in the energy trading system; and (ii) strong trade support for green energy options such as renewable energy. The section examines the potential of both avenues for moving the climate mitigation agenda forward overall.

A. Stronger governance of energy trade

The nexus between energy and climate change encompasses a range of trade issues such as clean energy subsidies, carbon taxes, and border adjustment for carbon emissions. Thus far, the overall approach towards addressing the role of energy in climate change mitigation has involved finding incentives to reduce fossil fuel emissions. However, a more holistic approach towards achieving greener energy may prove more effective in the long run. In other words, arguably, we need more cohesive energy trade governance. International trade in energy spans a number of key policy areas, including trade, investment, economic

[183] See http://www.who.int/mediacentre/factsheets/fs292/en/.

[184] See www.worldenergyoutlook.org/resources/energydevelopment/energypovertyhealthwhocollaboration/.

[185] See http://www.se4all.org/our-vision/.

[186] Figures calculated based on data as these appear in International Energy Agency, 2012 Key World Energy Statistics, OECD/IEA, 2012 (at p. 6). During 2010, the global primary energy supply was 12,717 Million tons of oil equivalent (Mtoe). During 1973, it stood at 6,107 Mtoe.

[187] See http://www.un.org/millenniumgoals/pdf/SEFA.pdf.

development, and environmental protection, and currently, the international community does not provide cohesive governance over it.[188]

On the contrary, governance of energy trade arises by default, rather than design, through the *ad hoc* interplay of different aspects of the international economic system. This fragmented and multi-layered trade in energy governance regime for energy trade is perhaps not conducive to global energy security. Moreover, a more cohesive global governance system for energy trade would facilitate energy flows, avoid unnecessary legal disputes and provide predictability. This will require a thorough assessment of the elements, workings, and evolution of the current global energy trade governance regime.

At the international level, there is a patchwork of institutions that may have implications for cross-border energy trade, for example, the WTO, which provides governance over trade within its scope, including over energy trade. The WTO does not handle energy commodities any differently from other tradable commodities within its scope. In that sense, it provides energy trade governance by default. Another example is the EU. While the EU lacks the powers of a sovereign actor to diplomatically pursue its energy security in the manner that, say, China or the US may do, it does possess a comprehensive energy policy that is multifaceted and that makes good use of the powers that lie within its competences. Another such institution is the Energy Charter Treaty (ECT), whose principal concerns surround the investment protection and trade aspects of energy between contracting States.[189] Many other institutions exist that provide degrees of governance over aspects of trade in energy at the interstate level. This patchwork of institutions and regimes amounts to a sort of "accidental" energy trade governance, and presents some areas of overlap. For instance, both the WTO and the ECT have rules that apply to the trade, investment, and environmental-protection aspects of energy. These overlaps, however, in no way amount to cohesive governance of energy trade.

One explanation for the current fragmentation of the global energy trade regime, perhaps, is that it is developing progressively. For instance, in 1947 a number of sovereign actors came together to lay down arrangements for the General Agreement on Tariffs and Trade to provide multilateral trade governance. Some decades later, others came together to adopt the ECT to provide multilateral disciplines mainly for energy investments and, to a lesser extent, for energy trade.

Furthermore, sovereign States engage with one another to the extent that it is in their national interest to do so. Efforts within the EU, for example, to promote its collective energy security may be undermined by disparate energy realities between its members and also by exogenous factors such as global energy market conditions and competition by other global actors. In other words, a number of international institutions and global actors affect the global energy economies. There is an obvious diversity of interests, including conflicts of interests, at both national and international levels, and this plurality of actors and the diversity of energy interests illustrate the complexity present in energy trade governance.

[188] See generally Leal-Arcas, R. and Filis, A. (2013) "The Fragmented Governance of the Global Energy Economy: A Legal-Institutional Analysis," Journal of World Energy Law and Business, Vol. 6, Issue 4, pp. 1-58, Oxford University Press.

[189] See generally Selivanova, Y. (ed.) *Regulation of Energy in International Trade Law: WTO, NAFTA, and Energy Charter*, Kluwer, 2011, and Wälde, T. *The Energy Charter Treaty: An East-West Gateway for Investment and Trade*, Kluwer Law International, 1996.

The role of trade in promoting energy efficiency and raising the share of renewable energy in the global energy mix cannot be overestimated. For example, there is potential to incorporate energy-efficient provisions within regional and multilateral trade agreements; there are trade incentives to better manage competition and invest in technologies such as up-to-date energy grids; and possibilities for importing/exporting cutting-edge technologies through trade and bilateral cooperation agreements.

In this context, numerous bilateral arrangements on energy and climate exist. In fact, since the faltering of a global climate treaty, bilateral agreements aiming at reducing GHG emissions have increased exponentially. Examples of such agreements are the US-Mexico Bilateral Framework on Clean Energy and Climate Change or the Australia-EU Partnership Framework. These bilateral arrangements promote trade relations between parties, while incorporating approaches to clean energy promotion and climate change mitigation. One significant bilateral agreement in this regard is the Transatlantic Trade and Investment Partnership (TTIP). An initial EU position paper on raw materials and energy acknowledges that the multilateral trade system would "benefit from a stronger set of rules in the area of energy and raw materials," and suggests that the TTIP could make an important contribution to the development of this process. Areas where specific raw material and energy provisions could be developed include transparency, market access and non-discrimination, trade in sustainable energy, competitiveness, as well as energy security.[190]

It is worth determining to what extent such bilateral arrangements, as well as current energy trade rules (at WTO, Energy Charter Treaty, and UNFCCC levels, for example), enhance sustainable energy, and therefore climate change mitigation goals. If the TTIP or the Trans-Pacific Partnership (TPP) prove successful in enhancing trade relations while promoting sustainable energy, could their provisions be applied to a multilateral agreement on energy trade? Might an overarching General Agreement on Trade in Energy, or a Sustainable Energy Trade Agreement, be the next logical step?[191] Any such agreement would need to have a strong "environmental voice" so as to avoid merely facilitating energy flows without factoring in environmental impacts and promotion of more efficient and renewable energy. In other words, to quote Pascal Lamy, "trade regulations are not, and cannot be, a substitute for environmental regulations".[192] Any global energy trade agreement aiming at enhancing energy security along with environmental protection would need strong input from a major environmental forum such as the UNFCCC.

