Carbon Market Clubs under the Paris Climate Regime:

Climate and Trade Policy Considerations

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International Centre for Trade and Sustainable Development

Policy Brief

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LIST OF ABBREVIATIONS

BCA	border carbon adjustment
CBDR-RC	common but differentiated responsibilities and respective capabilities
CETA	Comprehensive Economic and Trade Agreement
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
COP	Conference of the Parties
COP21	21st Conference of the Parties
CPLC	Carbon Pricing Leadership Coalition
ETS	emissions trading system
EU	European Union
FTA	free trade agreement
G7	Group of Seven
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GHG	greenhouse gas
ITMO	internationally transferred mitigation outcome
MFN	most favoured nation
NAFTA	North American Free Trade Agreement
NDC	nationally determined contribution
PTA	preferential trade agreement
TPP	Trans-Pacific Partnership
TTIP	Transatlantic Trade and Investment Partnership
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
WTO	World Trade Organization

1. INTRODUCTION

The adoption of the Paris Climate Agreement at the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in December 2015 marks a significant shift for international climate governance. As the first truly universal climate deal, the Paris Agreement commits all parties to contribute to the global mitigation effort, on the basis of "common but differentiated responsibilities and respective capabilities" (CBDR-RC). As such, the agreement is conducive to the broad climate response needed to achieve sustainable development globally.

At the same time, the agreement is built on a bottom-up approach to climate action. This means that countries are free to determine their own climate targets, expressed through so-called nationally determined contributions (NDCs) and the measures to achieve them. This architecture provides countries with the flexibility to tailor climate action to their needs, capacities, and circumstances, and was key in creating the necessary buy-in for participation by more reluctant countries. However, it also raises important questions, particularly whether the aggregate effect of the individual contributions will be enough to avoid the most dangerous levels of global warming and what implications the increasing fragmentation of climate action will have for the climate and trade regimes.

There is no doubt that climate action must be significantly scaled up to achieve the Paris Agreement's ambitious temperature goals. However, under an increasingly asymmetric climate regime, with varying levels of ambition and types of mitigation measures, there will be growing concerns about distortions in competiveness and the risk of "carbon leakage"—referring to a situation where emissions abated in one country shift to jurisdictions with less ambitious climate policies. Such concerns may render countries more reluctant to scale up their efforts to the levels needed to put the world on a trajectory towards net zero emissions in the second half of the century—the ultimate objective of the Paris Agreement.

Cooperating in the implementation of their NDCs can help countries achieve some degree of convergence between their various unilateral mitigation efforts and lower the costs of compliance by giving them access to the lowest-cost mitigation options, thus reducing competitiveness and carbon leakage concerns. This, in turn, can help countries commit to and achieve deeper emissions reductions and to do so faster. Article 6 of the Paris Agreement explicitly recognises countries' ability to engage in "cooperative approaches" on a voluntary basis, including with regard to "internationally transferred mitigation outcomes." It has thus created a multilateral foundation for a range of market-based cooperative approaches, such as carbon market clubs.

Through their unique incentive structure built around exclusive benefits, climate clubs are well placed to increase ambition and participation, ensure compliance, and deter free-riding. As such, they have the potential to make a meaningful contribution to scaling up climate action and thus to achieving the Paris Agreement temperature goals. While climate clubs can be formed around a range of specific climate issues, carbon markets are particularly promising for such efforts. Carbon markets are witnessing increasing uptake around the world and there is also a growing interest in multi-jurisdictional linkages, with the first efforts materialising. There has further been a surge in initiatives supporting carbon markets during and in the run-up to COP21, such as the Carbon Pricing Leadership Coalition (CPLC), the Carbon Market Platform, or the New Zealand-led Ministerial Declaration on Carbon Markets. These developments can provide useful policy foundations for the emergence of carbon market clubs.

Given the contribution carbon market clubs can make to the global mitigation effort, as well as the support carbon markets received in Paris, it is timely and valuable to explore their future under the new climate regime.

This policy brief will therefore assess the potential for carbon market clubs in light of the Paris Agreement and recently launched carbon market initiatives from a climate and trade policy perspective. It will first discuss and examine the new climate governance regime and recent carbon market developments. The brief will further explain the value of carbon market clubs and discuss the extent to which the Paris outcomes provide for such collaborative arrangements. It will then explore in more detail how such clubs could emerge in this context, taking into account the necessary steps and developments, both inside and outside the UNFCCC setting. Finally, the brief will consider the space for carbon market clubs from a trade policy perspective in light of the exclusive nature of such initiatives, as well as the scope for them to make use of trade measures, such as border carbon adjustments (BCAs).

2. CARBON MARKETS IN A FRAGMENTED CLIMATE REGIME

2.1 The New Climate Agreement

The Paris Agreement's universal and decentralised character is a significant departure from the Kyoto Protocol where only developed countries faced emissions cuts under a centralised governance framework. The fact that the Kyoto Protocol covers merely 14 percent of global greenhouse gas (GHG) emissions in its second commitment period (2013–20) underscores why moving to a universal deal was a significant achievement (Erbach 2015).

The ultimate success of the Paris Agreement will, however, depend on its implementation. Will the NDCs be enough to put the world on a low-carbon trajectory that limits the rise in global average temperatures below 2 degrees Celsius, or achieves the even more ambitious 1.5 degrees Celsius goal? Assessments show that if the current NDCs were fully implemented, the temperature increase would still be between 2.4 and 2.7 degrees Celsius (Climate Action Tracker 2015). The gap between those estimates and the Paris Agreement's temperature goals highlights the need for a significant scale-up in ambition. The requirement to submit increasingly stringent NDCs every five years is a promising step, but achieving the necessary level of ambition will depend on provisions and supportive policy frameworks that incentivise and help countries to undertake deeper emissions cuts in practice.

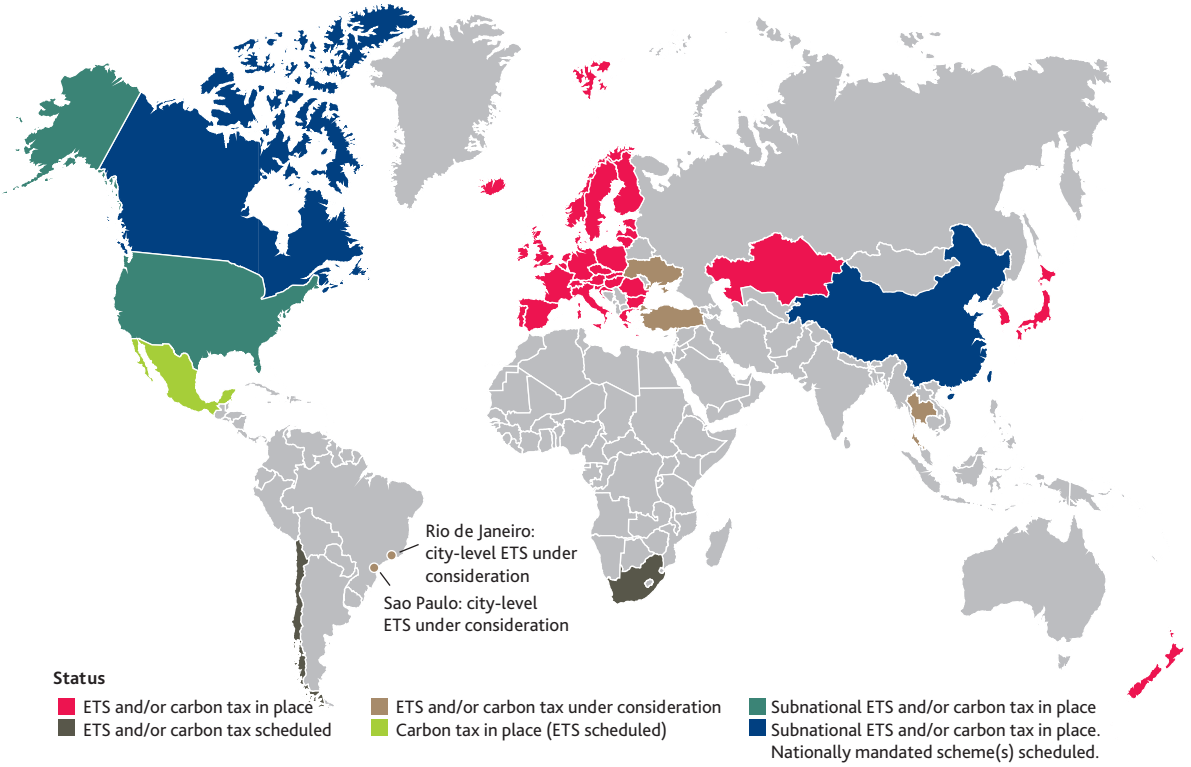
While the bottom-up nature of the Paris Agreement provides countries with the necessary flexibility to ensure broad participation in the mitigation effort, it is bound to create an ever more asymmetric climate regime. Countries will adopt targets with varying levels of ambition and deploy different measures to achieve them. In a world of increasingly interconnected economies, this will affect other countries through spillover effects, including on trade. The explicit and implicit carbon prices attached to the various climate policies will affect the relative prices of goods and services in the global economy, and subsequently competitiveness and trade. Concerns about such impacts, whether real or perceived, can compromise the choice, design, and ambition of countries' mitigation measures, thus undermining the overall climate action effort.

