

**The trade system and climate  
action: ways forward under the  
Paris Agreement**

**Working Paper**

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**Authors**

**Susanne Droege**

**Harro van Asselt**

**Kasturi Das**

**Michael Mehling**

### About the Authors

**Susanne Droege** - Senior Fellow, Global Issues Research Division at the German Institute for International and Security Affairs, Berlin, Germany

**Harro van Asselt** - Senior Research Fellow, Stockholm Environment Institute Oxford Centre; Professor of Climate Law and Policy, University of Eastern Finland Law School

**Kasturi Das** - Associate Professor Economics and International Business, Institute of Management Technology, Ghaziabad, India

**Michael Mehling** - Deputy Director, Center for Energy and Environmental Policy Research at Massachusetts Institute of Technology (MIT), USA

### About the Project

*This working paper is part of the Climate Strategies project on “Making the International Trade System work for Climate Change”. The international trade system – the World Trade Organization (WTO) as well as regional and bilateral trade agreements – has often been criticised from a climate policy perspective, with trade rules perceived by some as a barrier to stronger climate ambition. Yet trade rules can also be looked at as something that could potentially help to achieve transformative change in climate policy. The project consists of four work packages, rolled out during the course of 2016-2018 covering climate-trade interactions, border carbon adjustments, fossil fuel subsidies and future options for adjusting trade rules and practices to promote climate protection.*

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### About Climate Strategies

Climate Strategies is an international organisation that convenes networks of leading academic experts around specific climate change policy challenges. From this it offers rigorous, independent research to governments and the full range of stakeholders, in Europe and beyond. We provide a bridge between research and international policy challenges. Our aim is to help government decision makers manage the complexities both of assessing the options, and of securing stakeholder and public consensus around them. Our reports and publications have a record of major impact with policy-makers and business.

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## List of Abbreviations:

<b>AB:</b>	Appellate Body
<b>BCA:</b>	Border carbon adjustment
<b>CETA:</b>	Comprehensive Economic and Trade Agreement
<b>CDM:</b>	Clean Development Mechanism
<b>CMA:</b>	Conference of the Parties serving as the Meeting of the Parties
<b>COP:</b>	Conference of the Parties
<b>CORSIA:</b>	Carbon Offsetting and REduction Scheme for International Aviation
<b>CTE:</b>	Committee on Trade and Environment
<b>CVD:</b>	Countervailing duty
<b>DSB:</b>	Dispute Settlement Body
<b>EGA:</b>	Environmental Goods Agreement
<b>ETS:</b>	Emissions trading system
<b>EU:</b>	European Union
<b>FIT:</b>	Feed-in tariff
<b>GATS:</b>	General Agreement on Trade in Services
<b>GATT:</b>	General Agreement on Tariffs and Trade
<b>GPA:</b>	Government Procurement Agreement
<b>ICAO:</b>	International Civil Aviation Organization
<b>IMO:</b>	International Maritime Organization
<b>INDC:</b>	Intended nationally determined contribution
<b>IPRs:</b>	Intellectual property rights
<b>JI:</b>	Joint Implementation
<b>JNNSM:</b>	Jawaharlal Nehru National Solar Mission
<b>LCR:</b>	Local content requirement
<b>MFN:</b>	Most-favoured nation
<b>NAFTA:</b>	North American Free Trade Agreement
<b>NDC:</b>	Nationally determined contribution
<b>PPMs:</b>	Processes and production methods
<b>RTA:</b>	Regional trade agreements
<b>SCM:</b>	Subsidies and Countervailing Measures
<b>TBT:</b>	Technical Barriers to Trade
<b>TRIMS:</b>	Trade-Related Investment Measures
<b>TRIPS:</b>	Trade-Related Aspects of Intellectual Property Rights
<b>TTIP:</b>	Transatlantic Trade and Investment Partnership
<b>TPP:</b>	Trans-Pacific Partnership
<b>UNFCCC:</b>	United Nations Framework Convention on Climate Change
<b>WTO:</b>	World Trade Organization

## Executive Summary

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The relationship between trade policy and climate policy needs to improve in the future, in particular with a view towards implementing the Paris Agreement. With the aim of making trade policy supportive of climate action, this working paper discusses the relationship between the regimes established by the World Trade Organization (WTO) and the United Nations Framework Convention on Climate Change (UNFCCC), the provisions and pending disputes, the role of regional trade agreements as well as upcoming issues emerging from the Paris Agreement. It highlights several options for addressing the relationship between the two regimes from a legal, institutional and a policy perspective. The suggested options relate to those fields where national climate policy action has been taken during the last years and which are part of the intended nationally determined contributions (INDCs) submitted in the run-up to the Paris Agreement.

The international trade policy landscape has become increasingly fragmented. More regional deals have led to a diminishing role for the WTO. At the same time, however, the WTO dispute settlement system is asked to decide on an increasing number of cases that relate to national climate policies with trade implications. These seemingly contradictory observations matter for the implementation of the Paris Agreement. First, many regional trade agreements include climate and environmental provisions, and could thus help prevent a regulatory race to the bottom. Second, the increasing number of WTO disputes over national renewable energy policy regulations points to the case-by-case nature of WTO rule application on the one hand, and to a more systemic conflict of national approaches with the WTO obligation of non-discrimination on the other.

The following issues demand further attention from both analysts and policy makers, because they touch upon, or increase the role of, trade rules.

- *Market mechanisms covered by Article 6 of the Paris Agreement and the trading of international emission reduction units.* Emissions trading as such is not contested from a trade policy point of view. However, there is a demand for a clearer definition of related services under the General Agreement on Trade in Services Annex on Financial Services. There is also potential for the allocation of mitigation efforts under domestic climate policies to interfere with trade regime rules on subsidies and countervailing measures.
- *Technology transfer through trade as a means of implementation under the Paris Agreement.* Technology transfer and the protection of intellectual property rights will remain a potential source of conflict in the future. The Agreement on Trade-Related Aspects of Intellectual Property Rights does not provide enough common ground among the WTO members from industrial countries and from developing countries.
- *Carbon pricing and emissions trading.* The INDCs submitted by countries ahead of the Paris climate summit show that many countries are interested in using domestic carbon pricing and emissions trading for complying with their mitigation targets. Concerns about competitiveness impacts could reanimate

the discussion about carbon leakage and adjustment of carbon prices at the border through trade measures.

- *Implementation of national climate policy in the energy sector.* The implementation of nationally determined contributions (NDCs) under the Paris Agreement includes more support for renewable energy in many countries. The number of specific regulations, such as local content clauses and subsidies that are in conflict with WTO rules could rise.
- *Removal of fossil fuel subsidies.* The removal of fossil fuel subsidies could bring about climate benefits, but still needs more support by international institutions, including the WTO and RTAs. This could bring about more transparency and coordination of national activities.

### Priorities emerging from the analysis

First, at the regime level, a set of WTO reform options exists. These options will most likely lack political support in the short term. Nevertheless, we suggest an authoritative interpretation of Article XX of the General Agreement on Tariffs and Trade as a way forward to clarify the scope of exceptions to trade obligations. Such a step offers an important political signal that the WTO is being regarded and positioned as an institution that supports the climate policies of its members. At the very least, an authoritative interpretation could have members confirm what is already commonly accepted in case law, offering a pro-climate signal. At most, an authoritative interpretation could aim at settling controversial debates, such as the role of processes and production methods when judging the climate impacts of a traded good.

Second, the dispute settlement mechanism under the WTO could be made more “climate-friendly” by including climate expertise in the dispute settlement mechanism in a more balanced way.

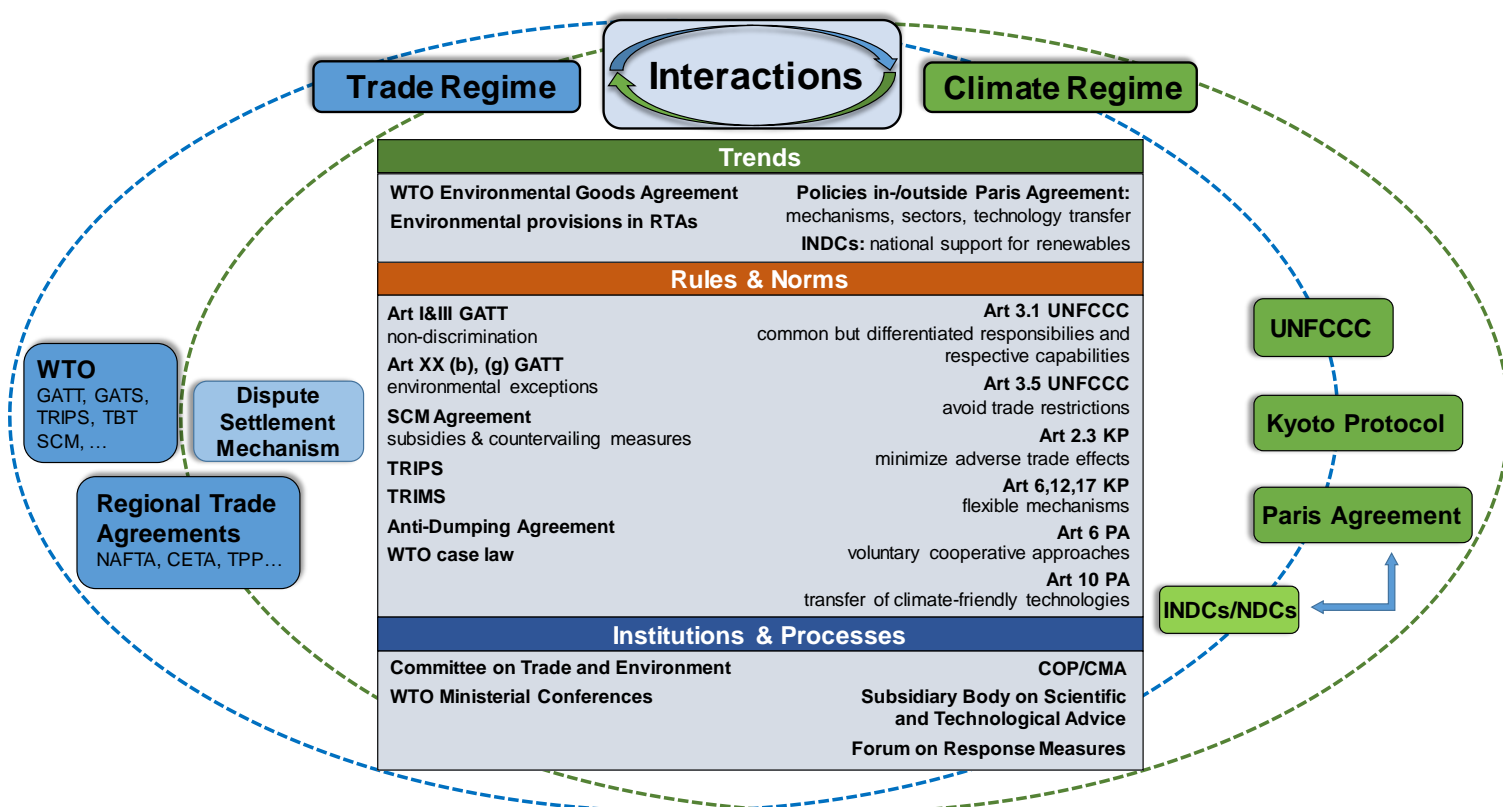
Third, the negotiations of regional trade agreements are a promising way forward for introducing and testing new rules on climate and trade. In particular, megaregional trade deals (such as the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership) have the potential to diffuse climate protection rules more widely as long as the negotiating parties have a common interest in avoiding a race to the bottom in setting climate protection standards.

Fourth, plurilateral trade agreements could offer a more WTO-specific option to set common rules for trade and climate policy among WTO members who wish to bring this forward. The Environmental Goods Agreement (EGA) is an example of this option. A broader trade and climate agreement, covering a set of key issues (e.g. market mechanisms, services, and non-tariff barriers), could further strengthen the promotion of climate objectives.

Fifth, the bodies of the WTO and the UNFCCC could help strengthen transparency. To achieve this, an extended institutional setting at the WTO, e.g. through a Committee on Trade, Environment and Climate Change, would be one option. Another option would be to increase the coordination of existing bodies at the WTO (e.g. the Committee on

Trade and Environment, and the Trade Policy Review Mechanism) and the UNFCCC (e.g. the Subsidiary Body on Scientific and Technological Advice, and the forum on the impact of the implementation of response measures), with the aim of regular and detailed exchange of information on NDC implementation.

**Figure 1: Overview - The interactions between the trade and the climate regime**



**Abbreviations:** **CETA:** Comprehensive Economic and Trade Agreement; **CMA:** Conference of the Parties serving as the meeting of the Parties to this Agreement; **COP:** Conference of the Parties; **(I)NDCs:** (Intended) nationally determined contributions; **GATS:** General Agreement on Trade in Services; **GATT:** General Agreement on Tariffs and Trade; **KP:** Kyoto Protocol; **NAFTA:** North American Free Trade Agreement; **PA:** Paris Agreement; **RTAs:** Regional trade agreements; **SCM:** Agreement on Subsidies and Countervailing Measures; **TBT:** Agreement on Technical Barriers to Trade; **TRIMS:** Agreement on Trade-Related Investment Measures; **TRIPS:** Agreement on Trade-Related Aspects of Intellectual Property Rights; **TPP:** Trans-Pacific Partnership; **UNFCCC:** United Nations Framework Convention on Climate Change; **WTO:** World Trade Organization.

## 1. Introduction

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The Paris Agreement has established a new international framework for the parties to the United Nations Framework Convention on Climate Change (UNFCCC) from 2020 onwards. Climate policy will be based on national contributions to mitigation, adaptation, and financial, technological and capacity-building support. At the international level, regular reviews of national efforts will help strengthen transparency, and are expected to drive national ambitions to meet the goal of keeping the global average temperature increase well below 2 degrees Celsius compared to pre-industrial levels by the end of the century. This new regime needs support from other policy regimes. The trade policy agenda is among the most important ones, because trade liberalisation can on the one hand help the uptake of climate-friendly goods and services and foster the deployment of clean technologies, while, on the other hand, national climate policy measures can collide with trade rules due to conflicting principles and priorities.

As climate policy has become a major international policy field, its standing vis-à-vis the well-established World Trade Organization (WTO) regime is changing. With the increasing importance of national measures following the adoption of the Paris Agreement, synergies and conflicts can be expected to change over time. An indicator are the WTO disputes that have emerged in recent years, which centre on renewable energy production and trade in related goods and services. The inclusion of environmental and climate policy provisions in regional trade agreements (RTAs) further shows that there is a demand for policy coordination.

This working paper reviews the interactions between climate and trade policy by giving an overview of the two regimes, focusing on the legal and political dimensions. In particular, we assess the interactions between the climate regime's policy measures with the trade regime of the WTO, as well as aspects that emerge from RTAs. We focus on the question how the international trade regime could be supportive in tackling climate change. A mapping of the interactions is presented in Figure 1.

Chapter 2 introduces the climate change and trade regimes (including the WTO and RTAs). Chapter 3 gives an overview of the trade rules and their relevance for climate policy. Chapter 4 illustrates the interactions between international and national climate policy approaches and trade policy. Chapter 5 summarizes the state of play of suggested solutions to avoid conflicts and strengthen synergies between the regimes.



## 2. The climate and trade regimes: an overview

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### 2.1. The climate regime

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The UNFCCC was adopted in 1992 at the Rio Conference on Environment and Development. With 196 parties, it has nearly universal participation. It sets out the main objective of the climate regime as “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”.<sup>1</sup> However, the Convention did not specify the legal obligations to achieve this objective. In 1995, parties started negotiating a protocol to stipulate mitigation targets for developed countries. This led to the adoption of the Kyoto Protocol in 1997, which now has 192 parties. The Protocol requires industrialized countries to collectively reduce average greenhouse gas emissions by 5.2% during 2008-2012 (i.e. the first commitment period), compared to 1990 levels. As an innovation, it introduced several market-based instruments (“flexible mechanisms”) to allow for cost-effective mitigation. While developing countries have signed and ratified the Kyoto Protocol they do not have any concrete obligations to reduce their emissions. With the 2012 Doha Amendment to the Kyoto Protocol, parties agreed on a new commitment period for 2013-2020. However, the amendment has yet to enter into force.