B. WTO's treatment of renewable energy

As mentioned earlier, the majority of our world's energy consumption is derived from fossil fuels. Diversifying the global energy supply mix in order to make greater use of renewable sources could have far-reaching geo-economic and geo-

[190] European Commission (2013), "EU-US Transatlantic Trade and Investment Partnership — Raw Materials and Energy." Initial EU position paper, EU Directorate-General for Trade.

[191] For more information on proposals regarding a Sustainable Energy Trade Agreement and Sustainable Energy Trade Initiatives, see ICTSD (2011), "Fostering Low Carbon Growth: The Case for a Sustainable Energy Trade Agreement," International Centre for Trade and Sustainable Development, Geneva, www.ictsd.ch.

[192] WTO (2007), "Lamy: Doha could deliver double-win for environment and trade." Obtained from http://www.wto.org/english/news_e/sppl_e/sppl83_e.htm.

strategic implications,[193] including: the containment of GHG emissions to levels that could prevent more costly future damage; the conservation of our planet's ecosystems and protecting the welfare of the human, animal, and plant populations they sustain; greater energy security for those States and groups of States that are net energy importers; and foreign relations that are less influenced by energy considerations. Trade can play a crucial role in this context, given that trade policy can be designed to promote and support renewable technology. However, such policies have also caused an increasing number of disputes at the WTO. Arguably, therefore, there is a need to examine WTO rules and work towards removing any systemic "obstacles" to the scale-up and take-up of renewable energy.

Certain measures, such as feed-in tariff schemes for renewable energy, have been the subject of dispute at the WTO, with their consistency with the Subsidies and Countervailing Measures Agreement, as well as national treatment obligations under the General Agreement on Tariffs and Trade and the Agreement on Trade-Related Investment Measures being called into question. With the share of renewable energy close to 20 per cent of global final consumption,[194] investment and innovation in the renewables sector are only set to increase. Is the WTO's "nature as a body focused on negotiated outcomes"[195] a plausible or effective mechanism for addressing disputes that are likely to arise with increasing frequency?

In spite of the associated controversy, in recent years, there has been an increase in subsidies aimed at promoting renewable energy. The global figures for subsidies in the renewable energy sector increased from USD 39 billion in 2007 to USD 66 billion by 2010.[196] While this increase is a positive sign, the figures are eclipsed by the enormity of fossil-fuel-related subsidies that stood at USD 409 billion in 2010.[197] The IEA projects that by 2035, under its various policy scenarios, should renewables subsidies rise to USD 250 billion, a variety of positive developments could take place, such as onshore wind becoming competitive by 2020 in the EU and by 2030 in China,[198] and the containment of up to 3.4 gigatons – that is, 3.4 billion tons – of energy-related carbon dioxide when compared with the current total energy supply fuel mix.[199]

In the fragmented world of renewable energy governance, the WTO has an important role to play, as complying with WTO policies can be a game changer in

[193] See IPCC, 2011: Summary for Policymakers, in IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation [O. Edenhofer, R. Pichs-Madruga, Y. Sokona, K. Seyboth, P. Matschoss, S. Kadner, T. Zwickel, P. Eickemeier, G. Hansen, S. Schlömer, C. von Stechow (eds.)], Cambridge University Press, Cambridge: United Kingdom and New York, NY: USA (at pp. 4-26) for an exposition of the potential benefits of increasing the proportion of renewables in the global supply energy mix. See also A. Ghosh, Arunabha, and H. Gangania, (2012) "Governing Clean Energy Subsidies: What, Why and How Legal?" International Centre for Trade and Sustainable Development (pp. 11-18) for an exposition of the various arguments for the promotion of renewable energy.

[194] UNEP (2013), "Renewable Energy—Trends, Challenges and Opportunities." United Nations Environment Programme, available at www.unep.org/greeneconomy/Portals/88/GETReport/pdf/Chapitre%206%20Renewable%20Energy.pdf.

[195] Wilke, M. (2011). "Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules. ICTSD Trade and Environment Papers, Issue Paper No. 4.

[196] IEA 2012 World Energy Outlook factsheet (at p. 6).

[197] Ibid.

[198] Ibid.

[199] Ibid.

promoting a shift to renewables. The WTO is also one of the few truly effective multilateral institutions when it comes to the enforcement of its legal mandate, thanks to an efficient dispute resolution system. Further, energy is not comparable to merely any tradable commodity; it is acutely needed and a source of great geopolitical tension and insecurity. The dynamics within which the WTO operates helps it to address this crucial political issue to a great extent. While trade is one of the many cards in global energy governance, the incentive it creates across the board has broad implications for global energy security and governance.

Trade in renewable energy entails both production and transmission aspects and therefore involves the regulation of both goods and services.[200] The technology demands of the energy sector also make intellectual property issues vital, which are a component of the WTO system under the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS). Therefore, the institutional mechanism of the WTO has a great role to play in securing global green energy governance.

1. Trade policy shapes green energy governance

Energy demands have rapidly increased since the time the General Agreement on Tariffs and Trade (GATT) was concluded in 1947 and the same is true for energy prices. For example, a barrel of crude oil was as cheap as US$20 at present prices.[201] In spite of this, there continues to be an absence of a trade agreement specific to the energy sector.[202] However, while the WTO's role in conventional energy security[203] is considered 'incidental, though not inconsiderable,'[204] it has a substantial role to play in the context of renewable energy. Considered against the background of an established framework (for example, most energy distribution systems are catered to conventional energy sources such as gas and oil) and a well-supported framework (for instance, through subsidies) within which

[200] While energy-containing resources such as coal, wind, *et cetera*, can be classified as goods, the treatment of 'energy' is debatable. For example, Gabrielle Marceau states that "we define energy as the action (product and process) through which energy-containing natural resources are transformed and consumed in response to a series of societal and individual human requirements for heat and power." See Marceau, G. 'The World Trade Organisation in the emerging energy governance debate' World Trade Report 2010, available at http://www.wto.org/english/res_e/publications_e/wtr10_forum_e/wtr10_marceau_e.htm. However, energy can exist in various forms such as electricity or nuclear power. Electricity, for example, is classified as a good under the Harmonised System Nomenclature [Thomas Cottier *et al*., 'Energy in WTO law and policy', available at http://www.wto.org/english/res_e/publications_e/wtr10_forum_e/wtr10_7may10_e.pdf] and so is the generation of electricity [Christina Voigt, 'Sustainable Development as a Principle of International Law: Resolving Conflicts between Climate Measures and WTO law', Martinus Neijhoff, (2009), p. 218].