2.2 The Role of Carbon Markets

Carbon markets are expected to continue to play a key role in the mitigation effort as countries seek cost-effective solutions to curb emissions. Many experts, policymakers, and businesses alike highlight the importance of putting a price on carbon to induce changes in production and consumption patterns and redirect investments towards low-carbon alternatives.

Over the past few years, 40 national and over 20 subnational jurisdictions have enacted carbon pricing schemes, covering about 13 percent of global GHG emissions. This share rises to 25 percent when currently planned schemes are considered (World Bank Group and Ecofys 2016). Emerging and developing economies are increasingly part of this development, not least through bilateral cooperation or initiatives like the World Bank's Partnership for Market Readiness, which, among other things, helps countries pilot carbon pricing instruments (World Bank Group 2016). Figure 1 provides an overview of carbon pricing schemes that are in place, scheduled for implementation or under consideration at the national and/or sub-national levels.

Figure 1. Overview of carbon pricing schemes

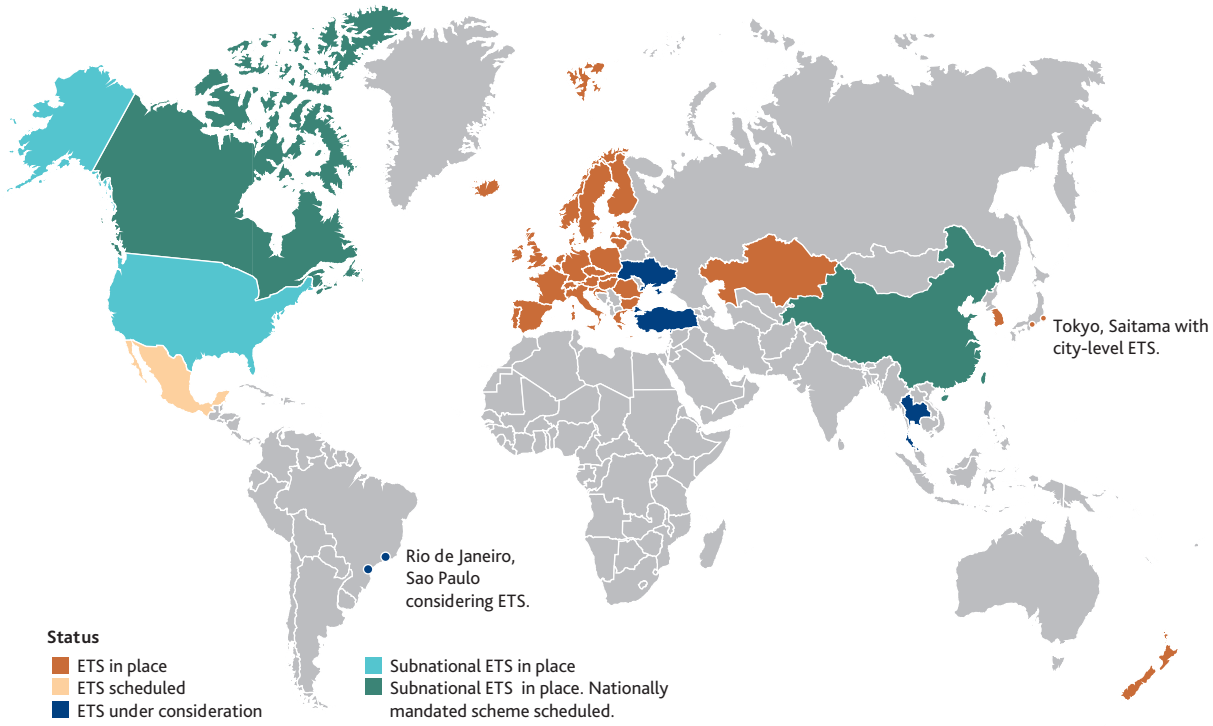


Canada: Subnational in British Columbia and Québec. National mandate for all provinces to adopt ETS or carbon tax from 2018.
United States: subnational in California, along with select East Coast states in the Regional Greenhouse Gas Initiative (RGGI). Oregon and Washington state considering carbon pricing systems.
Japan: National carbon tax, city-level ETS for Tokyo and Saitama.
China: Subnational in Beijing, Changqing, Guandong, Hubei, Shanghai, Shenzhen and Tianjin. National ETS from 2017.
Source: ICTSD

Carbon taxes and emissions trading systems (ETSs) are the two primary tools to explicitly price GHG emissions. In the case of a carbon tax, governments set a fixed price that emitters have to pay for every tonne of GHGs. For an ETS, governments instead put a cap on overall emissions, which is tightened over time, allocate allowances that emitters have to submit for every tonne of GHGs, and allow participants to trade these emission units among themselves. In theory, ETSs should drive cost-effective emissions reductions as emission units are a scarce commodity that carries an opportunity cost; entities with relatively low abatement costs will therefore reduce emissions more heavily and sell surplus allowances to those with relatively high abatement costs.

To date, 56 jurisdictions—responsible for 40 percent of world gross domestic product (GDP) and covering 9 percent of global GHG emissions—price carbon through an ETS. With several new schemes being developed, planned, or considered, the share of emissions covered by ETSs alone will rise to 13 percent and that of GDP to 49 percent (ICAP 2016). Most notably, China is preparing to launch a national ETS in 2017, which will overtake the ETS of the European Union (EU) as the world's largest carbon market and will have important implications for carbon market developments globally (Swartz 2016). Figure 2 gives an overview of ETSs that are in place, scheduled for implementation or under consideration at the national and/or sub-national level.

Figure 2. Overview of emissions trading systems



Canada: ETS in Québec. National mandate for all provinces to adopt ETS or carbon tax from 2018.

United States: ETS in California, along with select East Coast states in the Regional Greenhouse Gas Initiative (RGGI). Oregon considering ETS.

China: Subnational in Beijing, Changqing, Guandong, Hubei, Shanghai, Shenzhen and Tianjin. National ETS from 2017.

Source: ICTSD

The potential and effectiveness of carbon markets is, however, constrained by competitiveness and carbon leakage concerns that arise in a world of asymmetric climate action. The fear that domestic industries may lose market shares to their competitors in countries with lower carbon prices or less stringent climate policies more generally, as well as the related concern that the reduced emissions may shift to the latter, can discourage the uptake of carbon pricing instruments or limit their ambition.

Limiting ambition may, for example, involve adopting less stringent emissions caps or introducing protection measures, which are often suboptimal and may even be trade-restrictive. Such measures may include the free allocation of emission allowances—a common practice in most ETSs—or the use of border carbon adjustments, which attempt to level the playing field between domestic producers subject to carbon pricing and their foreign competitors which are judged to face lower or no costs (Jegou and Rubini 2011).