Throughout the history of the climate regime, a recurring question has been who should take action to reduce greenhouse gas emissions, and how the effort to address climate change should be shared. The UNFCCC establishes the principle of common but differentiated responsibilities and respective capacities, which was initially translated into a bifurcated division of Annex I (developed countries) and non-Annex I countries (developing countries). This approach was also followed in the Kyoto Protocol, which only required Annex I countries to mitigate emissions. As the pressure to broaden participation of countries – particularly major emerging economies such as China, which surpassed the United States as the world’s largest emitter in the late 2000s – in mitigation efforts rose fast, parties launched negotiations on a new climate treaty under the UNFCCC with the Bali Road Map in 2007. The purpose of a new agreement was to establish a genuinely global effort for long-term climate policy. After the 15<sup>th</sup> UNFCCC Conference of the Parties (COP) in Copenhagen 2009 did not succeed in adopting a new global agreement, it took another six years of negotiations to find a consensus in Paris at COP21.

The Paris Agreement was adopted by the 196 parties to the UNFCCC on 12 December 2015, and has been signed by 191 states, and ratified by 74 states. The Agreement will enter into force on 4 November 2016.<sup>2</sup> Its purpose is threefold: (1) to limit the global average temperature increase to “well below” 2 degrees Celsius above pre-industrial levels and “to pursue efforts” to achieve 1.5 degrees Celsius; (2) to enhance the ability

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<sup>1</sup> UNFCCC (1992): United Nations Framework Convention on Climate Change.

<sup>2</sup> See [http://unfccc.int/paris\\_agreement/items/9444.php](http://unfccc.int/paris_agreement/items/9444.php) (as of 6 October 2016).

to adapt to climate change, to increase the resilience and to establish low-greenhouse gas development; (3) to make financial flows consistent with a low emissions pathway and climate resilient development. Unlike the Kyoto Protocol, the core obligations under the Paris Agreement apply universally to *all* UNFCCC parties, and not just developed country parties.<sup>3</sup> The Paris Agreement requires all parties to prepare and communicate nationally determined contributions (NDCs) which will have to be reviewed and updated every five years, with each new NDC required to be more ambitious than the previous one.<sup>4</sup> The Agreement further specifies actions in the area of adaptation, as well as obligations related to the “means of implementation” (i.e. financial, technological, and capacity-building support). Although the contents of NDCs are up to parties, the Agreement puts in place several mechanisms to review implementation and progress made, including a transparency framework to review implementation of the NDCs, a mechanism to facilitate implementation and promote compliance, and a five-yearly global stocktake to review collective progress.

The UNFCCC and the Kyoto Protocol both include explicit references to trade policy concerns. The language used is partly identical to that found in the General Agreement on Tariffs and Trade (GATT; see below),<sup>5</sup> aiming at preventing protectionist applications of climate policy measures. The Paris Agreement, by contrast, does not contain any references to trade, due mainly to diverging positions of developed and developing countries. Following the Bali Action Plan in 2007, proposals by developing countries surfaced to include text in an international agreement that would prohibit developed countries from using unilateral trade measures on climate grounds. However, such proposals were usually accompanied by counter-proposals by developed countries to include no text on the issue at all.<sup>6</sup>

To offer institutional space for discussing such critical issues, parties created a forum on the impact of the implementation of response measures in 2010.<sup>7</sup> As the Paris Agreement does not give guidance on trade and climate change, the forum will be the primary institutional space for ongoing discussions on trade-related concerns in the context of the UNFCCC.<sup>8</sup> The work of the forum needs to take into account “all relevant policy issues of concern”.<sup>9</sup> Although the work programme of the forum does not directly tackle the climate-trade overlap, technical work on assessing the impacts of response measures suggests that trade-related impacts will be considered.<sup>10</sup> In particular, the UNFCCC guidance on the impact assessment of response measures on developing countries mentions trade impacts from tariffs and border carbon adjustments (BCAs).<sup>11</sup>

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<sup>3</sup> UNFCCC (2015b): Paris Agreement.

<sup>4</sup> In 2015, parties to the UNFCCC have submitted their intended nationally determined contributions (INDCs), which will have to be updated and turned into NDCs under the Paris Agreement.

<sup>5</sup> Article 3.5 UNFCCC (1992) states that climate policy measures should not “constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade”.

<sup>6</sup> van Asselt (2014a); Chan (2016).

<sup>7</sup> UNFCCC (2011): Decision 1/CP.16, paras. 88-94.

<sup>8</sup> UNFCCC (2015b): Paris Agreement, Article 4.15; Bodle et al. (2016), p. 20; Chan (2016).

<sup>9</sup> UNFCCC (2015a): Decision 11/CP.21: para. 6.

<sup>10</sup> For the work programme, see

[http://unfccc.int/cooperation\\_support/response\\_measures/items/7418.php](http://unfccc.int/cooperation_support/response_measures/items/7418.php).

<sup>11</sup> UNFCCC (2016), Section III, A 36 (e), p. 8.

## 2.2. The world trade regime

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### The WTO

The origins of the world trade regime date back to 1947, when the General Agreement on Tariffs and Trade (GATT) was adopted. Nearly half a century later, the WTO was established, following the conclusion of the Uruguay Round of trade negotiations (1986-1994). The WTO, with its 164 members, is the institutional umbrella of a series of six sub-categories of agreements, including 14 agreements on trade in goods (e.g. GATT), and five other types of agreements, such as the General Agreement on Trade in Services (GATS) and the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS).<sup>12</sup>

The key objective of the GATT was to promote the liberalisation of trade in goods for the benefit of its members. It sets out a number of trade principles, most notably that trade measures imposed by a member shall not discriminate between different trade partners (known as the most-favoured nation (MFN) obligation; Article I).<sup>13</sup> Neither shall they discriminate against imported goods from other members vis-à-vis “like” domestic goods (the national treatment obligation; Article III). These key non-discrimination principles were derived from the concept of comparative advantage, according to which free trade increases welfare for two reasons: countries can specialize in products for which they have abundant resources, and with higher production there will be economies of scale. Free trade also allows a country to benefit from a wider variety of consumer goods offered by producers from other countries.

Although initial rounds of trade talks under the GATT were devoted to bringing down tariffs, later negotiation rounds (starting with the Tokyo Round, 1973-1979) broadened the scope to non-tariff barriers, such as import licensing, rules of origin, and investment measures. Over time, the multilateral trade regime came to cover new areas, such as services (through the GATS), intellectual property rights (through the TRIPS Agreement), technical standards (through the Agreement on Technical Barriers to Trade, TBT), and subsidies (through the Agreement on Subsidies and Countervailing Measures, SCM).

An important feature of the WTO is its strong dispute settlement mechanism, which extends the GATT’s practice.<sup>14</sup> Under the integrated system of dispute settlement created alongside the WTO, the same dispute settlement rules apply to disputes under virtually all WTO agreements, subject to any special or additional rules in an individual agreement.<sup>15</sup> The politically desirable outcome of a dispute is a resolution of the conflict through consultations, or, more generally, a solution mutually acceptable to the

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<sup>12</sup> WTO (1995): Agreement on Establishing the WTO.

<sup>13</sup> More specifically, a WTO member is obliged to provide to another WTO member treatment which is “no less favourable” than what it accords to any other country, irrespective of whether that country is a WTO member.

<sup>14</sup> WTO (1995): Agreement on Establishing the WTO, Article III.

<sup>15</sup> The WTO’s Dispute Settlement Understanding specifies the scope of jurisdiction of the WTO dispute settlement mechanism, limiting it to the “covered agreements” listed in Article 1.1 DSU.

parties to the dispute. If this is not possible, the primary objective of the process is to withdraw the measure under contention, with compensation and retaliation being avenues of last resort.<sup>16</sup> In contrast to the GATT's diplomatic norms, which were criticized for lacking the "teeth" necessary to ensure compliance, the dispute settlement mechanism has been described as being "the most developed dispute settlement system in any existing treaty regime".<sup>17</sup> The system has been used intensively since the WTO came into being. The total of 500 disputes over the 20-year history of the WTO contrasts with the total of 300 disputes brought under the dispute settlement system of the GATT — the predecessor to the WTO — over a period of 47 years (1947-1994).<sup>18</sup>

In 2001, a new round of trade talks, known as the Doha Development Round, was launched to expressly address issues of importance to developing countries. The Doha Round includes negotiations on the reduction or elimination of tariffs and non-tariff barriers on environmental goods and services, and paragraph 31 of the Doha Ministerial Declaration acknowledges the relationship between existing WTO rules, and specific trade obligations set out in multilateral environmental agreements. The Doha Round negotiations use a "single undertaking" approach, where countries agree on all issues together. This prevents countries from cherry-picking issues, but makes consensus more challenging. The Doha Round largely came to a halt in 2008, and little progress has been made since then. Nevertheless, WTO members managed to reach agreement on the 2013 "Bali package" (covering trade facilitation, food security in developing countries, and cotton trade), and the 2015 "Nairobi package" (including an agreement to eliminate agricultural export subsidies). However, at the Nairobi Ministerial in 2015 important disagreements persisted among WTO members on the best way forward, leading to a stalemate in the trade talks.<sup>19</sup>

Multilateral trade ambitions have faded since the 1990s due to a host of factors, such as emerging markets, shifting powers, and related national and regional interests, all on top of the large number of trade-related issues that are more complicated to negotiate than tariff rates. Generally, the WTO's relevance for global trade has always depended on the willingness of WTO members to bring negotiations forward. Contrary to its diminishing relevance in international trade law-making, the WTO's dispute settlement system is still a very strong institutional tool, and is used regularly by members. Given concerns about climate policy measures' potential to violate WTO rules, dispute settlement takes a key role in providing legal clarity in cases of conflict (see also Section 3.3).

By contrast, the number of RTAs has risen sharply. RTAs, of which mega-regional agreements are a sub-category, have to be notified to the WTO in accordance with Article XXIV GATT. In addition, under the WTO umbrella, there are two stand-alone plurilateral agreements, as well as plurilateral agreements that extend concessions to

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<sup>16</sup> Shedd et al. (2012).

<sup>17</sup> Palmetter (2000).

<sup>18</sup> See [https://www.wto.org/english/res\\_e/booksp\\_e/anrep\\_e/anrep16\\_chap6\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/anrep_e/anrep16_chap6_e.pdf).

<sup>19</sup> ICTSD (2015).

all WTO members on an MFN basis. The Environmental Goods Agreement (EGA), which is currently being negotiated<sup>20</sup>, falls in the latter category, meaning that the benefits of the agreement will apply to all WTO members once it is adopted.

Environmental concerns are acknowledged in the preamble to the 1995 Agreement Establishing the WTO, which contextualises the goals of the trade regime so as to “[allow] for the optimal use of the world’s resources in accordance with the objective of sustainable development”.<sup>21</sup> The WTO’s Committee on Trade and Environment (CTE) offers the institutional setting for elaborating the relationship between trade measures and environmental measures and for promoting sustainable development within the WTO. The CTE is open to all WTO members, as well as observers from intergovernmental organisations, including the UNFCCC Secretariat. Since the start of the Doha Round, the CTE has convened in Special Sessions to discuss the environmental aspects of the Doha Development Agenda. However, in recent years, limited progress has been made, in part due to the general stalemate in the Doha Agenda, as well as due to developments at the plurilateral level (see below).

Although climate change hardly featured in WTO discussions until 2007, under the leadership of WTO Director-General Pascal Lamy (2005-2013) the organisation became actively involved in discussions on the climate and trade interface, notably leading to a joint report with the United Nations Environment Programme on the subject in 2009.<sup>22</sup> Since the 1990s, the interface between trade and the environment – including, more recently, climate change – has come to the fore primarily through GATT/WTO case law. Although the individual cases have not led to major frictions between the two regimes, the implementation of the Paris Agreement with nationally driven climate action as a key approach, will lead to further demand for discussing and clarifying how the regimes could interact in a productive way (see Chapter 4).

## Regional trade agreements

Already during the Uruguay Round of trade negotiations, many GATT members turned to regional or bilateral trade agreements. The formation and strengthening of major trade blocs in the Americas (the North American Free Trade Agreement (NAFTA) and Mercado Común del Sur (MERCOSUR)) and Europe in the late 1980s and early 1990s meant that other countries were incentivised to either join or to establish their own agreements.<sup>23</sup> Against the backdrop of globalisation, RTAs were perceived to help enhance market access, promote foreign policy objectives and influence the policies of trading partners.<sup>24</sup> As a result, the number of RTAs has increased significantly in the last two decades, leading to a “spaghetti bowl” of trade agreements.<sup>25</sup> By February

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<sup>20</sup> In the ongoing negotiations, some parties aim at finalising the deal by the end of 2016. ICTSD (2016d).

<sup>21</sup> WTO (1995): Agreement on Establishing the WTO.

<sup>22</sup> Tamiotti et al. (2009).

<sup>23</sup> Baldwin (1997).

<sup>24</sup> Carpenter (2009).

<sup>25</sup> Bhagwati (1992).

2016, the WTO had received 625 notifications of RTAs, 419 of which were in force at that time, compared to 124 notifications to the GATT between 1948 and 1994.<sup>26</sup>

In recent years, the discussion of regionalism in the trade context has taken a new turn with the emergence of “mega-regional” agreements.<sup>27</sup> Negotiations on the EU-Canada Comprehensive Economic and Trade Agreement (CETA) were concluded in August 2014, and are now awaiting domestic approval. The Trans-Pacific Partnership (TPP, bringing together Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States and Vietnam) was signed in February 2016, and is pending entry into force. The negotiations for another mega-regional, the Transatlantic Trade and Investment Partnership (TTIP) between the European Union (EU) and the United States (US), are still ongoing, as are the negotiations for the Regional Comprehensive Economic Partnership (RCEP), involving ten ASEAN members, along with China, Japan, South Korea, India, Australia and New Zealand.

The mega-regionals are not only important because of the parties involved – which include some of the world’s major trading nations – but also because of their expansive scope, which covers not only market access, but also regulatory coherence. Given their scope and membership, the success or failure of mega-regionals may influence multilateral rule development. Success means that future multilateral rules may be modelled after the mega-regionals.<sup>28</sup> Success may also lead to fewer RTAs, helping to clean up the spaghetti bowl.<sup>29</sup> However, success is not guaranteed, as the various mega-regionals have come under significant scrutiny, partly triggered by civil society demands for transparency, partly by political opposition.

Environmental provisions have become increasingly prevalent in RTAs. NAFTA set the stage by including a side-agreement, the North American Agreement on Environmental Cooperation, with other US RTAs following suit. The EU also started to incorporate environmental provisions in its RTAs with third countries since the mid-1990s. EU trade agreements with third countries are also linked to an increasing number of multilateral environmental agreements, whereas US trade agreements have become increasingly specific about the environmental action required, backed up by consultations and dispute-settlement procedures in the agreement.<sup>30</sup> The trend of including environmental provisions is continuing also in the negotiation of mega-regionals. Chapter 20 of the TPP and Chapter 24 of CETA are dedicated in their entirety to environmental issues, and a chapter on trade and sustainable development is the subject of ongoing TTIP negotiations.

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<sup>26</sup> See WTO website: [https://www.wto.org/english/tratop\\_e/region\\_e/regfac\\_e.htm](https://www.wto.org/english/tratop_e/region_e/regfac_e.htm).

<sup>27</sup> Mega-regionals have been defined as “deep integration partnerships in the form of RTAs between countries or regions with a major share of world trade and [foreign direct investment] and in which two or more of the parties are in a paramount driver position, or serve as hubs, in global value chains”; World Economic Forum (2014), p. 13.

<sup>28</sup> Baldwin (2014).

<sup>29</sup> World Economic Forum (2014), p. 26.

<sup>30</sup> Jinnah and Morgera (2013).

## 2.3. The interactions between the regimes

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With the adoption of the Paris Agreement, the climate regime has witnessed an evolution towards a universal regime, which requires mitigation efforts from all parties, but leaves open what kind of action parties undertake. The shift towards a more “bottom-up” approach to international climate policy holds potential implications for trade, as the resulting flexibility allows for a variety of measures that could have trade implications and for which a supportive trade policy setting would be helpful.