[201] Pascal Lamy, 'Doha Round Will Benefit Energy Trade', Speech at the 20th World Energy Congress, Rome, Italy, (15 November 2007), available at http://www.wto.org/english/news_e/sppl_e/sppl80_e.htm.

[202] Pascal Lamy has emphasized the need for considering energy a separate sector. See Pascal Lamy, 'Doha Round Will Benefit Energy Trade', Speech at the 20th World Energy Congress, Rome, Italy, (15 November 2007), available at http://www.wto.org/english/news_e/sppl_e/sppl80_e.htm.

[203] Conventional energy refers to all forms of fossil fuel based energy, as opposed to renewable sources of energy.

[204] Rafael Leal-Arcas and Andrew Filis, 'The fragmented governance of the global energy economy: A legal-institutional analysis', *Journal of World Energy Law and Business*, Vol. 6, Issue 4, pp. 1-58, 2013.

conventional energies operate, shifting to renewable energy requires high incentives, which can be provided by WTO-compatible policies for renewables.[205]

The need to shift focus from fossil-based fuels and divert attention to green and sustainable forms of energy has been in vogue for some time.[206] The United Nation Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol established the requirement of reducing greenhouse gas (GHG) emissions for sustainable environmental protection 'in accordance with […] common but differentiated responsibilities.' [207] The policy tools to achieve this include enhancing energy efficiency; the promotion of renewable energy, carbon sequestration and green technology; and promoting sectoral reforms to encourage GHG emissions reduction.[208] At the national level, countries have set in place various mechanisms to achieve these objectives and move towards renewable energies.[209]

Two common initiatives undertaken at the national level to fulfil GHG emission responsibilities are the internalization of carbon emission costs and the introduction of green energy production support policies. However, as Peter Mandelson points out, a key imperative behind the Kyoto Protocol is the creation of an open global market and greater investment in green technologies,[210] which cannot happen in isolation. This has also been highlighted in the Rio+20 outcome document, "The Future We Want," which highlights "the role of foreign direct investment, international trade and international cooperation in the transfer of environmentally sound technologies."[211]

A clear set of rules in energy trade at the multilateral level (and also, realistically, at a bilateral level) will help energy-producing countries to find newer markets and help energy-consuming countries to find cross-border resources, thus creating greater energy efficiency, interdependence and stability. Implementing such measures within the WTO, therefore, is important firstly to promote national energy security and, more importantly, to create a uniform approach towards achieving global green energy security.

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[205] According to Yvo de Boer, if one takes into account the broader environmental costs of using energy from fossil fuels, generating energy from renewables is actually cheaper in the long run. Information gathered from Yvo de Boer, 'Can the international climate policy impasse be broken?' University College London Institute for Sustainable Resources Public Lecture, London, United Kingdom, (2 December 2013).

[206] Joe Leahy, 'Brazil: Wind gathers force in mix of renewable sources', (May 15, 2013), available at http://www.ft.com/cms/s/0/e1cd2bf0-b0d6-11e2-9f24-00144feabdc0.html#axzz2mjExW3q.

[207] Article 3.1 of the UNFCCC.

[208] Article 2.1(a) of the Kyoto Protocol.

[209] Nelson Hübner, 'Brazil's Wind Power Auction Spurs More Clean Energy Development', (29 December, 2009), available at http://www.renewableenergyworld.com/rea/news/article/2009/12/brazils-wind-power-auction-spurs-more-clean-energy-development; See also 'Government applauded over £40bn renewable energy support plans', (04 Dec 2013), available at http://www.clickgreen.org.uk/news/national-news/124070-government-supported-over-40bn-renewable-energy-support-plans.html.

[210] Peter Mandelson, 'Energy security and climate change – What role for trade policy?' (9 February 2007), available at http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&ved=0CEUQFjAC&url=http%3A%2F%2Feuropa.eu%2Frapid%2Fpress-release_SPEECH-07-73_en.pdf&ei=KZ3JUq7XEMyZhQeVuIDYBg&usg=AFQjCNHhiMuj80z97833ytNveMBBdGu22w&sig2=1GaRs0h-8unlHcmdAsUUjg.

[211] UN General Assembly, Resolution adopted by the General Assembly on 27 July 2012, "The future we want," A/RERS/66/288, 11 September 2012, at para. 271.

2. Renewable subsidies: Changing the playing field

Renewable energy forms a small component of the global energy mix. However, considering the environmental repercussions of using energy derived from fossil fuels, as well as the volatility of the conventional energy market, it makes sense to reduce the consumption of fossil fuels and redirect efforts towards deriving energy from renewable sources. Current high production costs, however, are an impediment and, in the absence of support mechanisms, renewable energy production is unprofitable. Further, fossil fuels enjoy more than one sixth the level of renewable energy subsidies,[212] which makes a robust subsidy system for renewables increasingly important.

In an effort to address these challenges, governments across the world have introduced renewable energy feed-in tariffs (FITs) to improve green energy efficiency, increase production, and advance research and development in green technologies. Also, by supporting and promoting renewable energy technology, new markets are created, along with new and sustainable jobs.

This begs the question: what are FITs? In a sense, they can be explained as a premium, generally above the market rate, provided to green energy generators, with an assurance to purchase electricity.[213] They are essentially a purchase guarantee agreement between the government and the energy producers. Therefore, FITs may be deemed as a government subsidy under Article 1 of the Agreement on Subsidies and Countervailing Measures (SCM) due to their providing a 'financial contribution.' However, the issue of subsidies under the SCM Agreement is not that simple and requires the fulfilment of complex conditions set out in the SCM Agreement.

