Chapter 16
Climate Change and Trade: At the Intersection of Two International Legal Regimes

Kati Kulovesi

Abstract This chapter examines substantive and institutional linkages between the United Nations Framework Convention on Climate Change and the World Trade Organization. It focuses on identifying potentially sensitive areas in their relationship, including sustainability requirements targeting processes and production methods, as well as measures targeting carbon leakage and competitiveness concerns. It also discusses institutional and doctrinal challenges related to fragmentation of international law and highlights problems that could arise if a climate change related dispute was considered by the WTO dispute settlement system. The chapter concludes that the trade and climate regimes are increasingly relevant for each other and that they are not necessarily rivals – both could benefit from identifying and promoting unexploited synergies between the two regimes. However, closer cooperation and institutional coordination may be needed in the future in order to avoid mutually unhelpful institutional and legal clashes.

16.1 Introduction

Efforts are currently taking place under the United Nations Framework Convention on Climate Change (UNFCCC)[1] to strengthen international climate change cooperation. The number of countries implementing climate change mitigation policies continues to rise and climate change law expands. Ultimately, the battle against

Kati Kulovesi is Adjucnt Professor in Climate Law at the Department of Law, University of Eastern Finland. She holds a Ph.D. from the London School of Economics and Political Science.

[1] United Nations Framework Convention on Climate Change, 9 May 1992, New York, in force 21 March 1994, 31 *International Legal Materials* (1992), 849 (UNFCCC).

K. Kulovesi (✉)
Department of Law, University of Eastern Finland, PO Box 111, 80101 Joensuu, FinIand
e-mail: kati.kulovesi@uef.fi

E.J. Hollo et al. (eds.), *Climate Change and the Law*, Ius Gentium: Comparative Perspectives on Law and Justice 21, DOI 10.1007/978-94-007-5440-9_16,

climate change necessitates a fundamental transformation to a global low-carbon economy in the coming decades. This objective has, without a doubt, important economic implications. As Newell and Patterson indicate, "[i]n responses to climate change, we have the first instance of societies seeking a dramatic transformation of the entire global economy."[2] Many climate policies will have repercussions on the trade realm and are thus relevant from the point of view of the World Trade Organization (WTO) law. As a result, the territory shared between the UNFCCC and the WTO legal regimes is expanding. While both of these prominent international legal regimes have evolved significantly over the past 20 years, they have done so in a relatively comfortable insulation from each other. Their linkages, synergies and tensions are, however, becoming increasingly apparent.

Against this background, this chapter focuses on substantive and institutional linkages between the UNFCCC and WTO. It proceeds from the argument that a shift is taking place in attitudes towards the relationship between climate change and trade, bringing the two legal regimes closer together. It first studies substantive linkages between the UNFCCC and WTO regimes. It then analyses institutional issues, most notably potential role of the WTO dispute settlement system system in solving conflicts between climate change and trade. The chapter concludes that in terms of substance, the territory shared between the UNFCCC and WTO is already considerable and can be expected to expand in the future. In institutional terms, however, links between the two regimes remain weak. One of the key challenges is that WTO law and the WTO dispute settlement system are likely to dominate in disputes concerning linkages between trade and climate change. Addressing substantive fragmentation of international law through the WTO dispute settlement system is, however, far from ideal solution.[3] To avoid damaging conflicts, more attention to substantive synergies and institutional cooperation between the UNFCCC and WTO will be necessary in the future.

16.2 Climate Change and Trade: Shifting Attitudes

The relationship between climate change and trade remains subject to a rich debate. One of the most profound questions is whether it will be possible to reconcile trade and economic growth with the objective of avoiding dangerous anthropogenic climate change.[4] Not surprisingly, there are divergent views on this fundamental issue.[5]

[2] Peter Newell and Matthew Patterson, *Climate Change Capitalism: Global Warming and the Transformation of the Global Economy* (Cambridge et al.: Cambridge University Press, 2010), at 1.

[3] For detailed analysis, see Kati Kulovesi, *The WTO Dispute Settlement System: Challenges of the Environment, Legitimacy and Fragmentation* (The Netherlands: Kluwer Law International, 2011), at 261–267.

[4] UNFCCC, supra, note 1, Art. 2.

[5] For an useful overview of the spectrum of political views in the climate change debate, see Anthony Giddens, *The Politics of Climate Change* (Cambridge, UK and Malden, MA, USA: Polity Press, 2009), at 49 et seq.

For some, climate change strengthens the case against capitalism and the market economy. The 2010 World People's Conference on Climate Change and the Rights of Mother Earth in Bolivia highlighted capitalism as the cause of climate change, arguing that:

> The capitalist system has imposed on us a logic of competition, progress and limitless growth. This regime of production and consumption seeks profit without limits, separating human beings from nature and imposing a logic of domination upon nature, transforming everything into commodities: water, earth, the human genome, ancestral cultures, biodiversity, justice, ethics, the rights of peoples, and life itself.[6]

At the other extreme, a shrinking but vocal group continues to deny that scientific evidence on anthropogenic climate change is strong enough to warrant action. According to Carter's recent book, "to say that human-caused global warming is proven to be a dangerous problem is untrue, and to introduce futile policies aimed at 'stopping climate change' is both vainglorious and hugely expensive."[7] The skeptical environmentalist Lomborg argues, in turn, that reducing greenhouse gas emissions is one of the least helpful ways of serving humanity or the environment as, in his view, a focus on global warming could make future generations worse off.[8] Much of the early debate about climate change tended to be polarized around these extremes.

Given the mounting scientific evidence of climate change and its impacts, concerted efforts have taken place to frame climate change mitigation both as an economic necessity and opportunity. As a result, an important shift seems to be gradually taking place in attitudes concerning the relationship between climate change and trade. The 2006 Stern Review constituted a milestone by making the economic case for prompt action to mitigate climate change:

> if we don't act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP [Gross Domestic Product] each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more In contrast, the costs of action – reducing greenhouse gas emissions to avoid the worst impacts of climate change – can be limited to around 1% of global GDP each year.[9]

Shortly afterwards, the European Commission presented its proposal for the Climate and Energy Package as the "climate change opportunity" of the European Union (EU).[10] It argued that the challenge of adapting to the demands of a low-carbon

---

[6] People's Agreement of Cochabamba, adopted by the World People's Conference on Climate Change and the Rights of Mother Earth, 24 April 2010, available at: http://pwccc.wordpress.com/2010/04/24/peoples-agreement/ (last accessed on 6 March 2012).

[7] Robert M. Carter, *Climate: The Counter Consensus* (UK: Stacey International, 2010), at 218.

[8] Björn Lomborg, Cool It: *The Sceptical Environmentalist's Guide to Global Warming* (New York: Alferd A. Knop, 2007), at 8–9.

[9] Nicholas Stern, *The Economics of Climate Change: The Stern Review* (Cambridge et al.: Cambridge University Press, 2007), at xv.

[10] Commission Communication: 20 20 by 2020: Europe's Climate Change Opportunity, COM(2008)30.

economy can be met and "it also opens the door to new opportunities. There is a real potential to make climate-friendly policies a major driver for growth and jobs in Europe. Europe can show that necessary change can go hand in hand with the process of securing a competitive and prosperous economy."[11]

Subsequently, 'green economy' and 'green growth' have become popular notions in a world trying to come to grips with the financial and economic crisis, and preparing to mark the 20th anniversary of the 1992 Rio Conference on the Environment and Development. Transition to a green economy is depicted as a move that will give those who succeed significant advantage over competitors. According to Friedman and Mandelbaum: "There is every reason to believe… that clean energy will become the successor to information technology as the next major cutting-edge industry on which the economic fortunes of the richest countries will depend."[12] They lament that the US "does not have in place the rules, standards, regulations and price signals – the market ecosystem – to stimulate thousands of green innovators in thousand of green garages to devise the breakthrough technologies that will give us multiple sources of abundant, cheap, reliable, carbon-free energy."[13] While the US has retaken the top position in investment in clean energy,[14] President Barack Obama recently urged Congress to "double-down" on the clean energy industry, indicating he would not "cede the wind or solar or battery industry to China or Germany because we refuse to make the same commitment here."[15]

It seems, then, that the trend is towards what Newell and Paterson call climate capitalism: "a model which squares capitalism's need for continual economic growth with substantial shifts from carbon-based industrial development."[16] As a result, climate change is increasingly penetrating international economic reality. From the legal perspective, these developments render the relationship between the UNFCCC and WTO legal regimes increasingly important.

Both the UNFCCC and WTO have gone through important progress during the past two decades. With its 195 Parties, the UNFCCC is now virtually universal in scope. It has given birth to a complex and detailed legal regime, which continues to evolve through the annual sessions of the Conference of the Parties (COP).[17] Around the same time that the UNFCCC entered into force in 1994, international trade negotiators concluded the Uruguay Round, marking a watershed in the evolution of the international trade regime. The WTO was established to administer the regime

---

[11] Ibid., at 3.