The international trade regime has also undergone important changes in recent years. Although a well-established system of trade rules has been in place for over 20 years, and WTO members now include the world’s major trading nations, the single-undertaking approach that led to the WTO in the first place has created difficulties. Flanked by an increasing number of RTAs and, more recently, new mega-regional agreements, the relevance and dominance of the WTO in setting international trade rules has been challenged. This, in turn, may offer both opportunities and risks for global climate protection, because there is a lack of guidance on the one hand, and space for new mutually supportive rules on the other.

The two regimes have so far co-existed without creating severe frictions.<sup>31</sup> However, this may not be the case in the future, with the recent emergence of a number of climate-related disputes. At the same time, the fact that both regimes find themselves at a crossroads may also lead to new opportunities to create rules and procedures that lead to benefits for climate change, trade, and development.

## 3. Trade provisions and disputes that relate to climate policy

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There are a number of general and specific clauses and rules under the WTO as well as disputes (cases) which are relevant for countries implementing national or international climate policy measures. We list the key clauses and disputes and highlight their relevance for future climate policy making.

### 3.1. The GATT rules and climate policy

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The trade rules under the WTO are based on the principles of transparency, predictability, and stability.<sup>32</sup> Their purpose is to reduce transaction costs for the WTO members and to provide a basis for applying trade measures among them. **Article I GATT** sets up the MFN obligation that also creates a multiplier effect for bilateral talks: if one member agrees on a lower tariff with a trade partner, these tariffs will apply automatically to all other WTO members, such that discrimination among WTO members is avoided and requires a specific justification. Non-discrimination is key. It

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<sup>31</sup> van Asselt (2014a), p. 166; Eckersley (2009).

<sup>32</sup> van Asselt (2014a), p. 161.

is also incorporated in **Article III GATT** (the national treatment obligation), which demands that imported products should be treated on par with “like” domestically produced goods. **Article II.2(a) GATT** allows a WTO member to impose a charge on an imported product that is equivalent to an internal tax that the member concerned has imposed on “like” domestic products or on an article from which the imported product has been produced in whole or in part. However, it also needs to be ensured that such a border tax adjustment abides by the national treatment requirements (Article III.2 GATT), ensuring that imported products are not discriminated against compared to “like” domestic products.

Non-discrimination among WTO members and among traded goods and domestically produced “like” products poses challenges for climate policy making. The “likeness” of products as understood – though not defined – under the WTO regime is a key element of addressing emissions through climate policy measures. Emissions are often part of the production process and cannot be found in the physical characteristics of a traded good (i.e. they are non-product-related processes and production methods, PPMs). Differentiation of imports or exports based on their non-product-related PPMs (e.g. their “embedded carbon”) could be necessary at the border, but would need justification under the WTO rules.<sup>33</sup> The legality of border carbon adjustments (BCAs) or carbon taxes applied to imported goods hinges to a large extent on this particular point (see Section 4.4).

**Articles VI and XVI GATT** provide the basic principles on subsidies and countervailing duties (CVD) in the GATT/WTO system, whereas the Agreement on Subsidies and Countervailing Measures (SCM) is an implementation agreement (see below). Article XVI GATT contains general provisions against subsidies that expand the exports of primary products or lower the export prices of other products below those prevailing in the domestic market. Article VI GATT provides for the imposition of countervailing duties to offset subsidies granted, directly or indirectly, on the manufacture, production or export of any merchandise. To impose a countervailing duty, however, injury or threat of injury to an established industry must be determined. Alternatively, the subsidy must be shown to retard the establishment of an equivalent domestic industry.<sup>34</sup>

**Article XX GATT** contains a list of exceptions to the GATT rules. Non-discrimination, for instance, can be suspended, provided certain conditions are met. Two of these exceptions relate to environmental concerns: if discrimination is “necessary to protect human, animal, or plant life or health” (Article XX (b)) or if it relates to “the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production and consumption” (Art XX (g)). For all exceptions, the conditions stipulated in the introductory part (chapeau) of Article XX need to be met. Any measure thus has to pass the test of “arbitrary or unjustifiable discrimination” or disguised trade restrictiveness.<sup>35</sup> This wording was also used in the context of the UNFCCC and the Kyoto Protocol (see Section 2.1). Article XX is a key

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<sup>33</sup> Pauwelyn (2007, 2013).

<sup>34</sup> Panagariya (2002).

<sup>35</sup> Cosbey et al. (2012).



clause for the discussion how climate policy measures can be justified under, and supported by, the international trade regime. It opens the way for policy measures that are deemed necessary to follow other than purely trade-centred ambitions.

## 3.2. Other WTO agreements and their relevance for climate- and trade policy interactions

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In addition to the GATT, a set of other agreements under the WTO are relevant for the interactions between climate and trade policy, as they regulate either specific aspects of trade in goods (e.g. property rights or standards) or services. This section looks at the seven most important ones in turn, and discusses their relevance for climate policy.

### 3.2.1. General Agreement on Trade in Services

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**Purpose and features:** Pursuant to Article I.1 GATS, the agreement applies to all “measures by Members affecting trade in services”, covering “any service in any sector except services supplied in the exercise of governmental authority” (Article I.2 GATS), and extending to both direct and indirect effects on trade in services.<sup>36</sup> The GATS approach to the liberalisation of services applies positive lists (“Schedules of Commitments”), meaning that members identify those services they want to liberalise. The MFN principle applies accordingly (Article II.1 GATS).

**Relevance for climate policy:** Policies adopted for climate change mitigation and adaptation that directly or indirectly affect trade in services are subject to scrutiny under the GATS if they fall within sectors or subsectors that are included a member’s Schedule of Commitments. The market for services that are related to climate protection is large, and may even exceed the market for related goods.<sup>37</sup> Because these services are spread across multiple sectors, however, it becomes difficult to identify and classify them under the established nomenclature.<sup>38</sup> Moreover, as services related to energy or clean technologies are often traded in tandem with the corresponding goods, coordination between negotiations on goods and negotiations on services is necessary, but often lacking.<sup>39</sup>

WTO negotiations on environmental services and their classification continue at the Special Session of the Committee on Trade in Services.<sup>40</sup> For the time being, however, each measure has to be assessed on a case-by-case basis, subsuming the services in

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<sup>36</sup> A Panel statement in the WTO *EC – Bananas* dispute (1997): affirmed this interpretation of the scope of the GATS, *European Communities – Regime for the Importation, Sale and Distribution of Bananas* (EC – Bananas III), WT/DS27/R/ECU, WT/DS27/R/MEX and WT/DS27/R/USA, Panel Report, 22. May 1997, note 7.285.

<sup>37</sup> In the energy sector, the trade in energy is only made feasible through a series of supporting services, such as distribution and transportation, engineering, and financial services; see Delimatsis and Mavromati (2009), p. 231.

<sup>38</sup> Monkelbaan (2013), p. 7-8.

<sup>39</sup> Monkelbaan (2013), p. 1.

<sup>40</sup> See WTO (2011).

question under established sectors and sub-sectors listed in the Schedules of Commitments of individual members.

Slow progress with liberalisation under the GATS are shifting items to the agenda of negotiations on regional or plurilateral trade agreements, such as the Trade in Services Agreement.<sup>41</sup> When relating to climate-relevant services, therefore, greater normative fragmentation and geographic heterogeneity is a likely outcome going forward.

### **3.2.2. Agreement on Trade-Related Investment Measures**

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**Purpose and features:** Recognising that certain investment measures can have trade-restrictive and distorting effects, the WTO Agreement on Trade-Related Investment Measures (TRIMS) prohibits the use of TRIMS that are inconsistent with Article III (national treatment) or Article XI (general elimination of quantitative restrictions) GATT 1994 in Article 2.1 of the TRIMS Agreement.<sup>42</sup> The Agreement applies to investment measures related to trade in goods only, and does not cover trade in services, and its coverage is limited to the WTO rules mentioned. The term “trade-related investment measures” is not defined in the agreement. However, the agreement contains in an annex a non-exhaustive, illustrative list of measures that are inconsistent with Article III.4 or Article XI:1 GATT 1994. The list includes certain mandatory and domestically enforceable measures imposed by WTO members, such as local content requirements (LCRs) for the production of goods, trade-balancing requirements (e.g. limiting the purchase or use of imported products to an amount related to the volume or value of exported products by an enterprise), exchange-balancing requirements (e.g. restricting access to foreign exchange to an amount related to the foreign exchange inflows to the enterprise), export restrictions, and so on.

**Relevance for climate policy:** The TRIMS Agreement has turned out to be one of the most cited WTO agreements in climate-related disputes that are dominated by cases on LCRs pertaining to renewable energy policies of various WTO members (see Section 3.3). The TRIMS requirement for transparency in domestic rules and non-discrimination for investing in new energy production may clash with national employment and industrial policy strategies that are part of some NDCs. Thus, it can be expected that trade partners will continue challenging national rules that discriminate against importers.

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<sup>41</sup> See website of Coalition of Services Industries: <https://servicescoalition.org/negotiations/trade-in-services-agreement>.

<sup>42</sup> See WTO website: [https://www.wto.org/english/tratop\\_e/invest\\_e/invest\\_info\\_e.htm](https://www.wto.org/english/tratop_e/invest_e/invest_info_e.htm); Ganz and Ala'i (2016), p. 290.

### 3.2.3. Agreement on Trade-Related Aspects of Intellectual Property Rights

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**Purpose and features:** The TRIPS Agreement was created to protect intellectual property rights (IPRs) that relate to traded products, for instance products that can be counterfeited. It provides a “minimum” standard for domestic intellectual property laws of WTO members. There was a lack of international enforceability of IPRs due to a lack of stringent dispute settlement before the TRIPS Agreement.<sup>43</sup> The TRIPS Agreement covers copyrights and related rights; trademarks; geographical indications; industrial designs; patents (including plant variety protection); layout designs (topographies) of integrated circuits; and protection of undisclosed information including trade secrets and test data.

IPRs play an important role as an incentive for technology development and innovation, but also influence the transfer and diffusion of technologies. The objective of the TRIPS Agreement (Article 7) stipulates that IPRs protection is expected to contribute to both in a way that benefits all stakeholders and that respects a balance of rights and obligations. The agreement’s “principles” (Article 8) recognise members' rights to adopt TRIPS Agreement-consistent measures, to protect, inter alia, not only public health and nutrition but also the public interest in sectors of vital importance to their socio-economic and technological development. TRIPS-consistent measures may also be undertaken to prevent the abuse of IPRs by right holders, or “the resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology” (Article 8.2). Currently, the TRIPS Agreement protects patents for 20 years (Article 33). Trade secrets, including tacit know-how, are covered by the agreement (Article 39.2), which obliges members to protect information that is secret.

Article 66.2 of the TRIPS Agreement requires developed countries to provide incentives to their enterprises and institutions for promoting and encouraging technology transfer to least developed countries. The agreement allows members to undertake measures by making use of certain “flexibilities” built into the agreement, such as non-voluntary or compulsory licenses, or a government use authorisation for a patented technology, limited exceptions for non-commercial research, etc. As affirmed by the 2001 Doha Declaration on the TRIPS Agreement and Public Health, each member has the right to grant compulsory licenses and the freedom to determine the grounds upon which such licenses are granted. Article 64 of the TRIPS Agreement requires that disputes on IPRs be settled by the WTO dispute settlement process. Part III of the TRIPS Agreement describes a set of norms to enforce IPRs protection using trade-related measures, but the standards for their application need updating in the light of very dynamic trends in international IPRs issues.<sup>44</sup>

**Relevance for climate policy:** Access to environmentally beneficial and climate-friendly technologies and know-how is a key driver of mitigation, and increasingly also of adaptation activities. The TRIPS Agreement strengthens the position of developers of

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<sup>43</sup> Yu (2016), p. 2.

<sup>44</sup> Yu (2016), p. 2.

climate-friendly technologies, but also demands a better dissemination via technology transfer. This is particularly important for increasing emission reductions fast by transferring new technologies to as many countries as possible, without securing a minimum amount of research and development cost coverage. The MFN provision guarantees that certain measures that facilitate technology transfer towards selected countries are extended to all WTO members. The role of the TRIPS Agreement, however, is still not settled given an ongoing debate on what constitutes technology transfer. Moreover, enforcement of IPRs protection via trade measures needs to be based on more precise common standards and the TRIPS Agreement offers only rough guidance.<sup>45</sup>

### 3.2.4. Agreement on Technical Barriers to Trade

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**Purpose and features:** The TBT Agreement focuses on non-discrimination, and is more specific than the GATT provisions. It establishes features specific to the preparation and application of regulatory measures that affect the trade in goods. Under the TBT Agreement, if a regulatory measure determines product characteristics or related production methods with which compliance is mandatory, this is considered a *technical regulation*. Technical regulations are allowed if they are applied equally to domestic and imported product and do not create “unnecessary obstacles to international trade” (Article 2.2). A document that determines rules, guidelines or characteristics of products or related production methods with which compliance is voluntary is a *standard* under the TBT Agreement. If a measure sets out procedures that require the fulfilment of technical regulations or standards (testing, inspections, and certification), then this falls under *conformity assessment procedures* under the TBT Agreement.<sup>46</sup>

**Relevance for climate policy:** Following the TBT Agreement, mandatory climate regulations, such as fuel efficiency requirements for cars or mandatory energy labelling for products, would be considered technical regulations, whereas voluntary eco-labelling schemes referring to governmental standards would be considered a standard. To this end, technical regulations should not be more trade-restrictive than necessary to fulfil a legitimate objective, which includes the protection of the environment and the climate (as under Article XX GATT). Moreover, as the TBT Agreement strongly favours the use of international standards, it is sensible to develop standards through international cooperation.<sup>47</sup> Yet it is uncertain whether the TBT Agreement also applies to non-product related PPMs.<sup>48</sup> This means, for instance, that it is unclear whether the agreement applies to regulations specifying the permissible greenhouse gas emissions generated in the production of a good or mandatory labels indicating the carbon footprint of certain products.

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<sup>45</sup> Yu (2016), p. 2.

<sup>46</sup> WTO (2014), p. 13.

<sup>47</sup> Buck and Verheyen (2001).

<sup>48</sup> Epps and Green (2010), p. 78.

### 3.2.5. Agreement on Subsidies and Countervailing Measures

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**Purpose and features:** The SCM Agreement is adding precision to Article XVI GATT by providing definitions of subsidies and clear disciplines on countervailing duties. It has the purpose of limiting use of subsidies by WTO members and includes rules for actions against a trade partner's subsidies. A country can charge a countervailing duty itself on subsidised imports if those are found to hurt the domestic producer. The SCM Agreement defines subsidies in Article 1.1. With reference to Article XVI GATT, any form of income or price support falls under the definition. However, the subsidy identification holds only if a benefit is conferred through any of the transfer options listed. The key concept focuses on "specific" subsidies. Specific subsidies are available only to an enterprise, industry, group of enterprises, or group of industries in the subsidising country. The SCM Agreement regulates these specific subsidies, which can be domestic or export subsidies. The agreement defines two categories: prohibited and actionable. Prohibited subsidies are contingent upon export performance or upon the use of domestic over imported goods (Article 3 SCM Agreement). Those subsidies that fulfil the criteria of transferring a government financial contribution, being specific and conferring a benefit are actionable (Article 5 SCM Agreement).<sup>49</sup> If a subsidy is not specific, it is non-actionable.