3. Are feed-in tariffs subsidies?

To be classified as a subsidy, firstly the scheme must be a 'financial contribution' under Article 1.1(a)(1) of the SCM Agreement. Willkie identifies three ways in which FITs qualify as subsidies under Article 1 of the SCM Agreement.[214] When the 'financial contribution' is in the form of public funds directed to execute the FIT, it is a subsidy under Article 1.1(a)(1)(iii) of the SCM Agreement; where a program is financed by government but executed by a private body, it classifies as a subsidy under Article 1.1(a)(1)(iv) first clause of the SCM Agreement; and where the private body executes the FIT and the government raises resources through reallocation of different costs, it is a subsidy under Article 1.1(a)(1)(iv) second clause of the SCM Agreement.[215]

Further, a subsidy under the SCM Agreement can be provided by either a public body or a private body performing functions 'normally…vested in the government' and implementing 'practices normally followed by governments.'[216] As the Appellate Body in the *US – Anti-Dumping and Countervailing Duties* case[217] clarifies, it is not just 'control' but exercise of 'relevant authority and

[212] International Energy Agency (IEA), World Energy Outlook 2012, (12 November 2013), available at http://www.worldenergyoutlook.org/resources/energysubsidies/.
[213] Available at http://www.investopedia.com/terms/f/feed-in-tariff.asp.
[214] Marie Wilke, 'Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules: An Initial Legal Analysis', Trade and Sustainable Energy Series, Issue Paper No. 4, International Centre for Trade and Sustainable Development, November 2011.
[215] Ibid.
[216] Article 1.1(a)(1)(iv) of the SCM Agreement.
[217] *United States - Definitive Anti-Dumping and Countervailing Duties on Certain Products from China*, WT/DS379/AB/R.

responsibility'[218] that determines whether a body is public.[219] Therefore, private bodies deemed public are limited to the ones empowered to direct and entrust in similar capacity as the government does, subject to what qualifies as 'normal.'[220] This differentiation becomes important when one considers, for example, the *Canada - Renewables* cases.[221] In these jointly decided cases, the Ontario Power Authority (OPA), acting under the mandate of the Ontario Ministry of Energy and Infrastructure,[222] was entrusted with the responsibility of administering the FIT program through a standard set of rules, standard contracts and standard pricing.[223] However, it did not have the power to structure the program or direct private bodies. Moreover, OPA was neither a crown corporation,[224] nor a part of the Ministry of Energy or a public body as per the Ontario Ministry of the Environment,[225] even though most of the public regards OPA as a public body.[226] Therefore, in spite of retaining the control feature associated with earlier definitions of public bodies, the crucial element of authority was missing. Although OPA was considered a public body in this case, it creates a potentially dicey situation for the future.

The second requirement for considering a measure a subsidy is the occurrence of a 'benefit,'[227] which implies any treatment that is more favorable than would be offered under normal conditions.[228] FITs guarantee electricity purchase with prices above market standards and unnaturally long contractual durations; both of these guarantees go beyond normal market conditions and therefore account as benefits. However, it is worth bearing in mind that the market may already be distorted in the industry where the subsidy is offered. Fossil-fuel markets traditionally have been highly subsidized, so, in a sense, renewable-energy subsidies offset these existing market distortions.[229] Additionally, the advantage of conventional electricity is that the electricity grid is modelled to its nature, and integrating renewables into the existing electricity grid is a challenge in terms of cost and technological updates.[230]

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[218] Ibid., para. 294.
[219] Ibid.
[220] Robert Howse argues that this 'normal' function is not a delegation of governmental power, but a regulation of market behavior and transactions. See Robert Howse, 'Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis', *International Institute for Sustainable Development*, May 2010, available at http://www.iisd.org/pdf/2009/bali_2_copenhagen_subsidies_legal.pdf.
[221] *Canada — Measures Relating to the Feed-in Tariff Program*, (WT/DS426/AB/R) and *Canada — Certain Measures Affecting the Renewable Energy Generation Sector* (*Canada — Renewable Energy*) (WT/DS412/AB/R). The Appellate Body report contains both cases *in tandem*.
[222] Ontario Energy and Infrastructure Directive, 24 September 2009, FIT Direction.
[223] *Canada — Measures Relating to the Feed-in Tariff Program*, (WT/DS426/AB/R) and *Canada — Certain Measures Affecting the Renewable Energy Generation Sector*, WT/DS412/R; WT/DS426/R, para 7.67.
[224] Ontario Electricity Restructuring Act, 2004, Part II.1, Section 25.3.
[225] Annual Report of the Environmental Commissioner of Ontario 2006-2007 Supplement, "Reconciling Our Priorities," p. 148, available at http://www.eco.on.ca/uploads/Reports%20-%20Annual/2006_07/2007su.pdf.
[226] Idem.
[227] Article 1.1(b) of the SCM Agreement.
[228] Article 14 of the SCM Agreement.
[229] See for instance Alan Sykes, 'The questionable case for subsidies regulation: A comparative perspective', *Stanford Law and Economics Olin Working Paper* No. 380, p. 24.
[230] World Nuclear Association, "Renewable Energy and Electricity," available at http://www.world-nuclear.org/info/Energy-and-Environment/Renewable-Energy-and-Electricity/.

The *Canada — Renewables* cases also provide an interesting pointer in this regard. The Appellate Body (AB) emphasized the need for a market benchmark in determining a 'benefit.' The AB stated that both the demand and supply sides had to be considered for determining the relevant market against which such benefit benchmark is to be decided.[231] Pointing to the specific case, the AB stated that the governmental action led to the creation of a renewable market and thus the governmental action was not a subsidy as, without such intervention, the renewable-energy market would not exist in the first place.[232] The AB acknowledged the sovereign right to create an energy mix in reflection of long-term energy security policies.[233] While this decision potentially acknowledges energy security as an acceptable policy consideration, it simultaneously opens other trapdoors. Considering the demand side, if renewable and conventional energies are considered substitutable products, this may create new demands for subsidizing harmful conventional forms of energy other than oil and gas (e.g., shale gas) that may be deemed to require governmental support, considering the high initial operational costs. This situation would be detrimental to renewable energy security in the long run, as the introduction of environmentally harmful subsidies for conventional, polluting forms of energy over subsidies for clean energy would reduce the level of renewables in the energy mix. A better outcome would have been to introduce cleaner energy targets and thus be in line with the sustainable development objective found in the preamble of the Marrakesh Agreement.

