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Climate clubs: are minilateral trade arrangements the key to climate change mitigation?

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Abstract:

Urgent global action is necessary to limit global warming to no more than 2°C above pre-industrial levels and avoid irreversible damage to the environment and its inhabitants. However, current multilateral climate agreements are proving ineffective and are unlikely to achieve emission reduction targets. They incentivise free-riding, hinder bargaining efficiency, lead to uncoordinated efforts by states and are difficult to enforce. Climate clubs are a promising minilateral solution that may be more effective in incentivising emission reductions. Climate clubs use carbon pricing, trade sanctions and free trade incentives to encourage international emission reductions. In mid-2022, the Chancellor of Germany Olaf Scholz announced his intention to form a climate club with G7 members. This paper supports a G7 climate club. While climate clubs have been criticised for lacking political feasibility and legitimacy, and for risking retaliation by non-member states, there are methods to mitigate these concerns. Further, the worst-case scenario of the club being unsuccessful and disbanding is less serious than the threat of climate change. It is time to coordinate the trade and climate regimes to support emission reduction targets and strengthen multilateral efforts.

Key words: "*Climate Club", "Minilateralism", "Trade Agreements", "G7", "World Trade Organisation".*

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I Introduction

Climate change is an existential collective action issue that threatens irreversible damage to the earth's environment and inhabitants.[1] Urgent international action is needed to limit global warming to no more than 2°C above pre-industrial levels.[2] Historically, climate change mitigation efforts have been pursued through multilateral arrangements, such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. However, these arrangements have proven to be largely ineffective in addressing the mammoth task. They incentivise free-riding, hinder bargaining efficiency, lead to uncoordinated efforts by states and are hard to enforce.[3]

It may be time to look to other arrangements that can enhance existing efforts and show greater potential to reduce emissions. Since 2015, the idea of creating a legally binding 'climate club' between climate conscious countries has been growing in popularity among commentators.[4] This club would, by a novel agreement, exploit tools from the trading regime to expedite international emission reductions. The club proposal is, however, not without its critics: scholars have raised concerns that a club arrangement would be illegitimate, politically infeasible, and would be prone to retaliation from aggrieved non-member states.[5]

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[1] See IPCC *Climate Change 2022: Impacts, Adaptation and Vulnerability* (Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, Cambridge, UK, 2022, doi:10.1017/9781009325844) at 21.

[2] See IPCC, above n 1, at 13.

[3] See William Nordhaus "Climate Clubs: Overcoming Free-riding in International Climate Policy" (2015) 105(4) Am Econ Rev 1339 at 1339; Robert Falkner "A Minilateral Solution for Global Climate Change? On Bargaining Efficiency, Club Benefits, and International Legitimacy" (2016) 14(1) Perspectives on Politics 87 at 90; William Nordhaus "Climate Change: the Ultimate Challenge for Economics" (2019) 109(6) Am Econ Rev 1991 at 2006; Natalie Roy "Climate Change's Free Rider Problem: Why We Must Relinquish Freedom to Become Free" (2021) 45(3) Wm & Mary Envtl L & Pol'y Rev 821 at 838; see also discussion starting on page 7.

[4] Robert Falkner, Naghmeh Nasiritousi and Gunilla Reischl "Climate clubs: politically feasible and desirable? (2022) 22(4) Clim Policy 480 at 485.

[5] Falkner, Nasiritousi and Reischl, above n 4; Rafael Leal-Arcas *Creating an Effective, Legally Binding, and Enforceable Climate Club* (Policy Brief, T7 Task Force Climate and Environment, G7 Germany's Presidency 2022, 13 April 2022) at 3; See also discussion starting on page 33.

In mid-2022, this debate, which was previously confined to the literature, has emerged into policy with German Chancellor Olaf Scholz proposing a climate club with G7 countries.[6] The climate club literature can now be evaluated against the G7 proposal to determine whether a climate club would work in practice. This essay aims to assess whether the benefits and likely success of the G7 club proposal will eventuate in practice, contributing to a wider question of whether climate clubs generally should be seen as a promising way to facilitate climate action beyond the modest progress made by multilateral agreements.

Part II will outline the current multilateral climate arrangements in force, and will explain why, at best, they are making modest progress towards international climate goals. Part III will evaluate the relationship between the trade and climate regimes and outline key climate-friendly trade tools that a new climate arrangement could exploit. Part IV will introduce the climate club idea and outline its key features and criticisms. Part V attempts to apply this research to the G7 club proposal to determine whether a G7 club will be effective in practice. The conclusion is that G7 countries are well-placed to establish a climate club. Although they are likely to encounter resistance from uncooperative states, there are ways to mitigate political hurdles and the risk of retaliation. In any event, the risks posed by climate change outweigh the worst-case scenario of a climate club being unsuccessful.

II The current multilateral landscape

International climate change mitigation efforts have historically been pursued through multilateralism.[7] Keohane generally defines multilateralism as "the practice of coordinating national policies in groups of three or more states, through ad hoc arrangements or by means of institutions."[8] This part will briefly outline key multilateral

[6] G7 Germany *G7 Statement on Climate Club* (Elmau, 28 June 2022) at 1.

[7] Izuoma Egeruoh-Adindu "Global Climate Change Governance: The Efficacy of Multilateral Approaches." (2022) 13(2) BLR 320 at 324.

[8] Robert Keohane "Multilateralism: An Agenda for Research" (1990) 44(4) IJ 731 at 731.

climate agreements and then discuss the main concerns arising from their multilateral design.

A Key multilateral climate agreements

Multilateral climate efforts see states coming together to cooperate on the core issues arising from climate change.[9] Currently, the central multilateral climate institution is the United Nations Framework Convention on Climate Change (UNFCCC).[10] The Paris Agreement, which sits under the UNFCCC and supports its implementation.[11]

The UNFCCC entered into force in 1994 and has been ratified by 197 countries.[12] Its key objective is to "stabilise greenhouse gas (GHG) concentrations at a level that would prevent dangerous anthropogenic interference with the climate-system."[13] Although the UNFCCC does not expressly set any targets for GHG emission reductions,[14] stabilising GHG concentrations is understood to mean that the balance of gross GHG emissions minus the removals of GHG from the atmosphere should reach net zero.[15]

The UNFCCC outlines the key roles and obligations of each party,[16] and these reflect two of its underlying principles:[17] firstly, that parties should act based on equity and in compliance with their common but differentiated responsibilities and respective capabilities (CBDR-RC), and secondly, that developed country Parties should lead climate

[9] Egeruoh-Adindu, above n 7, at 324.

[10] Egeruoh-Adindu, above n 7, at 324.

[11] United Nations "Paris Agreement" 54113 UNTS 3156 (opened for signature 16 February 2016), entered into force 4 November 2016).

[12] UNFCCC "What is the United Nations Framework Convention on Climate Change?" <www.unfccc.int>.

[13] UNFCCC, above n 12.

[14] Egeruoh-Adindu, above n 7, at 324.

[15] Jane Leggett *The United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement: A Summary* (Congressional Research Service, R46204, 29 January 2020).

[16] Egeruoh-Adindu, above n 7, at 325;

[17] United Nations Framework Convention on Climate Change A/RES/48/189 (signed 12 June 1992, entered into force 21 March 1994), art 3.

change mitigation efforts.[18] The UNFCCC does not, however, establish an enforcement or compliance mechanism to administer these obligations.[19]

The UNFCCC's key decision-making body is the Conference of the Parties (COP), which comprises all states that are parties to the Convention.[20] At COP, the parties review the implementation of the Convention and any decisions necessary to make improvements,[21] for example by negotiating new agreements. These decisions are based on the consensus of the parties.[22]

The Paris Agreement, adopted in December 2015, "sits within and implements" the UNFCCC.[23] It succeeds the Kyoto Protocol, the UNFCCC's prior attempt at mitigating climate change, which "operated largely by imposing 'top-down,' negotiated, and binding national commitments to reduce emissions."[24] The Kyoto Protocol, however, became "increasingly inadequate," largely because it only imposed obligations on developed countries.[25] The Agreement, therefore, lacked scope as the US never ratified the protocol and emissions from developing countries became increasingly significant.[26]

The Paris Agreement took an alternative, bottom-up approach whereby all countries would participate by making "nationally-determined mitigation pledges."[27] These nationally

[18] Leggett, above n 15, at 2; Ravi Prasad and Ridhima Sud "The pivotal role of UNFCCC in the international climate policy landscape: a developing country perspective" (2021) 7(1) Glob Affairs 67 at 69.

[19] Egeruoh-Adindu, above n 7, at 324.

[20] Egeruoh-Adindu, above n 7, at 325.

[21] Egeruoh-Adindu, above n 7, at 326.

[22] Egeruoh-Adindu, above n 7, at 326; Jesse Vogel "The problem with consensus in the U.N. Framework Convention on Climate Change" (2014) 32(2) Philos Q 14. To block consensus, a party needs to make an expression of objection to the text. However, the events at the 2010 Cancun Climate Change Conference suggested more may be needed, as Bolivia's express objections to the texts of the decision were not enough to block consensus. For more information see Legal Response International *Issues on Consensus in the UNFCCC Process* (BP37E Briefing Paper, 8 December 2011).