**Relevance for climate policy:** Domestic climate policy design could contradict the SCM Agreement if governments support domestic producers in a protectionist manner or differentiate prices for fuels at the border. In particular, the increasing interest in supporting renewable energy production has led to direct and indirect subsidisation of domestic goods that are also exported. The rising number of WTO disputes (see Section 3.3) mirrors this trend. By contrast, the SCM Agreement has not disciplined the extensive subsidisation of fossil fuels in many WTO members. Given the pressing demands for reducing fossil fuel subsidies that stimulate greenhouse gas emissions, the WTO could play an important role in reforming national fossil fuel subsidies, by acting as an information hub and providing guidance through the SCM rules.<sup>50</sup>

### 3.2.6. Anti-Dumping Agreement

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**Purpose and features:** The Anti-Dumping Agreement clarifies and expands Article VI GATT and provides the rulebook for the WTO members to follow in their respective anti-dumping laws and practices. Members can act against dumping where there is genuine ("material") injury to the competing domestic industry. A member has to establish that dumping is taking place, calculate the extent of dumping (i.e. how much lower the export price is compared to "normal value", such as the exporter's home market price), and show that the dumping is causing injury or threatening to do so. It allows for charging extra import duties on the particular product from the particular exporting

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<sup>49</sup> For a discussion on whether the free access to polluting the atmosphere is an actionable subsidy as defined by the SCM Agreement, see Howse and Eliason (2009), p. 73-76.

<sup>50</sup> Casier et al. (2014), p. 5; van Asselt (2014b), p. 15.

country to bring its price closer to the “normal value”, or to remove the injury to domestic industry in the importing country.<sup>51</sup>

**Relevance for climate policy:** Anti-dumping actions have been used by WTO members in the context of climate-related products, in particular renewable energy products. The fast-growing market for solar cells and panels and the market share increase by Chinese producers made first movers in European solar industry struggle with the dynamics of international trade and specialisation. The anti-dumping claims by the EU in 2013 against China were valid according to the WTO Dispute Settlement Body (DSB), and protection of EU producers was allowed for a two-year-period.<sup>52</sup> If climate policy will create more new technologies that follow the example of solar panels, future dynamics in the markets for climate-related goods could provoke more anti-dumping allegations, because domestic industrial policy strategies collide with trade rules.

### **3.2.7. Agreement on Government Procurement**

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**Purpose and features:** The Agreement on Government Procurement (GPA) aims at promoting transparency, integrity, and competition for government spending. The GPA emerged as one of the two plurilateral agreements within the WTO legal framework.<sup>53</sup> The GPA has gained significance over time, because procurement provisions in bilateral or regional trade agreements are modelled after its structure.<sup>54</sup>

**Relevance for climate policy:** Government purchasing is a key means to establish demand for climate-friendly goods, such as low-emission transport or materials with a low-carbon footprint. In particular, countries with an ambitious climate policy often include “green” criteria in their tenders. This could lead to discrimination of imports if the criteria include non-product-related PPMs. The 2012 revision of the GPA introduced a new work programme on the treatment of sustainable procurement. The work programme covers the objectives of sustainable procurement, the ways in which it is integrated in national and sub-national policies, and the ways in which such procurement can be made consistent with the principle of “best value for money”.

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<sup>51</sup> See WTO website: [https://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm8\\_e.htm](https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm8_e.htm).

<sup>52</sup> European Commission (2016).

<sup>53</sup> Herve and Luff (2012).

<sup>54</sup> Steiner (2015).

### 3.3. WTO dispute settlement and climate policy

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The trade and climate debate develops also with trade disputes and their settlement through case law. Over time, exporting countries have challenged various environmental requirements by importing countries, on the grounds that they constitute protectionism, and that the importing country is exercising an unacceptable form of extraterritorial regulation in areas beyond its national jurisdiction. The US fishing standards contested in the *Shrimp/Turtle*<sup>55</sup> and the *Tuna/Dolphin*<sup>56</sup> cases regulated non-product-related PPMs. Thus, the disputes touched on the key question of what features determine whether traded goods (tuna, shrimp) are “like” products if the process of their production differs with respect to environmental impacts (killing dolphins or turtles). Negative economic effects on the exporting countries were also part of the discussion, as PPMs can create financial and technological burdens for developing countries’ producers.<sup>57</sup>

Climate-related disputes are still a small proportion of the total number of disputes initiated under the WTO’s dispute settlement system, yet the latest cases can be linked to national climate policy targets. A growing tension can be observed between trade rules and national renewable energy laws and policies. In addition, anti-dumping measures have increased, involving allegations related to unfair subsidies, the use of LCRs, or the calculations of countervailing duties. The Annex to this working paper lists the details of cases; here, we summarise the state of the disputes.

Five recent disputes relate to renewable energy and LCRs:

- The *Canada – Renewable Energy* case was initiated in 2010 by Japan against the province of Ontario’s feed-in tariff (FIT) programme. The Japanese claim was that the programme’s LCRs discriminated against foreign renewable energy products, placing Canada in violation of national treatment requirements of the GATT and the TRIMS Agreement, and constituting a prohibited subsidy under the SCM Agreement. Canada argued that its FIT was a form of government procurement, to which the national treatment obligation did not apply, and that the measure was designed to ensure the affordable generation of clean energy in Ontario. Consequently, Canada argues that the measure was not subject to the WTO agreements cited.<sup>58</sup> The EU had separately challenged the same FIT programme in 2011. The WTO panels for these two cases acknowledged most of the claims by Japan and the EU, including the GATT and TRIMS violations, but were divided on the subsidy issue. Canada appealed the decisions. The

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<sup>55</sup> WTO DS58 (1996): United States – Import Prohibition of Certain Shrimp and Shrimp Products, see [https://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds58\\_e.htm](https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds58_e.htm); WTO (1996): United States — Import Prohibition of Certain Shrimp and Shrimp Products, see [https://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds61\\_e.htm](https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds61_e.htm).

<sup>56</sup> GATT (1990): United States – Restrictions on Import of Tuna, see [https://www.wto.org/gatt\\_docs/English/SULPDF/91530924.pdf](https://www.wto.org/gatt_docs/English/SULPDF/91530924.pdf); WTO DS381 (2008): United States — Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products, see: [https://www.wto.org/english/tratop\\_e/dispu\\_e/381r\\_e.pdf](https://www.wto.org/english/tratop_e/dispu_e/381r_e.pdf).

<sup>57</sup> Leal-Arcas (2012); Cosbey et al. (2012).

<sup>58</sup> Lewis (2014).



Appellate Body (AB) in May 2013 held that Ontario's FIT programme violated the national treatment obligation under GATT and the TRIMs agreement, though it disagreed with the panel's analysis on a few points of law, including the subsidy determination. As a result, Canada had to bring its programmes into compliance, which it did by mid-2014.

- A second case on renewable energy, *China – Measures Concerning Wind Power Equipment*, was raised in 2010 by the US against China's Special Fund for Wind Power Equipment Manufacturing. It offered subsidies to Chinese wind turbine manufacturers that agreed to use key parts and components made in China rather than imported parts. This case was chosen out of multiple US investigations on China's renewable energy practices, including a series of anti-dumping and CVD investigations.<sup>59</sup> The consultations that followed led to a revocation of the subsidy in 2011 by China.<sup>60</sup>
- In parallel, *United States – Countervailing Duty Measures on Certain Products from China*, was launched by China in May 2012 against several US CVD investigations, which, among other things, addressed pricing of Chinese solar panels and wind towers.<sup>61</sup> US lobby groups had alleged that Chinese companies had received unfair government support, leading to sales at below-market prices.<sup>62</sup> In July 2014, a WTO panel found the US practices on the calculation of CVDs to be in violation of certain provisions of the SCM and recommended that the US government bring its measures into conformity. As both China and the US filed appeals on certain legal questions, the AB had to take up the case. Its report was adopted with recommendations to bring the US measure(s) into conformity with WTO law. While the US was reportedly implementing the DSB recommendations, China notified the WTO that it was requesting consultations with the United States over the alleged non-compliance with the recommendations and rulings of the DSB.<sup>63</sup>
- The fourth dispute referring to LCRs, *European Union and certain Member States – Certain Measures Affecting the Renewable Energy Generation Sector*, was also launched in 2012. China requested WTO consultations with the EU, Greece, and Italy on various FIT programmes in support of solar energy generation that allegedly contained LCRs. China claimed that the measures were inconsistent with the GATT, and the SCM and TRIMS Agreements. The EU accepted the request for consultations,<sup>64</sup> which are still pending.
- The fifth WTO dispute involving LCRs, *India – Certain Measures Relating to Solar Cells and Solar Modules*, was initiated by the US in February 2013 against Indian LCR provisions pertaining to solar cells and/or modules. Under the Jawaharlal

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<sup>59</sup> A trigger was a 2010 petition by US steelworkers; see <http://assets.usw.org/releases/misc/section-301.pdf>.

<sup>60</sup> ICTSD (2011b).

<sup>61</sup> ICTSD (2012a).

<sup>62</sup> ICTSD (2012b).

<sup>63</sup> Statement by the United States at the Meeting of the WTO Dispute Settlement Body (2016); see: [https://geneva.usmission.gov/wp-content/uploads/2016/04/Apr22.DSB\\_.pdf](https://geneva.usmission.gov/wp-content/uploads/2016/04/Apr22.DSB_.pdf); see WTO website [https://www.wto.org/english/news\\_e/news16\\_e/ds437oth\\_13may16\\_e.htm](https://www.wto.org/english/news_e/news16_e/ds437oth_13may16_e.htm).

<sup>64</sup> European Commission (2013).



Nehru National Solar Mission (JNNSM), New Delhi aims at generating 100,000 mega-watts (MW) of grid-connected solar power capacity by 2022.<sup>65</sup> The US complained that the LCRs were in violation of India's obligations under the GATT and the TRIMS and SCM Agreements. A panel was established in May 2014 to hear the case. India tried to persuade the US to withdraw the case for several months through bilateral discussions. In its report released in February 2016, the panel found that the JNNSM's LCRs constituted trade-related investment measures, thus violating the national treatment obligation under the TRIMS Agreement and the GATT. Moreover, the measures could not be exempted by the GATT's government procurement derogation, nor could they be justified by that agreement's general exceptions under Article XX(d), as the panel did neither regard them "essential" nor "necessary".<sup>66</sup> Also, the panel emphasised that its analysis was of the WTO legality of the LCRs and that the legitimacy of the policy objectives pursued through the JNNSM was not under dispute.<sup>67</sup> In April 2016, India appealed the case on certain legal aspects of the panel's findings. On 16 September 2016 the AB ruled against India.<sup>68</sup>

- Meanwhile, India has lodged a WTO challenge against alleged LCRs and subsidies being imposed by eight US states.<sup>69</sup>

Another contested trade-related issue is biofuels. Four WTO disputes emerged around biodiesel anti-dumping duties imposed by the EU, three of them filed by Argentina, one by Indonesia.<sup>70</sup> The main aspects of the four cases are the favouring of biodiesels produced in the EU by Spain, certain measures on importing and marketing of biodiesel, the support of the biodiesel industry in Belgium, France, Italy, Poland, and Spain, and anti-dumping measures within the EU. When challenging the EU policy under WTO law, Argentina and Indonesia referred to the Agreement Establishing the WTO, the GATT, and the TBT, TRIMS, Anti-Dumping and SCM Agreements. Whereas the dispute on favouring of biodiesels produced in the EU by Spain was put on hold after Spain announced it would modify the biofuel rule, the panel report in the dispute on anti-dumping measures was published and is currently under review by the Appellate Body.<sup>71</sup> In the second dispute on anti-dumping measures, filed by Indonesia, the panel report is still being awaited. The dispute on the importation and marketing of biodiesel has not reached the panel stage (see Annex for further details).

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<sup>65</sup> The JNNSM started in January 2010, as one of the eight national missions identified in India's National Action Plan on Climate Change 2008. See Government of India, Resolution: Jawaharlal Nehru National Solar Mission (2010), <http://www.mnre.gov.in/solar-mission/jnnsbm/resolution-2/>.

<sup>66</sup> ICTSD (2016b).

<sup>67</sup> ICTSD (2016a).

<sup>68</sup> WTO DS456 (2013): India – Certain Measures Relating to Solar Cells and Solar Modules, see [https://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds456\\_e.htm#bkmk456abr](https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds456_e.htm#bkmk456abr)

<sup>69</sup> WTO DS510 (2016): United States – Certain Measures Relating to the Renewable Energy Sector, see [https://www.wto.org/english/news\\_e/news16\\_e/ds510rfc\\_12sep16\\_e.htm](https://www.wto.org/english/news_e/news16_e/ds510rfc_12sep16_e.htm).

<sup>70</sup> Notably, Argentina and Indonesia together make up 90% of the EU's biodiesel imports and capture over one-fifth of the bloc's market share (ICTSD 2014).

<sup>71</sup> ICTSD (2016c).

### 3.4. Regional trade agreements and climate provisions

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Relevant rules on the climate-trade interface can also be found in RTAs. Three types of environmental and climate provisions exist.<sup>72</sup> A first type is general environmental provisions that do not mention climate change, but are nevertheless applicable. They include preambular references to the environment, references to principles of particular relevance to addressing climate change (notably the principle of common but differentiated responsibilities), provisions stipulating that parties' need to ensure a high level of environmental protection or instructing parties to uphold, improve and enforce environmental laws. In addition, to the extent that references to multilateral environmental agreements are not specified (e.g. by listing them), any reference that specifies the relationship between an RTA and such agreements could be seen to include also the climate treaties (UNFCCC, Kyoto Protocol, Paris Agreement). The general environmental provisions also include specifications of the exception of Article XX of the GATT, with some RTAs extending the exception to other issue areas, such as technical barriers to trade.

A second type of provision explicitly aims at promoting or facilitating trade and investment in climate-relevant sectors. This includes, among others, provisions that explicitly encourage the liberalisation of trade in climate-friendly goods and services, provisions that could be aimed at removing non-tariff barriers (e.g. through harmonisation of standards), and provisions that regulate energy subsidies. Several RTAs include provisions in which parties state their intentions to liberalise trade in environmental goods and services, including for example goods or services related to renewable energy.

The EU-Singapore Free Trade Agreement<sup>73</sup> (Article 13.11.2) is a recent example of an agreement seeking to facilitate the trade in climate-friendly goods and services. In addition, a separate chapter of the agreement is dedicated to non-tariff barriers to trade and investment in renewable energy generation, in which it is specified that parties will "refrain from adopting measures providing for local content requirements or any other offset affecting the other Party's products, service suppliers, investors or investments" (Article 7.4(a)). The same agreement also includes a provision on considering greenhouse gas emissions as reducing trade distortions from fossil fuel subsidies stating that "the Parties share the goal of progressively reducing subsidies for fossil fuels" (Article 13.11.3).

A third type of provision, which can be found in many different RTAs, is aimed at deepening cooperation on climate change between the parties to the agreement. Such provisions include general commitments to enhance climate policy efforts and reaffirmations of existing commitments under the climate treaties. Also, provisions exist on a range of specific issues, including adaptation, carbon markets, technologies, forests, and agriculture. Depending on the mandate and, most importantly, budget

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<sup>72</sup> Gehring et al. (2013).

<sup>73</sup> See the EU Commission website for the text of the EU-Singapore Agreement: <http://trade.ec.europa.eu/doclib/press/index.cfm?id=961>.

allocations by the parties involved, such provisions can form the basis for subsequent technical cooperation, information exchange, and capacity building, and could even go beyond the commitments under the UNFCCC.<sup>74</sup>

## 4. Climate policy and trade rules: identifying the upcoming issues

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Following the Paris Agreement, the climate regime is intended to progress through the coordination of national action, their review, and adjustment over time. Climate policy decisions (targets, timelines, measures) are left with the parties to the Paris Agreement for the time being, with the agreement asking them to submit NDCs on a regular basis in the future. Among the many issues that require follow-up under the Paris Agreement, cooperation at the international level is planned with regard to the design of market and non-market mechanisms, finance, technology transfer, and the review and adjustment of NDCs.<sup>75</sup> No mandate was agreed on the international regulation of aviation and maritime transport. In this chapter, we look into international climate action inside and outside the auspices of the Paris Agreement regime (focusing on cooperative approaches, technology transfer, and sectoral policies for aviation and maritime transport), and then into national climate policy measures (focusing on carbon pricing and subsidies), with a view to discussing the role of trade rules in promoting climate protection.