[12] Thomas L. Friedman and Michael Mandelbaum, *That Used to Be US: What Went Wrong with America – and How Can It Come Back?"* (USA: Little Brown, 2011), at 196.

[13] Ibid., at 197.

[14] 16 *Bridges Weekly Trade News Digest*, 25 January 2012.

[15] Ibid.

[16] Newell and Paterson, *Climate Capitalism*, supra, note 2, at 1.

[17] For a general overview, see Farhana Yamin and Joanna Depledge, *The International Climate Change Regime. A Guide to Rules, Institutions and Procedures* (Cambridge, UK: Cambridge University Press, 2004).

and the substantive scope of international trade law expanded. Attention began to shift towards non-tariff trade barriers,[18] including intellectual property, technical barriers to trade as well as sanitary and phytosanitary measures. The Uruguay Round also lead to the establishment of a strong dispute settlement mechanism. In contrast to previous practice under the General Agreement on Tariffs and Trade (GATT),[19] which required a consensus by all Parties to adopt a dispute settlement report, under the new WTO dispute settlement system, the adoption of reports can only be prevented by a consensus. A permanent Appellate Body was also established and the WTO dispute settlement system has a compulsory and exclusive jurisdiction in the field of WTO law. It is also competent to authorize trade sanctions against non-compliant WTO Members. Largely due to these reforms, international trade law currently stands out as one of the strongest areas of international law. Given that the WTO dispute settlement system would be the likeliest forum for settling a dispute related to trade and climate change, much of the discussion about the relationship between climate change and trade also tends to be dominated by the perspective of WTO law.

16.3 Substantive Linkages Between the UNFCCC and WTO Legal Regimes

Scholarly analysis concerning the relationship between the international trade and climate change regimes often alludes to the possibility of conflicts between the two regimes. This is linked to the debate concerning fragmentation of international law. In 2006, the International Law Commission (ILC) finalised a report dedicated to "difficulties arising from the diversification and expansion of international law."[20] According to the ILC, the essential concern about fragmentation is "the rise of specialized rules and rule-systems that have no clear relationship to each other."[21] There are often valid reasons for treating topics such as trade and climate change separately. As the ILC explains, "new types of specialized law do not emerge accidentally but seek to respond to new technical and functional requirements."[22] The downside is that: "Each rule-complex or regime comes with

[18] Thomas Cottier, "From Progressive Liberalization to Progressive Regulation in WTO Law", 9 *Journal of International Economic Law* (2006), 779, at 783.

[19] General Agreement on Tariffs and Trade 1994, 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations 17 (1999), 33 *International Legal Materials* (1994), 1153.

[20] International Law Commission, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law*. Report of the Study Group of the International Law Commission on the Fragmentation of International Law. Finalized by Martti Koskenniemi, UN Doc. A/CN.4/L.682, 13 April 2006.

[21] Ibid., at 245.

[22] Ibid., at 14.

its own principles, its own expertise and 'ethos,' not necessarily identical to the ethos of the neighbouring specialization. 'Trade law' and 'environmental law,' for example, have highly specific objectives and rely on principles that may often point in different directions."[23]

Reflecting the trend of fragmentation and specialization, the UNFCCC and WTO regimes have evolved in parallel but largely in isolation from each other. International climate change and trade negotiations are frequented mostly by different delegates and experts. There are no formal mechanisms to coordinate the two processes and ensure that their outcomes are mutually compatible. Also in the domestic sphere, trade and climate issues are mostly dealt with by different ministries and government experts. This means that the UNFCCC world remains relatively unknown to WTO experts, and vice versa. However, in recent years, calls have increasingly been made to enhance the mutual supportiveness of the two regimes.[24] My intention in this section is to examine substantive links between climate policies related to achieving the UNFCCC's ultimate objective of avoiding dangerous anthropogenic climate change and WTO rules.

16.3.1 Trade Measures and Other Climate Policies

The 2007 Fourth Assessment Report (AR4) by the Intergovernmental Panel on Climate Change (IPCC) had an important influence on international climate policy. It painted a grim picture of rapidly increasing greenhouse gas concentrations and already observable impacts of climate change.[25] However, it also drew attention to "substantial economic potential" to mitigate global greenhouse gas emissions in the coming decades.[26] In this regard, the IPCC identified the following as the most promising climate change mitigation policies:[27]

---

[23] Ibid., at 14.

[24] See, for example, Ludvine Tamiotti et al., *Trade and Climate Change: A Report by the United Nations Environment Programme and the World Trade Organization* (Geneva: UNEP and WTO, 2009); and Tracey Epps and Andrew Green, *Reconciling Trade and Climate: How the WTO Can Help Address Climate Change* (*Cheltenham*, UK and Northampton, MA, USA: Edward Elgar, 2010).

[25] IPCC, "Summary for Policymakers," in: Rajendra K. Pachauri and Andy Reisinger (eds.), *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Geneva: Intergovernmental Panel on Climate Change, 2007).

[26] IPCC, "Summary for Policymakers," in: Bert Metz et al. (eds.), *Climate Change 2007. Mitigation of Climate Change. Working Group III Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge and New York: Cambridge University Press, 2007), at 9.

[27] I have used these two lists as examples also in Kulovesi, *The WTO Dispute Settlement System*, supra, note 3, at 232–233.

- regulations and standards (which provide "some certainty about emission levels" and "may be preferable to other instruments")[28];
- taxes and charges (which set a price for carbon "but cannot guarantee a particular level of emissions")[29];
- tradable permits (which "will establish a price for carbon")[30];
- financial incentives such as subsidies and tax credits (which generally come at higher economic cost but "are often critical to overcome barriers")[31];
- voluntary agreements between the government and industry (the majority of which "has not achieved significant emissions reductions beyond business as usual")[32];
- information instruments (however, "their impact on emissions has not been measured yet")[33];
- research, development and deployment (to "stimulate technological advances")[34]; and
- voluntary actions by corporations, local and regional authorities, NGOs etc. (which, on their own, generally have limited impact on the emissions).[35]

The IPCC AR4 makes no mention of the WTO or international trade law, illustrating the insulation of the international climate change and trade communities from each other. However, WTO scholars have identified a number of potential conflicts between climate policies and WTO law, including the GATT, General Agreement on Trade in Services (GATS),[36] Agreement on Technical Barriers to Trade (TBT Agreement)[37] and the Agreement on Subsidies and Countervailing Measures (SCM).[38] From the point of view of WTO law, some of the most relevant potential climate policies include:

- trade bans or punitive tariffs on certain products or on products originating from countries that are not participating in climate change mitigation;[39]

---

[28] IPCC Working Group III, "Summary for Policymakers," supra, note 26, at 19.

[29] Ibid.

[30] Ibid.

[31] Ibid.

[32] Ibid.

[33] Ibid.

[34] Ibid.

[35] Ibid.

[36] General Agreement on Trade in Services, 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1B, The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations 284 (1999), 33 *International Legal Materials* (1994) 1167.

[37] Agreement on Technical Barriers to Trade, 15 April 1994, 1867 *United Nations Treaty Series*, 493.

[38] Agreement on Subsidies and Countervailing Measures, 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations 275 (1999), 1867 *United Nations Treaty Series* 14.

[39] The World Bank, *International Trade and Climate Change. Economic, Legal and Institutional Perspectives* (Washington DC: World Bank, 2008), at 37.

- product standards and regulations, including energy efficiency and other sustainability requirements;
- border tax adjustments, including taxing imported products based on their carbon content and other similar requirements on imported products or importers, such as the requirement to purchase emission allowances[40];
- using the system for Generalised Trade Preferences to encourage mitigation by developing countries[41];
- various climate change related subsidies[42]; and
- compulsory licensing and other measures to relax intellectual property rights for climate-friendly technologies.[43]

Concerning the compatibility of the climate policies and measures included in the list with WTO rules, legal analysis would depend largely on the detailed design of the measure. In more general terms, it is possible to imagine a conflict whereby measures based on specific provisions of the UNFCCC, Kyoto Protocol[44] or a possible new climate treaty adopted in 2015 for the post-2020 period are challenged under WTO law. However, it is useful to keep in mind that neither the UNFCCC nor the Kyoto Protocol contains trade sanctions nor has their introduction been contemplated in the ongoing negotiations.[45] In this sense, it has been argued that the provisions of the Kyoto Protocol "do not conflict directly with the WTO regime"[46] and a straightforward conflict with WTO rules therefore appears as unlikely. It is, however, possible to imagine a WTO dispute involving such climate policies or measures that have not been not clearly prescribed under the UNFCCC regime but that are closely related to the implementation of its ultimate objective in Article 2 of the Convention to avoid dangerous anthropogenic climate change. This scenario looks, in fact, fairly plausible.