[23] Cara Horowitz "Paris Agreement" (2016) 55(4) ILM 740 at 740.

[24] Horowitz, above n 17, at 740.

[25] Horowitz, above n 17, at 740.

[26] Horowitz, above n 17, at 740.

[27] Horowitz, above n 17, at 740; United Nations "Paris Agreement," above n 11, art 4.

determined contributions (NDC) are communicated every five years, and countries are to take steps to achieve their pledged goals.[28] This self-determination approach has helped the Agreement achieve a high-level of participation, with 194 parties[29] of which 165 have submitted an NDC as at July 2022.[30]

However, high participation may be at the cost of the Agreement's stringency and effectiveness.[31] While the Agreement requires each country to report regularly on their emissions and all parties are publicly measured on their progress during a 'global stocktake,' there is no enforcement mechanism as was present under the Kyoto Protocol.[32] The Agreement's Facilitative Compliance Committee, unlike the Committee under the Kyoto Protocol, is solely facilitative, non-adversarial, and non-punitive.[33]

B Challenges of multilateralism

The multilateral characteristics of the UNFCCC and Paris Agreement have led to concerns that they incentivise free-riding, hinder bargaining efficiency, and lead to uncoordinated efforts and unenforceable obligations. Each concern will be outlined in turn.

1 Free-riding incentive structures

According to Nordhaus, the structure of these current multilateral climate agreements incentivise free-riding.[34] He defines free-riding as "when a party receives the benefits of a public good without contributing to the costs."[35] Applying this to international climate change mitigation, a country has an incentive to rely on the emission reductions of other states without taking on proportionate efforts to reduce their own.[36] It is arguably in any

[28] Horowitz, above n 17, at 741; United Nations "Paris Agreement, above n 11, art 4.

[30] See United Nations Treaty Collection "Paris Agreement" <https://treaties.un.org>.

[30] UNFCCC "INDCs as communicated by Parties" <www.unfccc.int>.

[31] Horowitz, above n 17, at 741.

[32] Horowitz, above n 17, at 741.

[33] United Nations "Paris Agreement, above n 27, art 15.

[34] William Nordhaus "Climate Clubs: Overcoming Free-riding in International Climate Policy" (2015) 105(4) Am Econ Rev 1339 at 1339.

[35] Nordhaus, "Climate Clubs: Overcoming Free-riding in International Climate Policy," above n 3, at 1339.

[36] Nordhaus, "Climate Clubs: Overcoming Free-riding in International Climate Policy," above n 3, at 1339.

country's best interest to "not incur the costs associated with climate action and instead just enjoy the benefits of others' sacrifices, or put another way, to 'free ride.'"[37] This can result in a "race to the bottom,"[38] where each country tries to commit less to emission reductions than others, to not bear a disproportional burden of mitigating climate change.

This incentive structure ties to the idea of the 'tragedy of the commons,' a phenomenon prevalent in international climate change mitigation policy, which describes the difficulty in securing the supply of a common good (emission reduction) when the domestic incentives to free-ride on the efforts of others.[39] This is because a state has little incentive to reduce its GHG emissions – its costly efforts to do so would end up benefitting other countries.[40]

Some argue the free-rider problem is becoming less of a threat since there are increasing domestic pressures for climate action.[41] Free-riding on the climate efforts of others may seem a less viable political strategy than it was.[42] However, even if this is so, the free-rider problem undeniably remains an issue that is hindering multilateral climate action.

In applying this reasoning to the design of the Kyoto Protocol, Gollier and Tirole argue its failure was inevitable.[43] The non-participating countries, including large emitters such as the US, were to benefit from the emission reduction efforts made by those who did participate.[44]

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[37] Roy, above n 3, at 838.

[38] Roy, above n 3, at 838.

[39] Garrett Hardin "The Tragedy of the Commons" (1968) 162(3859) Science 1243; Geoff Bertram "William Nordhaus's Climate Club Proposal: thinking globally about climate change economics" (2016) 12(2) PQ 23 at 24.

[40] Christian Gollier and Jean Tirole *Negotiating Effective Institutions Against Climate Change* (Discussion Paper 2015-72, Harvard Kennedy School, June 2015) at 2-3.

[41] Simone Tagliapietra and Guntram Wolff "Conditions are ideal for a new climate club" (2021) 158 Energy Policy 112527 at 2.

[42] Tagliapietra and Wolff, above n 41, at 2.

[43] Gollier and Tirole, above n 40, at 11.

[44] Gollier and Tirole, above n 40, at 11.

The Paris Agreement attempted to counter this problem by including both developing and developed countries as parties.[45] Its voluntary approach to NDCs was more respecting of the state sovereignty of parties, so parties were more willing to overcome negotiation deadlocks and sign the Agreement.[46]

However, the Paris Agreement has still failed to address free-riding.[47] Gollier and Tirole argue the 'pledge-and-review' system leads to countries postponing their commitments to reduce their emissions as they want to make sure their pledge is "hard to compare with other pledges, and that it is non-verifiable and non-enforceable."[48] Bertram agrees, arguing countries delay making commitments until they can get an idea of what other countries are aiming to achieve, while emphasising the point that they are too small to "save the planet" on their own.[49] The Agreement is therefore "too complex, too weak and too vulnerable to manipulation."[50] The result is that the pledges are unlikely to achieve the Agreement's goals.[51]Even if, ideally, all NDC's and net-zero commitments were fully realised by the parties, global warming would only be limited to *just* under 2 degrees.[52] However, this full realisation of targets is unlikely to eventuate due to inconsistencies between current emission rates, NDC targets and net-zero targets.[53] The more likely outcome is an increase in global warming by *at least* 2.4 degrees – that's *if* conditional and non-conditional NDC's are adhered to.[54] This estimate increases to 2.8 degrees if the policies currently in place are not strengthened.

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[45] Bertram, above n 39, at 23.

[46] Cazadira Tamzil *'Bottom Up' Paris Agreement and the New Era of Climate Actions* (IR-UI Commentaries, 1(16), March 2021) at 2.

[47] Gollier and Tirole, above n 40, at 28; Bertram, above n 39, at 28; William Nordhaus "The Climate Club: How to Fix a Failing Global Effort (2020) 99(3) Foreign Aff 10 at 10; Nordhaus, "Climate Change: the Ultimate Challenge for Economics," above n 3, at 2006.

[48] Gollier and Tirole, above n 40, at 28.

[49] Bertram, above n 39, at 23.

[50] Bertram, above n 39, at 28.

[51] See United Nations Environment Programme *The Closing Window: Climate crisis calls for rapid transformation of societies* (Emissions Gap Report 2022, DEW/2477/NA) at 4.

[52] Malte Meinshausen and others "Realization of Paris Agreement Pledges may limit warming just below 2°C" (2022) 604 Nature 304; United Nations Environment Programme, above n 51, at 4.

[53] United Nations Environment Programme, above n 51, at 10.

[54]United Nations Environment Programme, above n 51, at 4.

2 Bargaining inefficiency

Another problem with multilateral solutions to climate change is that, due to the large number of parties involved, negotiations are time consuming and ineffective.[55] Falkner sums up the problem with climate multilateralism with reference to Olsen's famous dictum: "the larger the group, the farther it will fall short of providing an optimal amount of a collective good."[56]

Climate multilateralism under the UNFCCC requires the broad consensus of all parties and emphasises inclusivity.[57] While its inclusive approach allows diverse voices to be heard in negotiations, it hinders effective bargaining.[58] This problem is so significant that many believe further climate cooperation is uncertain under multilateral forums.[59] Bargaining efficiency is only likely to improve if the number of parties involved in a negotiation decreases.

3 Voluntary uncoordinated efforts

The Paris Agreement's effectiveness may also be frustrated by its voluntary and uncoordinated characteristics.[60] Not only does the Agreement rely on parties to set ambitious enough NDCs,[61] but compliance with those NDCs is also voluntary.[62] Its

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[55] Falkner, "A Minilateral Solution for Global Climate Change? On Bargaining Efficiency, Club Benefits, and International Legitimacy," above n 3, at 90.

[56] Falkner, above n 3, at 90; Mancur Olson *The Logic of Collective Action: Public Goods and the Theory of Groups* (Schocken Books, New York, 1971); Lígia Pinto and Glenn Harrison "Multilateral negotiations over climate change policy" (2003) 25 J Policy Model 911 at 911-912.

[57] Minsi Liu and Kevin Lo "Pathways to international cooperation on climate governance in China: a comparative analysis" (2021) 6(3) J Chin Gov 417 at 422 and 424.

[58] Liu and Lo, above n 57, at 424.

[59] Liu and Lo, above n 57, at 424; Nordhaus, above n 34, at 1339.

[60] Nordhaus, "Climate Change: the Ultimate Challenge for Economics," above n 3, at 2008.

[61] Hannah Janetschek and others "The 2030 Agenda and the Paris Agreement: voluntary contributions towards thematic policy coherence" (2020) 20(4) Clim Policy 430 at 430.