### 4.1. Cooperative approaches

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The Kyoto Protocol introduced market-based, flexible mechanisms for its parties to help them deliver emission reductions in an economically efficient way through international emissions trading, the Clean Development Mechanism (CDM, and Joint Implementation (JI). The Paris Agreement has broadened the scope for using such mechanisms on a voluntary basis. However, it has left the further design and implementation of these mechanisms open, causing uncertainty about the future of the CDM, of the new mechanisms, as well as the future rules on verifying and trading of yet-to-be defined emission rights under the UNFCCC from 2020 onwards. Given that roughly half of all INDCs submitted to date are conditional upon access to international markets, the importance of these provisions cannot be overstated,<sup>76</sup> and despite the political divisions surrounding the concept of markets in the climate negotiations,

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<sup>74</sup> For instance, Article 19.8.2 of the Korea-Peru Free Trade Agreement provides that each party “within its own capacities, shall adopt policies and measures on issues such as: (a) improvement of energy efficiency; (b) research, promotion, development and use of new and renewable energy, technologies of carbon dioxide capture, and updated and innovative environmental technologies that do not affect food security or the conservation of biological diversity; and (c) measures for evaluating the vulnerability and adaptation to climate change”; see <http://www.fta.go.kr/webmodule/ PSD FTA/pe/1/eng.pdf>.

<sup>75</sup> For an analysis of the trade implications of the INDCs see Box 1.

<sup>76</sup> EDF and IETA (2016).

parties expressly acknowledged the “important role of [...] tools such as [...] carbon pricing”.<sup>77</sup>

Article 6 of the Paris Agreement identifies various concepts<sup>78</sup> for voluntary cooperative approaches to climate change mitigation. Two of these are relevant for future climate-trade interactions, as they enable emergence of markets in carbon units across national jurisdictions. Such approaches would not have to operate under rules developed under the Paris Agreement, but could be based entirely on domestic or regional market architectures. The Kyoto Protocol’s flexible mechanisms (international emissions trading, CDM, JI) are not explicitly mentioned. Article 6.1 merely recognizes voluntary cooperative approaches as a means to implement NDCs, and all types of policy tools could fall under this declaratory provision.<sup>79</sup> Articles 6.2 and 6.3 establish that cooperative approaches can result in “internationally transferred mitigation outcomes”. Some elementary principles are set out in Articles 6.1 and 6.2, such as the need to ensure environmental integrity and transparency, robust accounting, and the avoidance of double counting. Guidance is to be adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA). It is widely expected that such guidance will be limited to the creation of an accounting and transparency framework, while material criteria for the nature and stringency of carbon units will be defined at the domestic level.<sup>80</sup>

Article 6.4 establishes a “mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development” (labelled by some as “sustainable development mechanism”). The negotiating history indicates that this mechanism would bear resemblance to a baseline-and-credit system such as the CDM under the Kyoto Protocol.<sup>81</sup> Unlike the broader scope of cooperative approaches (Article 6.2 and 6.3 Paris Agreement), the operation of a sustainable development mechanism would be subject to material and procedural control of the CMA, supervised by a body yet to be designated. Also, Article 6 opens the way for specific coalitions among countries who use emissions trading and who consider coordinating actions and rules, or even linking their systems.

**Upcoming issues:** International trade in emission units is not an issue area that has evolved under WTO or RTA rules, but was introduced with the Kyoto Protocol and subsequent rules under the UNFCCC. In the literature, there are different views on whether emissions units would constitute goods under the GATT, or services under the GATS, with a majority of commentators concluding that they are neither.<sup>82</sup> By contrast, in-depth analyses are available for how regulations of national or supranational emissions trading systems, such as the inclusion of importers or free allocation rules, could contradict trade rules (see Section 4.5). Greater agreement exists that services

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<sup>77</sup> UNFCCC (2015a): Decisions 1/CP.21, para. 136.

<sup>78</sup> Voluntary cooperative approaches, internationally transferred mitigation outcomes, mechanisms that contribute to mitigation and support sustainable development, and non-market approaches. UNFCCC (2015b): Paris Agreement, Article 6.

<sup>79</sup> Marcu (2016), p. 5-7.

<sup>80</sup> Koakutsu (2016).

<sup>81</sup> Marcu (2016), p. 11-12.

<sup>82</sup> Werksman (1999); Petsonk (1999); Charnovitz (2003); Keohane et al.(2015)

provided in the context of markets for different tradable climate-related units, for instance greenhouse gas emission allowances, offset credits, or renewable energy and energy efficiency certificates in energy markets, fall under the GATS.<sup>83</sup> Their markets have seen robust growth, including the number of intermediaries (banks, brokers, exchanges, insurances, project developers, data providers, and verifiers). There has been some disagreement among scholars as to whether these services are covered by the GATS, and more specifically its Annex on Financial Services.<sup>84</sup> Driven by the private sector, some primary markets for units have also given rise to secondary markets for derivative products, which expressly fall within the scope of the Annex on Financial Services. While some variability again exists between individual Schedules of Commitments,<sup>85</sup> a majority of members will have committed to exercise non-discrimination subject to MFN, market access, and national treatment principles.

New issues could arise if emissions trading or carbon pricing coalitions<sup>86</sup> would emerge with rules that discriminate among WTO members, for instance by excluding trade with non-parties or excluding trade with parties based on the strength of respective emissions trading schemes (i.e. their environmental integrity). This has already been the case with the restricted fungibility of certain Kyoto Protocol units in the EU emissions trading system (ETS) based on their geographic origin (EU, 2009, Article 11a.4).<sup>87</sup> In that event, cooperative approaches could potentially come under the ambit of the trade regime, if the entire rationale is premised on the ability to exclude non-members from a club benefit.<sup>88</sup>

## **4.2. Transfer of climate-friendly technologies**

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The need for technology transfer has been recognized in the UNFCCC (Article 4.5) and in the Paris Agreement (Article 10). The Paris Agreement emphasizes that the means of implementation (finance, technology, and capacity building) have to be provided by the industrialised countries to developing countries. However, the agreement does not prescribe how the transfer of climate-friendly technologies should be conducted, or how IPRs should be handled.<sup>89</sup> This is left to further negotiations, under the auspices of the Paris Agreement, the WTO (including the TRIPS Agreement), and the talks on the EGA. Although a Technology Mechanism was established at UNFCCC talks in Cancún in 2010, the thorny issue of IPRs has remained unaddressed.<sup>90</sup>

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<sup>83</sup> Wiser (1999); Martin (2007) Munro (2014).

<sup>84</sup> For an overview, see Munro (2014).

<sup>85</sup> Over 100 members have entered commitments on financial services, and many apply an optional Understanding on Commitments in Financial Services annexed to the 1997 Financial Services Agreement, which became the GATS Annex on Financial Services.

<sup>86</sup> See the Carbon Pricing Leadership Coalition (CPLC): <http://www.carbonpricingleadership.org/leadership-coalition/>.

<sup>87</sup> For an analysis under the Kyoto Protocol see Voigt (2008). For such interpretation of Article 6 see EDF and IETA (2016), p. 5-6.

<sup>88</sup> Nordhaus (2015).

<sup>89</sup> On the history of IPRs protection, see Gehl Sampath and Roffe (2012).

<sup>90</sup> Latif et al. (2011).

There is sustained disagreement between the developed and developing country parties to the UNFCCC<sup>91</sup> on the conceptualisation of technology, its transfer process and the effects from strong intellectual property protection. It is argued by the proponents of strong intellectual property protection<sup>92</sup> that IPRs foster technology transfer by supporting the formation of contracts. Transnational companies are unlikely to deploy cutting-edge technologies that they have spent significant resources on in those countries where they cannot ensure adequate IPR protection.<sup>93</sup> An opposing view is that the availability (and enforceability) of IPRs will not create a sufficient incentive for the transfer of technology, but could make access to technologies more problematic, for example by enabling the intellectual property right holder to keep prices prohibitively high.

In addition, the definition of “technology” as such varies and affects the applicability of trade rules. Technology transfer on the one hand, can be treated like the sale of a product, because it comprises capital-embodied technologies.<sup>94</sup> A broader definition<sup>95</sup> claims that technology is neither sold in embodied forms alone, nor is it fully codifiable. Rather, it has “tacit” elements that are difficult or impossible to transfer in written forms;<sup>96</sup> instead, it has to be taught and learned through capability building.<sup>97</sup> From this perspective, the intention of the importing party matters for the IPRs protection. If the transfer enables local competition for foreign suppliers, IPR issues matter more than if the buyer does not assimilate that technology. Developed country firms are more likely to apply IPRs to prohibit access if there is assimilation and increased competition.<sup>98</sup>

**Upcoming issues:** The TRIPS Agreement plays an important role when countries discuss the future handling of IPRs for traded climate-friendly technologies. It offers flexibility on how countries and firms want to protect their IPRs, and demands special treatment for least developed countries. However, it does not resolve the dispute over the strength and enforcement of IPRs or on the definition of technologies per se. With a view to economic development, concerns about strengthening IPRs under the TRIPS Agreement need to be addressed, paying attention to the international trends that emerged over the last 20 years.<sup>99</sup>

In 2010, the WTO provided an overview for policy makers,<sup>100</sup> identifying the relevant standards of the TRIPS Agreement for climate negotiations. The most important IPR issue in the climate context are patents, but other IPR tools are relevant too (e.g. trademarks, plant variety rights, certification marks).<sup>101</sup> The debate was taken up in the WTO CTE, too, when in 2011 China and India made a joint submission. They

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<sup>91</sup> Ockwell et al. (2010).

<sup>92</sup> See, for instance, World Bank (2008); Commission on Growth and Development (2008).

<sup>93</sup> Ockwell et al. (2010).

<sup>94</sup> Lall (1993).

<sup>95</sup> See, for instance, Nelson and Winter (1996); Mowery and Rosenberg (1989); Lall (1993).

<sup>96</sup> Phillips et al. (2013).

<sup>97</sup> Das (2011).

<sup>98</sup> Lewis (2007); Lema and Lema (2013).

<sup>99</sup> Ockwell (2008); Yu (2016).

<sup>100</sup> WTO (2010).

<sup>101</sup> Barrett (2009).



underscored that IPRs must not become a barrier for the transfer of environmentally sound technologies. A similar claim was made in the TRIPS Council in a submission by Ecuador in 2013.<sup>102</sup>

### **4.3. Global sectoral policies: aviation and maritime transport**

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The most prominent unresolved global mitigation challenges arise from aviation and shipping activities. The emission sources, airplanes and marine vessels, provide cross-border services and partly operate in international spaces beyond the sovereign territory of individual states. Despite this, however, aviation and maritime shipping have been largely excluded from the climate regime. They were subject to UNFCCC negotiations, but the Paris Agreement does not mention these international emission sources. The Kyoto Protocol, on the contrary, expressly stated in its Article 2.2 that any relevant action on emissions from international aviation and marine bunker fuels should occur through the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO). Neither of the agencies initially followed up, however. Given the slow pace of international negotiations and continued rapid growth of aviation and shipping emissions, the EU announced that it would include international aviation in its ETS from 2013 onwards. This unilateral action against globally operating sectors led to significant tensions<sup>103</sup> and the EU suspended its measure under intense international pressure. At least, this helped revive the negotiations under the ICAO and the IMO.<sup>104</sup> These organisations struggle with discord about the necessity, design, and economic consequences of measures to limit aviation and shipping emissions, strong pressure from industry groups, as well as asymmetrical interests of coalitions of states (including disagreement about applying differential treatment to developing countries).

The role of the trade regime is limited here, too. The GATS offers only little guidance in two annexes on air and maritime transport services. Under the “Annex on Air Transport Services”, aviation is generally excluded from the substantive scope of the GATS (exceptions are aircraft repair, maintenance services, selling and marketing of air transport services, and computer reservation system services). For shipping, the corresponding “Annex on Negotiations on Maritime Transport Services” states that MFN treatment only applies following the conclusion of additional negotiations on maritime transport services within the WTO. With a Decision of 28 June 1996,<sup>105</sup> however, the Council for Trade in Services suspended the maritime transport

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<sup>102</sup> See the Third World Network website:

<http://www.twn.my/title2/climate/info.service/2013/climate130602.htm>.

<sup>103</sup> Droege and Richter (2012).

<sup>104</sup> Both organisations have been exploring the issue through the ICAO's Environment Branch and the IMO's Marine Environment Protection Committee respectively; the 39<sup>th</sup> Session of the ICAO Assembly in 2016 resulted in adoption of a market-based measure to limit aviation emissions.

<http://www.icao.int/environmental-protection/Pages/market-based-measures.aspx>

<sup>105</sup> WTO, Decision on Maritime Transport Services, Adopted by the Council for Trade in Services on 28 June 1996, WTO Doc. S/L/24 of 3 July 1996; see WTO website: [https://www.wto.org/english/tratop\\_e/serv\\_e/18-mar\\_e.htm](https://www.wto.org/english/tratop_e/serv_e/18-mar_e.htm).

negotiations until the commencement of the next comprehensive round of services negotiations, which are still ongoing.

At its 39<sup>th</sup> Session in September and October 2016, the ICAO Assembly adopted an international market-based measure to limit aviation emissions, designated a “Carbon Offsetting and Reduction Scheme for International Aviation” (CORSIA).<sup>106</sup> Under this scheme, any growth in CO<sub>2</sub> emissions from international aviation above 2020 levels will have to be compensated through the purchase and surrender of offset credits.

#### **BOX 1. INDCs: are there policy measures with trade implications?**

In 2015, 188 parties to the UNFCCC submitted their INDCs. The INDCs are diverse and do not follow a particular formula. Countries were free to announce their climate policy targets, measures, or conditionalities, such as financial demands for adaptation and mitigation. Trade implications from INDCs arise for all measures that tax, subsidise, or regulate national economic activities, which relate directly or indirectly to other countries’ participation in trade. As the WTO disputes (Section 3.3) demonstrate, national energy policy measures increasingly cause concerns about unfair competition. Local content requirements or other standards, as well as anti-dumping measures and countervailing duties can be in conflict with trade law. These requirements are used in national legislations (e.g. programmes to foster the provision of renewable technologies and production), and are rooted in national approaches to industrial policy making.

In 92 INDCs<sup>107</sup>, the intention of using international market mechanisms is indicated, while 45 do not mention this tool at all.<sup>108</sup> Mostly low-income countries intend to sell some type of mitigation unit to source carbon finance flows – provided such a trading option materializes under Article 6 of the Paris Agreement. However, there currently is only a small number of countries willing to buy such units (e.g. Japan, Norway, Switzerland, Turkey). Some countries express their interest in using international market mechanisms in the future (29), while others explicitly reject them (18).<sup>109</sup> The INDCs so far reveal that many countries intend to address emissions through investment in renewable energy. Some countries lay out detailed policy intentions. Most parties have announced relative or absolute targets (e.g. India: wind power installation of 60GW, solar power of 100 GW by 2022; China: increasing the share of non-fossil fuels to 15% of energy consumption by 2020 and to 20% by 2030; EU: 40% greenhouse gas emission reductions until 2030, no details on energy targets).<sup>110</sup>

Given the high profile of the NDCs in the Paris Agreement, the national approaches could be increasingly exposed to scrutiny by trade partners, but will also set the stage for international exchange on policy practice. In this context, the absence of guidance how the Paris Agreement implementation relates to the trade regime could become critical issue in the future, and this could lead to a higher profile of the forum on the impacts of the implementation of response measures (see Section 2.1).

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<sup>106</sup> International Civil Aviation Organization (2016), see [http://www.icao.int/Meetings/a39/Documents/WP/wp\\_462\\_en.pdf](http://www.icao.int/Meetings/a39/Documents/WP/wp_462_en.pdf). For general discussion, see Piera (2016).

<sup>107</sup> Out of a total of 162 INDC submissions at <http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx>. The EU INDC counts as one submission (comprising 28 EU Member States). The total number of parties that have submitted INDCs by June 2016 was 190.

<sup>108</sup> See also EDF and IETA (2016); Kreibich and Obergassel (2016).

<sup>109</sup> Analysis by Nicolas Kreibich, Wuppertal Institute, presented at 16th Climate Technology Workshop, 23-24 June 2016, Berlin.

<sup>110</sup> See UNFCCC website: <http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx>.