In practice, BCAs imply imposing an equivalent charge on imported goods and rebating the climate-related costs of domestic products destined for export. Such measures are a contentious issue in climate and trade circles. This is largely because the use of BCAs relies on a country's unilateral judgement that other countries' measures are not comparable to its own and imports/exports should therefore be adjusted to reflect the differing climate costs. Making such a judgement is clearly politically controversial. Moreover, it is challenging from a practical point of view to make such a judgement objectively given the methodological difficulty of determining carbon embedded in traded goods. Calculating embedded carbon involves complex and costly procedures that may adversely affect trade and are often not accurate, which may penalise certain producers (for more detail see Persson 2010). In addition, the legality of BCAs is not fully clarified, although some trade

experts argue that BCAs could be designed in a way compatible with the rules of the World Trade Organization (WTO) (for more detail see Horn and Mavroidis 2010), and using them would involve a host of administrative challenges. As a result, BCAs have not been used to date.[1]

Overall, the asymmetry in carbon pricing policies and climate policies more generally may limit the necessary scale-up in ambition for achieving the Paris Agreement's temperature goals. To respond to the challenge at hand, it is necessary to find ways to incentivise enhanced ambition and action.

2.3 Carbon Market Cooperation: Linking and Clubs

2.3.1 Benefits of carbon market clubs

Cooperation between existing and planned carbon markets offers an opportunity to drive deeper and faster mitigation action. Countries can, for example, link their ETSs bilaterally, which would lead to a convergence in their carbon prices. This can then help reduce concerns about competitiveness and carbon leakage (Hawkins and Jegou 2014). The first cases of ETS linkages have already occurred—including between California and Québec, and between the EU and Switzerland—and can provide useful lessons for subsequent undertakings. The EU, South Korea, and China have also shown interest in future linkages, suggesting increasing momentum for such efforts.

Beyond such bilateral cooperation, climate clubs can provide a model for deeper carbon market cooperation. Generally speaking, climate clubs bring together groups of countries, and possibly non-state actors, to work together on a specific climate issue by following agreed guidelines and rules in exchange for benefits that can be shared among themselves and excluded from non-members. Through their unique incentive structure built around these so-called exclusive "club goods," climate clubs can help incentivise participation, ensure compliance, deter free-riding, and scale up ambition (Victor 2015).

More specifically in the case of carbon markets, club members could grant each other exclusive trade benefits by accepting each other's emission units, while excluding those from non-members. In return, they would have to adhere to the club's standards[2] on issues such as accounting, scope, compliance, or offsets (Petsonk and Keohane 2015). Access to each other's carbon units would help move towards a more harmonised global carbon price. Along with aligning key standards and procedures, carbon market clubs can thus help alleviate real or perceived competitiveness and carbon leakage concerns. These benefits can generate incentives for additional jurisdictions to implement carbon markets, thereby creating a dynamic towards greater climate action. Moreover, it can increase the ambition of existing and planned carbon markets by encouraging countries to commit to deeper emissions reductions and lowering the perceived need for support measures.

Carbon market clubs thus hold promising potential as one avenue for driving enhanced ambition and action in the global mitigation effort. They can provide countries with the necessary flexibility to achieve and surpass their NDCs, as well as contribute to the development of more commonly accepted, adopted, and aligned carbon market design elements that ensure environmental integrity and provide for robust accounting, while giving countries sufficient room to tailor carbon pricing to domestic circumstances.

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1 The EU's inclusion of international aviation in its ETS is the closest example of a BCA and has provoked extremely negative international reactions, ultimately resulting in suspension of the measure until the 2016 conference of the International Civil Aviation Organization (ICAO) which was seen as the deadline for developing a global market-based measure for the aviation sector. Following ICAO's adoption of the Carbon Offset and Reduction Scheme for International Aviation (CORSIA) in early October, the EU will now reconsider the introduction of its own aviation measure depending on its judgement of the ambition of the CORSIA.

2 The term "standards" is used in a broad sense throughout the paper. It does not refer to "standards" in a narrow trade sense, but rather to guidelines, rules, and modalities for the operation of carbon markets.

2.3.2 Challenges for carbon market clubs

Despite their potential, there has been little concrete progress in initiating actual carbon market clubs so far. While the EU ETS could to some extent be seen as a carbon market club, particularly given the integration of Iceland, Liechtenstein and Norway into its scheme, it is a unique example given the bloc's close cooperation across many policy fields as well as its special relationship with the three above-mentioned countries of the European Free Trade Association. There are several challenges that can explain the limited progress to date.

First, by joining a carbon market club, members would give up some flexibility over their own schemes and subject themselves to obligations and scrutiny from within the club. Joining a club therefore involves costs and countries will only be willing to take them on if they consider the benefits to outweigh them. The increasingly ambitious and fragmented nature of the new climate regime may be able to change the cost-benefit calculation for some countries compared to the Kyoto world, but this will depend on the actual implementation of the Paris Agreement by its signatories.

The second challenge is to get the right mix of countries to join the club. Criteria for determining the right mix of countries could, for example, include countries' contribution to global GHG emissions, emissions profiles, and experience with carbon markets, as well as non-climate criteria like the presence of close trade ties or the existence/negotiation of free trade agreements, and the presence of other diplomatic relations between the countries. Ultimately, a climate club should include both ambitious front-runner countries and more reluctant countries (Victor 2015). Without the former, the club would lack ambition, but without the latter, its impact would be limited as a club's ability to scale up climate action largely depends on getting more reluctant countries to take on climate action. In the area of carbon markets, getting the right mix of members may well take some time: the more reluctant countries will need to go from being incentivised to put an ETS into place to navigating their domestic policy and legislative processes for doing so and successfully operating their schemes at the domestic level before being able to fully cooperate in the exchange of emission units within the club. Front-runner countries can, however, take the first steps in forming an initial group of club members and work to incentivise and support the more reluctant countries in developing domestic carbon markets. This will, however, unquestionably be a longer-term effort.

Finally, some countries and experts are sceptical about climate clubs and fear that they may undermine the multilateral climate response and result in policy chaos. However, this is not necessarily supported by experience with fragmentation in regulatory regimes and the competition from climate clubs may actually result in more effective climate responses (Victor 2015). Moreover, the adoption of the Paris Agreement, which explicitly acknowledges and even requires bottom-up approaches to climate action, may somewhat help lower the scepticism given that decentralisation is an inherent feature of the new climate regime. This is, however, unlikely to completely silence the criticism. It is therefore important that climate clubs are transparent and inclusive, have clear and objective membership criteria, and are anchored in the multilateral climate regime as complementary efforts in the global climate response. The latter may for example involve adopting basic standards for clubs, as well as club members making pledges to the UNFCCC that will be peer reviewed (Victor 2015).

In light of the above, the question is how the potential for carbon market clubs can be tapped and translated into concrete action in the context of the Paris climate regime and the global trade system.

3. OPTIONS FOR CARBON MARKET CLUBS UNDER THE PARIS CLIMATE REGIME

COP21 has given significant recognition to carbon markets, providing unique momentum for the emergence of cooperation in this area. While the Paris Agreement itself provides a multilateral hook for cooperative carbon market approaches, plurilateral and multi-stakeholder initiatives launched during or in the run-up to the conference have created additional impetus and laid a foundation for their practical implementation.

3.1 Provisions in the Paris Agreement

Article 6.1 of the Paris Agreement broadly recognises countries' ability to cooperate in the implementation of their NDCs to allow for higher ambition, while Article 6.2 more specifically recognises voluntary "cooperative approaches" involving "internationally transferred mitigation outcomes" (ITMOs). The Paris Agreement therefore explicitly acknowledges bottom-up approaches to carbon market cooperation. Article 6.4 further establishes a new UNFCCC mechanism to contribute to mitigation and support sustainable development, thus offering a top-down market element.

The ITMO provision is of interest for linking carbon markets and forming carbon market clubs. Its language is broad, however, and could accommodate different forms of carbon market cooperation. Nevertheless, there seems to be some consensus that this comprises at least the possibility of exchanging emissions units through linking and carbon market clubs. While the provision for such cooperation is not a genuinely new element—as this was also possible under the Kyoto Protocol—its explicit inclusion is noteworthy. Moreover, all parties can now make use of this provision, hence laying the foundation for more comprehensive carbon market cooperation (Marcu 2016).