[62] Bjart Holtsmark and Martin Weitzman "On the Effects of Linking Cap-and-Trade Systems for CO_2 Emissions" (2020) 75 ERE 615 at 616; Christina Voigt and Xiang Gao "Accountability in the Paris Agreement: The interplay between transparency and compliance" (2020) 1 Nordic Environmental Law Journal 31.

voluntary nature has also come at the price of ambition and has materialised in weak targets. As discussed above, the fulfilment of current NDCs will be unlikely to keep global warming below the two degree goal.[63]

NDC targets are also uncoordinated and incoherent.[64] While parties can agree on a common goal (limiting climate change to two degrees Celsius), they are not subject to a common coordinated commitment.[65] Incoherent targets mean parties are not assured others will match their efforts and not free-ride.[66]

4 Compliance and enforceability issues

A common challenge with climate multilateralism is establishing an effective enforcement mechanism. The free-rider problem under the Paris Agreement worsens due to its lack of enforceability.[67] Keohane and Oppenheimer argue that state actors will only change their behaviour if they have economic, social, or political incentives to do so – rarely will such changes be made solely out of concern for the environment.[68]

Enforcing reciprocal climate obligations is a challenge as the environment is a public good that cannot be withheld from free-riders.[69] However, implementing strong enforcement mechanisms also poses challenges. An example is the Kyoto Protocol's enforcement mechanism: an enforcement branch within its Compliance Committee.[70] Doelle argues this was a strong compliance system, but did not encourage parties to take on ambitious

[63] Nordhaus, "Climate Change: the Ultimate Challenge for Economics," above n 3, at 2008; Peter Crampton and others *Global Carbon Pricing: The Path to Climate Cooperation* (The MIT Press, Cambridge, 2018) at 1; Holtsmark and Weitzman, above n 62, at 616; United Nations "Paris Agreement," above n 11, art 2.
[64] Janetschek and others, above n 61, at 433.
[65] Crampton and others, above n 63, at 7.
[66] Crampton and others, above n 63, at 7.
[67] Roy, above n 3, at 835.
[68] Robert Keohane and Michael Oppenheimer "Paris: Beyond the Climate Dead End through Pledge and Review?" (2016) 4(3) Politics Gov 142 at 142.
[69] Keohane and Oppenheimer, above n 68, at 144.
[70] Keohane and Oppenheimer, above n 68, at 145; Sebastian Oberthür and René Lefeber "Holding Countries to account: The Kyoto protocol's compliance system revisited after four years of experience" (2010) 1 Climate L 133 at 133.

targets.[71] Instead, it deterred them from participating in the agreement in a meaningful way.[72] Indeed, Canada and the US initially committed to taking on more ambitious targets than they had openly been prepared to undertake, eventually resulting in the non-ratification of the protocol by the US and with Canada pulling out of the Protocol altogether.[73]

Negotiating and implementing an enforcement mechanism under the Paris Agreement has not proven politically feasible. The Agreement's lack of a "meaningful top-down element" means there would be no body to enforce a compliance system, and even if there was, the experience under the Kyoto Protocol shows us that a compliance system does not necessarily encourage parties to take on and adhere to more ambitious commitments.[74]

C Conclusion

The multilateral climate landscape has brought the international community together to battle the effects of climate change. However, the multilateral design of climate agreements has encouraged freeriding, created bargaining difficulties, led to incoherent and ineffective targets and failed to implement an effective compliance system. As a result, multilateral climate agreements have only achieved modest results and are unlikely to limit global warming to 1.5 degrees.[75] New climate arrangements should be explored to improve existing multilateral efforts.[76] Many commentators have advocated for new climate coalitions that use international trade tools to combat climate change.

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[71] Doelle, "In Defence of the Paris Agreement's Compliance System: The Case for Facilitative Compliance," in Benoit Mayer and Alexander Zahar (eds) *Debating Climate Law* (Cambridge University Press, Cambridge, 2020) at 6.

[72] Doelle, "In Defence of the Paris Agreement's Compliance System: The Case for Facilitative Compliance," in Benoit Mayer and Alexander Zahar (eds) *Debating Climate Law* (Cambridge University Press, Cambridge, 2020) at 6.

[73] Doelle, above n 72, at 6.

[74] Doelle, above n 72, at 1-2 and 6.

[75] Falkner, above n 3, at 87.

[76] Falkner, above n 3, at 87; Nordhaus, above n 34.

III The trade-climate nexus

The trade and climate regimes are innately connected. While some features of the trade regime may counter climate change mitigation efforts, the trade regime also has a significant ability to benefit the climate. The convergence of these fields has materialised in the Sustainable Development Goals, which partly aim to harness the climate-friendly potential of the trade regime to affect development that is both socially and environmentally beneficial.[77] Exclusively environmental agreements have neglected to include trade aspects in their design, and thus have been said to lack teeth.[78] In comparison, the trade regime has made some attempts to exploit the trade-climate nexus. For example, sustainable development chapters have been included in free trade agreements (FTAs), which aim to "remove barriers to trade and investment in climate-change-friendly goods and services."[79] However, these efforts are not reaching their full potential due to enforcement difficulties.

This part will outline the key aspects of the relationship between the trade and climate regimes and explain the operation of trade and sustainable development (TSD) chapters in FTAs. It will then explore some climate-friendly trade tools that may further benefit the climate. It will conclude that the climate regime has failed to exploit the full potential of these trade tools.

A Relationship between trade and climate

There are aspects of free trade that do benefit the environment. Grossman and Krueger argue free trade may benefit climate action in two ways: by increasing the selection of greener goods at a lower price, and by increasing the public demand to lower emissions.[80]

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[77] Rafael Leal-Arcas *Climate Clubs for a Sustainable Future: The Role of International Trade and Investment Law* (Kluwer Law International BV, The Netherlands, 2021) at 64.

[78] Leal-Arcas, above n 77, at 54.

[79] Leal-Arcas, above n 77, at 64.

[80] Ludivine Tamiotti and others *Trade and Climate Change: A report by the United Nations Environment Programme and the World Trade Organization* (WTO-UNEP Report, WTO Publications, 2009) at 51; Gene

Through global trade, countries can access greener goods and technologies that their industries would otherwise not be able to produce- for example, wind turbines, solar water heaters, biogas tanks, and landfill liners to collect methane.[81] This is often termed "technology transfer."[82] Technology transfer is particularly valuable for developing countries, and an issue often addressed at the UNFCCC and the WTO.[83]

In principle, free trade may also help reduce waste because, as goods are more likely to be produced according to their comparative advantage, resources would be expended more efficiently.[84] Exporters in green industries would also enjoy plenty of new market access opportunities under free trade, so are incentivised to keep developing goods and services aimed at emission reduction.[85]

Further, free trade grows a country's general economy, thus also the general income levels of the public.[86] They argue that this increased wealth gives the population the "freedom to be concerned about other aspects of their well-being, such as better environmental quality."[87] While the relationship between income and environment quality may seem weak, Torras and Boyce conducted research that backs up this claim.[88] After examining environment quality, income and civil and political liberties of certain populations they found that "the degree of inequality in incomes … had a substantial impact on the quality of environmental protection in low-income countries."[89]

Grossman and Alan Krueger *Environmental Impacts of a North American Free Trade Agreement* (National Bureau of Economic Research, NBER Working Paper No 3914, 1993).

[81] World Trade Organization *The multilateral trading system and climate change* (19 October 2021) at 4.

[82] See United Nations "Technology transfer: a new agenda for LDC negotiators" (2021) <www.un.org>.

[83] United Nations, above n 82.

[84] Jonathan Harris *Trade and the Environment* (Global Development and Environment Institute, Tufts University, Medford, MA 02155, 2004) at 8.

[85] Tamiotti and others, above n 80, at 51.

[86] Tamiotti and others, above n 80, at 51.

[87] Tamiotti and others, above n 80, at 51.

[88] Tamiotti and others, above n 80, at 51; Mariano Torras and James Boyce "Income, Inequality, and pollution: a reassessment of the environmental Kuznets Curve" (1998) 25(2) Ecol Econ 147.

[89] Tamiotti and others, above n 80, at 51; Torras and Boyce, above n 88.

While the trade regime offers great potential for climate action, not all aspects of international trade benefit the climate. A key problem is the correlation between free trade and transportation.[90] A November 2021 report by the WTO found that the emissions for the global transport of imported and exported goods and services have increased to account for 20-30% of the world's total GHG emissions.[91] Free trade also brings more production.[92] This generally requires more land use, labour, and energy- thus more emissions.[93]

Another problematic aspect of free trade is how it can influence how much production a country allocates to each of its industries.[94] This is because countries that engage in free trade will want to focus on producing goods where they can do so more efficiently than other countries, to stay competitive in the free market. If a country with a comparative advantage in emission-intensive industries engages in free trade, it will increase its production in those industries, and therefore, its emissions.[95]

This may also undermine a country's stringent climate policies. Because goods can be produced cheaper in a country with low climate standards, producers will tend to relocate to countries with low environmental standards.[96] This concern is often referred to as 'carbon leakage,' as the emissions cut from high-standard countries 'leak' into the atmosphere anyway due to the increased production in low-standard countries.[97]

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[90] Rikard Forslid "Trade transportation and the environment" (3 April 2020) Vox EU CEPR <www.voxeu.org>.