During an initial pilot phase from 2021 to 2023 and the first implementation phase from 2024 to 2026, the scheme will only apply to airlines from states voluntarily opting to participate in CORSIA; starting with the second phase from 2027 to 2035, however, all states except certain least developed countries and small island developing nations will be covered.

Given a long history of discord within ICAO about the need for and design of climate mitigation efforts in aviation, this outcome represents an important breakthrough that may also signal greater openness among ICAO's broad membership for climate policies affecting other sectors relevant for international trade, such as international shipping. As an Assembly Resolution, the CORSIA scheme will not supersede any existing treaty-based trade commitments between ICAO members under the legal principle of *lex posterior derogat legi priori*.<sup>111</sup> Still, the outcome and consensus it reflects can have a significant bearing on the interpretation of Article XX GATT when defending trade-restrictive climate measures, especially where these apply to the transport sector and international spaces.

#### **4.4. National and regional carbon pricing: emissions trading and carbon taxes**

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The debate on the trade implications of national climate policy started with the Kyoto Protocol and carbon pricing in industrialised countries.<sup>112</sup> From a climate economics point of view, there are two basic ways to foster mitigation. First, domestic policy can focus on supporting clean technologies, for example renewable energy production. For major technological breakthroughs, the return on investment needs to be increased and non-market barriers reduced if markets are to be stimulated. Second, governments can introduce policies to raise the costs of producers who emit carbon dioxide, be it through an explicit carbon price (for instance through a carbon tax or a greenhouse gas emissions trading system) or implicitly through technology regulation, such as performance standards. Producers have several options to deal with the cost increase, comprising a cost pass-through to their customers, investment in cleaner technologies, or decreasing production. If a producer competes with producers from countries that have not introduced similar or no climate policy tools, then, all other things being equal, the domestic producers will become less competitive. This risk puts into question the environmental effectiveness of unilateral carbon pricing or regulation. If domestic demand shifts to imported cheaper “like” products, production abroad increases and causes more emissions – the domestic mitigation effect will be offset by an increase in other countries (also known as “carbon leakage”).

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<sup>111</sup> Article 30, Vienna Convention on the Law of Treaties, see <https://treaties.un.org/doc/Publication/UNTS/Volume%201155/volume-1155-I-18232-English.pdf>

<sup>112</sup> See, for instance, Pauwelyn (2007); Droege (2009); Droege (2011); Böhringer et al. (2012a); Böhringer et al. (2012b).

To avoid carbon leakage, measures at the border or behind the border are available. At the border, for instance, the carbon leakage effect could be reduced if imported goods also fell under the importing countries' carbon pricing policy (tax or emissions allowances coverage). Policies implemented to this end are collectively referred to as border carbon adjustments. They can work both ways (pricing imports and reimbursing exports), and resemble border tax adjustments, which are commonly applied for consumption taxes (such as value added tax). A BCA could include rebates to exporters, too, in order to avoid disadvantages in international markets.<sup>113</sup> The introduction of a BCA has been explored in the EU<sup>114</sup> and in the US (e.g. in the unsuccessful American Clean Energy and Security Act of 2010, or the proposed American Opportunity Carbon Fee Act of 2014).<sup>115</sup> Behind the border, the policy design could include tax exemptions or other payments that compensate for cost increases for companies who compete internationally. Under emissions trading systems, the allocation of emissions certificates could be based on output (past or current) and thus ease the cost of purchasing allowances.

**Upcoming issues:** Policy makers who consider BCAs as a tool for inclusion in their portfolio would have two basic routes for the design of such measures. The design choice is key for making the BCA consistent with WTO rules. One option is to establish a BCA along the requirements of Article III for domestic policy tools, following several criteria under Article II.2(a) GATT, which apply to a legal border tax adjustment. The second option is to design a BCA in such a way that it passes the tests of Article XX GATT to qualify for an exception.<sup>116</sup> As there is considerable uncertainty under existing WTO jurisprudence, this is adding to the question of WTO legality of BCAs, but also to the general question of their desirability.<sup>117</sup> The environmental purpose of a measure that violates the non-discrimination obligations has to be clearly established through its design and practical implementation.<sup>118</sup> Most importantly, it must not serve the protection of domestic industries.<sup>119</sup> Thus, a BCA, at the very least, has to refer to the carbon content of a traded good and it has to target carbon leakage reduction.

The free allocation of allowances to companies and the indirect or direct payments to compensate for carbon costs could be problematic from a trade policy point of view too, especially if they tend to overcompensate the actual cost impact. Then the policy may result in subsidisation and could be challenged under WTO rules (notably the SCM

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<sup>113</sup> Cosbey et al. (2016); Cosbey et al. (2012).

<sup>114</sup> Bartels (2012), Droegge and Richter (2012); Godard (2007); Ismer and Neuhoﬀ (2007).

<sup>115</sup> Condon and Ignaciuk (2013); van Asselt and Brewer (2010); Kortum and Weisbach (2016); Pauwelyn (2007); Ismer and Neuhoﬀ (2007); Hufbauer et al. (2009).

<sup>116</sup> Cosbey et al. (2012).

<sup>117</sup> Das (2015).

<sup>118</sup> In WTO case law, the legality of exceptions depended on the actual implementation (targeted goods, targeted countries of origin), or the consideration of multilateral solutions to an environmental problem (US-Shrimp case Appellate Body). In the EU-Asbestos Case (DS135: European Communities – Measures Affecting Asbestos and Asbestos-Containing Products), the discriminatory impact of a trade measure applied to a “like” imported product was seen to depend on its competitive relationship to the domestic product. See Cosbey (2008), p. 8 and 9, footnote 15.

<sup>119</sup> Tamiotti (2011), p. 1209; Tamiotti et al. (2009).

Agreement). While this situation is speculative, it has a strong link to the disputes over subsidies for renewable energy.

## 4.5. Energy subsidies

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Subsidies play an important role in implementing the Paris Agreement through NDCs for two reasons: first, subsidies are applied to foster renewable energy investments and production and, second, existing subsidies for fossil fuels provide incentives for the production and consumption of carbon-intensive fuels. Subsidies for the production and consumption of both low- and high-carbon energy can serve a variety of non-climate policy objectives, such as protecting or building up industrial sectors in order to secure or promote employment, poverty alleviation, and increasing the security of energy supply. These objectives can collide with trade rules. Depending on the scope, design, and application of subsidies, unintended adverse socio-economic and environmental effects can be significant. For instance, the International Energy Agency suggests that consumption subsidies were responsible for 13% of global carbon dioxide emissions in 2014 (equivalent to a subsidy of US\$ 115 per tonne of carbon dioxide).<sup>120</sup>

The general relationship between the WTO and energy is not straightforward: the complex characteristics of energy and energy markets distinguishes energy from other traded goods regulated by the international trading system. Energy can be seen as both a good or as a service, meaning that it is governed by different WTO rules, including – but not limited to – the SCM Agreement.

**Upcoming issues:** Although trade disputes have largely focused on renewable energy subsidies (see Section 3.3), such rules in theory also apply to fossil fuel subsidies. Subsidies that are contingent upon export performance or upon the use of domestic over imported goods are prohibited under WTO law, whereas other subsidies that are deemed to be “specific” (i.e. aimed at certain enterprises or industries) and lead to “adverse effects” for other members are “actionable”, meaning they are subject to a challenge. Furthermore, the SCM Agreement specifies that WTO members should notify their subsidies, providing sufficient details to allow other members to assess the impacts on trade. Applying these rules in practice, however, has proven difficult. In contrast to renewable energy support, no fossil fuel subsidy has ever been challenged by a WTO member. For consumer subsidies, a key challenge is to prove that such subsidies are “specific”, given that the benefits of such subsidies generally accrue to a broad group of producers and/or consumers.<sup>121</sup> More importantly, however, notification rates of subsidies have generally been low, due to a lack of commitment (possibly due to fear of starting a trade dispute), a lack of clarity about which subsidies need to be reported, and the inherent difficulties of estimating them.<sup>122</sup> Even if WTO

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<sup>120</sup> IEA (2015), p. 23.

<sup>121</sup> Asmelash (2015).

<sup>122</sup> Casier et al. (2014).

members do report subsidies, the surveillance mechanism rarely leads to the questioning of the subsidies.<sup>123</sup>

## **5. Solutions: how the trade regime could support climate action**

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There are many suggestions on how to find sustainable solutions to reduce conflicts between the trade and the climate regimes, including the conversion of the legal rules of the WTO and RTAs into a set of obligations that could support climate policy objectives. However, given the reduced interest in the Doha Round negotiations, the prospects for legal reform are bleak. Therefore, this chapter not only identifies reform options, but also refers to processes that would enable a more pragmatic way forward in the absence of legal reform. In our evaluation of options, we consider if and how more certainty can be created by a suggested solution, and if the suggested change is more likely in the short term or in the longer term.

We see the following areas for supporting international and national climate policy by trade rules and regimes. First, there could be explicit specifications and reforms on how the two regimes relate to each other, both under the WTO and in RTAs (Section 5.1). Second, supporting trade rules for climate policy measures could be established for specific issues – as discussed in this report in Chapter 4, with a focus on the Paris Agreement’s implementation (Section 5.2). Third, institutional cooperation could be intensified in a number of ways (Section 5.3).

### **5.1. General relationship between climate and trade regimes**

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#### **5.1.1. Addressing the climate-trade overlap through changes in the WTO Agreements**

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Legal guidance to clarify the relationship between WTO rules and climate policy measures is not easily achievable. One argument in favour of reforming WTO rules is that the case-by-case nature of WTO disputes does not provide sufficient structural legal guidance for the implementation of NDCs under the Paris Agreement, and leaves the settlement of climate-related disputes to a body that is guided first and foremost by the rules of the multilateral trading system.<sup>124</sup> If the demand for legal guidance increases, such guidance can only be provided by the WTO members.<sup>125</sup> There are several ways in which they can do so.

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<sup>123</sup> Steenblik and Simón (2011).

<sup>124</sup> See Bacchus (2016), p. 13-14; Epps and Green (2010), p. 265 and 260 for details on the discussion how the WTO regime and dispute settlement should better take into account non-trade concerns.

<sup>125</sup> Tamietti (2011), p. 1207.

**Amendment:** A first option is to amend relevant WTO agreements to change the relevant trade rules. Suggestions in this regard include amending Article XX GATT to explicitly accommodate climate change measures or measures taken pursuant to multilateral environmental agreements, or amending the SCM Agreement to provide space for green subsidies.<sup>126</sup>

From a legal perspective, an ambitious reform of the legal framework through amendments or new rule creation would be attractive. It would increase the legal certainty and normative coherence across regimes, and offer a solution for the longer term.<sup>127</sup> However, it is far from clear what the content of such rules would have to be to serve both climate and trade aims. And even if there was clarity about the contents of an amendment, negotiating an amendment will be very challenging. Submitting an amendment already requires consensus, and depending on the contents of the amendment (and the specific treaty provision it applies to) it will require at least a two-thirds majority of members accepting it, and in some cases even all members (Article X of the Agreement Establishing the WTO). Amendments may also lead to a complex legal situation – in which not all members are bound in the same way – if a sufficient number, but not all, of the WTO members accept it. Finally, amendments have hardly been used in WTO practice so far.<sup>128</sup>

**Waiver:** A second option is to waive specific WTO obligations for a limited time. Waivers, which can be adopted if there are “exceptional circumstances” (Article IX.3 of the Agreement Establishing the WTO), require a three-fourths majority, although consensus has remained the rule in practice.<sup>129</sup> Examples for existing waivers include regional economic integration, or justification of non-reciprocal trade preferences for products from developing countries.<sup>130</sup> A WTO member could argue that achieving climate policy objectives constitutes “exceptional circumstances”. A specific and far-reaching suggestion is made by Bacchus (2016), who suggests a waiver from WTO obligations for all trade-restrictive climate measures that are based on the amount of carbon used in making a product. This, for example, would be applicable to BCAs. He further suggests a waiver for measures that are taken in furtherance of a UNFCCC climate agreement (e.g. the Paris Agreement) or a plurilateral “climate club”.<sup>131</sup> A key question to be clarified here is how to define the scope of the waiver, i.e. what are the actual “climate measures”.<sup>132</sup>

The time-limited nature of waivers suggests that a waiver will not create long-term certainty. At the same time, the temporary nature of a waiver might render it more appealing than a permanent amendment. Feichtner points out that a waiver allows for

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<sup>126</sup> International Bar Association (2014), p. 166-167.

<sup>127</sup> van Asselt et al. (2008), p. 440.

<sup>128</sup> “The only amendment decision in the WTO was passed in 2005, which modified the TRIPS Agreement. In ten years, the decision has been accepted in only 53 local legislatures of the total 160 WTO Members.” Leycegui and Ramirez (2015), p. 3.

<sup>129</sup> Hufbauer et al. (2009), p. 97.

<sup>130</sup> Feichtner (2009), p. 619.

<sup>131</sup> “Climate clubs” could be integrated in the trade-and-climate regimes through RTAs (meaning the members to an RTA extent their cooperation on climate policy), or through the WTO plurilateral agreements under Annex 4 (see Section 5.1.1).

<sup>132</sup> Epps and Green (2010), p. 255-256.

a general modification of WTO norms in the direction of non-economic interests. More precisely, it restricts the WTO jurisdiction in favour of “other international legal regimes which may have greater competence and legitimacy than the WTO to deal with certain issues”,<sup>133</sup> and which actually have a legal mandate that affects trade.<sup>134</sup> If waivers were used repeatedly, this could also create a longer-term effect for consideration of climate policy issues under the WTO. Again, the limitations to introducing a waiver are set by the political interests in doing so. If the implementation of NDCs under the Paris Agreement would bring about structural issues that increase the pressure for waiving specific climate policy measures, the tool could offer a way forward, but it would not resolve structural, long-term conflicts.

**Authoritative interpretation:** A third option would be to adopt an authoritative interpretation of certain provisions in the WTO Agreements by a three-fourths majority (Article IX.2 of the Agreement Establishing the WTO), although also here consensus will be the rule in practice.<sup>135</sup> Buck and Verheyen suggest that members could agree that certain regulations based on a product’s PPMs (e.g. how much emissions are embedded in a product) would not violate the GATT, and this would effectively settle questions about the legality of PPMs. This far-reaching nature of this suggestion limits its political feasibility in practice. However, an authoritative interpretation could offer an alternative to implement the suggestions for amendment – albeit with weaker legal force – such as clarifying the scope of Article XX GATT.<sup>136</sup> Another suggestion could consist of a declaration that climate measures taken pursuant to the Paris Agreement (or with reference to the UNFCCC) are measures within the scope of Article XX of the GATT and of Article XIV of the GATS.<sup>137</sup>

The introduction of an authoritative interpretation of Article XX GATT is less of an intervention in the regime than an amendment or a waiver. It would set a clear frame for the interpretation of Article XX and would thus document consensus among WTO members on the importance of climate-related policies under the WTO regime. It would mainly affirm existing *opinio juris* around Article XX GATT, but by being explicit it could deter judicial action by opponents to specific climate action.<sup>138</sup>

There are also downsides to this option. If an authoritative interpretation is very broad, for example referring to the Paris Agreement or to the NDCs in general, this could give a *carte blanche* for the protectionist application of trade policy tools, given that climate action depends on national preferences and is subject to changing agendas and priorities. In addition, an authoritative interpretation cannot make non-trade rules directly applicable in a trade dispute. However, it could help tilt the balance towards a climate-friendly interpretation of certain provisions of the WTO Agreements.

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<sup>133</sup> Feichtner (2009), p. 645.

<sup>134</sup> Feichtner (2009), p. 618.

<sup>135</sup> Ehlermann and Ehring (2005), p. 806.

<sup>136</sup> International Bar Association (2014), p. 166.

<sup>137</sup> See Bacchus (2016), p. 16, referring to “an agreement under the UNFCCC”.

<sup>138</sup> Interpretations on Article XX can be found in WTO DS2 (1996): *US – United States — Standards for Reformulated and Conventional Gasoline* (1996), see [https://www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds2\\_e.htm](https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds2_e.htm); Bartels (2012), p. 494; and in the USA – India Solar case the role of Article XX is discussed – see Table 1 in Annex 1.