From the point of view of WTO law, one of the key challenges in the relationship between climate change and trade is the tendency under the UNFCCC regime to

[40] For discussion, see for example, Tamiotti et al., *Trade and Climate Change*, supra, note 24, at 98–110; Epps and Green, *Reconciling Trade and Climate*, supra, note 24, at 122–141.

[41] Epps and Green, *Reconciling Trade and Climate*, supra, note 25, at 180–188; Michael McKenzie, "Climate Change and the Generalized System of Preferences," 11 *Journal of International Economic Law* (2008), 679.

[42] Tamiotti et al., *Trade and Climate Change*, supra, note 24, at 110–117; Epps and Green, *Reconciling Trade and Climate*, supra, note 24, at 103–121; Magnus Lodefalk and Mark Sotery, "Climate Measures and WTO Rules on Subsidies," 39 *Journal of World Trade* (2005), 23.

[43] I have used these examples also in Kulovesi, *The WTO Dispute Settlement System,* supra, note 24, at 233–234.

[44] Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 10 December 1997, in force 16 February 2005, 37 *International Legal Materials* (1998), 22.

[45] See, however, Epps and Green, *Reconciling Trade and Climate*, supra, note 24, at 56–60.

[46] Matthieu Wemaere and Charlotte Streck, "Legal Ownership and Nature of Kyoto Units and EU Allowances," in David Freestone and Charlotte Streck (eds) *Legal Aspects of Implementing the Kyoto Protocol Mechanisms. Making Kyoto Work* (Oxford et al.: Oxford University Press, 2005) 35, at 46.

avoid prescribing detailed climate policies and measures. This trend is reflected in the Kyoto Protocol, otherwise based on 'top down' legally binding emission reduction targets for developed countries. The recent shift under the UNFCCC towards informal, 'bottom up' mitigation pledges means even less clarity in terms of mitigation commitments.

While Article 3.1 of the Kyoto Protocol contains a clear obligation for Annex I countries to reduce greenhouse gas emissions, it does not contain any binding details on how this should be achieved. It merely indicates that:

> The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their quantified emission limitation and reduction commitments inscribed in Annex B…with a view to reducing their overall emissions of such gases by at least 5% below 1990 levels in the commitment period 2008 to 2012.

According to Article 2.1 of the Protocol, in achieving its emissions target, each Annex I country "shall implement and/or further elaborate policies and measures in accordance with its national circumstances." Article 2.1 also contains a non-exhaustive and non-binding list of policies and measures that its implementation could entail.[47] The Kyoto Protocol thus leaves ample discretion for each Annex I country in terms of the climate policies and measures that it will implement in order to comply with its legally binding emission reduction target.[48]

Some WTO scholars have argued that climate polices would be easier to justify under WTO rules if they were specifically prescribed by the Kyoto Protocol.[49] While the argument does have its merits from the perspective of WTO law, it sounds rather unrealistic when taking into consideration the political realities and evolution of the UNFCCC regime. The vagueness of the UNFCCC and the Kyoto Protocol in terms of policies and measures for their implementation is not an accident. On the contrary, countries have been firm in international climate negotiations on the need to minimise external constraints on domestic policy choices, particularly in such sensitive sectors as energy, transport, industry, agriculture and forestry.[50] In addition, countries are not identical in terms of their emissions profiles and mitigation potential. International climate negotiators have therefore chosen to defer to

---

[47] Kyoto Protocol, supra, note 44, Art. 2.1. The policies and measures listed in Article 2.1 are: Enhancement of energy efficiency; protection and enhancement of carbon sinks; promotion of sustainable forms of agriculture; taking measures related to renewable energy and carbon dioxide sequestration; addressing market imperfections (such as tax and duty exemptions and subsidies in greenhouse gas emitting sectors); encouraging appropriate reforms to promote policies and measures that limit or reduce emissions in relevant sectors; addressing emissions in the transport sector; and addressing methane emissions.

[48] UNFCCC, supra, note 1, Art. 4.2(e) and the Kyoto Protocol, supra, note 44, Art. 2.4 also contain some provisions on the possible coordination of policies and measures, but these issues have been highly controversial and there have been no formal attempts for coordination. See, Yamin and Depledge, *The International Climate Change Regime,* supra, note 17, at 113–117.

[49] Andrew Green, "Climate Change, Regulatory Policy and the WTO: How Constraining Are Trade Rules?," 8 *Journal of International Economic Law* 8 (2005), 143, at 187.

[50] Yamin and Depledge, *The International Climate Change Regime,* supra, note 17, at 115.

countries' national decisions on which economic sectors to involve in climate change mitigation and how much each sector will contribute to such efforts.

As indicated above, the UNFCCC regime has began to shift towards an even more flexible approach to climate change mitigation than the 'top down' legal structure of the Kyoto Protocol. The first commitment period under the Kyoto Protocol expires at the end of 2012. While general agreement on a second commitment period was reached at the 2011 UN Climate Change Conference in Durban, negotiations on key details are pending. Furthermore, countries like Japan and Russia have already announced that they will not participate in a second commitment period and Canada has withdrawn from the Protocol completely. As is widely known, the US never ratified the Protocol, which does not introduce targets for major emerging economies, such as China, India, Brazil and South Africa. From 2013 onwards, mitigation by several key countries is therefore likely be based on voluntary mitigation pledges, most of which were originally made in the context of the 2009 UN Climate Change Conference in Copenhagen. Following COP 16 in Cancun, the respective pledges by developed and developing countries have been 'anchored' in two information documents.[51] Their international legal status is unclear as is their relevance under WTO law. This introduces an unavoidable element of uncertainty into the relationship between the UNFCCC and WTO regimes.

The basic treaty provision that addresses the relationship between climate change mitigation and international trade is Article 3.5 of the UNFCCC, which provides that:

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

The last sentence of Article 3.5 echoes language used in Article XX of the GATT. Also the Kyoto Protocol gives some guidance on the relationship between climate change mitigation and other policy objectives. According to its Article 2.3, Annex I parties "shall strive to implement" their policies and measures "in such a way as to minimize adverse effects, including adverse effects of climate change, on international trade, and social, environmental and economic impacts on other Parties," especially in developing countries. In other words, international trade has been listed in Article 2.3 as one of the several areas potentially affected by the implementation of the Kyoto Protocol. Adverse effects on other Parties should be minimised, including "adverse impacts of climate change."

[51] UNFCCC, Compilation of economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention, Revised Note by the Secretariat, UN Doc. FCCC/SB/2011/INF.7 June 2011; UNFCCC, Compilation of information on nationally appropriate mitigation actions to be implemented by Parties not included in Annex I to the Convention, Note by the Secretariat, UN Doc. FCCC/AWGLCA/2011/INF.1, 18 March 2010.

In the ongoing long-term negotiations under the UNFCCC, oil producing countries and emerging economies have proposed clearly prohibiting unilateral trade measures to address climate change.[52] The issue remains controversial, however, and these proposals have not lead to the adoption of more specific language on the relationship between trade and climate change.[53] At the 2011 UN Climate Change Conference in Durban, climate negotiators did, however, agree to establish a work programme and a forum on response measures. This aspect of the UNFCCC regime will focus on the negative and positive impact of measures taken to mitigate climate change.[54] It seems reasonable to expect that trade measures will be among the issues considered under the new initiative. This means that there is a new process under the UNFCCC where the relationship between trade and climate change could be considered.

16.3.2 Climate-Related Regulations and Standards

In practice, interaction between the WTO and UNFCCC regimes will focus on trade aspects of climate change policies and measures designed to reduce greenhouse gas emissions. As discussed above, the IPCC AR4 shows that climate mitigation policies and measures could take a variety of forms. Along with various other climate policies, technical regulations and standards related to energy efficiency have increased in recent years.[55] In principle, such requirements can apply to either products themselves or production methods. Their key objectives include reducing greenhouse gas emissions and energy consumption from either the use or production of products.

Under WTO law, such measures are mainly regulated under the GATT and the TBT Agreement, which covers both mandatory technical regulations[56] and voluntary standards.[57] For technical regulations, the TBT Agreement requires that they do not discriminate between domestic and imported 'like' products[58] and create unnecessary obstacles to international trade, in other words, that they are not more trade-restrictive than necessary to fulfil a legitimate objective, such as protection of human health or

[52] Kati Kulovesi, Sabrina Shaw and Stanley W. Burghiel, "Trade and Environment: Old Wine in New Bottles?", in Pamela S. Chasek and Lynn M. Wagner (eds), *The Roads from Rio: Lessons Learned from Twenty Years of Multilateral Environmental Negotiations* (New York and London: Routledge, 2012), 174.