[91] World Trade Organization *Carbon Content of International Trade* (Trade and Climate Change Information Breach No 4, Revised 9 November 2021).

[92] Tamiotti and others, above n 80, at 50.

[93] Tamiotti and others, above n 80, at 50.

[94] Tamiotti and others, above n 80, at 50.

[95] Tamiotti and others, above n 80, at 50.

[96] Tamiotti and others, above n 80, at 51; Onno Kuik and Reyer Gerlagh "Trade liberalization and carbon leakage" (2003) 24(3) Energy J 97 at 98.

[97] Kuik, above n 96, at 98.

B Climate-friendly trade tools

While some aspects of the trade regime seem damaging to the environment, these aspects can be mitigated in practice using climate-friendly trade tools. Many policies have already implemented these tools to address these concerns, with others being at least proposed.

1 TSD chapters in trade agreements

The World Trade Organization (WTO) is the sole international trading organization and has 164 member states.[98] While the WTO has acknowledged the intersection between trade and climate policies exists, the Organisation does not have any agreement that specifically targets environmental issues.[99] The WTO puts this down to the issue of climate change not being "part of the WTO's ongoing work programme," and seems to lack desire in taking on any kind of environmental protection role.[100]

With its multilateral negotiations reaching deadlock,[101] parties have had more success turning to FTAs, which only require negotiations between two or more countries.[102] While the WTO has rejected taking on a climate governance role, countries are increasingly attempting to incorporate non-trade values, such as climate standards, into their FTAs.[103] These are often now being included in the form of TSD chapters and aim to address the

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[98] World Trade Organization "About the WTO" <www.wto.org>; World Trade Organization "Members and Observers" <www.wto.org>.

[99] Dominic Gentile "International Trade and the Environment: What is the Role of the WTO? (2009) 20(1); Patrick Low, Gabrielle Marceau and Julia Reinaud *The Interface Between the Trade and Climate Change Regimes: Scoping the Issues* (World Trade Organisation, Economic research and Statistics Division, Working Paper ERSD-2011-1, 12 January 2011) at 1.

[100] World Trade Organization, above n 81, at 1; Gentile, above n 99, at 201.

[101] Greg Mastel "The Rise of the Free Trade Agreement" (2004) 47(4) Challenge 41 at 43; Cédric Dupont and Manfred Elsig "Persistent Deadlock in Multilateral Trade Negotiations: The Case of Doha" in Amrita Narlikar, Martin Daunton and Robert Stern (eds) *The Oxford Handbook on the World Trade Organization* (Oxford University Press, 2012) 587.

[102] Mastel, above n 101, at 44.

[103] Susanna Villani "Settling disputes on TSD Chapters of EU FTAs: Recent trends and future challenges in the light of CJEU Opinion 2/15" in Andrea Biondi and Giorgia Sangiuolo (eds) *The EU and Rule of Law in International Economic Relations* (Edward Elgar Publishing, 19 October 2021) 107 at 107.

concern that countries will lower their environmental standards to increase their competitive advantage.[104] Often, these chapters will bind parties to effectively implement the multilateral environmental agreements they have ratified and facilitate the removal of barriers to trade and investment for greener goods and services, such as renewable energy and energy efficient products.[105]

TSD chapters have enforcement mechanisms to disincentivise countries from lowering their environmental standards. The EU has recently announced they will be adopting the approach used in the US, which means they be using trade as a 'stick' rather than a 'carrot.'[106] Their previous approach was criticised for being "largely rhetorical" and "lacking teeth," as it placed too much focus on consultations and lacked a punitive approach to non-compliance.[107] The new approach, as currently used in the US, involves the use of legal trade sanctions for non-compliance with environmental clauses, which would allow the compliant party to raise barriers to trade against the non-compliant party.[108]

Unfortunately, there is little evidence that this approach is any more successful than the previous soft and consultative approach of the EU.[109] No formal case of non-compliance

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[104] Katerina Hradilová and Ondrej Svoboda "Sustainable Development Chapters in EU Free Trade Agreements: Searching for Effectiveness" (2018) 52(6) J World Trade 1019 at 1020.

[105] See for example EU-New Zealand Free Trade Agreement (opened for signature on 30 June 2022, not yet in force) chapter XX arts X.5 and X.6.

[106] Leal-Arcas, above n 77, at 65; Barry Coates *Seeking Progress Towards Climate-Supportive Trade: The EU-NZ FTA Negotiations* (The Greens/EFA parliamentary group, July 2021) at 8; European Commission *Commission unveils new approach to trade agreements to promote green and just growth* (Press release, IP/22/3921, 22 June 2022);

[107] Coates, above n 106, at 8. This process comprised of a government consultation, the establishment of a panel of experts, and a review by a TSD Sub-Committee to supervise the non-compliance party's implementation of the Panel's recommendations. For more information see Hradilová and Svoboda, above n 104, at 1020 and 1025; Sam Lowe *The EU should reconsider its approach to trade and sustainable development* (Centre for European Reform Insight, 31 October 2019) at 2.

[108] Leal-Arcas, above n 77, at 65; see also Jean-Baptiste Velut and others *Comparative Analysis of Trade and Sustainable Development Provisions in Free Trade Agreements* (The London School of Economics and Political Science, February 2022) at 16; Lowe, *The EU should reconsider its approach to trade and sustainable development,* above n 107, at 2.

[109] Lowe, *The EU should reconsider its approach to trade and sustainable development*, above n 107, at 2.

with an environmental provision has ever been brought under any US FTA.[110] Only one case has been subject to a US FTA dispute settlement mechanism in regards to labour commitment violations by Guatemala.[111] This case was unsuccessful, as the US was unable to prove that Guatemala failed to enforce labour standards *in a manner affecting trade* between the US and Guatemala, per the dispute settlement provision's requirements.[112]

It does not necessarily follow that the EU's recent attempts to strengthen compliance with its TSD chapters will be fruitless. Lowe argues that it is the design of the US provision (that requires proof of a direct link between environmental practices and trade flows) that is ineffective, rather than the principle of enforcement itself.[113] Proving the link between trade and environmental practices is incredibly difficult, but alternative designs are possible.[114] The most obvious solution to the *Guatemala* issue is to remove this 'trade impact test' completely, allowing preferential trade treatment to explicitly depend on compliance with a multilateral environmental agreement.[115]

EU proposals suggest that future FTAs will include, "as a last resort," the possibility for a party to apply trade sanctions for material breaches of the Paris Agreement,[116] which suggests a lower threshold than the *manner affecting trade* causation requirement present in US FTAs.

The likelihood of such a low threshold is contested. Removing a *manner affecting trade*-type causation requirement may blur the objectives of the climate and trade regimes, which

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[110] Lowe, *The EU should reconsider its approach to trade and sustainable development*, above n 107, at 2.
[111] *In the Matter of Guatemala – Issues Relating to Obligations Under Article 16.2.1(a) of the CAFTA-DR* (Final Report of the Panel) (Arbitral Panel established pursuant to Chapter Twenty, Dominican Republic – Central America – United States Free Trade Agreement, 14 June 2017).
[112] Lowe, *The EU should reconsider its approach to trade and sustainable development*, above n 107, at 3; Hradilová and Svoboda, above n 104, at 1036; *Dominican Republic – Central America – United States Free Trade Agreement* (signed 5 August 2004, entered into force 1 January 2009), art 17.1.
[113] Lowe, *The EU should reconsider its approach to trade and sustainable development*, above n 107, at 3.
[114] Lowe, *The EU should reconsider its approach to trade and sustainable development*, above n 107, at 3.
[115] Hradilová and Svoboda, above n 104, at 1039; Lowe, *The EU should reconsider its approach to trade and sustainable development,* above n 107, at 3.
[116] European Commission, above n 106.

each serve distinctly different purposes.[117] A key purpose of most FTAs is "competitive fairness,"[118] trade sanctions are usually used to compensate parties for the "quantifiable economic damage" resulting from non-compliance.[119] Although the EU does not explicitly stipulate competitive fairness as a key objective in their trade agreements,[120] the EU would need to ground their trade agreements in a 'sustainable development' objective to justify removing requirement of proof of economic damage. This would carry risks. Not only is it unclear how a breach of an environmental standard can be quantified and translated into a proportionate trade sanction,[121] but there is also a risk that moving away from this causation requirement may deter parties from signing trade agreements with the EU.[122]

Despite the uncertainty over whether the EU's planned sanction-based enforcement approach will be any more effective in enforcing environmental standards than the US' provisions, there is evidence that TSD provisions based on trade incentives do encourage trade partners to adhere to sustainability standards.[123] This idea is supported by this paper's discussion in Part I about the multilateral system's incentive structures that promote free-riding: that is, we cannot rely on parties to reduce emissions based on their "motivations of morality."[124] Money is a powerful motivator.[125] Countries are motivated to engage in free trade to grow their economies and are equally motivated to adhere to environmental standards in free trade agreements so they do not lose these benefits.