While Article 6.2 leaves scope for interpretation, it contains some elements that set out general criteria for counting ITMOs towards countries' NDCs. In addition to such activities taking place on a "voluntary basis," they shall "promote sustainable development and ensure environmental integrity and transparency, including in governance." There is no explicit reference to following specific standards that would be developed by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA). In principle, this leaves space for countries to develop and follow their own domestic standards, while being required to be transparent about these and their compliance with them. Not all parties share this view, however. Some read the provision as giving the CMA a mandate to develop guidance regarding the criteria of sustainable development as well as environmental integrity and transparency. Parties should clarify this issue in a timely manner to allow those interested in linkages and clubs to pursue these promptly and with a good level of certainty regarding the ability to use the transferred units for complying with their NDCs.

Giving the CMA a mandate to develop guidance on both sustainable development and environmental integrity and transparency may unnecessarily restrict countries' flexibility in determining how to promote these requirements, as well as to adapt them as experience with carbon market cooperation evolves. That said, it would be useful for the CMA to issue definitions of the terms "sustainable development" and "environmental integrity and transparency" to create a common understanding that helps ensure that countries' respective provisions and guidelines meet the overall purpose of the criteria.

Article 6.2 also contains a requirement for parties to apply "robust accounting" that ensures, among other outcomes, "the avoidance of double-counting." This gives parties the discretion to develop their own accounting systems, although these are to be "consistent" with CMA guidance.

Unlike for the previous two criteria, there is a clear mandate for CMA involvement in this case. While the accounting criterion is meant to ensure accuracy in the mitigation contributions, it is unclear what exactly such "consistency" would entail and how to achieve, verify, and enforce compliance with this requirement. If domestic accounting systems of suboptimal quality emerged, this would risk undermining the global mitigation effort. Finding a way to ensure compliance with the CMA's accounting guidance will therefore be key to ensuring the ITMO provision's environmental effectiveness. At the same time, the compliance obligation should not unnecessarily burden parties in a way that would prevent environmentally effective cooperation.

Reaching agreement within the UNFCCC, even on technical items, can be a lengthy process. Climate negotiators should make the development of high-quality, clear CMA guidance on accounting a top priority. This is important to enable countries interested in cooperative approaches to put appropriate accounting systems into place and provide them with a high degree of certainty that these will be "consistent" with the Article 6 requirement, hence allowing them to count emissions reductions from the "cooperative approaches" towards their NDCs. The quick ratification of the Paris Agreement, prompting its entry into force prior to the 22nd session of the COP, renders this priority even more urgent. Article 6 foresees the development of the accounting guidance by the first CMA—like many other rules and modalities in the Paris Agreement—which negotiators expected to take place in a few years' time rather than in 2016. From a procedural point of view this means that parties may have to extend the first CMA session and set a deadline for a later COP to complete the decisions related to Article 6.2. Accounting will therefore no doubt be a key issue for Article 6 negotiators at this year's COP.

3.2 The Role of Carbon Pricing Initiatives

Carbon markets have received further impetus through a range of initiatives launched during 2015. These may serve as useful, initial stepping stones for the emergence of carbon market clubs.

3.2.1 The Ministerial Declaration on Carbon Markets

One key initiative is the New Zealand-led Ministerial Declaration on Carbon Markets, initially prepared as a fallback had the Paris Agreement not contained any carbon market provisions. It was tabled by 18 countries on the day the Paris Agreement was adopted, including Australia, Canada, Chile, Colombia, Germany, Iceland, Indonesia, Italy, Japan, Mexico, the Netherlands, New Zealand, Panama, Papua New Guinea, Senegal, South Korea, Ukraine, and the United States (US) (MFE 2015). The declaration highlights the important role of international market mechanisms in implementing the Paris Agreement and states the signatories' commitment to "environmental integrity, transparency and the avoidance of double-counting"—elements that also feature in Article 6.2.

An interesting element is the signatories' intention to work together, in a timely manner, to ensure the development of standards and guidelines for using market mechanisms that ensure environmental integrity, and their encouragement for other countries to support and apply these. In this context, the declaration makes no direct link to the Paris Agreement, but only an indirect one, whereby the standards and guidelines will "complement" the accord. This provides scope for the signatories to develop such standards and procedures plurilaterally. Not only does this offer an opportunity for faster progress, but it also creates space for developing more concrete terms for engaging in cooperative carbon market approaches, going beyond just accounting guidance. At the same time, there is no clear understanding what such standards and guidelines would entail, apart from their contribution to environmental integrity. It could therefore encompass accounting rules and practices, as well as enforcement requirements, allocation provisions, offset rules, and other operating criteria.

The declaration has sent a strong and clear message that countries will cooperate plurilaterally on carbon markets to deliver their NDCs and scale up ambition. However, in the ten months following the declaration's signing, there have been no publicly known follow-up activities. This raises the question of whether the declaration will play an active role or whether it was rather a symbolic push for plurilateral carbon markets, while concrete action will take place elsewhere.

3.2.2 The Carbon Market Platform

The Carbon Market Platform was established in 2015 by the German presidency of the Group of Seven (G7)—a powerful political and economic forum comprised of Canada, France, Germany, Great Britain, Italy, Japan, and the US. Given the EU's shared competences in many areas the G7 deals with, the European Commission also fully participates in the G7 meetings on behalf of the EU member states. The platform's purpose is to "facilitate an informed and open strategic dialogue between countries interested in carbon market policy" (BMUB 2015). It therefore provides a space for open dialogue at the highest political level.

Recognising the importance for broader and balanced participation, the G7 has invited countries outside its group to join the platform, so long as these demonstrate a clear interest in carbon markets. The G7 has expressed particular interest in members from other major emitting countries as well as from some emerging and developing countries. This approach of opening up membership but restricting it to those with a clear interest in the area is strategically important: it seeks to guarantee the initiative's relevance, impact, and legitimacy, while ensuring that its focus and functionality are not compromised by unconstructive members.

The platform has already recognised its role in supporting cooperation between the various national carbon market efforts. The group acknowledges that the fragmented and uncoordinated development of carbon markets around the world poses challenges, with members seeing this forum as having the potential to foster policy coordination and international cooperation in this area. More specifically, the platform's objective is to "identify political and institutional gaps at the national and international level and allow for new cooperative and common approaches to be developed" (BMUB 2015). The annual meetings and regular technical expert work can help countries gain a better understanding of the various market approaches, learn from best practices, and identify options for coordination in order to drive greater efficiency and enhanced environmental integrity, and reduce competitiveness concerns (Schafhausen 2015). The platform already pursued such a discussion during its first official meeting on 16–17 June in Japan (METI 2016). It can further help the CMA in the timely development of the mandated accounting guidance to operationalise Article 6.2 as the group agreed to support and complement UNFCCC-related activities regarding the development of common rules, guidelines, and best practices.

The purpose, membership arrangements, organisation, and high-level political nature of the Carbon Market Platform make it a promising forum for contributing to the development of a carbon market club. This is further enhanced by the platform's close collaboration with other initiatives active on carbon markets, such as the World Bank's Carbon Pricing Leadership Coalition and Partnership for Market Readiness, the UNFCCC, or the Organisation for Economic Co-operation and Development.

The platform could help developing guidelines and standards for carbon market cooperation and initiate some policy coordination among its members. Over time, members of the Carbon Market Platform whose schemes are sufficiently compatible could form a carbon market trading club. In order to realise its potential, the platform would, however, need to the complement its annual strategic dialogues with more frequent interactions between relevant policymakers. Moreover, it would need to expand its membership over time. While no new country has yet joined, New Zealand

has been explicitly invited to do so (Carbon News 2016). In addition, the platform's first meeting was attended by several non-G7 countries that are relevant from a carbon markets perspective, such as New Zealand, South Korea, and Switzerland.

3.2.3 The Carbon Pricing Leadership Coalition

One initiative that made major headlines is the CPLC, officially launched at a high-level event at COP21. The launch followed the World Bank's efforts since the 2014 New York Climate Summit to mobilise governments, businesses, investors, and civil society on carbon pricing. With 24 national and subnational governments, over 120 companies, and more than 30 strategic civil society partners having joined the initiative to date, the CPLC has convened a strong group of stakeholders and succeeded in placing carbon pricing high on the political and corporate agendas. The high-level political support from several heads of state has further been instrumental in shaping this success to date.