[53] Ibid.

[54] Decision 8/CP.17, Forum and work programme on the impact of the implementation of response measures, UN Doc. FCCC/CP/2011/9/Add.2, 15 March 2012.

[55] For examples, see Tamiotti et al., *Trade and Climate Change*, supra, note 24, at 118–120.

[56] The definition of "regulation" is found in the TBT Agreement, supra, note 38, Annex I, para. 1.

[57] Ibid., Annex I, para. 2 contains definition of a "standard."

[58] Ibid., Art. 2.1 provides that imported products "shall be accorded treatment no less favourable than accorded to like products of national origin and to like products originating in any other country."

the environment.[59] Regulations must also be based on international standards where they exist unless these are ineffective or inappropriate.[60] Examples of climate policies already considered by the TBT Committee include fuel standards for cars, eco-design requirements for energy-using products, energy-efficiency programmes for consumer products and emission limit values for diesel engines.[61]

EU climate change law, for instance, includes several examples of regulations and standards to mitigate climate change. Given that voluntary agreements with the automobile industry failed to produce the desired outcome, the EU will enforce binding targets for carbon dioxide from passenger cars from 2012.[62] The EU has also adopted various eco-design requirements, including a Regulation to phase-out inefficient light bulbs from the market – a policy estimated to reduce carbon dioxide emissions by 32 million tonnes by 2020.[63] This is an area where synergies have been identified with climate change mitigation and the WTO regime: the World Bank indicates that developing countries such as China and India have emerged as major players in the fluorescent lamps market and that liberalising trade in fluorescent lamps could promote energy-efficient lighting.[64] Also trade in energy products, including renewable energy, could raise questions under WTO law, including the GATT and GATS.[65]

16.3.2.1 The Case of Biofuels

Trade-issues surrounding biofuels are a topical example of complex linkages between the WTO and climate change related policies.[66] With rising concerns over climate change and national energy security, biofuels are becoming increasingly popular.[67] Several concerns have, however, been identified in relation to biofuels production.[68]

---

[59] Ibid., Art. 2.2.

[60] Ibid., Art. 2.4.

[61] WTO, "Activities of the WTO and the Challenge of Climate Change", available at: http://www.wto.org/english/tratop_e/envir_e/climate_challenge_e.htm (last accessed 8 March 2012).

[62] European Parliament and Council Regulation (EC) No 443/2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO_2 emissions from light-duty vehicles, OJ 2009 L 140/1.

[63] Commission Regulation (EC) No 244/2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for non-directional household lamps, OJ 2009 L 76/3.

[64] The World Bank, *International Trade and Climate Change*, supra, note 39, at 67–68.

[65] Christina Voigt, "WTO Law and International Emissions Trading: Is There Potential for Conflict," 2 *Carbon and Climate Law Review* (2008), 52, at 55–57; Robert Howse, "World Trade Law and Renewable Energy: The Case of Non-Tariff Measures", 2009, available at: http://www.unctad.org/trade_env/test1/publications/UNCTAD_DITC_TED_2008_5.pdf (last accessed on 8 March 2012).

[66] I have discussed these issues similarly in Kulovesi, *The WTO Dispute Settlement System*, supra, note 3, at 247–251.

[67] For an overview of biofuels as a trade issue, see Doaa Abdel Motaal, "The Biofuels Landscape: Is There a Role for the WTO?," 42 *Journal of World Trade* 42 (2008), 61.

[68] See in general, Elisa Morgera, Kati Kulovesi and Ambra Gobena, (eds), *Case Studies on Bioenergy Policy and Law: Options for Sustainability* (Rome: Food and Agriculture Organization of the United Nations, 2009).

Depending on where and how they are produced, biofuels can have only a limited impact on greenhouse gas emissions. They are also associated with other environmental concerns, such as deforestation and loss of biodiversity. The relationship between biofuels and food security has also received ample attention. The key concern is that especially in developing countries, agricultural land will be used for biofuels production for export markets rather than for feeding local populations.

In 2007, the EU adopted a 10% target for renewable energy in the transport sector by 2020.[69] After a lengthy debate on the sustainability of biofules, the Directive on the promotion of the use of energy from renewable sources came to include sustainability criteria applicable to both domestically produced and imported biofuels.[70] Only biofuels complying with the criteria will be counted towards the 10% target. The Directive requires that greenhouse gas emission savings from biofuels must be at least 35% until 2017, and 50% from 2017 onwards.[71] It also contains the requirement that raw material for biofuels counted against the 10% target cannot originate from land with high biodiversity value and lays down detailed criteria for determining what constitutes such land.[72] Furthermore, the EU sustainability criteria exclude biofuels originating from peatland[73] or land with high carbon stock in 2008 where the land has subsequently lost this status.[74] The Directive also includes provisions on verification of compliance with the sustainability criteria, including that the Commission must endeavour to conclude bilateral or multilateral agreements with third countries on sustainability criteria that corresponds with the requirements set out in the Directive.[75]

From the point of view of WTO law, the EU's sustainability criteria for biofuels are interesting in that they seek to impact land use in foreign countries, touching upon the long-standing debate over processes and production methods (PPMs). The key question is whether two goods can be distinguished based on greenhouse gas emissions or other environmental criteria associated with their production process but not affecting the physical characteristics of the product.[76] Under Article

---

[69] We have analyzed these in detail in Kati Kulovesi, Elisa Morgera and Miquel Muñoz, "Environmental Integration and Multifaceted International Dimensions of EU Law: Unpacking the 2009 Climate and Energy Package", 48 *Common Market Law Review* (2011), 829.

[70] European Parliament and Council Directive 2009/28/EC on the promotion of the use of energy from renewable sources and subsequently repealing Directives 2001/77/EC and 2003/30/EC, OJ 2009 L 140/16.

[71] Ibid., Art. 17.2.

[72] Ibid., Art. 17.3.

[73] Ibid., Art. 17.5.

[74] Ibid., Art. 17.4.

[75] Ibid., Art. 18.4.

[76] There has been extensive scholarly debate on this issue for the past 20 years. For discussion in the climate change context, see Richard G. Tarasofsky, "Heating Up International Trade Law: Challenges and Opportunities Posed by Efforts to Combat Climate Change," 2 *Carbon and Climate Law Review* (2008), 7, at 8–10. For an overview of legal arguments in the PPMs debate, see: Gabrielle Marceau and Joel P. Trachtman, "The Technical Barriers to Trade Agreement, the Sanitary and Phytosanitary Measures Agreement and the General Agreement on Tariffs and Trade. A Map of World Trade Organization Law of Domestic Regulation of Goods," 36 *Journal of World Trade* 36 (2002), 856.

III:4 of the GATT, imported products may not be treated less favourably than domestic 'like' products. According to the WTO Appellate Body, the key criteria for analysing the 'likeness' of products takes into consideration their physical characteristics, end-uses, consumer preferences and tariff classification.[77] The Appellate Body also accepted that health risks were relevant for determining whether asbestos and other products with similar end uses were 'like.'[78] In the context of climate change, it has been argued that differences in consumer preferences could be used to justify differences in regulatory treatment of climate-friendly and non-friendly products, including biofuels.[79]

In cases where a violation of the GATT is found, the measure could still be justifiable under the general exceptions in Article XX of the GATT. Under Article XX(b) of the GATT, WTO Members can justify measures that are "necessary" to protect human, animal or plant life or health. Under Article XX(g) of the GATT, they can adopt measures relating to conservation of exhaustible natural resources.[80] According to a two-tired analysis developed by the Appellate Body, a measure must also comply with the chapeau of Article XX. The chapeau requires that the measure does not constitute "a means of arbitrary or unjustifiable discrimination" or "disguised restriction on international trade." The TBT Agreement is interesting in that it goes beyond the non-discrimination requirement in Article III:4 of the GATT. This means that under the TBT Agreement, regulations may not create unnecessary obstacles to international trade, in other words, they may not be more restrictive than necessary to achieve a legitimate objective, such as protecting human health or safety, or the environment.

Some scholars have subsequently argued that the EU's sustainability criteria for biofuels probably violate the GATT.[81] According to Mitchell and Tran, for instance, such "biofuels that differ only on the basis of the emissions-related sustainability criteria are probably not like products, because the emissions they generate are arguably a physical characteristic of the final product."[82] However, in their view,

[77] Report of the Appellate Body Report in *European Community – Measures Affecting Asbestos and Asbestos-Containing Products,* WT/DS135/AB/R, 12 March 2001, paras. 113–142.