There are several lessons we can learn from TSD chapters as a climate-friendly trade tool. Firstly, involving a small number of states in an FTA can lead to more effective outcomes

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[117] Rafael Leal-Arcas and others "Green Bills for Green Earth: How the International Trade and Climate Regimes Work Together to Save the Planet" (2022) 31(1) Eur Energy Environ Law Rev 19 at 20.

[118] Velut and others, above n 108, at 184.

[119] European Commission *Trade and Sustainable Development (TSD) chapters in EU Free Trade Agreements (FTAs)* (Non-paper of the Commission services, 11 July 2017) at 3.

[120] Velut and others, above n 108, at 184.

[121] Hradilová and Svoboda, above n 104, at 1039.

[122] Lowe, *The EU should reconsider its approach to trade and sustainable development*, above n 107, at 4.

[123] Hradilová and Svoboda, above n 104, at 140.

[124] Immanuel Kant "Toward Perpetual Peace: A Philosophical Sketch" in Pauline Kleingeld (ed) *Toward Perpetual Peace and Other Writings on Politics, Peace, and History* (Yale University Press, 2006) at 92.

[125] Kant, above n 124, at 92; see also Roy, above n 3, at 851.

for sustainable development than multilateral forums such as under the WTO.[126] Secondly, trade sanctions are a preferred enforcement mechanism, as they cause economic pain which creates an incentive for state compliance that cannot be matched by softer compliance techniques which have been regarded as ineffective. Finally, trade sanctions should, ideally, apply objectively and impersonally where there is a breach.[127] Requiring a causative link between the breach and impacts on trade is, however, likely a symptom of trade agreements by nature that can be more readily avoided by a climate agreement.

2 Carbon pricing

Carbon pricing is a tool to counter the problem of increasing emissions with production, which is increasingly used as a relatively non-invasive policy intervention.[128] Carbon pricing attempts to put a price on GHG emissions that will be more than climate change mitigation costs, thus economically incentivising countries to reduce their emissions.[129]

Carbon pricing can be implemented by either a carbon tax or a GHG emissions trading scheme (ETS).[130] A carbon tax involves the government imposing a tax rate and specifying what sources will be subject to it.[131] Under an ETS, the government will identify applicable sources and impose a limit on GHG on them.[132] The government will then distribute tradeable allowances to the sources which will be approximately equal to the GHG limit, and emissions must not exceed this limit.[133]

Analysing the effectiveness of any given country's carbon pricing system is difficult, as it can be hard to decouple the effects of carbon pricing from other climate measures that it is

[126] Villani, above n 103, at 107-108.
[127] See Bertram, above n 39, at 27.
[128] Rohan Best, Paul Burke and Frank Jotzo "Carbon Pricing Efficacy: Cross-Country Evidence" (2020) 77 ERE 69 at 70.
[129] Erik Haites "Carbon taxes and greenhouse gas emissions trading systems: what have we learned?" (2018) 18(8) Clim Policy 955 and 955.
[130] Haites, above n 129, at 956.
[131] Haites, above n 129, at 956.
[132] Haites, above n 129, at 956.
[133] Haites, above n 129, at 956.

often used in conjunction with.[134] Indeed, while a useful tool, carbon pricing alone cannot mitigate climate change.[135] The effectiveness of carbon pricing as a tool for a climate club will be discussed in more detail in Part IV.

3 Carbon border adjustments

Carbon border adjustment (CBA) mechanisms aim to combat carbon leakage,[136] although they should be used in conjunction with, and to increase the effectiveness of, a carbon pricing system.[137] A CBA aims to combat free-riding by ensuring the competitiveness of climate-conscious states is not vulnerable to the side-effects of free trade described above.[138] It does this by imposing a tax on imports, particularly from countries with low climate standards, thus mitigating any competitive advantage the exporter wielded from its low standards.[139]

The General Agreement on Trade and Tariffs (GATT) enables WTO members to implement CBAs under specified conditions set out in Articles II.2(a) and III.2.[140] These rules refer to the "national treatment" principle, which requires states to treat like domestic and imported products the same.[141] This principle sits alongside the most-favoured-nation

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[134] Best, Burke and Jotzo, above n 128, at 71.

[135] Leal-Arcas, above n 77, at 72.

[136] Christoph Böringer, Knut Rosendahl and Halvor Storrøsten "Robust policies to mitigate carbon leakage" (2017) 149 J Public Econ 35 at 35.

[137] Leal-Arcas, above n 77, at 73; Shunting Pomerleau "Carbon Border Adjustments" (24 January 2022) Niskanen Center <www.niskanencenter.org>.

[138] Leal-Arcas, above n 77, at 73.

[139] Böringer, Rosendahl and Storrøsten, above n 136; New Zealand Ministry of Foreign Affairs and Trade *European Union considers measures to introduce carbon charges on* imports (Market Report, August 2021) at 1.

[140] Leal-Arcas, above n 77, at 73; General Agreement on Tariffs and Trade UNTS187 (signed 30 October 1947, entered into force 1 January 1948).

[141] Leal-Arcas, above n 77, at 73; Harro van Asselt and others *Designing Border Carbon Adjustments for Enhanced Climate Action* (Climate Strategies, 2017) at 37; General Agreement on Tariffs and Trade, above n 140, art III.

(MFN) principle, which prohibits discrimination between domestic products and imported like products.[142]

Whether CBA mechanisms violate these principles, and whether they are workable in practice, is debated. For example, Das is sceptical of the legality of CBAs.[143] He argues it is still unclear whether a CBA is allowed to be implemented based on the carbon content of imports under articles II and III of the GATT.[144] Further, CBAs must apply to "like," or similar, domestic products.[145] It is still ambiguous whether imports can be as "like" domestic imports if they have different carbon contents.[146] Countries wanting to enforce CBAs may have to convince the WTO dispute settlement mechanisms that similar products with differing carbon contents can still be considered 'like' for the purpose of the tariff. Leal-Arcas identifies another problem: the national treatment principle may be violated if a lower CBA were to apply to developing countries to offer them financial support.[147]

A CBA is more likely to be challenged if its originating country is considered when deciding what imports to tax.[148] It may be more compliant if a CBA taxes imports based on fixed rates for each industry, regardless of the specific manufacturing process.[149] The fixed rate is determined on the assumption of Best Available Technology (BAT), which "cannot exceed domestic rates even if the carbon content is greater in the exporting

[142] METI *Chapter 2: National Treatment Principle* (Part II: WTO Rules and Major Cases, 21 November 2018) at 273.

[143] Katsuri Das "Climate Clubs: Carrots, Sticks and More" (2015) 50(34) EPW 24.

[144] Das, above n 143, at 25.

[145] General Agreement on Tariffs and Trade, above n 140, art III.

[146] Das, above n 143, at 25.

[147] Leal-Arcas, above n 77, at 74.

[148] Rafael Leal-Arcas, Manuliza Fakataufou and Anna Kyprianou "A Legal Exploration of the European Union's Carbon Border Adjustment Mechanism" (2022) 31(4) Eur Energy Environ Law Rev 223 at 226.

[149] Leal-Arcas, Fakataufou and Kyprianou, above n 148, at 226.

country's industry."[150] The application of WTO laws may therefore erode the effectiveness of a CBA.[151]

Because a CBA must adhere to the national treatment principle, it is more likely to be compliant with WTO laws when a domestic carbon price is already in place, because the charge is paid once the product enters the border, as is the domestic carbon price.[152]

This is supported by *China-Auto Parts 2009,* which found an import charge is lawful where triggered by an internal factor, such as carbon pricing, rather than the importation itself.[153] We can find further support for CBAs in the case of *US-Shrimp,* where it was arguable that "environmental policy is a more widely accepted reason to limit the WTO free trade rules."[154] While the WTO has not yet considered the legality of a CBA, it has otherwise approved an environmental border tax adjustment that restricted trade for the conservation of "exhaustible natural resources."[155]

Perhaps the biggest concern of a WTO challenge comes from a risk that the CBA, a unilateral mechanism meant to prompt transnational change, will backfire and spark retaliation.[156] Any CBA must be advertised as an effort to decarbonise the global economy rather than as a protectionist measure.[157] The likelihood of retaliatory measures, and the strength of this threat, will be discussed later.

While no country has attempted to impose a CBA yet, the EU has proposed to introduce a CBA mechanism as part of their European Green Deal, which is set to be introduced in

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[150] Leal-Arcas, Fakataufou and Kyprianou, above n 148, at 226.
[151] Leal-Arcas, Fakataufou and Kyprianou, above n 148, at 226.
[152] Leal-Arcas, above n 77, at 73-74.
[153] Leal-Arcas, above n 77, at 74; *China – Measures Affecting Imports of Automobile Parts* WT/DS342/15, 3 March 2009, (Agreement under Article 21.3(b) of the DSU).
[154] Leal-Arcas, above n 77, at 74; *United States – Import Prohibition of Certain Shrimp and Shrimp Products* WT/DS158/R, 15 May 1998, (Report of the Panel).
[155] Leal-Arcas, above n 77, at 74; John Odell "Our alarming climate crisis demands border adjustments now" (Public Seminar, A Session of the Sustainable Development and Environmental Economics Seminar, 28 June 2018) IDDRI <www.iddri.org>.
[156] Leal-Arcas, above n 77, at 74.
[157] Leal-Arcas, above n 77, at 74; Odell, above n 155.