The CPLC has established itself as the leading initiative to drive the uptake of carbon pricing throughout the global economy by "strengthening carbon pricing policies to redirect investment …; bringing forward and strengthening the implementation of existing carbon pricing policies to better manage investment risks and opportunities; and enhancing cooperation to share information, expertise and lessons learned on developing and implementing carbon pricing …" (CPLC 2016).

Thanks to the CPLC's set-up in membership and organisation of work as well as the high-level political and corporate support it enjoys, it has unprecedented potential to truly drive the spread of carbon pricing policies. As such, it can contribute to lowering concerns about competitiveness and carbon leakage, as the more jurisdictions price carbon the lower the risk will be that companies and their emissions relocate. Policymakers will consequently face fewer constraints in scaling up the ambition of carbon pricing schemes. If this potential is truly achieved, the initiative can make a concrete, positive contribution towards reaching the Paris Agreement's temperature goals.

In order to truly shift investment, production, and consumption behaviour at a global scale, carbon pricing policies not only need to spread in terms of scale, but also need to be strong, ambitious, and credible. Plurilateral cooperation can help strengthen the quality of carbon pricing policies, and the CPLC can play a supportive role in this regard by fostering a clear understanding and awareness about the role of cooperative carbon market approaches, as well as by giving high-level impetus to the emergence of such cooperation and incentivising some of its members to pursue it. Some of the CPLC subgroups are already starting to address issues such as linkage and can hence provide a useful stepping stone, potentially resulting in a carbon market club being taken forward by a subset of CPLC members.

3.3 Turning the Momentum into Action

There is undoubtedly greater momentum than ever before to scale up carbon markets and intensify cooperation on them, both through the recognition of cooperative approaches in Article 6 of the Paris Agreement and the launch of the various carbon pricing initiatives. The explicit acknowledgement in Article 6 that countries can engage in ITMOs to meet their NDCs has anchored carbon market cooperation in the new multilateral climate regime and provides some guidance in this regard. In addition, the carbon pricing initiatives all have some potential to serve as stepping stones for forming carbon market cooperation by creating political momentum, sharing information and best practices, developing guidelines and standards, and initiating some policy coordination. While their work is thus instrumental in laying the political and technical foundation for carbon market clubs, they must be complemented by more dedicated efforts in order to move from concept to practice.

Countries with well-functioning domestic carbon markets therefore need to get together and build on the initiative's momentum and technical work. Taking into account the members of the various initiatives, negotiating positions in the UNFCCC, and domestic carbon developments, the likely candidates for the initial formation of a carbon market trading club include the EU, New Zealand, South Korea, and Switzerland, which all operate domestic carbon markets, as well as Canada and the subnational US schemes. Canada recently decided to make carbon pricing mandatory across the country from 2018, though provinces will have flexibility in choosing between an ETS and a carbon tax. In any case, Article 6.3 of the Paris Agreement states that the use of ITMOs to achieve NDCs shall be "authorized by the participating parties," thus leaving the door open for subnational entities to participate. The above-mentioned markets have all already indicated strong interest in cooperation and some have undertaken first attempts to connect their markets, such as the EU and Switzerland, as well as California and Québec. However, there is no single initiative that all of these countries are members of. They would therefore have to undertake additional political and technical efforts outside these initiatives to set up a carbon market club.

In addition, other countries would need to join over the years to scale up the impact of carbon market clubs. Given the diversity of countries' climate and economic policies, we may well see several rather than just one carbon market club arise. China's participation would ultimately be key in the mid-term given its role as the leading GHG emitter and soon the host of the world's largest carbon market. China has already hinted at its interest in linkages, although its current focus is rightly on getting a well-functioning domestic scheme into place. Mexico, which is launching a pilot ETS later this year and a full ETS in 2018, could also be a candidate, not least as the country has already expressed strong interest in international carbon markets. Kazakhstan could be another prospective member as the country has been operating an ETS since 2013, though it is currently suspended. Further down the line, a carbon market club may also include countries currently planning and/or piloting carbon markets such as Colombia, Taiwan, Thailand, and Turkey. Finally, depending on the club's design, it may also be possible to include countries operating or launching carbon taxes, such as Chile, which will implement its carbon tax in 2014, and South Africa, which is launching a carbon tax soon.

Carbon market clubs could be set up over different stages and with varying forms of membership. For example, a core group of jurisdictions with well-established ETSs could already engage in emission units trading. In parallel, they could cooperate with other countries which are not ready to participate in the trading, by supporting them in developing and implementing robust carbon markets. This can contribute to increasing the spread of carbon markets globally and prepare more countries for participating in the trading of a carbon market club at a later stage. It would further ensure inclusiveness and transparency, which can help lower scepticism about the impact of clubs on the multilateral climate response.

4. TRADE CONSIDERATIONS IN CARBON MARKET CLUBS

The question of whether and how international trade rules apply to carbon markets is an area of continuous debate and uncertainty (see, for example, Werksman 1999; Button 2008; Holzer 2016; Munro 2014). This is not least because carbon markets vary from country to country and have a range of different design elements, and issues related to carbon markets have not been raised in WTO disputes to date (Holzer 2016). In theory, there are several design elements that could indirectly raise trade concerns within the WTO system, such as free allowance allocations, recycling of ETS revenues to domestic producers, and the use of border carbon adjustments. These concerns, to which there is still no certain answer, have been discussed elsewhere and will therefore not be revisited in this brief (for more details see, for example, Holzer 2016).

What is specifically of interest with regard to carbon market clubs is whether restricting the trading of emission units to members of the club would cause tensions with the international trade system. The incentive system of carbon market clubs relies on the concept of exclusivity, whereby only club members are able to trade emission units among themselves. Restricting the exchange of emission units to members of the club generates incentives for countries to operate carbon markets according to the club's standards so that they can join the club and reap the benefits from trading emission units within it. Moreover, the exclusivity is crucial for ensuring that the emission units exchanged within the club do not undermine the club's environmental integrity and hence the success of the global mitigation effort. This is because, if an emission unit, which represents a right to emit one tonne of GHGs, has actually not contributed to emissions reductions of one tonne, the trading would result in a net increase of global emissions (Petsonk and Keohane 2015).

4.1 Exclusivity in Carbon Market Clubs and the WTO

Practices of exclusivity in existing carbon markets have not raised trade concerns to date. The EU has restricted foreign offsets, placing increasingly stringent quantitative and qualitative limits on their influx. It has, for example, excluded offsets generated by certain activities and limited the acceptance of offsets from 2013 to 2020 to those originating from least developed countries. Moreover, while the EU and Switzerland will accept each other's emission units, they will not accept those of other countries unless agreements are concluded to this end. The fact that this has not so far been challenged on a trade-related basis provides no firm guarantee, however, that exclusivity will not be challenged in future, and the question thus deserves attention.

4.1.1 Are emission units goods or services?

Whether exclusivity in carbon market clubs would give rise to trade concerns depends first on whether emission units fall within the scope of the WTO agreements. Some experts argue that emission units are not goods or services, and thus not subject to the General Agreement on Tariffs and Trade (GATT) or the General Agreement on Trade in Services (GATS) (Petsonk and Keohane 2015). They defend this by arguing that no WTO agreement defines emission units as goods and no GATS declaration treats them as services. The recently updated Harmonized System Nomenclature of the World Customs Organization, where all traded products are captured, also has no line entry for emission units. This reasoning is further supported through the theoretical argument that emission units trading is like trading in obligations, licences or permissions established by the government rather than trading in goods or services (for more details see Petsonk and Keohane 2015).

Other experts, however, argue that trade in emission units constitutes a "financial service" under the Annex on Financial Services contained in the GATS. Reviewing a body of literature by experts

who assess whether emission units qualify as "derivative products," "transferable securities," "negotiable instruments," or "other financial assets," or are captured by the general category of "any service of a financial nature," Munro (2014) concludes that emission units appear to fall under "financial assets" and that trade in those units in any case are captured under "any service of a financial nature."