[78] For discussion: Robert Howse and Elisabeth Tuerk, "The WTO Impact on Internal Regulations – A Case Study of the Canada-EC Asbestos Dispute," in George A. Bermann and Petros C. Mavroidis, (eds), *Trade and Human Health and Safety*. *Columbia Studies in WTO Law and Policy* (New York: Cambridge University Press, 2006), 77.

[79] For discussion of consumer preferences in the context of emission trading, see Voigt, "WTO Law and International Emissions Trading," supra, note 65, at 54.

[80] For discussion on how Article XX of the GATT might be applied in the context of climate change: Green, "Climate Change, Regulatory Policy and the WTO," supra, note 50, at 175–179 and 183–187; Voigt, "WTO Law and International Emissions Trading," supra, note 66, at 59–63; and Tarasofsky, "Heating Up International Trade Law," supra, note 76, at 9–10.

[81] Andrew Mitchell and Christopher Tran, "The Consistency of the EU Renewable Energy Directive with the WTO Agreements", Georgetown Law Faculty Working Papers, October 2009, available at: http://scholarship.law.georgetown.edu/fwps_papers/119 (last accessed on 8 March 2012).

[82] Ibid., at 3.

such biofuels "that differ only on the basis of the land-related sustainability criteria are probably like products, because the land from which they are derived does not affect the physical characteristics of the final product."[83] They conclude that the less favourable treatment of biofuels not meeting the land-related sustainability criteria "is likely to result in inconsistency with the EC"s substantive obligations under GATT."[84] Scott, in turn, has indicated that: "Those familiar with the contours of WTO law will perceive in the text of the renewable energy directive efforts to align the scope and application of the sustainability criteria with the multiple requirements of WTO law… Yet, while the EU's sustainability criteria have clearly been designed with WTO law in mind, still they *may* be vulnerable to challenge in a number of respects."[85] This is because the criteria addresses PPMs and seeks to protect the environment outside the EU.[86] It remains to be seen whether controversies related to biofuels eventually end up in the WTO, or whether they will be resolved outside the WTO. Under the UNFCCC, however, there have been no proposals to address specific questions concerning biofuels or create internationally-agreed sustainability criteria.[87]

Biofuels also raise a number of other trade-related questions, including the custom classification of biofuels,[88] their technical specifications, as well as tariff reductions.[89] Also various governmental measures to support the production and use of biofuels are relevant from the point of view of WTO law: tax exemptions, regulatory exemptions, subsidies, government procurement preferences and so on. These examples illustrate how the territory shared by the WTO and UNFCCC regimes is growing – and that it can be expected to expand even further as countries across the world strive to achieve a transition towards a highly energy efficient low-carbon economy.

16.3.3 Introducing a Price for Carbon

Creating a price for greenhouse gas emissions is commonly viewed as one of the most efficient ways to mitigate climate change.[90] As seen above, the IPCC AR4 indicated that emissions trading and a carbon tax are the key tools to achieve

---

[83] Ibid.

[84] Ibid., at 12.

[85] Joanne Scott, "The Multi-Level Governance of Climate Change", Centre for Law and Governance, University College London Working Paper, 009/10, at 58–59, available at: http://www.ucl.ac.uk/laws/clge/wp-series/ucl_clge_009_10.pdf (last accessed 9 March 2012).

[86] Ibid., at 60.

[87] Outside the UNFCCC and the WTO, however, there have been various sustainability certification initiatives for biofuels by governments and non-governmental actors alike. For an overview, see ibid., 59–66.

[88] Motaal, "The Biofuels Landscape," supra, note 67, at 76–78.

[89] Ibid., at 78–83.

[90] See for example, Stern, *The Economics of Climate Change*, supra, note 9, at 354 et seq; IPCC Working Group III, "Summary for Policymakers," supra, note 26, at 19.

this objective.[91] One of the main concerns for countries introducing a price for carbon emissions is that all countries are not participating in climate change mitigation efforts in equal terms. The use of carbon border adjustments to address carbon leakage and competitiveness concerns has been widely discussed. This section discusses the relationship between WTO rules and national emissions trading schemes and, more specifically, plans to introduce measures to address energy-intensive imports.

In order to introduce a price for greenhouse gas emissions, emissions trading schemes are being planned and implemented in various countries.[92] The most prominent example is the EU Emissions Trading Scheme (EU ETS), launched in 2005. It currently involves some 11,500 installations and represents around 40% of the total greenhouse gas emissions of the EU.[93] The second phase of the EU ETS, taking place in 2008–2012, has been designed to comply with the emission reduction targets under the Kyoto Protocol. In its third phase, taking place from 2013 to 2020, the EU ETS will cover new industries and greenhouse gases, an annually declining EU-wide emissions cap will be introduced and the auctioning of allowances will be increased.[94] In 2012, the ETS expanded to cover emissions from the vast majority of flights landing and taking off from EU airports, including foreign airlines.[95] As it will be explained below, the inclusion of foreign airlines in the ETS has been highly controversial, illustrating the political sensitivity of the topic discussed in this section. While several countries are taking steps towards introducing a price for greenhouse gas emissions, the world is still far away from a global carbon price or even trading among the major emitters or most polluting economic sectors. Questions concerning carbon leakage and competitiveness are therefore close to the surface in countries that have introduced a price for carbon or are contemplating doing so.

Border tax adjustments have been described as "a controversial area of overlap between international trade rules and climate policy."[96] Their rationale is to offset the negative environmental and competitiveness effects caused by national climate policies, most notably, the introduction of a price for greenhouse gas emissions. The idea of taking measures against imports first gained ground in Europe after the US decision in 2001 not to join the Kyoto Protocol. The question was whether the EU should level the playing field by imposing a carbon tax on imports from the US.[97]

[91] IPCC Working Group III, "Summary for Policymakers," supra, note 26, at 19.

[92] For more details, see chapters in Part V of this book, including those on Australia and Japan.

[93] European Parliament and Council Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, OJ 2003 L 275/32.

[94] European Parliament and Council Directive 2009/29/EC amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading system of the Community, OJ 2009 L 140/63.

[95] European Parliament and Council Directive 2008/101/EC amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community, OJ 2008 L 8/3.

[96] Epps and Green, *Reconciling Trade and Climate*, supra, note 24, at 122.

[97] Frank Biermann and Rainer Brohm, "Implementing the Kyoto Protocol without the United States: The Strategic Role of Energy Tax Adjustments at the Border," 4 *Climate Policy* (2005), 289.

According to the former European Trade Commissioner Mandelson, however, taxing imports from countries that have not ratified the Kyoto Protocol is,

> highly problematic under current WTO rules and almost impossible to implement in practice…. Not participating in the Kyoto process is not illegal. Nor is it a subsidy under WTO rules. How would we choose what goods to target? China has ratified the Kyoto but has no Kyoto targets because of its developing country status. The US has not, but states like California have ambitious climate change policies.[98]

With the new Obama Administration taking office in 2009, the US re-engaged the negotiations under the UNFCCC and for a while, planned a federal cap-and-trade scheme for greenhouse gas emissions that would have also included imports of energy intensive products. The European Commission also raised the idea of a 'carbon equalization system' when proposing revisions to the ETS for the third trading period in 2013–2020. The rationale is that if other developed countries and major emitters of greenhouse gases are not participating in an international climate agreement,

> …this could lead to an increase in greenhouse gas emissions in third countries where industry would not be subject to comparable carbon constraints ("carbon leakage"), and at the same time could put certain energy-intensive sectors and sub-sectors in the Community which are subject to international competition at an economic disadvantage. This could undermine the environmental integrity and benefit of actions by the Community.[99]

Plans to launch a federal emissions trading scheme in the US have subsequently been frozen. Also the European Commission has taken a cautious stance on the inclusion of imports in the ETS. Regardless, the question of border carbon adjustments has anything but disappeared from the academic and policy discussion.[100] From the point of view of WTO law, one of the key problems is that measures targeting greenhouse gas emissions from the manufacturing of imported products bring to the fore controversial themes from the classic trade-environment debate: Are trade measures targeting PPMs sometimes justifiable under WTO law, as it would seem in the light of the *Shrimp-Turtle* decisions,[101] and under what conditions?

---

[98] EU Trade Commissioner Peter Mandelson, "How Trade Can Be Part of the Climate Change Solution, "18 December 2006, available at: http://trade.ec.europa.eu/doclib/docs/2006/December/tradoc_131802.pdf (last accessed on 31 March 2012).

[99] European Parliament and Council Directive 2009/29/EC amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading system of the Community, OJ 2009 L 140/63, para. 25 of the chapeau.

[100] See, for example, Susanne Droege, "Do Border Measures Have a Role in Climate Policy?" 11 *Climate Policy* (2011), 1185; Ludvine Tamiotti, "The Legal Interface between Carbon Border Measures and Trade Rules", 11 *Climate Policy* (2011), 1202; Stéphanie Monjon and Philippe Quirion, "A Border Adjustment for the EU ETS: Reconciling WTO Rules and Capacity to Tackle Carbon Leakage," 11 *Climate Policy* (2011), 1212.