Under the SCM Agreement, three forms of subsidies exist: prohibited,[234] actionable,[235] and non-actionable.[236] Subsidies are prohibited if they fall with any of the two conditions provided under Article 3 of the SCM Agreement. According to Article 5 of the SCM Agreement, actionable subsidies are subsidies which are not prohibited, but cause adverse effects to the interests of other WTO members. Further, Article 8 of the SCM Agreement considers the case of non-actionable subsidies.[237] While prohibited subsidies are automatically 'specific' as they contain a local content requirement or export requirement, for a measure to qualify as an actionable subsidy under the SCM Agreement it has to be specifically targeted to particular enterprises or industries and cannot be based on objective criteria.[238] In a plethora of recent cases, protectionist FITs with local content

[231] *Canada — Measures Relating to the Feed-in Tariff Program*, (WT/DS426/AB/R) and *Canada — Certain Measures Affecting the Renewable Energy Generation Sector* (*Canada — Renewable Energy*) (WT/DS412/AB/R), para 5.185.
[232] Ibid., para 5.188.
[233] Ibid., para 5.175.
[234] Part II of the SCM Agreement.
[235] Part III of the SCM Agreement.
[236] Part IV of the SCM Agreement.
[237] Although the SCM Agreement, as originally entered into force, had non-actionable subsidies as one of three categories of subsidies, this category was provisional for five years until December 1999, with the possibility of extending its application for a further period (See Article 31 of the SCM Agreement). As of 31 December 1999, no consensus had been reached in the WTO's SCM Committee for such an extension, which means that non-actionable subsidies have phased out. For further explanation of the SCM Agreement, see http://www.wto.org/english/tratop_e/scm_e/subs_e.htm.
[238] The word 'objective' has a special connotation under the SCM Agreement. Article 2.1(b), footnote 2 reads: 'Objective criteria or conditions, as used herein, mean criteria or conditions which are neutral, which do not favour certain enterprises over others, and which are economic in nature and horizontal in application, such as number of employees or size of enterprise.'

requirements have been prohibited under Article 3 of the SCM Agreement. However, the question remains whether FIT programs without local content can still be classified as subsidies; the AB has not clarified the situation, which creates problems for a transition to a greener energy economy under the WTO, as will be explained later.

Regarding specificity under Article 2 of the SCM Agreement, the language of the FITs assumes importance. Where the FIT scheme is extended to 'all' electricity producers who use green energy, it would not be a subsidy as, in this case, it would be extended without differentiating between two sectors: one releasing more GHG emissions due to the use of fossil fuels, and the other being the renewable sector, where emissions are negligent or low. This is opposed to the schemes benefit being extended to 'only' green source users. Therefore, inclusionary or exclusionary language would play a vital role in determining a 'subsidy.' However, the *US - Softwood Lumber IV* case[239] assumes importance in this context. In this case, the Panel noted that "the availability of a subsidy which is limited by the inherent characteristics of the good cannot be considered to have been limited by "objective" criteria […]."[240] While the amount and type of GHG emissions from 'traditional' and 'renewable' energy may be different, it is not clear whether this suffices for their being treated as different industries under WTO jurisprudence. Indeed, in the *Canada — Renewables* cases, the Appellate Body concluded that, in the retail electricity market, conventional and renewable energies are substitutable products.[241] However, considering not only the product itself, but also ancillary concerns like distribution networks, which are distinct for each of these forms of energy, a different conclusion could easily be drawn by another Panel or the Appellate Body. Marie Wilke draws on the decision of the panel in the *US - Upland Cotton* case to state that the determination of specificity is case-specific, which leaves uncertainty in the debate.[242]

In case of actionable subsidies, an adverse effect of the subsidies must finally be demonstrated. Where the complaint is a traditional energy supplier, an adverse effect on the industry would have to be proven. Ironically, the fossil-fuel market is highly distorted, making it a difficult task to demonstrate an adverse effect on prices based on the operation of the FIT program. A detailed factual data analysis is required under Article 6.3 of the SCM Agreement for a reasoned conclusion where a serious prejudice is claimed.[243] In this sense, the FIT is saved by the very evil that it fights.

Therefore, the answer to the question whether FITs qualify as subsidies under Article 1 of the SCM Agreement is not straightforward and largely dependent on the structure of the FIT in question, unless, of course, the benefits under it are subject to a local content requirement or export restrictions requirement. However, some clarity as to whether they indeed qualify as subsidies may be helpful for policy considerations. If they are subsidies, it may be possible to negotiate a different treatment for sustainable energy subsidies as opposed to

[239] *United States - Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada* (US - Softwood Lumber IV).
[240] Ibid, Panel report, WT/DS257/R, para 7.116, footnote 179.
[241] *Canada — Measures Relating to the Feed-in Tariff Program*, (WT/DS426/AB/R) and *Canada — Certain Measures Affecting the Renewable Energy Generation Sector* (*Canada — Renewable Energy*) (WT/DS412/AB/R), para. 4.3.
[242] *US - Subsidies on Upland Cotton*, WT/DS267/R, para 7.1142.
[243] *United States—Subsidies on Upland Cotton*, Appellate Body Report, WT/DS267/AB/R.

environmentally harmful subsidies. Or if indeed they are not subsidies, increasing renewable energy within the global energy mix can bring the goals of the Kyoto Protocol and the WTO to a greater alignment.