If emission units, or the trading in them, were indeed to fall under GATS as "financial services," or were somehow found to be goods under GATT, the exclusivity of carbon market clubs may raise concerns about the potential for conflict with WTO rules. By excluding emission units from non-members, a club may be found to be in violation of the most favoured nation (MFN) principle, which prohibits discrimination between or among WTO members, or the prohibition of quantitative restriction on trade in goods (GATT Article XI) and in services (GATS Article XVI). If this was the case, club members would need to seek justifications for the club's exclusivity. The presence of Article 6 may help lend some support to this. It does not, however, guarantee the legitimacy of exclusivity per se.

4.1.2 Are emission units "like" products?

First, club members could seek justification by arguing that emission units from non-members are not "like" products or services and thus not subject to WTO rules because they do not meet the same level of environmental integrity. There is no single definition of "likeness"; rather, the judgement of "likeness" is made on a case-by-case basis that can include various criteria. The judgement typically takes into account products' observed physical characteristics or the competitive relationship of products or services to each other.

Petsonk and Keohane (2015) argue that with regard to emission units, the competitive relationship is defined by the regulator: if the regulator does not accept a category of emission units for compliance due to concerns about their environmental integrity, that category of units may not constitute a "like" product or service. Environmental integrity is a key characteristic of emission units. As mentioned above, if units of dubious quality were to flow into the club, this could undermine its environmental purpose. Existing cap-and-trade schemes have already restricted international offset credits on grounds of concerns about their environmental integrity. The EU, for example, stopped accepting offsets generated from the destruction of industrial gases for this reason (Hawkins and Jegou 2014). The distinction between "emission units" and "offsets" may, however, be clearer than the distinction between different types of "emission units" (Munro 2014).

Environmental integrity is one of the three key requirements in the Paris Agreement's Article 6.2 that parties must meet in order to count ITMOs towards their NDCs. The importance of environmental integrity is therefore clearly acknowledged within the Paris Agreement and this could provide some support for defending a club's exclusivity based on the "unlikeness" of emission units from club members and non-members in case of conflict.

However, in order for a WTO panel or Appellate Body to review the issue of environmental integrity as the basis for determining emission units from members and non-members as "like" or "unlike" in a dispute, the term "environmental integrity" would need to be more clearly defined. As it stands, environmental integrity is a vague term that can be interpreted differently and hence needs to be operationalised by parties. The fact that a country is not a member of a carbon market club is not sufficient to prove that its emission units are of inferior environmental integrity. What would be needed to make that judgement is an objective and clear standard of reference. As mentioned earlier in 3.1, it would therefore be helpful for the CMA to issue a definition of the term "environmental integrity and transparency" to create a basic common understanding that can help inform decisions in case of potential future trade conflicts.

4.1.3 Invoking general exceptions

If emission units were found to be goods or services within the meaning of GATT or GATS and considered to constitute "like" products or services, club members could then seek to justify the exclusivity through GATT Article XX or GATS Article XIV, which provide for general exceptions from WTO rules. Invoking the general exceptions can, however, be an onerous process. To seek such justifications, club members would have to follow a two-step approach.

The club members would first need to prove that exclusivity falls within the scope of one of the general exception paragraphs, meaning that it is either "necessary to protect human, animal or plant life or health" (GATT Article XX(b) or GATS Article XIV(b)), relates to "the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption" (GATT Article XX(g)), or is "necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement …" (GATT Article XX(d)). The first two options would relate to climate change mitigation more broadly, while the latter would specifically relate to the Paris Climate Agreement and as such touch on public international law.[3]

Demonstrating the "necessity" of the measure (i.e. of exclusivity) or its relationship to the goal would entail a balancing test that weighs the contribution of the club's exclusivity to climate protection or compliance with the Paris Climate Agreement, the importance of the interests at stake, the trade restrictiveness of the measure, and the availability of less trade-restrictive measures to achieve the objective.

Bearing in mind the *Shrimp-Turtle* case, club members could point to the flexibility for members to still design and operate their own schemes, as long as key standards are met. Since exclusivity is key to preventing the influx of emission units that have not contributed to reducing one tonne of emissions each, exclusivity appears indeed to make a material contribution to achieving the climate objective. Otherwise, such low-integrity units could make the climate problem worse. Here, too, the inclusion of "environmental integrity" in Article 6.2 as a key requirement for counting ITMOs towards countries' NDCs could provide support to this argument. The adoption of a universal climate agreement that requires increasingly ambitious emissions reductions and sets clear temperature goals may help support arguments about the importance of interests at stake. While exclusivity is indeed fully trade-restrictive with regard to low-integrity units, the trading would be open to those who meet the club's requirements. Finally, although applying a discount to emission units from non-members that do not meet the same level of environmental integrity might be a less trade-restrictive alternative, it cannot be guaranteed to achieve the same objective (Petsonk and Keohane 2015).

Next, club members would need to satisfy the conditions under the chapeau of the general exception provisions, showing that their exclusivity does not "constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade …" Here, members could stress the scientific foundation and environmental importance for applying exclusivity to emission units trading. Importantly, they would need to prove that emission units from all jurisdictions that do not operate under the same degree of standards as the club would be prevented from flowing into the club, and solely for the

3 In the recent *India—Solar Cells* dispute (DS456), India sought defence for its use of domestic content requirements (DCRs) in the Jawaharlal Nehru National Solar Mission energy scheme, invoking, among other things, GATT Article XX(d). This was, however, rejected by the panel, which found that the international agreements India invoked do not have "direct effect" or form part of its domestic legal system, nor were the DCRs "necessary" (ICTSD 2016). It will be worth following how the applicability of GATT Article XX(d) may evolve following parties' ratification of the Paris Climate Agreement and its entry into force.

purpose of environmental integrity. At the same time, the club would need to show its acceptance of emission units originating from countries which meet the same level of integrity as the club but which are not formally a member of the club (Petsonk and Keohane 2015). This is because as long as another country has equally robust ETS criteria, there are no grounds for concerns about environmental integrity—whether it has formally joined the club or not. Finally, countries recall their efforts to negotiate carbon markets multilaterally with all UNFCCC parties, which resulted in Article 6 of the Paris Agreement as the only compromise on carbon markets for all parties following years of negotiating the new climate agreement.

4.2 Carbon Market Clubs under Free Trade Agreements

Another and more secure way for club members to shield themselves from potential conflicts with WTO rules, and for the trade system to actually support carbon market clubs, would be to establish them through free trade agreements (FTAs). This can take the form of plurilateral agreements under the WTO or preferential trade agreements (PTAs), which are negotiated outside the scope of the WTO but permitted by its rules as long as certain conditions are met.

4.2.1 Plurilateral WTO agreements

The clearest support the trade system can provide for a carbon market club would be to establish it through a WTO Annex 4 agreement—an exclusive plurilateral agreement under Article II.3 of the Marrakesh Agreement. It allows subsets of WTO members to conclude issue-specific agreements that create obligations and rights for their signatories only. The most relevant and known example is the Government Procurement Agreement (Draper and Dube 2013). Annex 4 agreements are different from inclusive plurilaterals that extend benefits to all WTO members on an MFN basis, such as the Environmental Goods Agreement currently under negotiation by 17 WTO members. For the purpose of a carbon market club, an exclusive plurilateral agreement would be an interesting option, allowing club members to deviate from their MFN obligation vis-à-vis non-club members. As such, the club would be able to make the exchange of emission units an exclusive right for club members without the risk of being challenged before a WTO panel. Since plurilateral agreements have to be approved by WTO members and thus cannot be challenged in a WTO dispute for inconsistency with multilateral trade rules (Hoekman and Mavroidis 2013), this approach would provide strong legal certainty and support for the carbon market club.

The other key attraction of forming a carbon market club around a plurilateral WTO agreement is that such agreements can be issue-specific and narrow in focus. It is therefore possible for the agreement to apply only to trade in emission units. While the Government Procurement Agreement is rather broad in its scope, there have previously been examples of product-specific plurilaterals, such as on dairy and bovine meat (Hoekman and Mavroidis 2013).