[101] Report of the Appellate Body in *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R, 12 October 1998; and *Report of the Appellate Body in United States – Import Prohibition of Certain Shrimp and Shrimp Products, Recourse to Article 21.5 of the DSU by Malaysia*, WT/DS58/AB/RW, 22 October 2001.

In general, taxes on imported products are subject to the national treatment principle, enshrined in Article III:2 of the GATT. Furthermore, imposing discriminatory taxes only on imports from certain WTO Members would probably violate the Most Favoured Nation principle in Article I of the GATT.[102] However, measures violating these provisions could sometimes be justifiable under Article XX of the GATT. Also some other legal questions could arise. Could, for instance, the free allocation of allowances to certain sectors be seen as a subsidy under the SCM?

It is interesting to note that the principle of common but differentiated responsibilities and respective capabilities in Article 3 of the UNFCCC could pose some challenges from the point of view trade measures targeting imports from developing countries. Most developing countries would be likely to argue that targeting their imports circumvents some of the two key principles that have been guiding international climate change cooperation, namely the principle of common but differentiated responsibilities and the leadership role of industrialised countries.[103] Similar arguments have been made in the context of the inclusion of aviation emissions in the EU ETS.[104]

Overall, the debate concerning measures to address carbon leakage remains inconclusive. Much would seem to depend on the detailed design and application of the measures. Some have argued that measures to address carbon leakage could be designed in a way that is compatible with WTO law.[105] Others are more sceptical[106] and some have also warned that in response to such measures, developing countries could start imposing tariffs on products from developed countries based on criteria such as *per capita* greenhouse gas emissions.[107] It is interesting to note that closely related questions concerning, for example the exercise of extraterritorial jurisdiction and unilateralism, have recently surfaced in the context of the inclusion of emissions from foreign airlines in the ETS from 2012 onwards.[108] In the aviation context, the

[102] Tarasofsky, "Heating Up International Trade Law," supra, note 76, at 8.

[103] David Stanway, "China says 'carbon tariff' proposals breach trade rules," Reuters, 3 July 2009, available at: http://www.reuters.com/article/2009/07/03/us-china-climate-idUSTRE5620FV20090703 (last accessed on 31 March 2012).

[104] Joanne Scott and Lavanya Rajamani, "EU Climate Change Unilateralism: International Aviation in the European Union Emissions Trading Scheme," 23 *European Journal of International Law* (2012), 469.

[105] For discussion, see Voigt, "WTO Law and International Emissions Trading," supra, note 66, at 59–63; Epps and Green, *Reconciling Trade and Climate*, supra, note 24, at 122.

[106] Jason E. Bordoff, "International Trade Law and the Economics of Climate Policy. Evaluating the Legality and Effectiveness of Proposals to Address Competitiveness and Leakage Concerns", June 2008, available at: http://www.brookings.edu/events/2008/~/media/Files/events/2008/0609_climate_trade/2008_bordoff.pdf, (last accessed on 31 March 2012).

[107] Rachel Brewster, "The Problem with Carbon Tariffs: They Aren't Fair," *The Christian Science Monitor*, 20 April 2009, available at http://www.csmonitor.com/Commentary/Opinion/2009/0420/p09s01-coop.html (last accessed on 31 March 2012).

[108] I have analyzed this in detail in Kati Kulovesi, "Make Your Own Special Song even if Nobody Else Sings Along: International Aviation Emissions and the EU Emissions Trading Scheme", 2 *Climate Law* (2011), 535.

WTO's role has thus far been marginal as air traffic is mostly excluded from the GATS. It has thus been argued that the WTO is not relevant to the heated international dispute on aviation emissions.[109] There have, however, been attempts to argue that the GATT could apply to the case.[110]

16.3.4 Promoting Clean Energy: Pending Disputes at the WTO

For many years, the debate on trade and climate change remained rather abstract. However, as the proliferation of climate policies continues and climate change law expands, concrete linkages between the UNFCCC and the WTO are becoming more apparent. Interestingly, this reality is already reflected in the WTO dispute settlement system where some disputes related to renewable energy technologies have found their way. The most advanced is the *Canada-Certain Measures Affecting the Renewable Energy Generation Sector* case between Japan and Canada where a panel was composed in the autumn of 2011.[111] Another dispute, *China-Measures concerning Wind Farm Equipment* between the US and China reached the consultation stage before China ended the disputed measures.[112] The US has, however, also considered bringing a similar dispute to the WTO concerning China's subsidies to its solar panel industry.[113]

In the renewable energy dispute between Canada and Japan, the key question relates to a Canadian feed-in tariff, which, as such, is a popular way to promote the generation of renewable energy. Under its feed-in tariff programme, Ontario guarantees electricity purchase prices, grid access, and long-term contracts to renewable energy producers thus limiting their risks and supporting needed investments.[114] However, to receive such support, renewable energy producers must ensure that a

[109] See, for example, Eckhard Pache, "On the Compatibility with International Legal Provisions of Including Greenhouse Gas Emissions from International Aviation in the EU Emission Allowance Trading Scheme as a Result of the Proposed Changes to the EU Emission Allowance Trading Directive", Legal Opinion Commissioned by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 2008, available at: www.bmu.de/files/pdfs/allgemein/application/pdf/aviation emission trading.pdf (last accessed on 31 March 2012), at 5–6.

[110] This argument by India is briefly mentioned, for example, in Lavanya Rajamani, *European Union, Climate Action Hero?* IndianExpress.com, 3 August 2011, available at: www.indianexpress.com/news/european-union-climate-action-hero/826290/1 (last accessed on 31 March 2012).

[111] *Canada-Certain Measures Affecting the Renewable Energy Generation Sector*, WTDS412/1, 16 September 2010.

[112] *China-Measures concerning Wind Farm Equipment*, Request for Consultations, WT/DS419/1, 22 December 2010.

[113] Marie Wilke, "US vs China: Renewable Energy Competition Hits the WTO", ICTSD China Programme, April 2011, available at: http://ictsd.org/i/news/bioresreview/103556/ (last accessed on 8 March 2012).

[114] "Canada-Japan Renewable Energy Spat Arrives at WTO," 11 *Bridges TradeBioRes*, 27 June 2011.

certain percentage of the goods and services used for setting up the facility comes from Ontario.[115] This can be as high as 60%.[116] Japan alleges that the measure violates the national treatment provisions of the GATT and the Agreement on Trade Related Investment Measures.[117] It also claims that the local content requirement makes the feed-in tariff programme a "prohibited subsidy," under the terms of the SCM Agreement.[118] Also the EU initiated WTO consultations against Canada concerning the same measure in August 2011. It indicates that:

> Exports from the EU into Canada in wind power and photovoltaic power generation equipment are significant, ranging from 300 to 600 million € in 2007–2009. These figures could be higher should the local content requirements be removed from the legislation in question. The EU is also increasingly concerned by such measures taken by other trading partners.[119]

In the wind farm equipment dispute between China and the US, the disputed measure related to grants, funds, or awards to Chinese enterprises manufacturing wind power equipment.[120] According to the US, the support appeared to be contingent on the use of domestic over imported goods, thus violating Article 3 of the SCM Agreement.[121] China initially responded that its measures were helping to save energy and protect the environment.[122] It has been argued that two important legal questions could have emerged in the dispute, namely whether the environmental exceptions under Article XX of the GATT extend to the SCM Agreement, and if so, could the local content requirement be defended under Article XX.[123] However, China has subsequently ended the disputed wind power equipment subsidies.[124]

Attention in the US is now increasingly turning towards Chinese subsidies to its solar industry.[125] The price of solar panels has dropped significantly – by more than 30% in 2011 – due to cheap production in China.[126] While this is good news for those installing solar panels, many US solar panel manufacturers have gone bankrupt.[127]

---

[115] Ibid.

[116] Ibid.

[117] Ibid.

[118] Ibid.

[119] "The EU requests WTO consultations with Canada over Ontario's renewable energy policy", Press Release, 11 August 2011, available at: http://trade.ec.europa.eu/doclib/press/index.cfm?id=732 (last accessed on 8 March 2012).

[120] *China-Measures concerning Wind Farm Equipment*, supra, note 112, at 1.

[121] Ibid.

[122] Wilke, "US vs China", supra, note 113.

[123] Ibid.

[124] "China Ends Wind Power Equipment Subsidies Challenged by the United States in WTO Dispute" Office of the United States Trade Representative 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 (last accessed on 8 March 2012).