4. The case of local contents

It is interesting to note that recent disputes before the WTO involve the requirement of local contents in FIT schemes. The first WTO decision on the matter, the *Canada — Renewables* cases,[244] did not rule on whether the FIT program was a subsidy; instead, it decided that the local content requirement was discriminatory against imports. Following on its heels, the US initiated a consultation with India.[245] India prescribed domestic origin requirements in its Jawaharlal Nehru National Solar Mission program in order for producers to qualify for benefits of long-term tariff rates.[246] The US consultation provoked retaliation from India, which questioned the local content requirement in at least five of the US's state legislations.[247]

These disputes followed US action against Chinese wind power equipment in 2011, in which the US initiated consultation with China for requiring the use of local equipment in order to be eligible for benefits under its FIT.[248] While the measure in question was rolled back, the US brought anti-dumping charges against Chinese solar and wind products benefiting from domestic subsidies.[249] Political and national concerns over the development of domestic markets have, to a large extent, ruled over genuine environmental considerations and the promotion of global energy security. However, it can be argued that local content does build local energy security and attracts wide public support based on perceived nationalistic policies and job creation. These aspects are crucial if we consider how FIT schemes can hit a snag where consumers are the final bill payers of renewable energy costs. For example, Germany announced proposals to reduce energy subsidies, prompting fears of loss of competiveness due to the shale gas industry boom in the US.[250] Germany's energy bills are among the highest in the world.[251]

In developing countries, where the common man has to make ends meet, a lack of social incentives can make it very difficult for a government to push the case for renewables. Regarding China's case in its dispute with the U.S, it has been argued that, considering China's alarming air quality and its huge energy

[244] *Canada – Certain Measures Affecting The Renewable Energy Generation* Sector, WT/DS412/AB/R and *Canada – Measures Relating to the Feed-in Tariff Program*, WT/DS426/AB/R.
[245] *India - Certain Measures Relating to Solar Cells and Solar Modules*, WT/DS456.
[246] For further details about the case, see http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds456_e.htm.
[247] Tom Miles, '*India Questions U.S. Green Energy Incentives at WTO'*, *Reuters*, (17 April 2013), available at http://uk.reuters.com/article/2013/04/17/us-india-usa-trade-idUKBRE93G11U20130417.
[248] WT/DS419.
[249] Crystalline Silicon Photovoltaic Cells and Modules from China, Investigation Nos, 701-TA-481 & 731-TA-1190(Final), USITC Publication 4360 (November 2012) and Utility Scale Wind Towers from China and Vietnam, Investigation Nos. 701-TA-486 & 731-TA-1195-1196 (Final)] USITC Publication 4372 (Feb 2013), available at http://www.usitc.gov/trade_remedy/publications/opinions_index.htm#u.
[250] Jan Hromadko and Andreas Kissler, 'Germany Plans to Cap Renewable Subsidies,' *The Wall Street Journal*, (29 January 2013), available at http://online.wsj.com/news/articles/SB10001424127887323375204578269934082438240.
[251] Ibid.

demands, it is imperative that China develop a strong domestic industry in renewable goods.[252] This, however, is a fact-specific case, as only a few other major emerging economies (such as the so-called BRICs, namely Brazil, Russia, India, and China) will have potential for such surging economic growth or indeed meet their annual economic growth targets with such fortitude. Indeed, besides being trade-distortive, it is debatable to what extent local content requirements are effective in building domestic industry as compared to a competitive global open market. Of the 99 jurisdictions throughout the world which use FITs as of 2013, most do not have a local content requirement.[253] Considered in this context, FITs with local content requirements must indeed be dismissed as anomalies and trade-distortive attempts in an otherwise grand scheme.

5. Green Subsidy Fund

While FITs face SCM-compatibility issues, an alternative in the form of a WTO waiver system has been proposed.[254] Under this system, a Green Subsidy Fund under the UNFCCC system can be set up. Unless they are blatantly discriminatory, any subsidy reported to the Fund may be granted a full waiver from WTO rules. A continuous monitoring of the subsidies reported must be in place, with signatories benefiting from technology transfers and support systems.

6. Funding energy security through GHG emissions control

Joseph Stiglitz[255] considers the failure to penalize carbon emission costs a 'hidden subsidy.'[256] The atmosphere within a state's boundary is its resource over which it has proprietary rights. The state has a duty to implement various initiatives to protect it, including GHG emissions control and related taxes. Any failure to do so can be treated as a 'financial contribution' under Article 1.1(a)(1)(iii) of the SCM Agreement. Further, where the government was considered to be providing goods or services, any failure to charge for such resources where the state had proprietary right could be a violation of Article 1.1(a)(1)(i) of the SCM Agreement. The revenue generated from such negative subsidies can fund a shift to renewable energy. Even if such inaction is not considered a subsidy within the SCM Agreement, national governments can indirectly achieve GHG emissions control by redirecting valuable resources from fossil subsidies towards FIT schemes and developing renewable energy technology. The potential for such a measure can be

[252] Robert Howse, 'Climate Change, China and the WTO', Speech at Columbia University Law School, (30 March 2011), available at http://media.law.columbia.edu/specialevents/Climate_Change_Panel_110330_Gerrard.mp3.

[253] Liesbeth Casier and Tom Moerenhout, 'WTO Members, Not the Appellate Body, Need to Clarify Boundaries in Renewable Energy Support', International Institute for Sustainable Development, July 2013, p. 2, available at http://www.iisd.org/pdf/2013/wto_members_renewable_energy_support.pdf.

[254] Robert Howse, 'Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis', *International Institute for Sustainable Development*, May 2010, available at http://www.iisd.org/pdf/2009/bali_2_copenhagen_subsidies_legal.pdf.

[255] Ibid., at p. 6.

[256] That said, Stiglitz has been criticized by eminent commentators like Jagdish Bhagwati, who calls such hidden costs irrelevant under the SCM Agreement. See Bhagwati, J. and Mavroidis, P. 'Is Action Against US Exports for Failure to sign Kyoto Protocol WTO-Legal?' *World Trade Review* 6(2), (2007), 299-310, p. 300, footnote 3, and p. 302.

appreciated when we consider that the bill for fossil fuels subsidies globally was $ 1.9 trillion in 2011.[257]

Former WTO Director-General Pascal Lamy acknowledged the potential for such a move when he proclaimed the reformation of fossil-fuel subsidies and trade-related aspects of renewable energy as the most crucial, but under-addressed issue at the WTO.[258] Dale Andrew of the Organization for Economic Co-operation and Development also points out that full payment on fossil fuels will invariably create a competitive playing field for renewables and will foster energy security.[259] In this regard, an agreement in the energy sector may just be the missing piece of the puzzle for the WTO to help secure global energy accessibility.