2023.[158] To mitigate criticisms that the CBA is a protectionist policy that benefits EU producers, the EU must ensure it does not "discriminate against imported goods, and that the import levy is equivalent to the cost imposed on the domestic industry by an internal tax or similar measure."[159] The European Commission argue that their slow phase-in of the CBA mechanism and phase-out of the EU ETS will help keep the CBA compatible with the WTO.[160]

It is also worth remembering that, even if a CBA mechanism is caught by these rules, it may be justified under GATT's general exception provisions.[161] While is very difficult to meet the criteria for this exception,[162] a CBA may do so if it can be proved to serve "certain legitimate policy objectives."[163] Importantly, a CBA may be exempted from GATT rules if it is necessary for the "conservation of exhaustible natural resources."[164] A CBA mechanism arguably comes within this exception, particularly in light of *US-Shrimp*.[165]

Further, not all WTO violations end up being dealt with.[166] For example, the Montreal Protocol, which assisted parties in banning ozone-depleting substances, was likely to breach international trade rules including the non-discrimination principle.[167] However, due to a variety of economic, political and diplomatic factors, no country ever brought a dispute to the WTO.[168] In fact, no measure under a multilateral climate agreement has ever

[158] European Commission "Carbon Border Adjustment Mechanism: Questions and Answers" (14 July 2021) <www.ec.europa.eu>; New Zealand Ministry of Foreign Affairs and Trade, above n 139, at 1.
[159] Sam Lowe *The EU's carbon border adjustment mechanism: How to make it work for developing countries* (Centre for European Reform, April 2021) at 14.
[160] New Zealand Ministry of Foreign Affairs and Trade, above n 139, at 3.
[161] Das, above n 143, at 25; General Agreement on Tariffs and Trade, above n 140, art XX.
[162] Pomerleau, above n 137.
[163] Das, above n 143, at 25; General Agreement on Tariffs and Trade, above n 140, art XX.
[164] General Agreement on Tariffs and Trade, above n 140, art XX(g); Das, above n 143, at 25.
[165] *United States – Import Prohibition of Certain Shrimp and Shrimp Products,* above n 154.
[166] Das, above n 143, at 25.
[167] Das, above n 143, at 25; United Nations: Montreal Protocol on Substances That Deplete the Ozone Layer 1522 UNTS 3 (adopted 16 September 1987, entered into force 1 January 1989).
[168] Das, above n 143, at 25.

been brought under the WTO's dispute settlement system.[169] If a climate club can be initiated with widespread political and diplomatic support, it is at least possible that any WTO conflicts may not eventuate into significant consequences.[170] This will be discussed in more detail later.

C Concluding remarks on the trade-climate relationship

While the trade-climate nexus is undisputed, the trade and climate regimes are only partially connected in law and generally lack coordination. While aspects of the trade regime have a great potential to help climate mitigation efforts, this potential is not being exploited. The multilateral climate regime excludes trade tools and thus lacks teeth, and the trade regime includes climate aspects but lacks a sufficient enforcement system. The failures of multilateralism are also a theme in the trade regime, which has seen WTO trading partners turning to minilateral free trade agreements. Combining these lessons, commentators have argued the next step for the climate regime is to form a novel minilateral climate arrangement that exploits tools from the trade regime to achieve legally binding, enforceable, and effective emission reduction. It is important, however, that the design of such an arrangement ensures that the benefits of using tools from the trade regime outweigh their risks.[171]

IV Climate clubs: a minilateral solution to climate change?

Nordhaus proposes the climate club as a mechanism to overcome the problem of free-riding in multilateralism which was discussed in Part 1.[172] He defines a club as a "voluntary group deriving mutual benefits from sharing the costs of producing an activity that has public-

[169] World Trade Organization "The Doha mandate on multilateral environmental agreements (MEAs)" <www.wto.org>.
[170] Das, above n 143, at 25.
[171] Nordhaus, above n 34, at 1367.
[172] See Nordhaus, above n 34, at 1340.

good characteristics."[173] The group proposed has a 'bottom-up' structure, whereby participants can advance their own self-interest and mature into larger or smaller coalitions, much like FTAs.[174]

The conditions necessary for a club include (i) a public-good resource that can be shared; (ii) a cooperative arrangement that is beneficial for all members; (iii) a club design that can exclude or penalise non-members at a low cost to members; and (iv) that members have enough incentive to stay in the club.[175]

In the context of climate change, the 'public-good-type' resource refers to the climate system. Club members participate because they have shared ambition to reduce emissions. To achieve conditions (ii)-(iv) in the climate context, Nordhaus proposes a club structure that utilises the climate-friendly trade tools discussed above. Each will be briefly outlined in turn.

A Carbon price: the cost of membership

As we have seen in Part III, some countries have already imposed a domestic carbon price, whether by a carbon tax or an ETS. Nordhaus proposes carbon pricing as the 'focal point' of club arrangement.[176] Initiating club members will first have to negotiate and agree on a carbon price. To illustrate, Nordhaus suggests countries may agree to each put in place policies that comprise a domestic carbon price of >$50 per ton of carbon dioxide, with the target price subject to rise over time.[177]

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[173] Nordhaus, above n 34, at 1340. See also club conceptions by Falkner, "A minilateral solution for global climate change? On bargaining efficiency, club benefits, and international legitimacy," above n 3; Bertram, above n 39; Leal-Arcas, *Climate Clubs for a Sustainable Future,* above n 77, at 30.

[174] Nordhaus, above n 34, at 1344.

[175] Nordhaus, above n 34, at 1340.

[176] Nordhaus, "The Climate Club: How to Fix a Failing Global Effort," above n 47, at 15.

[177] Nordhaus, "The Climate Club: How to Fix a Failing Global Effort," above n 47, at 15.

According to Nordhaus, this approach is preferable for two key reasons.[178] Firstly, global warming would be limited most effectively by imposing equal carbon prices everywhere across all sectors and countries.[179] Second, it improves bargaining strategy.[180] When countries negotiate the target price, they will only be negotiating a single number: dollars per ton.[181] Without setting a target price, countries bargain about each country's limit - a near impossible task, because countries want others to have low limits yet enjoy high limits themselves.[182]

Once a blanket carbon price has been agreed upon, negotiating parties have the task of translating it into domestic terms.[183] What approach is more suited to a given country will depend on its domestic circumstances and institutions.[184] New Zealand, for example, could translate the agreed carbon price into domestic terms under their existing emissions trading scheme (NZ ETS).[185] This process does, however, pose a political challenge for countries that do not have carbon pricing system and have expressed an unwillingness to establish one, as will be discussed in more detail later.

An international carbon price would also have the benefit of transparency.[186] Currently, it is nearly impossible to compare countries' climate policies due to the complicated

[178] Nordhaus, "The Climate Club: How to Fix a Failing Global Effort," above n 47, at 15; See also Bertram, above n 39, at 27.
[179] Nordhaus, "The Climate Club: How to Fix a Failing Global Effort," above n 47, at 15; See also Bertram, above n 39, at 27.
[180] Nordhaus, "The Climate Club: How to Fix a Failing Global Effort," above n 47, at 15; See also Falkner, "A minilateral solution for global climate change? On bargaining efficiency, club benefits, and international legitimacy," above n 3.
[181] Nordhaus, "The Climate Club: How to Fix a Failing Global Effort," above n 47, at 15; see also Jeroen van den Bergh and others "A dual-track transition to global carbon pricing" (2020) 9 Clim Policy 1057, at 1062.
[182] Nordhaus, "The Climate Club: How to Fix a Failing Global Effort," above n 47, at 15.
[183] Bertram, above n 39, at 27.
[184] Nordhaus, "The Climate Club: How to Fix a Failing Global Effort," above n 47, at 15.
[185] Bertram, above n 39, at 27.
[186] van den Bergh and others, above n 181, at 1062.

combination of methods utilised across domestic policies.[187] This transparency may help alleviate fears that high climate standards would harm the competitiveness of exports.[188]

B Carbon tax: a penalty for non-members

The ability to penalise non-members is a fundamental part of the club design.[189] Its incentive structure relies on it: the penalty must create a situation where countries will have a higher incentive to join the club than to be excluded.[190] We have seen in Part III that while TSD chapters in FTAs provide trade sanctions as a penalty, their ability to punish non-compliance with the agreement is limited due to enforcement difficulties. The club must borrow the trade-sanction aspect of FTAs, but secure them with a more effective enforcement mechanism to ensure they uphold the club's incentive structure. However, FTA and club sanctions will conceptually differ as FTAs are focussed on punishing party non-compliance, rather than the non-participation of outsiders.