Although a plurilateral agreement under the WTO offers a promising opportunity to form a legally sound carbon market club, this is by no means an easy undertaking as it would require consensus of the WTO Ministerial Conference (Draper and Dube 2013). Given this challenging requirement, it is hardly surprising that no new plurilateral agreements have been concluded since the establishment of the WTO. Members of the WTO are particularly likely to oppose plurilateral agreements if they fear that they would create market barriers for non-signatories (Bollyky 2015).

The requirement for the WTO membership to unanimously approve the carbon market club may therefore represent a high burden for such an undertaking. It is possible that some WTO members that are not part of the carbon market club would oppose the creation of an exclusive club and thus vote to prevent it. Some WTO members may have future interests in joining a club and may

therefore fear that if a plurilateral WTO agreement on carbon markets was established now, they would have to join a club whose standards they have not been able to influence and which may not reflect their interests. This would be a particular concern for low-income countries which are unlikely to participate in an initial carbon market club. These countries may have specific interests, such as technology transfer provisions, that may, however, not be reflected in a club negotiated only by high-income countries. In addition, even those who may not oppose the formation of the carbon market club per se may be reluctant to give their approval in the context of the WTO. Traditionally, WTO members have been somewhat averse to actively engaging on climate issues, which they see as falling into the scope of the UNFCCC. However, this may change in light of the increasingly strong international attention and response to the problems of climate change, anchored both in the Paris Agreement and the United Nations Sustainable Development Goals, adopted in 2015.

4.2.2 Preferential trade agreements

Another option would be to accommodate carbon market clubs under preferential trade agreements. GATT Article XXIV and GATS Article V allow WTO members to create free trade zones, enabling them to deviate from non-discrimination obligations as long as the trade restrictions on non-members of the PTA are not higher than before (Leycegui and Ramírez 2015).

Unlike plurilaterals, PTAs do not require unanimous approval from the WTO membership. While WTO members need to notify their PTAs to the WTO and provide relevant information, there are no longer votes on their legal consistency with GATT Article XXIV or GATS Article V (Matsushita 2010). This would hence remove the burden faced by plurilaterals. Unlike plurilaterals, a PTA can be challenged before a WTO panel, thus providing less legal certainty (Hoekman and Mavroidis 2013). However, past experience shows that the risk of such challenges is not significant, so that PTAs can still provide strong legal certainty and support for carbon markets from a trade perspective.

Yet there are other and more meaningful challenges in pursuing the PTA option. First, GATT Article XXIV stipulates that the agreement must apply to "substantially all trade," while GATS Article V has a similar provision with regard to services, requiring "substantial sectoral coverage." While "substantial" is a vague term and has been subject to disagreement in the past (Matsushita 2010), it is evident that a carbon market club designed to liberalise trade only in emission units would not satisfy this criterion. This could provide grounds for other WTO members to challenge the PTA before a WTO panel.

While club members would need to liberalise trade more broadly to avoid this risk, they may not be willing to liberalise "substantially all" trade in goods or services. The countries likely to lead the creation of a carbon market club, such as Canada, the EU, New Zealand, South Korea, and Switzerland, may be willing to liberalise trade with each other more generally, given that some of those players have already negotiated or are planning to negotiate PTAs anyway, such as the EU and Canada, the EU and Switzerland, the EU and South Korea, and the EU and New Zealand. However, it would make it more difficult for new members to join the club, since a prospective member would not only be admitted to engage in the free exchange of emission units, but in trade of goods or services more generally. Both the existing club members and the candidate members may have reservations in this regard. The global mitigation contribution of a carbon market club relies on its ability to incentivise new countries to put into place robust carbon markets. Therefore, setting up carbon market clubs under PTAs may somewhat constrain the climate potential of carbon market clubs.

Even if the prospective members of a carbon market club were willing to liberalise trade more broadly in order to set up a carbon market club under a PTA, it is important to bear in mind that this would be a complex and lengthy process. Mega-regionals in particular are often marked by lengthy and cumbersome negotiation and ratification processes, as evidenced by the recent conclusion of the Trans-Pacific Partnership (TPP) and the EU–Canada Comprehensive Economic and Trade Agreement (CETA), which both took around five years to negotiate and are yet to be ratified, as well as by the US–EU negotiations for the Transatlantic Trade and Investment Partnership (TTIP), which have been underway for over three years.

A more feasible and promising approach may therefore be to form carbon market clubs within PTAs that have already been negotiated or are in the process of being negotiated, such as the North American Free Trade Agreement (NAFTA), TPP, CETA, or TTIP. Many PTAs now contain some general climate or environmental provisions (Gehring et al. 2013). These can provide hooks for carbon market components where the negotiating efforts have already been made or are underway.

In the case of the TPP, the variety of member countries—many of which do not have carbon markets in place yet—means that a club is unlikely to take the form of a full carbon trading club from the beginning. It can, however, start off with members who already operate mature carbon markets forming a club and engaging in trading, such as New Zealand as well as Canada and the US with their subnational systems. Moreover, the members of the carbon market club can help incentivise the more reluctant TPP members to put carbon markets into place and give support in developing them. In this regard, the scale and diversity of the TPP membership is a real advantage as it can encourage a large scale-up in climate action across a variety of countries. Over time, such policy coordination and capacity-building can develop further into a larger carbon trading club. While not all TPP members may be willing or able join the group's carbon market club, this could potentially be undertaken by a subset of them. Moreover, some TPP countries are in the process of implementing or contemplating the introduction of ETSs, including Mexico and Peru. Cooperating on carbon markets in the context of the TPP may provide further impetus and support to these efforts.

The NAFTA is also an interesting case in point. The agreement has a separate side agreement on environmental issues, the North American Agreement on Environmental Cooperation, which among others things calls for "promot[ing] sustainable development based on cooperation and mutually supportive environmental and economic policies," for "strengthen[ing] cooperation on the development and improvement of environmental laws, regulations, procedures, policies and practices," and for "promot[ing] pollution prevention policies and practices" among its main objectives (Article 1) (Secretariat of the Commission for Environmental Cooperation 1993). As such the NAFTA can provide a hook for developing carbon market cooperation between its members, Canada, the US, and Mexico. Moreover, the three NAFTA members have over the years strengthened their cooperation on climate and energy matters, and all three countries are increasingly moving towards carbon markets. Several Canadian provinces have carbon markets and the country is making carbon pricing mandatory from 2018; the US has several state-level schemes; and Mexico is launching its pilot ETS in November, to be followed by a full scheme in 2018. The countries' domestic carbon market developments along with their close trade ties and climate/energy cooperation can provide an additional foundation for the formation of a North American carbon market club.

With Canada's move to mandatory carbon pricing from 2018, the CETA is also shaping up as an increasingly interesting PTA for the formation of a carbon market club. But even where ETSs exist at the subnational level, PTAs could still serve as a useful platform for carbon market cooperation between ETSs of their members at national and subnational levels, making TTIP another possible hook for carbon market cooperation.

Despite their challenges, both PTAs and plurilateral WTO agreements therefore merit countries' consideration as potential avenues for setting up carbon market clubs due to the high degree of support and legal certainty they can provide from a trade perspective.

4.3 Trade Measures in Carbon Market Clubs

As discussed, carbon market clubs can help lower competitiveness concerns that countries may have about operating unilateral carbon markets and consequently reduce the perceived need for controversial measures aimed at levelling the playing field, such as border carbon adjustments. At the same time, it cannot be excluded that such clubs themselves may consider implementing BCAs vis-à-vis non-members to level the playing field and as an additional compliance and incentive mechanism.

The bottom-up nature of the Paris Agreement implies an absence of consensus about the adequacy of countries' various climate efforts (Cosbey 2016). Each country is free to determine its own level of mitigation contribution and choose the climate measures it deems appropriate to this end. This may increase the possibility of countries' efforts being judged "inadequate" by others. Such comparisons may well be of increasing relevance to ambitious countries as the Paris Agreement requires countries to pursue deeper mitigation efforts over time, which is likely to render concerns about competitiveness and carbon leakage more pertinent. As a result, countries may be more inclined to introduce measures like BCAs to help them bridge this asymmetry. Nevertheless, the permissibility of BCAs under the Paris climate regime remains an open question. There is nothing in the agreement per se that allows countries to make use of BCAs. On the contrary, the fact that countries are explicitly allowed to determine their own targets may render judging their efforts as "inadequate" more difficult. Therefore, the issue of BCAs remains in a grey zone in the context of the new climate regime as much as it did before and may consequently end up in the WTO dispute settlement system.