7. General exceptions under GATT Article XX

The GATT's general exceptions under Article XX also present opportunities to develop renewable energy security. The 2006 World Trade Report of the WTO Secretariat recognized the 'in principle' application of Article XX to subsidies.[260] Considering that the SCM Agreement is a *lex specialis* to Article XVI of the GATT, this is not surprising. There is ample support that can be drawn for such a position.

Article II.2 of the Marrakesh Agreement states that all multilateral trade agreements are an integral part of the WTO. In this sense, the SCM Agreement and the GATT are agreements within Annex 1 of the Marrakesh Agreement. In *Korea - Dairy*, the Appellate Body recognized that the WTO is a single undertaking requiring simultaneous compliance.[261] Further, we should take into account former Article 8 of the SCM Agreement regarding non-actionable subsidies, which contained a list of non-actionable subsidies, including those related to environmental protection. Commentators have stated that, in spite of its non-renewal, there is an agreement among WTO members that certain subsidies are better not challenged.[262] Therefore, there is an indication that subsidies for good causes are permissible for certain grounds. Instead of other cumbersome exceptions on free trade being introduced in a *lex specialis* agreement, it is much better if such 'good' subsidies are made permissible and trade-compliant within the nuances of Article XX of the GATT.

Still, there has been some criticism of this approach. Commentators have noted that, while the Sanitary and Phytosanitary Measures (SPS) Agreement makes specific reference to GATT Article XX, no such pointers lie in the SCM Agreement.[263] The issue of Article 3.1 of the SCM Agreement is even more interesting. It creates an exception for certain prohibited subsidies under the Agreement on Agriculture, but fails to mention GATT Article XX. However,

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[257] International Monetary Fund, '*Energy Subsidy Reform: Lessons and Implications,' (28 January 2013), p. 13, available at http://www.imf.org/external/np/pp/eng/2013/012813.pdf*.

[258] Pascal Lamy 'Energy Policy and the WTO', (29 April 2013), available at http://www.wto.org/english/news_e/sppl_e/sppl279_e.htm.

[259] 'Energy Subsidies and the WTO' (30 April 2013), available at http://www.iisd.org/gsi/news/energy-subsidies-and-wto.

[260] World Trade Report 2006, Section II.D, pp. 65 ff, available at http://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report06_e.pdf.

[261] *Korea – Definitive Safeguard Measure on Imports of Certain Dairy Products*, Appellate Body report, WT/DS98/AB/R, para 74.

[262] Marie Wilke, 'Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules: An Initial Legal Review', Trade and Sustainable Energy Series, Issue Paper No. 4, *International Centre for Trade and Sustainable Development*, November 2011, p. 31.

[263] Ibid. p. 30.

considering the strong position for an integrated treatment of Annex 1 multilateral agreements in the Marrakesh Agreement, the spirit of Article XX is imbibed in all *lex specialis* agreements and, therefore, it can be argued that a specific reference is not mandatory.

However, as seen in recent decisions of the WTO's Dispute Settlement system, there appears to be an anomaly. In *China – Publications and Audiovisual Products*, the Appellate Body ruled on the applicability of GATT Article XX to non-GATT Agreements on the basis of a specific mention in China's Accession Protocol to the WTO.[264] The AB ruled that China had the right to regulate trade using GATT Article XX if it was done 'in a manner consistent with the WTO Agreement.'[265] However, in *China - Raw Materials*, the Appellate Body decided that, since the Accession Protocol had no reference to GATT Article XX, it would not be applicable.[266] Therefore, the jurisprudence surrounding the applicability of GATT Art XX to non-GATT disputes provides no clear pattern or answers. While environmental concerns in a predominantly trade-related agreement seem secondary, the above decisions provide some confidence that future WTO Dispute Settlement tribunals (panels and the Appellate Body) may give some consideration for sustainable development when ruling on the institutional framework of the Marrakesh Agreement.

The importance of GATT Article XX in protecting renewable subsidies where compelling environmental reasons exist cannot be overemphasized.[267] Considering the nascent development of renewable energy technologies, coverage by the exception under GATT Article XX would provide uniformity in decision-making as well as stability and assurance to investors. The applicability of GATT Article XX can be extended to both local content requirements under the FITs of least developed countries which want to finance the development of renewable technologies, as well as to cases of actionable subsidies. In either case, it has to satisfy either the GATT Article XX(b) or (g) conditions, along with the chapeau of GATT Article XX.

Since renewables ensure cleaner emissions than conventional energy, they help maintain clean air, which is an 'exhaustible natural resource' as per the Panel decision in *US – Gasoline*, and they are within the scope of GATT Article XX(g). Further, as opposed to fossil fuels with their high volumes of toxic emissions, renewables help protect human, animal and plant life, which makes them a 'necessity' under Article XX(b). Moreover, although alternative measures can be implemented for environmental protection, as per *Brazil – Retreaded Tyres*,[268] justifiable quantitative and qualitative evidence is sufficient for the existing measure to be 'necessary,' even if immediate impact is not visible. In addition, in *Korea – Various Measures on Beef*, the AB emphasized that WTO members "have the right to determine for themselves the level of enforcement of their WTO-

[264] WT/L/432, available at http://www.worldtradelaw.net/misc/chinaaccessionprotocol.pdf.
[265] *China - Measures Affecting Trading Rights and Distribution Services for Certain Publications and Audiovisual Entertainment Products*, WT/DS363/AB/R, para 233.
[266] *China - Measures Related to the Exportation of Various Raw Materials*, WT/DS394/AB/R; WT/DS395/AB/R; WT/DS398/AB/R, para 77.
[267] See International Economic Law and Policy Blog, "GATT Article XX and Domestic Production of Environmental Goods," posted by Simon Lester (3 April 2011), available at http://worldtradelaw.typepad.com/ielpblog/2011/04/article-xx-domestic-production-of-environmental-goods.html.
[268] *Brazil - Measures Affecting Imports of Retreaded Tyres*, WT/DS332/AB/R, para. 151.

consistent laws and regulations."[269] This can be in consideration of cost, feasibility and efficiency. Therefore, the exceptions under GATT Article XX can be a useful tool in securing accessible renewable energy.