[125] James Melik, "US Turns Up Heat on China Solar Subsidies", BBC News, 22 February 2012, available at: http://www.bbc.co.uk/news/business-17094881 (last accessed on 8 March 2012).

[126] Ibid.

[127] Ibid.

On the other hand, new jobs continue to be created in the US for people installing solar panels.[128] Demand for solar panels is driven by a US government support scheme to encourage their installation – prompting, in turn, an announcement from China that it is looking into the US government support for renewable energy.[129]

The pending WTO cases and the US-China solar panel controversy illustrate that a new era may be dawning in the relationship between trade and climate change as the transition towards a low-carbon economy takes off. As argued above, climate change is increasingly framed as an economic opportunity and transition to cleaner energy is depicted as a question of competitiveness. To achieve the necessary transformation, governments are seeking to support clean energy technologies and other industries relevant for the green economy. While some WTO lawyers have drawn attention to questions concerning the desirability of climate-related subsidies in general,[130] one of the most evident legal challenges is that governments tend to design their support schemes in such a way that seeks to aid the domestic industries to gain an edge in greener technologies. As the pending disputes at the WTO show, the situation is therefore problematic from the perspective of international trade law. From the climate policy perspective, however, support for cleaner technologies is commonly seen as a necessity. According to the IPCC AR4, financial incentives, such as subsidies and tax credits, "are often critical to overcome barriers."[131] All this highlights the increasingly relevant interaction between the WTO and UNFCCC legal regimes – are their objectives and rules mutually supportive of the necessary but highly ambitious transition to a low-carbon economy? Based on the disputes currently pending at the WTO, questions concerning government support for green technologies may well end up being more significant in practice than the much-debated question of climate-motivated trade measures.

16.4 Institutional Linkages: Role of the WTO Dispute Settlement System

As we have seen, a growing number of substantive linkages between trade and climate change can be identified. Linkages between the two legal regimes are not, however, reciprocated at the institutional level. Still, as Epps and Green point out, institutional questions are critical: "the institutional framework… will determine or at least strongly influence who decides which policy (whether it be a climate policy or trade policy) is permissible."[132] One of the key legal questions in this regard is

[128] Ibid.

[129] Ibid.

[130] Epps and Green, *Reconciling Trade and Climate,* supra, note 24, at 103–121.

[131] IPCC Working Group, "Summary for Policymakers", supra, note 26, at 19.

[132] Epps and Green, *Reconciling Trade and Climate,* supra, note 24, at 10.

what would happen in case of a legal dispute surfaced involving a conflict between the UNFCCC and the WTO regimes. Institutionally, the WTO system appears much stronger than the combined force of the UNFCCC and the Kyoto Protocol. As explained above, the Understanding on the Rules and Procedures Governing the Settlement of Disputes (DSU)[133] created a quasi-judicial dispute settlement system[134] with a compulsory and exclusive jurisdiction on WTO law binding on all WTO Members. In contrast, the UNFCCC and the Kyoto Protocol reflect the general trend under international environmental law towards compliance assessment and facilitation, and hence do not contain provisions on legally binding dispute settlement.[135] The WTO dispute settlement system would therefore be the likeliest forum to settle a controversy involving the UNFCCC regime and WTO rules.

This has some important implications. Epps and Green argue that "WTO rules and the interpretation of those rules by panels and the WTO Appellate Body determine whose values prevail"[136] While this is true, I have argued elsewhere that this could be damaging both for the relationship between the WTO and UNFCCC, and for the legitimacy of the WTO dispute settlement system.[137] It is interesting to note, however, that the new Forum on Response Measures under the UNFCCC could, in principle, also address the question of trade measures implemented to address climate change.[138] While its institutional features do not match the compulsory nature of the WTO dispute settlement system and the Forum's status under the UNFCCC remains politically highly sensitive, it nevertheless provides an opportunity to consider the trade-climate change linkage under the UNFCCC. In theory at least, the Forum could recommend to the climate COP either a decision on climate-related trade measures in general or with respect to a concrete case. Reaching consensus on such politically sensitive issues under the UNFCCC remains, however, highly unlikely.

---

[133] Understanding on Rules and Procedures Governing the Settlement of Disputes, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations 354 (1999), 33 *International Legal Materials* (1994), 1226.

[134] For an explanation of why the WTO dispute settlement system is commonly described as "quasi-judicial," see Georges Abi-Saab, "The WTO Dispute Settlement and General International Law," in Rufus Yerxa and Bruce Wilson, (eds), *Key Issues in WTO Dispute Settlement. The First Ten Years* (Cambridge et al.: Cambridge University Press, 2005), 7, at 9–10.

[135] UNFCCC, supra, note 1, Art. 14 and the Kyoto Protocol, supra, note 44, Art. 19 provide for optional recourse to the International Court of Justice or arbitration, and a mandatory recourse to non-binding conciliation. Article 13 of the UNFCCC also foresees the establishment of a multilateral consultative process "for the resolution of questions regarding the implementation of the Convention." The text has been negotiated apart from two paragraphs on representation but the issue has not been resolved "due to lack of interest in view of more pressing in developing compliance procedures under the Protocol." Yamin and Depledge, *The International Climate Change Regime*, supra, note 17, at 384–385.

[136] Epps and Green, *Reconciling Trade and Climate* supra, note 25, at 35.

[137] Kulovesi, *The WTO Dispute Settlement System,* supra, note 3, at 254–257 and 266–267.

[138] Decision 8/CP.17, supra, note 54.

The consideration of a dispute involving the WTO and the UNFCCC through the WTO dispute settlement system involves some important legal challenges. Most notably, the status of international environmental law, including the UNFCCC, the Kyoto Protocol and a possible new climate treaty, in WTO dispute settlement proceedings involves important uncertainties.[139] In theory, non-WTO norms of international law could play a role in the WTO dispute settlement system in three different ways: through direct application; as a source of interpretative material; or as factual evidence.[140] Scholars disagree as to whether the WTO dispute settlement system may directly apply non-WTO norms.[141] What may perhaps be seen as the prevailing view on the relationship between the WTO system and other norms of international law can be summarised as follows:

> WTO adjudicating bodies cannot formally interpret other treaties and customs and thus cannot apply or enforce other treaties or customs or determine the legal consequences of rights and obligations that WTO Members may have under other treaties or by custom; these may be examined only when necessary for the interpretation of WTO law and/or as a factual determination.[142]

There are, however, other interpretations. Pauwelyn argues that unless an international treaty explicitly contracts out of general international law, general international law automatically applies to the regime created and fills gaps left by the treaty.[143] Since the WTO Agreement contains no such "contracting out" provision, Pauwelyn argues that it is unnecessary for the DSU to explicitly refer to general international law as a source of law: the WTO system is automatically part of general international law.[144] He also argues that the expression "cannot add or diminish rights and obligations" in Article 3.2 of the DSU does not limit the competence of the WTO dispute settlement system in terms of applicable law.[145] Instead, it constrains the interpretative powers of the WTO dispute settlement system by setting out the limits of the judicial function.[146] What follows is that the WTO dispute settlement system can apply but not enforce non-WTO rules.[147] In light of the scholarly debate and existing WTO dispute settlement practice it does not seem

---

[139] For a detailed discussion, see Kulovesi, *The WTO Dispute Settlement System*, supra, note 3, at 156–178.

[140] Ibid., at 135–149.

[141] Compare Joel P. Trachtman, "The Domain of the WTO Dispute Resolution," *Harvard International Law Journal*, Spring (1999), at 333–377 and Gabrielle Marceau, "WTO Dispute Settlement and Human Rights," 14 *European Journal of International Law* (2002), 753; with Joost Pauwelyn, "The Role of Public International Law in the WTO," 95 *American Journal of International Law* (2005), 535.

[142] Marceau, "WTO Dispute Settlement and Human Rights," supra, note 140, at 753.

[143] Joost Pauwelyn, "How to Win a World Trade Organization Dispute Based on Non-World Trade Organization Law: Questions of Jurisdiction and Merits," 37 *Journal of World Trade* (2003), 997 at 1001–1002.

[144] Ibid.

[145] Pauwelyn, "The Role of Public International Law in the WTO," supra, note 141, at 561.

[146] Pauwelyn, "How to Win a WTO Dispute Based on Non-WTO Law," supra, note 143, at 1003.

[147] Pauwelyn, "The Role of Public International Law in the WTO," supra, note 141, at 566.

possible to conclude with certainty whether the UNFCCC, the Kyoto Protocol or its possible successor treaty could sometimes be directly applied during WTO dispute settlement proceedings.