Therefore, if a carbon market club were to impose BCAs on non-members with "inadequate" climate measures and this was challenged in the WTO, the club would need to justify the use of BCAs through the inadequacy of the non-members' climate measures. This could include arguing that such non-members' products are not "like" or seeking justification through the general exceptions, as explained above. The existing challenges to defend the use of BCAs would thus remain, although the "environmental integrity" criterion in Article 6.2 may lend some support to justifying the use of BCAs given that a lack of adequate action by non-members may undermine the integrity of the carbon market club's efforts. At the same time, the justification of BCAs would be challenging if the club members additionally deployed domestic measures, such as the free allocation of emission allowances, to shield their industries from competitiveness and carbon leakage concerns. The club members would therefore face pressure to abolish such additional protection measures.

5. CONCLUSION AND POLICY RECOMMENDATIONS

The support for club governance arrangements as a complementary approach to international cooperation has grown in recent years, not least due to the recognition that climate clubs can help make faster and deeper progress than the full United Nations membership. The Paris Agreement has provided a multilateral hook for the formation of climate clubs, including in the area of carbon markets. Such cooperation can help increase the ambition and impact of carbon markets in the global mitigation effort by addressing the constraints resulting from concerns about competitiveness and carbon leakage under unilateral efforts. This can take the form of both driving the spread of carbon markets globally and increasing the ambition of such schemes. Carbon market clubs can therefore help countries go beyond their NDCs and scale up climate action in order to get closer to the level of ambition that is necessary to reach the temperature goals of the Paris Agreement.

While there has been little progress on carbon market clubs to date, the increasingly ambitious and fragmented nature of the new climate regime, as well as the presence of Article 6, can provide impetus. In order to support the emergence of effective and environmentally credible carbon market clubs, parties need to operationalise the ITMO provision in Article 6.2 in a timely manner, particularly in light of the early entry into force of the Paris Agreement. This entails, as a priority, developing the mandated accounting guidance and clarifying the meaning of "following" such guidance. Moreover, the CMA should issue general definitions of the other two 6.2 criteria ("sustainable development" and "environmental integrity and transparency") to create a common understanding of these terms.

Beyond the Paris Agreement, several initiatives have provided unprecedented momentum for the further spread of carbon markets and cooperation on them. These include the Carbon Market Platform, the New Zealand-led Ministerial Declaration on Carbon Markets, and the CPLC. All three have some potential to serve as stepping stones for the formation of carbon market clubs through the sharing of information and best practices, development of guidelines and standards, and initiation of some policy coordination.

While these initiatives, as well as Article 6, are certainly crucial for laying the political and technical foundations for carbon market clubs, they need to be complemented by more dedicated and focused efforts. The EU, New Zealand, South Korea, and Switzerland, as well as Canada and the subnational US schemes, are currently the most likely candidates for initiating a carbon market club. Once China's national ETS runs effectively, the country's participation—as the world's biggest GHG emitter and a key trading nation—would make a meaningful contribution to a carbon market club. Future potential candidates could further include Kazakhstan and Mexico, as well as Chile and South Africa which are soon launching carbon taxes, though this would require additional design efforts given the differences between ETSs and carbon taxes. Over the longer term, others such as Colombia, Taiwan, Thailand, and Turkey, which are planning or piloting ETSs, may also join. Moreover, the US would be an important partner for furthering a club's impact, though the political dynamics on climate issues make the emergence of a nationwide US carbon market unlikely in the near to medium term, so that it is more likely to participate through its subnational schemes.

Encouraging new members to join a carbon market club will not only be crucial for its climate change mitigation impact, but also to build trust that the club contributes to rather than undermines the multilateral effort. Inclusiveness as well as transparency about the club and its membership criteria will therefore be essential. This could, for example, be achieved through a staged membership structure, whereby those with well-established carbon markets already engage in emission units trading while cooperating with other jurisdictions to incentivise and support

them in developing their own carbon pricing instruments. This could further the spread of carbon markets globally and pave the way for a more comprehensive carbon trading club.

At the same time, ensuring that trading is exclusive to club members will be key to incentivising membership and guaranteeing the club's environmental integrity. Whether or not this could result in conflicts with the global trade system is an open question. Some experts see no grounds for concerns as they do not consider emission units to be goods or services and therefore do not see them falling within the scope of the WTO. Others, however, have argued that trade in emission units constitutes a "financial service" under the Annex on Financial Services contained in the GATS, so that the exclusivity of carbon market clubs could be in conflict with WTO rules. If emission units were to fall within the scope of the WTO, the Paris Agreement might help justify deviations from the WTO's non-discrimination obligations in case of perceived conflict. The reference to "environmental integrity" in Article 6.2 as one of the key requirements for engaging in cooperative market approaches might support arguments about the "unlikeness" of emission units from club members and non-members, or alternatively help justify exemptions from WTO obligations through GATS Article XIV(b) or GATT Article XX(b), (d), or (g). This would require a clearer understanding of the meaning of "environmental integrity," however, thus providing an additional reason for the CMA to develop a definition of this term.

A further shield against trade tensions and a way for the trade system to actually support the emergence of carbon market clubs would be to form such clubs through FTAs. Framing a carbon market club as a plurilateral through a WTO Annex 4 agreement would be one option as this would enable countries to restrict free trading to club members in the area of emission units only, without facing the risk of future challenges before a WTO panel. The requirement for plurilateral agreements to be approved unanimously by the WTO membership does, however, represent a high burden for pursuing this option.

To sidestep this hurdle, club members could instead frame the carbon market club as a PTA according to GATT Article XXIV or GATS Article V, which does not involve voting from the WTO membership. As this would require "substantially all" trade to be liberalised, however, and negotiating PTAs is a lengthy and complex process, the most feasible approach would be to integrate carbon market clubs into existing PTAs or those under negotiation, such as NAFTA, TPP, CETA or TTIP. Many PTAs now contain at least some general climate or environmental provisions, which can provide hooks for such undertakings. Front-runner countries in PTAs could form a carbon trading club and further incentivise and support the uptake of new carbon markets among other PTA members. Particularly in mega-regionals, such as the TPP, this can provide an excellent opportunity for getting more reluctant and a diverse group of countries to scale up climate action, thus making a positive contribution to the global mitigation effort. Over time, this could evolve into a more fully functional carbon trading club. Framing carbon market clubs within existing PTAs is therefore a promising way forward.

Another trade dimension to consider relates to the issue of BCAs. Although carbon market clubs could help reduce concerns about competitiveness and carbon leakage, and as such lower the perceived need for protection measures, the possibility of such clubs using trade measures like BCAs on non-members cannot be excluded. The Paris Agreement may have widened the likelihood for applying such measures due to the absence of an objective reference for judging the adequacy of other countries' mitigation efforts under the bottom-up regime and the increasing likelihood for ambitious countries to face competitiveness and carbon leakage concerns. The permissibility of such measures in the context of the Paris climate regime does, however, remain a grey zone. The "environmental integrity" criterion under Article 6.2 may help support arguments that seek to justify the use of BCAs, but there is nothing in the agreement per se that allows the use of BCAs.

Overall, there is significant and unprecedented momentum under the Paris climate regime for widespread carbon market cooperation through the formation of climate clubs. Building on the political and technical foundations provided by the Paris Agreement and the various carbon pricing initiatives, as well as the scope to accommodate carbon market clubs from a trade perspective, countries must seize this opportunity in order to drive more ambitious climate action. This is essential for helping to scale up the climate response to the level required to meet the agreement's temperature goals. While doing so will involve significant political and technical work, it is a path worth pursuing given the important contribution carbon market clubs can make to the global mitigation effort.

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