The long-term effectiveness of subsidies has been disputed at times. This issue is, however, beyond the scope of the WTO. The use of subsidies may not address long-term incentives for energy efficiency, which is vital for energy security. For example, State aid for US corn-based ethanol production is less efficient than for production of alternative biofuels such as sugarcane, as corn-based ethanol production is more costly and leaves a larger carbon footprint. However, all these issues are secondary to the question of whether FITs are subsidies.

VI. Conclusion

The main barriers to the scaling-up and proliferation of renewables relate to the infrastructural costs that make energy production uncompetitive when compared with energy production based on conventional energy sources. This is a barrier that is certainly compounded by the long-standing subsidization of conventional energy sources. What is more, conventional energy source-related subsidies – amounting to up to 90% of energy subsidies – which, incidentally, negatively impact the ecosystem, are actually tolerated within the WTO system. Predictably, these are unlikely to be addressed in WTO litigation, given that these are popular measures among States, but also because demand for conventional energy sources exists to a large extent due to the distortive effects of such subsidization. For instance, if there were fewer conventional energy subsidies, at best, renewable energy may have been more competitive and therefore more viable; however, at worst, perhaps a larger part of the human population would have been denied access to affordable energy and would have been condemned to pre-modern standards of life.[270]

Our conclusion is that the main obstacles to the scale-up and take-up of renewable energy are not normative/institutional *per se*. Rather, they are economic. The only systemic 'obstacle' that the WTO presents is its requirement that measures not be disguised mercantilism and that they be applied even-handedly. The WTO system, as it stands, could, and does, accommodate *bona fide* non-discriminatory measures that promote the scale-up and take-up of renewable energy. After all, we see that it tolerates conventional energy subsidies, which certainly are not predicated on the general exceptions to WTO rules or other dispensations, as these appear in the covered agreements. That said, while the system, as it stands, is considerably flexible towards externalities such as environmental protection objectives, further trade liberalization remains the system's principal objective. This, however, does not happen in a policy-value

[269] Korea-Measures Affecting Imports of Fresh, Chilled and Frozen Beef, WT/DS161/AB/R; WT/DS169/AB/R, p. 54, para 176.

[270] Almost two billion people currently live without modern forms of energy such as electricity. That is nearly more than 1 in 4 people globally. See the World Bank Report '*Meeting the Challenge for Rural Energy and Development for Two Billion People'* at cover page 3, available at http://siteresources.worldbank.org/INTENERGY/Resources/Rural_Energy_Development_Paper_Improving_Energy_Supplies.pdf. Note that this report draws from a previous World Bank report (No. 16002, published on 30 September 1996) entitled *'Rural energy and development: improving energy supplies for two billion people, Volume 1,'* available at http://go.worldbank.org/G6ZXYV3ER0.

vacuum, given that the cause of trade liberalization is increasingly conditioned by environmental protection objectives.

Having said that, we acknowledge that confusion about how the WTO system may accommodate measures aimed at the promotion of renewable energy could strengthen the case for a separate specific agreement. However, such an agreement is likely to contain clarifications of, or even replicate the policy space that we believe currently exists within, the existing normative framework. As such, we believe it may be an unnecessary legislative step when its objectives (e.g., legal certainty) could be addressed by the adoption of an explanatory note containing clarificatory guidelines issued by the WTO Ministerial Conference[271] under its existing mandate and powers.[272] Such a note could contain an illustrative index/table with a series of examples of pro-renewables measures and their classification as *WTO-consistent* or *-inconsistent,* according to the policy motivation behind these (given that there may be a variety of policy objectives hidden behind these), their adverse effects, and the specific WTO rules that are engaged.[273]

In the meantime, one solution, as proposed by Nielsen, is to cover only those subsidies in the SCM Agreement that support renewable energy and green technology.[274] According to Nielsen, such an arrangement "would naturally have to include a limit on the magnitude of the subsidy so that the prices would not get overly distorted, but some minimal subsidisation could be allowed. The subsidies should of course not be linked to WTO-inconsistent local content measures or import substituting measures – so the subsidies to, for example, feed-in tariffs would not be actionable provided they were granted equally to green technologies irrespectively of where they are produced."[275]

As we have attempted to outline in this paper, the policy space appears to be preserved for WTO members to take measures to support environmental goals, including the promotion of renewables. This is particularly the case in the WTO era. Rather than finding fault with the existing normative framework of the multilateral trade system in relation to the further development and proliferation of renewables, we believe the obstacles to the promotion of renewables do not flow from some normative failure, but from the economics that underlie energy.

Finally, complaints within the context of WTO often hinge upon questions of compliance with WTO norms. The EU has found itself both in the position of complainant and respondent with regard to proceedings raised within the WTO's dispute settlement mechanism in cases involving measures linked to the renewables cause. One such case which has thrown up very interesting points of law in relation to the WTO system is the Argentinian complaint regarding the EU

[271] Article IV.1 of the Agreement Establishing the WTO.

[272] See Articles III, IV, IX, and X of the Agreement Establishing the WTO, which relate to the competences of the Ministerial Conference. The Ministerial Conference may either consensually or on the basis of a three-fourths majority - whichever may be required under the specific requirements of these provisions – adopt amendments to the agreements or interpretations of terms within the agreements.

[273] In fact, an excellent example, albeit one that considers these from a subsidies point of view, appears in Ghosh, A. and Gangania, H. (2012) "Governing Clean Energy Subsidies: What, Why and How Legal?" International Centre for Trade and Sustainable Development (at p. 41).

[274] Nielsen, L. "Trade and Climate Change — Establishing Coherence," in Evenett, S. and Jara, A. (eds.) *Building on Bali – A Work Programme for the WTO,* Centre for Economic Policy Research, London, UK, 2013, p. 151.

[275] Ibid.

biodiesel classification (*EU-Biodiesel*, WT/DS459). This case is particularly interesting, as it also raises the complex issue of discriminatory treatment of goods on the basis of PPMs.