**Peace clause:** Another way to give some leeway for WTO members when implementing their climate policies under the Paris Agreement would be a time-limited “peace clause” for taking action against trade-related climate measures.<sup>139</sup> Such a peace clause could commit WTO members to wait (e.g. at least three years) before challenging national climate measures, or refrain from using countermeasures that restrict trade or otherwise have trade effects in WTO dispute settlement.<sup>140</sup> A comparable clause had been in effect for nine years with respect to agricultural subsidies. Hufbauer et al. suggest a similar clause focusing particularly on climate-related subsidies, though in principle such a clause could be used for any climate-related trade measure.<sup>141</sup>

Alternatively, as suggested also by Hufbauer et al.,<sup>142</sup> a peace clause could commit states not to implement climate measures with extraterritorial implications, such as a BCA. This may be helpful in creating trust and goodwill. It may also be helpful for other countries affected to start gearing up for the measure.

As with waivers, the challenge for a peace clause is to get the scope right. In other words, the challenge is to single out those measures that legitimately seek to implement the Paris Agreement or otherwise promote climate goals. If this issue could be solved, a peace clause would buy time that could be used for constructive dialogue rather than further confrontation over specific issues.<sup>143</sup> Otherwise, a conflict only gets postponed and would return after the peace clause expires.<sup>144</sup> The same argument applies if a peace clause hinders the reform of ineffective climate policy practices, such as generous free allocation of emission allowances under an ETS.<sup>145</sup>

An ill-formulated peace clause could also potentially offer countries a *carte blanche*, and thus create a perverse incentive for introducing protectionist or otherwise trade-restrictive climate policy measures. A peace clause ultimately requires amendment of the relevant WTO agreements, and is therefore subject to the same limitations as other amendments.

**Adjustments to the WTO dispute settlement mechanism:** Proposals exist to expand the jurisdiction of the WTO DSB to non-trade rules and principles, which could give climate obligations further weight as compared to free trade disciplines in WTO judicial decision making. However, such proposals are not likely to gain traction in the short term. A more feasible proposal would be to ensure that the composition of WTO panels and the AB as such reflect the necessary technical expertise to cover climate-related issues (e.g. supporting the determination of whether a certain policy measure effectively contributes to greenhouse gas emission reductions).

**Plurilateral trade and climate agreement:** Acknowledging the challenges of consensus, Hufbauer et al. propose a plurilateral trade and climate code to deal with a range of

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<sup>139</sup> Hufbauer et al. (2009); Bacchus (2016).

<sup>140</sup> Bacchus (2016), p. 14.

<sup>141</sup> Hufbauer et al. (2009), p. 109-110.

<sup>142</sup> Hufbauer et al. (2009), p. 106.

<sup>143</sup> Hufbauer et al. (2009), p.103-110 refer to the contested issue of BCA.

<sup>144</sup> Epps and Green (2010), p. 254.

<sup>145</sup> Bacchus (2016), p. 17.

aspects on the climate-and-trade interface.<sup>146</sup> They propose that this code could be adopted as a plurilateral agreement under Annex 4 of the WTO Agreement (similar to, for example, the Government Procurement Agreement; see Chapter 2). Similarly, ICTSD has suggested a “Sustainable Energy Trade Agreement”, covering not only the liberalisation of climate-friendly goods and services, but also non-tariff barriers such as technical standards.<sup>147</sup> A plurilateral agreement would not create rights or obligations for other WTO members, but its inclusion in Annex 4 (which would allow for enforcement of the agreement through the WTO’s dispute settlement mechanism) does require consensus. The benefits of such an agreement would normally accrue to all WTO members to the extent that it covered subjects within the scope of the MFN obligations of WTO agreements.<sup>148</sup> Thus, on the one hand, the negotiation of an agreement “inside” the WTO system is easier due to the lower number of parties, but on the other hand, its approval as an additional Annex 4 agreement requires the agreement of all WTO members.

Such a plurilateral agreement under the WTO does not necessarily bring about more complexity – the GPA for example does not yield this effect. The limited-membership arrangement would be open to participation by further WTO members and could thus expand its membership over time. The EGA negotiations – limited to traded goods – demonstrate that plurilateral agreements are a way forward to promote common interests among groups of WTO members. Plurilateral climate-and-trade cooperation could also take place “outside” the context of the WTO regime. However, this option would exacerbate the fragmentation of the trade regime.

### **5.1.2. Addressing the climate-trade overlap through changes in RTAs**

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RTAs have already demonstrated that environmental standards could become part of a trade agreement. RTAs could potentially further promote climate objectives in two ways. First, the negotiation of new types of provisions could lead to synergies with climate goals, and prevent a race to the bottom. Parties to an RTA have an interest in keeping up their national standards, because otherwise trade partners could quickly gain competitiveness through lowering standards. Thus, RTAs can be more detailed and more elaborate in setting common rules for trade-related climate measures, in particular by aligning standards and regulations. To ensure compatibility with WTO rules, it would be important for parties of an RTA to pay due regard to standards from third countries.<sup>149</sup> In addition, dispute settlement rules and consultations could consistently relate to climate policy concerns, also when it comes to provisions on investment, which usually regulate whether and how an investor may challenge a country’s climate regulations through investor-state dispute settlement.<sup>150</sup>

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<sup>146</sup> Hufbauer et al. (2009).

<sup>147</sup> ICTSD (2011a).

<sup>148</sup> Kennedy (2012), p. 8-10.

<sup>149</sup> Holzer and Cottier (2015).

<sup>150</sup> See for instance, Firger and Gerrard (2012).



Two overarching options to promote climate protection can be distinguished with regard to investment. First, parties could preserve the flexibility for climate regulation. This could include narrowing down or clarifying key concepts in international investment agreements, such as “indirect expropriation” or the “fair and equitable treatment” standard, as well as extending exceptions (or creating new ones) to investment, removing climate regulations from the scope of investor-state dispute settlement. Second, parties could agree on provisions encouraging low-carbon investment. These could include low-carbon performance requirements for investors.<sup>151</sup> Such provisions, however, need to be balanced against the objectives to attract and promote investment.

If RTAs developed in this direction, they hold potential to facilitate multilateral agreement on climate-trade interactions in the longer term. The extent to which this potential can be realised depends on the parties to the RTA. The greater the market power of the parties negotiating specific standards, the greater the likelihood that such standards will be taken up elsewhere. This can be done by other countries on a unilateral basis, through the inclusion of standards in a greater number of RTAs, and, ultimately, through multilateralisation via the WTO.<sup>152</sup> There is thus a crucial role for the mega-regional agreements at a time of lower interest in rule development through the WTO. Bilateral agreements, such as the EU-Singapore Free Trade Agreement, do not have this leverage. Nevertheless, these smaller agreements can inject new ideas in the debate. As negotiations on mega-regionals such as TTIP are ongoing, this offers an opportunity to facilitate trade in climate-friendly technologies between the US and the EU, and furthermore ensure regulatory coherence, including aligning standards. Other issues could be included, too, such as strengthening environmental laws and enforcement, and further promoting collaboration on climate-related issues, such as fossil fuel subsidy reform.<sup>153</sup>

Thus, RTAs could support climate policy measures through codifying standards and aligning rules among trade partners, by clarifying investment rules and related dispute settlement provisions, and by functioning as a clearing house for other trade-and-climate-related issue areas.

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<sup>151</sup> Firger and Gerrard (2012).

<sup>152</sup> Holzer and Cottier (2015).

<sup>153</sup> Jegou et al. (2016), p.13.

## **5.2. Addressing the climate-trade overlap through changes in rules on specific issues**

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This section discusses the prospects of reform for specific issues on the trade-climate interface, focusing on emissions trading and carbon pricing, energy subsidies, and technology transfer and intellectual property rights.

### **5.2.1. Emissions trading and carbon pricing**

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Detailed rules for the international transfer of mitigation outcomes under Article 6 of the Paris Agreement have yet to be elaborated. Past research on the flexible mechanisms of the Kyoto Protocol and domestic market-based instruments already indicated how mechanisms under Article 6 might intersect with international trade law. A critical point relates to restrictions on the fungibility of carbon units based on criteria such as geographic origin (as applied to CDM credits under the EU ETS). This could limit the ability of service providers to supply services related to ineligible units that would be considered “like” to services related to eligible units, thus creating a conflict with GATS rules. This issue could be resolved with one or more of the reform options discussed above (Section 5.1), for example with an authoritative interpretation that restrictions on carbon units fall within the scope of Article XIV of the GATS.

For the introduction of BCAs, there are two routes to establish a clearer legal status. First, the design of BCAs can follow the non-discrimination principle of Article III GATT and the requirements for an internal tax. Second, if BCAs do not follow Article III GATT in their setup, the Article XX criteria need to be applied, which demand that all alternative measures that are least trade-restrictive are exhausted, and that diversion from national treatment based on non-product-related PPMs (here: embedded carbon) relates to preventing ineffective climate policy (carbon leakage). The implementation of NDCs through national carbon pricing could bring back the discussion on specific rules on BCA. For the time being, these two WTO routes could be explored if governments wished to use BCAs. As the tool is politically highly sensitive due to its protectionist potential, clearer codes of conduct would be helpful, too, if its consideration as part of NDC implementation became relevant. In particular, the introduction of BCA would need to be evaluated in the light of a WTO member’s anti-leakage policies already in place, such as free allocation of emission allowances.

### 5.2.2. Energy subsidies

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In response to the issues raised by renewable energy subsidies, reform of WTO subsidy rules has been suggested, as well as the introduction of new agreements on the promotion of renewables.<sup>154</sup> On the one hand, the case law of WTO disputes over renewable energy policy implementation might offer guidance on how a productive balance could be found between a national agenda to promote renewable energy and international competition concerns. On the other hand, the WTO agreements cited in the disputes comprise the GATT, and the Anti-Dumping, TBT, TRIMS and SCM Agreements, indicating that the conflicts with trade rules are profound. Local content requirements are a common feature of the disputes, and this should not be surprising. Renewable energy production can yield several benefits that a domestic government aims at, first and foremost, increasing employment. Such industrial policy objectives are not covered by trade law, and solving the conflicts by changing the trade rules is not recommendable, given that protectionism can be a serious concern of trade partners. Thus, the legal reform options (amendment, waiver, peace clause, or authoritative interpretation)<sup>155</sup> would need to offer a solution that rules out their protectionist abuse. More detailed reform suggestions in this direction include the creation of a category of narrowly defined non-actionable subsidies (e.g. a positive list of support instruments and related design features), to change the categories of subsidies under the SCM Agreement, or to establish disciplines for certain subsidies that are not covered yet.<sup>156</sup>

Given the lack of clarity on fossil fuel subsidies, an important first step would be to enhance the transparency of such subsidies, for instance by adopting a new notification template providing further details on subsidies in a standardized fashion<sup>157</sup> and allowing non-governmental organisations to report on the level of non-actionable subsidies.<sup>158</sup> Neither of these options would require changes in the WTO's legal framework. Further incentives for reform could arise if a fossil fuel subsidy would qualify as either "prohibited" or "actionable",<sup>159</sup> meaning that other WTO members can take action under the SCM Agreement, or if such subsidies could be challenged under the GATT or the TRIMS Agreement in the same way renewable energy subsidies have been challenged. However, at present it seems quite unlikely that WTO members are willing to renegotiate the subsidies regime to take into account the climate impacts of fossil fuel subsidies. Although there has been progress in other areas of environmentally harmful subsidies, namely fisheries, the stakes are significantly higher in the case of

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<sup>154</sup> Espa and Rolland (2015).

<sup>155</sup> See e.g. Howse (2013). An authoritative interpretation of Article XX outreach and application to the SCM Agreement is discussed in Meléndez-Ortiz (2016), p.7.

<sup>156</sup> Horlick and Clarke (2016), p. 5-7.

<sup>157</sup> Steenblik and Simón (2011).

<sup>158</sup> Casier et al. (2014).

<sup>159</sup> It would be very difficult for one member to prove that another member's subsidy causes an "injury"; see Wold et al. (2012), p. 656-657. Nevertheless, Horlick and Clarke (2016), p. 10, consider fossil fuel subsidies as "actionable".

fossil fuel subsidies,<sup>160</sup> given the sheer size of such subsidies and given that almost every country in the world provides them.

### **5.2.3. Technology transfer and intellectual property rights**

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The resolution of the different interpretation of IPRs and the different concepts of intellectual property are often claimed as being the biggest hurdle for climate technology transfer, leaning on the examples of pharmaceuticals or defence technologies. Suggestions for a reconciliation of the concerns, like the one submitted by Ecuador in 2013, include modification of IPR rules or a declaration on intellectual property and climate change in line with Doha Declaration on the TRIPS Agreement and Public Health. The key aspect is the interpretation of TRIPS Articles 13 and 30 (use of patents), for which a waiver or an authoritative interpretation had been suggested.<sup>161</sup> However, any solution needs to incorporate the concerns of both developing and developed countries, which will take a longer period of time. The debate at TRIPS Council on IPRs protection and interpretation will continue. Promoting climate protection is already a need that is integrated in the debate. The underlying conflicts about IPRs, however, block solutions to specific aspects of protection of climate technology and know-how. The chances of resolving IPR issues seem bleak, given the highly political nature of the debate and the vested interests that dominate decision making.

## **5.3. Ways forward: accounting for the political landscape**

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Given the hurdles to reform the WTO regime or to align it with climate measures that are part of the Paris Agreement, other options should be considered that could bring about a more supportive role of the trade regime. Politically more promising are options that integrate the procedures of the climate and trade institutions, and deepen the existing procedural arrangements.

### **5.3.1. Improving the institutional setting**

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Procedural reform could start with greater use of existing forums under the WTO and the UNFCCC as coordination hubs that actively engage parties on climate and trade issues. There is already informal interaction between the UNFCCC Secretariat and the WTO members and institutions (in particular the CTE). A first step in that direction could include upgrading the roles for the Trade Policy Review Mechanism and the CTE of the WTO as well as the Subsidiary on Body Scientific and Technological Advice (SBSTA) of the UNFCCC. The Trade Policy Review Mechanism could be strengthened

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<sup>160</sup> Bigdeli (2008).

<sup>161</sup> Maskus and Okediji (2010), p. 36-37.

to include a compulsory assessment of the impact of relevant domestic measures on emissions and efforts to address climate change.<sup>162</sup> In addition, decision-making and administrative bodies in both the trade and climate regimes could seek to actively liaise in a systematic way, strengthening their knowledge base and creating a better understanding of the implications of trade-climate interactions for the respective objectives, principles and legal obligations in each regime.

To address interactions, Epps and Green suggest the introduction of a separate WTO Committee on Trade and Climate Change.<sup>163</sup> As an alternative option, the mandate of the CTE could be explicitly extended to include climate change policy, turning it into a Committee on Trade, Environment and Climate Change. If this proves to be a feasible option for the WTO members to address trade-related climate policy issues in more detail, such a Committee on Trade, Environment and Climate Change could include representatives from WTO members with distinct knowledge of UNFCCC issues.

### **5.3.2. Increasing transparency through notification and review**

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To improve the flow of information around climate measures that affect international trade or have the potential to do so, notification of such measures could be introduced in a formal manner, for example by including in future NDC submissions to the UNFCCC a section that highlights trade-related aspects of specific national climate actions. Another option that could provide information also for the WTO committees would be to introduce at the UNFCCC Secretariat an information hub through the creation of a central registry. Parties to the UNFCCC could log and record trade-related climate measures, or even include such information in the transparency template guiding countries in their mandatory reporting under the Paris Agreement. Such notifications can be sensitive. However, enhanced transparency is key for building trust between developing, emerging and industrial countries. The notification of trade-related climate measures could be linked to the work programme of the UNFCCC forum on the impacts of the implementation of response measures. Addressing trade issues in the forum will undoubtedly be challenging – as it has been in the past – but the more technical turn of the forum’s new work programme may offer space for less politicised discussions.