Nordhaus acknowledges two approaches to trade sanctions could be used- a "carbon duty" and a uniform tariff.[191] The carbon duty would apply to imports from non-members at a rate consistent with its carbon intensity and the domestic (or internationally agreed) target price.[192] This carbon-specific border tariff would therefore operate similarly to the EU's CBA discussed above. Their purpose is to reduce carbon leakage, level the playing field for carbon conscious countries, and reduce emissions.[193] However, Nordhaus does not believe they induce states to participate and thinks they end up having limited coverage.[194] He also believes a carbon-specific border tariff would be complex for a club to

[187] van den Bergh and others, above n 181, at 1062.
[188] van den Bergh and others, above n 181, at 1062.
[189] Nordhaus, above n 34, at 1341.
[190] Nordhaus, above n 34, at 1341; Paul Precht "Should Canada Join a Climate Club?" (2022) Ahead of print CFPJ 1 at 3.
[191] Nordhaus, above n 34, at 1348.
[192] Nordhaus, above n 34, at 1348; see also Tagliapietra and Wolff, above n 41, at 2.
[193] Nordhaus, above n 34, at 1348.
[194] Nordhaus, above n 34, at 1348.

implement.[195] He is not alone: Helm argues that working out the carbon content of every import would likely be an insurmountable task,[196] and van den Bergh and others also acknowledge these complexities.[197]

Because of these difficulties, Nordhaus proposes a club use a uniform tariff instead, as this would be much simpler to implement and would better induce participation.[198] After all, a key aspect of a club's rationale is to simplify the negotiation difficulties experienced under multilateral efforts. Each club member would "levy a uniform percentage tariff (perhaps 2 per cent) on *all* imports from nonparticipants."[199] It would apply irrespective of the carbon content of the import, and thus have wider coverage.[200] Nordhaus argues that, while this tariff would be "less targeted" than the carbon-specific border tariff, this is because it serves a different purpose: its central purpose is to induce participation, rather than level the playing field or address carbon leakage.[201] The rationale for a non-carbon specific tariff comes from a concern that countries with low climate standards damage the environment through their total emissions, not just the emissions that result from trading certain goods.[202]

However, while easier to negotiate, this uniform tariff design is unlikely to be authorised under current international law.[203] The tariff would likely violate the MFN principle by supporting a bias towards some WTO members based on their climate ambitions.[204]

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[195] Nordhaus, above n 34, at 1348.

[196] Dieter Helm "A carbon border tax can curb climate change" (6 September 2010) Financial Times <www.ft.com>; see also van den Bergh and others, above n 181, at 1060.

[197] van den Bergh and others, above n 181, at 1060.

[198] Nordhaus, above n 34, at 1348; Bertram, above n 39, at 27-28.

[199] Nordhaus, above n 34, at 1348; see also Falkner, "A minilateral solution for global climate change? On bargaining efficiency, club benefits, and international legitimacy," above n 3, at 93.

[200] Nordhaus, above n 34, at 1348; Tagliapietra and Wolff, above n 41, at 2.

[201] Nordhaus, above n 34, at 1349; see also Bertram, above n 39, at 27.

[202] Nordhaus, above n 34, at 1349.

[203] Nordhaus, above n 34, at 1349; Tagliapietra and Wolff, above n 41, at 2; Bertram, above n 39, at 28.

[204] van den Bergh and others, above n above n 181, 1060; Leal-Arcas, Fakataufou and Kyprianou, above n 148, at 232.

Contrary to existing trade agreements,[205] it would also discriminate between importing countries depending on domestic process or production methods- although this is indeed the whole point of the tariff.[206] By nature, the uniform tariff would also apply disproportionately to carbon intensity – therefore clashing with the principle of proportionality under international law.[207]

A club based around a uniform tariff could either advocate to become exempt from these laws or push for amendments to accommodate their arrangement. Nordhaus favours the latter option.[208] He argues that trying to "shoe-horn" a uniform tariff into current international law frameworks would raise concerns around a club's strength and legitimacy.[209] It would also likely be met with legally-grounded retaliation from aggrieved states, as will be discussed later. Instead, members should advocate for a suite of "climate amendments" to international trade law, which would explicitly authorise the use of uniform tariffs on non-participants of climate treaties.[210] This would also help to highlight the serious nature of the climate change threat, and ease retaliation concerns – as will be discussed further below.[211]

Others have formulated further benefits of Nordhaus' uniform tariff model. Bertram identifies that a key benefit of these border tariffs is that they would operate as an impersonal market-based enforcement system, therefore not requiring "legal prosecution, specific targeted sanctions or a threat of military intervention."[212] These tariffs would

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[205] Refer to the PPM principle in trade agreements. For more information see Steve Charnovitz "The law of environmental 'PPM's' in the WTO: debunking the myth of illegality" (2002) 27(1) Yale J Intl L 59.

[206] Nordhaus, above n 34, at 1349.

[207] Nordhaus, above n 34, at 1349; see also Thomas Cottier and others *The Principle of Proportionality in International Law* (NCCR Trade Working Paper No 2012/38| December 2012); The Practical Guide to Humanitarian Law "Proportionality" <https://guide-humanitarian-law.org>.

[208] Nordhaus, above n 34, at 1349.

[209] Nordhaus, above n 34, at 1349.

[210] Nordhaus, above n 34, at 1349; Bertram, above n 39, at 28; Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 3, at 6.

[211] Nordhaus, above n 34, at 1349.

[212] Bertram, above n 39, at 27.

therefore provide a more effective trade sanction than those found under FTAs, which, as we have seen, are difficult to enforce.

Van den Bergh and others have argued that, because the carbon tariff would apply according to the carbon pricing of members, non-members would be economically incentivised to join the club to access the carbon market revenues and other club benefits.[213] This would also level the playing field and ensure members are not competitively disadvantaged from their domestic carbon pricing systems.[214] Club members could even use some of their border tax revenues to compensate the carbon costs of exports into non-member countries,[215] further minimising the risk of competitive disadvantage. Non-members may also face moral pressure to join: if the club has many members, non-members may join to avoid being seen as a free-rider.[216]

Haites, however, doubts the ability of border tariffs to incentivise club membership.[217] He argues producers in exporting countries can either pay the tariff or lobby their governments to join the club and pay the price of the carbon pricing policy instead.[218] He does not believe either option provides a strong incentive to join the club, particularly if the tariff is "based on an agreed minimum price."[219]

Despite this criticism, many commentators agree that Nordhaus' proposed uniform percentage tariff would sufficiently sanction non-members and thus provide incentives for

[213] van den Bergh and others, above n above n 181, 1060; David Victor *The Case for Climate Clubs* (World Economic Forum, International Centre for Trade and Sustainable Development, E15 Expert Group on Measures to Address Climate Change and the Trade System, January 2015).
[214] van den Bergh and others, above n 181, 1060.
[215] van den Bergh and others, above n 181, 1060.
[216] van den Bergh and others, above n 181, 1060.
[217] Erik Haites "A dual-track transition to global carbon pricing: nice idea, but doomed to fail" (2020) 20(1) Clim Policy 1344 at 1345.
[218] Haites, above n 217, at 1345.
[219] Haites, above n 217, at 1345.

membership.[220] Nordhaus' calculations suggest that even a relatively low tariff rate of $50 per ton of CO_2 will induce high participation rates.[221] If the uniform tariff approach was adopted, it seems the biggest hurdle is establishing a tariff that is compliant with WTO law to limit retaliatory measures. Otherwise, a club could always try and implement the more complex carbon-specific tariffs, which would be more likely to comply with international laws. These options will be discussed further below in regard to the risk of retaliation.

C Membership benefits: free market access and political support

To make club benefits significant enough to incentivise membership, they must outweigh the threat of export border tariffs. Yu, Bernstein and Hoffmann divide club benefits into two categories: political and material.[222] Political benefits include a norm-making ability which would allow states to establish consensus and then have stronger sway in multilateral climate negotiations.[223] These benefits often arise due to dialogue forums.[224]

Material benefits include "technology transfer, capacity building, knowledge sharing, pooled financial resources, trade privileges, and so on."[225] A key aspect of these material benefits is the free-market access that club members enjoy by being exempt from the club's carbon border tariffs.[226] We have seen in Part III that the economic benefits of free trade can provide strong incentives to, for example, adhere to climate standards. This incentive can be translated into the climate club structure at a relatively low cost.[227] Aside from

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[220] See for example Jeroen van den Bergh and others "A dual-track transition to global carbon pricing" (2020) 9 Clim Policy 1057 at 1060; Bertram, above n 39, at 28; and see generally Leal-Arcas, above n 77.

[221] Nordhaus, above n 34, at 1341.

[222] Bowen Yu, Steven Bernstein and Matthew Hoffmann "Building durable climate clubs: Lessons from a comparative study of the APP and CEM" (2021) 19(2) CJPRE 177 at 3.

[223] Yu, Bernstein and Hoffman, above n 222, at 3.

[224] Yu, Bernstein and Hoffman, above n 222, at 3; Falkner, above n 3.

[225] Yu, Bernstein and Hoffman, above n 222, at 3; Robert Gampfer "Minilateralism or the UNFCCC? The Political Feasibility of Climate Clubs" (2016) 16(3) GEP 62.