While the direct application of non-WTO norms by the WTO dispute settlement bodies remains controversial, it is widely accepted that non-WTO rules of international law can play a role in WTO disputes through interpretation. This is in conformity with the customary rules of treaty interpretation and Article 31.3(c) of the Vienna Convention on the Law of Treaties (VCLT) providing that: "There shall be taken into account, together with the context… any relevant rules of international law applicable in the relations between the parties."[148] For Marceau, this provisions serves to attain a degree of coherence in international law and helps to remedy some of the problems arising out of the limited substantive applicability of non-WTO law in the dispute settlement system.[149] Also van Asselt has highlighted the provision and the principle of systemic integration that the VCLT arguably embodies as potential tools to manage fragmentation of international law.[150] Indeed, on the face of it, recourse to Article 31.3(c) of the VCLT to ensure the mutual supportiveness of the WTO and UNFCCC regimes seems like an attractive solution. There are, however, some important caveats: While it is clear that relevant rules of international law must be taken into account in the interpretation of WTO law, it is far less clear what constitutes such '"relevant rule of international law applicable in the relations between the parties." Are they only such rules that are binding on all WTO Member States?[151] This would mean that the practical relevance of non-WTO norms is very limited: "the more WTO members we have, the less relevant rules we can refer to. Because there are more WTO members, there will be less 'other rules' that are binding on all WTO members."[152]

Or, are relevant rules such rules that are binding on the parties to a particular dispute? This would seem like a sensible solution and one that could help to promote the coherence and unity of international law. Unfortunately, the answer to this question also remains open. In the *Biotech* dispute, the panel did not consider the Cartagena Protocol on Biosafety, closely related to the dispute's subject matter, as a relevant rule of international law. This was largely expected, given that none of the three complainants were Parties to the Protocol.[153] However, the panel also left open

[148] Convention on the Law of Treaties, Vienna, 22 May 1969, in force 27 January 1980, 8 *International Legal Materials* (1989), 679.

[149] Marceau, "WTO Dispute Settlement and Human Rights," supra, note 141, at 785–786. See also Gabrielle Marceau, "A Call for Coherence in International Law: Praises for the Prohibition Against 'Clinical Isolation' in WTO Dispute Settlement System," 33 *Journal of World Trade* (1999), 87, at 108.

[150] Harro van Asselt, "Fragmentation of International Climate Law" in Chapter 13 of the present volume.

[151] For discussion see, Marceau, "WTO Dispute Settlement and Human Rights," supra, note 141, at 780–783.

[152] Joost Pauwelyn, "Speech Delivered at the Fourth Annual WTO Conference," in Mads Andenas and Frederico Ortino (eds), *WTO Law and Process* (United Kingdom: British Institute for International and Comparative Law, 2005), 494, at 496.

[153] WTO Panel Report, *European Communities – Measures Affecting the Marketing and Approval of Biotech Products*, WT/DS291/R, WT/DS292/R, WT/DS293/R, 29 September 2006, paras. 7.71–7.75 (Hereafter: Biotech Panel Report).

the possibility that only such agreements could be considered as 'relevant rules' of international law to which all WTO Members are parties. In other words, the *Biotech* panel ruled that since the case was not one where relevant rules of international law were applicable between all parties to the dispute but not between all WTO Members, it did not need to decide whether, in such a situation, it would be entitled to take the relevant rules of international law into account.[154]

While the Kyoto Protocol has more Parties (192) than there are WTO Members (157), membership in these two international legal agreements is not completely overlapping. For instance, the US is a Member of the WTO but will never ratify the Kyoto Protocol and Canada, also a WTO Member, recently withdrew from the Protocol. Hence, in light of the *Biotech* decision, the possibility remains that the Kyoto Protocol is never relevant for the interpretation of WTO law within the meaning of the VCLT. It is also conceivable that some key countries from the point of view of climate change mitigation choose to remain outside of the possible new post-2020 climate treaty. According to the ILC, however, a better approach would be to permit references to another treaty in cases where the parties to the dispute are also parties to the other treaty – otherwise, the coherence of the WTO regime comes at the expense of the coherence of the multilateral treaty system as a whole.[155] It is easy to agree with the ILC here.

The *Biotech* panel emphasized that legal norms could also be considered, not in the legal sense but in the same way as dictionaries:

> Such rules would not be considered because they are legal rules, but rather because they may provide evidence of the ordinary meaning of terms in the same way that dictionaries do. They would be considered for their informative character. It follows that when a treaty interpreter does not consider another rule of international law to be informative, he or she need not rely on it.[156]

While the Appellate Body had considered at least the Convention on Biological Diversity and possibly also other environmental instruments in this sense in the *Shrimp-Turtle* dispute,[157] the *Biotech* panel decided that the Cartagena Protocol was not relevant in a dispute that related to its very subject matter of transboundary movement of living modified organisms.[158] What this shows is that the WTO dispute settlement system has broad discretionary powers when it comes to considering MEAs as factual evidence. In other words, this interpretative practice could also serve to promote coherence in the international legal system, also addressing the tricky issue of non-Parties.[159] In light of the *Biotech* panel decision, however, the

[154] Ibid., para. 7.71.

[155] International Law Commission, *Fragmentation of International Law*, supra, note 20, at 238.

[156] Panel Report, *Biotech*, supra, note 153, para. 7.91.

[157] *Shrimp-Turtle* Appellate Body Report, supra, note 101, para 130.

[158] Panel report – *Biotech*, supra, note 53, para. 7.95.

[159] See Kulovesi, *The WTO Dispute Settlement System,* supra, note 3, at 176–177 for detailed analysis.

extreme possibility cannot be entirely ruled out that the Kyoto Protocol would be deemed completely irrelevant in a WTO dispute involving policies and measures designed to implement the Kyoto Protocol.[160] Overall, the situation seems far from satisfactory: the legal relevance of the Kyoto Protocol or its successor in the WTO dispute settlement proceedings remains unclear with the options ranging from its direct application to complete ignorance. Such legal and institutional discrepancies are hardly conducive to fruitful cooperation between the trade and climate change regimes. Finally, as described by van Asslet in the present volume, there are also other ways in which institutional cooperation between the trade and climate regimes could be enhanced.[161]

16.5 Conclusions: Towards Increasing Linkages and Enhanced Cooperation?

Over the past 20 years, the international trade and climate change regimes have evolved in relatively comfortable isolation from each other. Different delegates and experts tend to attend the respective negotiations and few, if any, people can claim to have comprehensive understanding of both regimes. In this sense, concerns over fragmentation of international law are highly relevant and valid in the relationship between climate change and trade. However, substantive links between these two prominent international regimes are becoming increasingly apparent as their shared territory expands due to rapid evolution of climate change law and policy.

The question concerning unilateral trade measures and border carbon adjustments has received ample attention over the years. However, the evolution of climate change law shows that it is by no means the only relevant question in the relationship between the climate change and trade regimes –and perhaps not even the most important one. The recent surge of disputes concerning clean energy technologies at the WTO illustrates that the transformation to a low carbon or green economy may well shift the focus from the GATT and associated legal issues towards other WTO Agreements, including the SCM Agreement and also the TBT Agreement due to the growing importance of energy efficiency standards and similar measures. Enhanced efforts may be needed in the future to ensure and improve the mutual supportiveness of the two regimes.

In institutional terms, the relative institutional strength of the WTO and its dispute settlement system adds a layer of complexity to the relationship between the international trade and climate change regimes. Here, the biggest concern is the status and relevance of international climate treaties in the WTO dispute settlement

[160] Ibid., at 254–256

[161] van Asselt, “Fragmentation of International Climate Law”, supra, note 150.

system. While the *Shrimp-Turtle* case made several advances in the relationship between trade and environment, it also left some crucial questions unanswered concerning the relationship between WTO law and international environmental law. Most critically, it did not explain the legal relevance of the various environmental instruments to which the WTO Appellate Body referred in its decision. It may well be that they were merely used as factual evidence to define the ordinary meaning of the wording of the GATT.[162] The subsequent *Biotech* panel avoided accepting the relevance of the Cartagena Protocol on Biosafety in the WTO proceedings, including as factual evidence. The *Biotech* decision was not appealed and the Appellate Body, which has traditionally been more open to considering international environmental law than the panels, never had a chance to consider the question. Regardless, the *Biotech* decision goes to show that the WTO dispute settlement system holds ample discretion to either consider or ignore MEA sas factual evidence. In this light, it is not clear what role the UNFCCC, Kyoto Protocol or a new, post-2020 climate treaty would play in WTO dispute settlement proceedings. This means that a considerable degree of uncertainty remains in the relationship between the UNFCCC and WTO legal regimes. However, after two decades of relative insulation, attention is gradually turning, as it should be, towards mutual supportiveness and ways in which trade and climate regimes could promote each other's objectives. For the transformation of low carbon economy, this is an essential step.

[162] For detailed analysis, see Kulovesi, *The WTO Dispute Settlement,* supra, note 3, at 173–175.