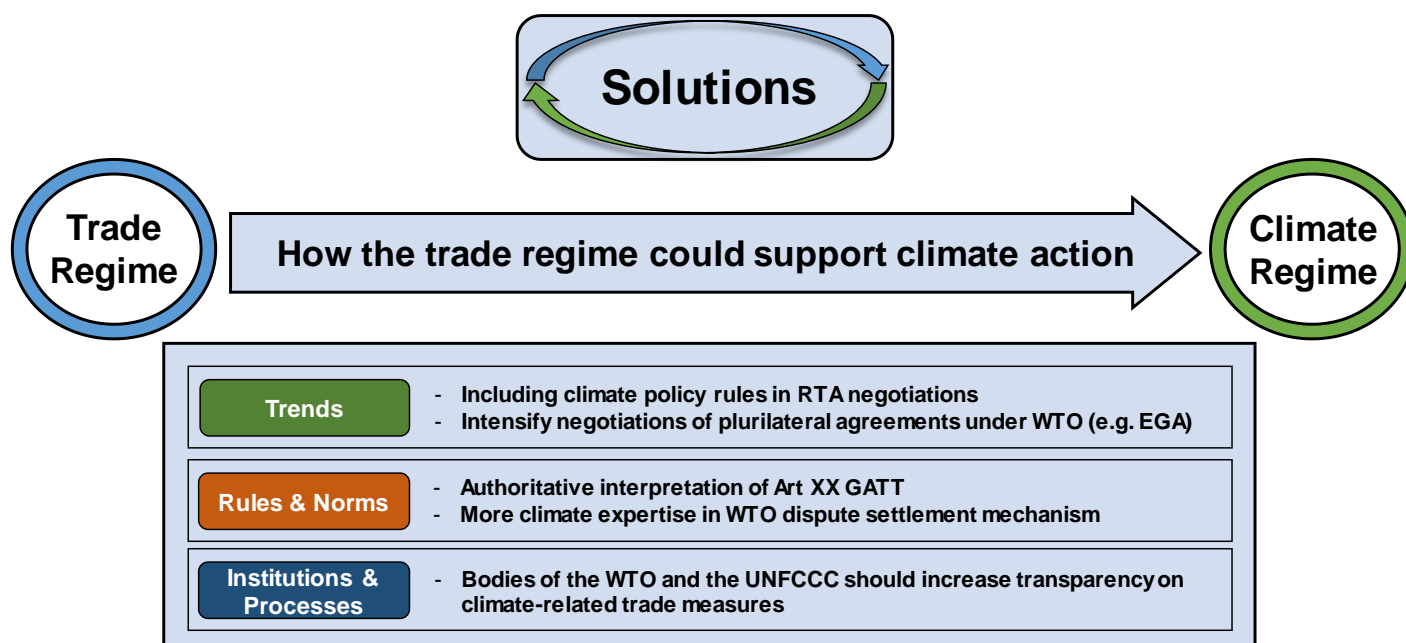
For specific issues, such as fossil fuel subsidies and policies to promote renewable energy the notification to the SCM Committee would help increase the transparency on such measures. For issues that touch upon GATS legality, the evaluation of the classification of environmental services in the WTO Committee on Trade in Services could be undertaken. This could aim at extending the WTO services classifications, with a view to coordinating negotiations on environmental goods trade with negotiations on related services, ultimately opening the door for greater legal certainty on climate-related services under the GATS.

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<sup>162</sup> Bacchus (2016), p. 16.

<sup>163</sup> Epps and Green (2010), p. 261.

**Figure 2: Solutions – How the trade regime could support climate action**



**Abbreviations:** **EGA:** Environmental Goods Agreement; **GATT:** General Agreement on Tariffs and Trade; **RTAs:** Regional Trade Agreements; **UNFCCC:** United Nations Framework Convention on Climate Change; **WTO:** World Trade Organization.

### 3. Conclusions

The trade and the climate regimes have so far co-existed without severe frictions. With the recent emergence of a number of climate-related disputes and the Paris Agreement's emphasis on nationally driven mitigation, the interactions between the policy fields could increase. Both regimes find themselves at a crossroads. This might lead to new opportunities to create rules and procedures that support trade-related climate policy measures.

The climate regime has been considering trade-related aspects over the years of negotiations. The Paris Agreement, however, in contrast to the UNFCCC and the Kyoto Protocol, does not include a provision stating how climate policy and trade rules relate to each other. Parties to the Paris Agreement have agreed instead to continue discussions on trade-related issues under the heading of response measures.

The WTO provisions can be in conflict with climate protection measures, if such measures discriminate between domestic and foreign goods, based on the processes and production methods involved. The likeness of goods and the equal treatment of

WTO members are key features of the WTO's non-discrimination regime. However, there are also exceptions for the pursuit of environmental objectives.

The WTO Agreements are increasingly put to the test by national climate policies that seek to promote renewable energy production and new technologies, or by conflicts over international IPR protection for clean technologies. Complications arise due to an increasing breadth of climate-related technologies trade and related services. WTO case law, while acknowledging the need for climate protection, sets clear signals against overly protectionist ways to support climate-friendly industrial strategies, foremost in conflicts over national renewable energy promotion. The WTO dispute settlement bodies have been sensitive to environmental issues, but they continue to encounter criticism from traditional trade interests. Thus, the panels and the AB also would benefit from clear signals by WTO members that climate protection has to be taken seriously in dispute settlement.

Regional trade deals hold potential to show that countries anticipate the conflicts in promoting climate protection through standards and industrial policy. RTAs are more flexible in meeting the political priorities of the engaged partners. Thus, a benefit of the trend towards RTAs and mega-regional trade deals could be that climate policy objectives are given proper attention.

The Paris Agreement will, over time, give rise to further questions in relation to trade. One issue concerns the market mechanisms and trading of international emission reduction units. The potential of trade rules impeding the exchange of emission units seems low, given the experiences under the Kyoto Protocol. Rather, related services (especially related to financial markets) need to be more clearly defined under the GATS. Another issue is the future treatment of imports and exports based on their PPMs. Such questions are more likely to come to the fore once targets and associated policies become more ambitious, and with the emergence of new coalitions to price carbon. BCAs have attracted political attention in the past already, and their application could become of interest again when national climate policies are strengthened. It can be expected that national policies on pricing emissions, on energy production (including renewables and fossil fuels support), and on fostering specific technologies via trade will need to be coordinated with trade policy aims, putting demands on the institutions of the climate and the trade regimes.

With more ambitious NDCs expected in the future, the trade-related climate measures will remain in the spotlight. The specific IPR issues need to be resolved, and talks under the TRIPS Agreement as well as rules in RTAs are key components of progress in this field. As the adjustment of restrictive trade-related IPRs is a highly political matter, this will dominate further negotiations under the WTO, as well as the Technology Mechanism of the UNFCCC. Last but not least, the reduction of fossil fuels subsidies will need more support from international institutions, including the WTO, as their impact on climate change is considerable.

We conclude by highlighting five particular ideas for how the trade rules and negotiations could become more supportive for climate protection (see Figure 2 for an illustration).



1. The WTO legal reform options all lack political support. Nevertheless, we see an authoritative interpretation of Article XX (b) and (g) of the GATT, as well as its chapeau, as a way forward in the longer term. This could clarify the scope of exceptions to trade obligations and it could also offer an important political signal that the WTO is open to accommodating the climate policies of its members. An authoritative interpretation would need to focus on issues that either have already been agreed through the WTO dispute settlement procedures or are likely to be commonly agreed.
2. The dispute settlement system under the WTO could be made more supportive for the Paris Agreement's implementation. For example, more climate expertise could be made part of the WTO dispute settlement processes. Article 13 of the WTO's Dispute Settlement Understanding, as well as several other WTO agreements, already give the dispute panels the right to seek information and technical advice from experts, provided of course the relevant rules and procedures are followed. What is needed is to make use of this window as effectively and extensively as possible.
3. The negotiations of RTAs are a promising way forward for introducing and testing new rules on climate and trade. In particular, the so-called megaregional trade deals (e.g. TPP, TTIP) have a potential to diffuse climate protection rules more widely, as long as the negotiating parties have a common interest in avoiding a race to the bottom in setting climate protection standards.
4. Plurilateral trade agreements that are incorporated as WTO agreement (Annex 4 WTO Agreement) would offer a more WTO-specific option to set rules for trade and climate policy. WTO member who wish to bring environmental protection forward already started the Environmental Goods Agreement. A broader trade and climate agreement, covering specific climate policy issues (e.g. market mechanisms, services, and non-tariff barriers), could further strengthen the promotion of climate protection through trade by progressive WTO members.
5. The bodies of the WTO and the UNFCCC could increase transparency. To this end, an extended institutional setting at the WTO, for instance through a Committee on Trade, Environment and Climate Change, would be an option. The UNFCCC Secretariat already has observer status with the CTE. Furthermore, it is often also invited to the Special Sessions of the CTE on a meeting-by-meeting basis. However, there is still scope for increasing the coordination of existing bodies at the WTO (e.g. the CTE and the Trade Policy Review Mechanism) and the UNFCCC (Subsidiary Body on Scientific and Technological Advice, and the forum on the impact of the implementation of response measures). The aim should be a regular and elaborated exchange of information on NDC implementation.

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## Annex: Climate-related WTO disputes

Dispute number	Dispute title <sup>1</sup>	Respondent	Complainant	Third parties <sup>2</sup>	Challenged measure(s)	Agreements cited (in the request for consultations)	Date of initiation (request for consultations)	Current status
<a href="#">DS412</a>	Canada – Certain Measures Affecting the Renewable Energy Generation Sector <b>(Canada — Renewable Energy)</b>	Canada	Japan	Australia; Brazil; China; Chinese Taipei; El Salvador; EU; Honduras; India; Mexico; Norway; Saudi Arabia; South Korea; US	Ontario's feed-in tariff programme with LCRs for electricity generation using solar photovoltaic and wind power technology.	GATT; SCM Agreement; TRIMS Agreement	13 September 2010	On 5 June 2014, the respondent (Canada) notified that it “implemented” the DSB recommendation to bring the disputed measure into conformity with WTO law. No compliance proceeding initiated.
<a href="#">DS419</a>	China – Measures Concerning Wind Power Equipment	China	US	None	China's grants, funds, or awards to enterprises manufacturing wind power equipment contingent on local content requirements.	GATT; SCM Agreement; China-Protocol of Accession	22 December 2010	On 22 December 2010, the complainant (US) requested consultations with the respondent (China). No dispute panel established and no withdrawal or mutually agreed solution notified.
<a href="#">DS426</a>	Canada — Measures Relating to the Feed-in Tariff Program <b>(Canada — Feed-In Tariff Program)<sup>3</sup></b>	Canada	EU	Australia; Brazil; China; Chinese Taipei; El Salvador; India; Japan; Mexico; Norway; Saudi Arabia; South Korea; Turkey; US; El Salvador	Ontario's feed-in tariff programme with local content requirement for electricity generation using solar photovoltaic and wind power technology.	GATT; SCM Agreement; TRIMS Agreement	11 August 2011	On 5 June 2014, the respondent (Canada) notified that it “implemented” the DSB recommendation to bring the disputed measure into conformity with WTO law. No compliance proceeding initiated.



<a href="#">DS437</a>	United States — Countervailing Duty Measures on Certain Products from China <b>(US — Countervailing Measures (China))</b>	US	China	Australia; Brazil; Canada; EU; India; Japan; Norway; Russian Federation; Saudi Arabia; South Korea; Turkey; Vietnam	17 CVD investigations conducted by the US against various Chinese products, which included solar panels and wind towers.	SCM Agreement; GATT; China- Protocol of Accession	25 May 2012	AB and/or panel found the disputed measure(s) to be inconsistent with WTO law. Report(s) adopted by the DSB on 16 January 2015, with recommendations to bring the US measure(s) into conformity with WTO law. The US is undertaking implementation of these recommendations. In January 2016, the US and China reached a procedural understanding regarding possible further proceedings to facilitate the resolution of the dispute.
<a href="#">DS443</a>	European Union and a Member State – Certain Measures Concerning the Importation of Biodiesels	EU; Spain	Argentina	None	Spanish Ministerial Order regulating allocation of quantities of biodiesel needed to achieve the mandatory target of renewable energy. The measure is the national implementation of the EU regulatory framework for renewable energy.	GATT; TRIMS Agreement; Agreement Establishing the WTO	17 August 2012	On 17 August 2012, the complainant (Argentina) requested consultations with the Respondent (EU; Spain). No dispute panel established and no withdrawal or mutually agreed solution notified.
<a href="#">DS452</a>	European Union and Certain Member States – Certain Measures Affecting the Renewable Energy Generation Sector	EU; Italy; Greece	China	None	Feed-in tariff programmes with local content requirements in EU Member States, including but not limited to Italy and Greece.	GATT 1994; ASCM; TRIMs	5 November 2012	On 5 November 2012, the complainant (China) requested consultations with the respondent (EU; Italy; Greece). No dispute panel established and no withdrawal or mutually agreed solution notified.

<a href="#">DS456</a>	India – Certain Measures Relating to Solar Cells and Solar Modules ( <b>India — Solar Cells</b> )	India	US	Brazil; Canada; China; Chinese Taipei; Ecuador; EU; Japan; Malaysia; Norway; Russian Federation; Saudi Arabia; South Korea; Turkey	LCRs pertaining to solar cells and/or modules imposed by India in the initial phases of India's ongoing National Solar Mission, related to solar power developers selling electricity to the government.	GATT; SCM Agreement; TRIMS Agreement	6 February 2013	The case went up to AB stage following appeal of the panel report by India on 20 April 2016. On 16 September 2016, the AB ruled against India.
<a href="#">DS459</a>	European Union and Certain Member States – Certain Measures on the Importation and Marketing of Biodiesel and Measures Supporting the Biodiesel Industry	EU	Argentina	None	Measures to promote the use of energy from renewable sources, and measures to establish support schemes for the biodiesel sector.	GATT; TBT Agreement; Agreement Establishing the WTO; TRIMS Agreement; SCM Agreement	15 May 2013	On 15 May 2013, the complainant (Argentina) requested consultations with the respondent (EU). No dispute panel established and no withdrawal or mutually agreed solution notified.
<a href="#">DS473</a>	European Union — Anti-Dumping Measures on Biodiesel from Argentina ( <b>EU — Biodiesel</b> )	EU	Argentina	Australia; China; Colombia; Indonesia; Malaysia; Mexico; Norway; Russian Federation; Saudi Arabia; Turkey; US	Anti-dumping measures imposed by the EU in 2013 on biodiesel originating in, inter alia, Argentina; and certain provisions in the EU regulation regarding determination of dumping margins.	Anti-Dumping Agreement; GATT; Agreement Establishing the WTO	19 December 2013	On 29 March 2016, the panel report was circulated to members. Not yet adopted or appealed.
<a href="#">DS480</a>	European Union — Anti-Dumping Measures on Biodiesel from Indonesia ( <b>EU — Biodiesel (Indonesia)</b> )	EU	Indonesia	Argentina; Australia; Brazil; Canada; China; India; Japan; Norway; Russian Federation; Singapore; Turkey; Ukraine; US	Certain provisions in EU regulation on Anti-dumping from non-EU countries; and anti-dumping measures imposed in 2013 by the EU on imports of biodiesel originating in, inter alia, Indonesia.	Anti-Dumping Agreement; Agreement Establishing the WTO; GATT	10 June 2014	At its meeting on 31 August 2015, the DSB established a panel. Following the agreement of the parties, the panel was composed on 4 November 2015.

DS 510	United States – Certain Measures Relating to the Renewable Energy Sector	US	India	Not yet known	Domestic content requirements and subsidies provided by eight US states (Washington, California, Montana, Massachusetts, Connecticut, Michigan, Delaware and Minnesota) in the renewable energy sector.	GATT; TRIMS Agreement; SCM Agreement; Agreement Establishing the WTO	9 September 2016	Request for consultation by India.
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Source: Das, K. (2016).

Notes: 1. Short title of the dispute, wherever available, is given within open brackets. 2. Any WTO member - other than the complainant and the respondent - can declare that it has an interest in the case and enjoy some rights as a “third party”, including participation in the proceedings, submission of written and oral testimony before the panel, etc. 3. Panel and Appellate Body reports in *Canada — Renewable Energy* (DS412) and *Canada — Feed-In Tariff Program* (DS426) were released together (effectively merging the two cases).



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