[226] Nordhaus, "The Climate Club: How to Fix a Failing Global Effort," above n 47, at 14; Rikard Forslid *Border Carbon Adjustments and Climate Clttubs in the EU context* (The European Liberal Forum, ISBN: 978-91-87379-78-9, 2020) at 36.

[227] Nordhaus, above n 34, at 1340.

paying the carbon price, club members are required to do no more than agree to lower their trade barriers for mutual benefits.[228]

Aside from these political and material benefits, there are also moral benefits that come from furthering ambitious climate initiatives. Members may be more able to meet their climate obligations under multilateral arrangements. For example, increasing access to greener technologies and the option to share these technologies with developing countries will help developed countries adhere to their responsibilities under the Paris Agreement's enhanced transparency framework.[229] This requires developed countries to report on their technology and capacity building support given to developing countries to help them sustainably develop.[230]

D Key concerns

While the minilateral climate club model has promising benefits, the model has attracted a significant amount of criticism. There are several theoretical concerns about the nature of minilateralism that are reflected in modern climate club criticisms. The strength of these criticisms will be explored below.

1 Political feasibility

The political feasibility of clubs is doubted.[231] Falkner, Nasiritousi and Reischl argue that having limited membership is not enough to overcome the bargaining issues felt under multilateral arrangements such as the Paris Agreement: it is rather "issue complexity and interest diversity" that leads powerful states to refuse far-reaching binding rules.[232] They argue the Paris Agreement did not fail to create binding enforcement mechanisms because

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[228] Nordhaus, above n 34, at 1340.

[229] United Nations "Paris Agreement," above n 11, art 13.

[230] See Justine Garrett and Sara Moarif *Reporting on capacity-building and technology support under the Paris Agreement: Issues and options for guidance* (OECD, Environment Directorate International Energy Agency, COM/ENV/EPOC/IEA/SLT(2018)1) at 7.

[231] Falkner, Nasiritousi and Reischl, "Climate clubs: politically feasible and desirable?," above n 4.

[232] Falkner, Nasiritousi and Reischl, above n 4, at 483.

a strong sanctions regime could not be imagined, but rather because parties were unable to defeat the distributional issues that make collective action problems so difficult.[233] Arguably these distributional issues would be present also among a smaller group of states, at least if this group aims to include a diverse and legitimate range of great powers.

These authors are not alone in their scepticism. Haites argues that the club concept, particularly its reliance on carbon pricing and CBA, is good in theory but will be unworkable in practice.[234] Haites identifies several practical issues that will prevent club implementation in practice. The first is that each jurisdiction has its own domestic mitigation policy.[235] Club formation requires each member to establish their own carbon pricing policy, CBA, and continue to partake in ongoing negotiations under the UNFCCC.[236] Haites argues that the divergence in domestic policies will cause carbon prices to differ between participants and reduce the "economic benefits of price coordination."[237]

Haites also points out the technical difficulties involved in a global carbon price.[238] The club model requires a uniform international carbon tax price. Members would have to agree on exchange rates and implementation dates, as well as ensure the tax rate is high enough to be effective.[239] To effectively reduce emissions, the tax rate would also have to increase annually- a task which will become increasingly difficult as the number of member countries increases.[240] It is because of these complexities that international tax coordination has never been attempted.[241]

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[233] Falkner, Nasiritousi and Reischl, above n 4, at 483.

[234] Haites, above n 217, at 1344.

[235] Haites, above n 217, at 1344.

[236] Haites, above n 217, at 1344.

[237] Haites, above n 217, at 1344; Chris Bataille and others "Carbon prices across countries" (2018) 8 Nat Clim Change 648; Joseph Stiglitz "Addressing climate change through price and non-price interventions" (2019) 119 Eur Econ Rev 594.

[238] Haites, above n 217, at 1345.

[239] Haites, above n 217, at 1345.

[240] Haites, above n 217, at 1345.

[241] Haites, above n 217, at 1345.

Others, however, are not as critical of the feasibility of an international carbon price. Van der Bergh and others argue that harmonising carbon pricing through international policy coordination is an achievable goal with promising benefits.[242] They argue negotiating a carbon price would be more straightforward than, for example, ambitious country-specific targets. Their arguments back up Nordhaus' rationale for a uniform carbon tax: the free-riding dilemma under multilateralism is limited as, when negotiating an international carbon tax, states would know that the carbon price would be implemented equally in all countries.[243] Unlike Haites, these authors are surprised that a carbon-price system has not yet been explored, particularly as the voluntary approach under the Paris Agreement has not proven to be effective.[244]

These authors do, however, acknowledge that an international carbon price is unlikely to get support at UNFCCC negotiations in the immediate future.[245] They make suggestions for a phased transition that may help combat political opposition, including a situation where willing countries experiment with a uniform carbon price, which can be evaluated over time.[246] If effective, opposition from countries against carbon-pricing will likely decrease.[247] This strategy could be seen as a compromise between the critical views of Haigen and the more optimistic scholars.

There is also concern surrounding who the initiating members of a club will be. It is accepted that the club must be initiated by a country or group that is both a "large emitter and a large market, in effect, the EU, China, or the United States."[248] In 2020 when Haites

[242] van den Bergh and others, above n 181, at 1058.
[243] Nordhaus, above n 34; van den Bergh and others, above n 181, at 1062.
[244] van den Bergh and others, above n 181, at 1062.
[245] van den Bergh and others, above n 181, at 1062.
[246] van den Bergh and others, above n 181 at 1062-1063. More suggestions include a Sub-agreement under the UNFCCC for willing countries to persuade others to join; and, to recognize global inequity as a key barrier to agreement, "settling for a heterogeneous set of carbon prices adapted to the income level of countries."
[247] van den Bergh and others, above n 181, at 1063.
[248] Haites, above n 217, at 1345.

wrote his paper, he did not believe any of these countries would make an "ideal candidate."[249] This was due to the US's failure in implementing national mitigation policies such as carbon taxes and ETS's,[250] and by the EU and China each having ETS's that covered less than half of their emissions.[251]

However, since 2020, the EU and US have undeniably shown a willingness to engage in more ambitious climate policies, and arguably also China.[252] As it is difficult to determine the willingness of countries to implement club policies in the abstract, this paper will discuss the political willingness of these countries below when applying this concern to the proposed G7 climate club.

2 Legitimacy concerns

Concerns over the legitimacy of climate clubs have been frequently raised.[253] Although Nordhaus' club model encourages more efficient negotiations than multilateralism, it is also politically demanding as it requires countries to agree on both legally binding rules, such as carbon price, and sanctions against non-members.[254] Many believe the club must include participation from the major great economic powers to be effective.[255] Others believe a club's legitimacy depends on its effectiveness.[256] Club design must seek to maximise its legitimacy to compete with multilateral forums.

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[249] Haites, above n 217, at 1345.

[250] Haites, above n 217, at 1345; see generally Barry Rabe *Can We Price Carbon?* (Cambridge: The MIT Press, 2018) at 55-59.

[251] Haites, above n 217, at 1345.

[252] See, for example, Andreas Goldthau and Simone Tagliapietra "How an open climate club can generate carbon dividends for the poor" (2022) Bruegel-Blogs and as discussed on pages 43-46 below.

[253] Falkner, Nasiritousi and Reischl, above n 4, at 484.

[254] James Norris "G7 pins hopes on 'climate club' as the saviour of 1.5C target" (29 June 2022) China Dialogue <https://chinadialogue.net>.

[255] Norris, above n 254.

[256] See Gampfer, above n 225, at 66.

Opponents of clubs argue that shifting the focus to minilateral climate policy would divert attention from existing multilateral endeavours and undermine international climate cooperation.[257] A key concern is that formal multilateral institutions and agreements have a certain degree of universal legitimacy that cannot be matched by minilateral agreements.[258] The UN, for example, and its associated climate agreements (UNFCCC, Paris Agreement) can involve many developed and developing countries into negotiations, thereby representing a greater population of the globe than minilateral agreements.[259] This is particularly beneficial for developing countries. For example, when negotiating nationally determined contributions under the Paris agreement, developing countries were able to voice their concerns during negotiations and were able to specify the financial support they needed to reach their targets.[260]

While a counterargument could be made that the public may be willing to forsake some of these procedural deficiencies if a club anticipates achieving significant emission reductions,[261] studies have disproved this hypothesis in some cases.[262] Gampfer's study, for example, found this hypothesis holds for the US public, but only when the US is a member of the club – public support for a club was shown to decline when the US was an uncooperative non-member.[263] However, results vary. In India, for example, it made no difference to respondents whether the club promised significant emission reductions.[264]

It is, therefore, important that participating countries get domestic political support from the public for a club to be legitimate.[265] Gampfer argues that minilateral club-type

[257] Falkner, Nasiritousi and Reischl, above n 4, at 484.
[258] Victor, above n 213, at 1.
[259] Victor, above n 213, at 1.
[260] Håkan Pihl "A Climate as a complementary design to the UN Paris agreement" (2020) 3(1) Policy Design and Practice 45 at 47.
[261] Gampfer, above n 225, at 66.
[262] Gampfer, above n 225, at 79.
[263] Minka Melin "The Climate Club Approach: The Key to Effective Climate Change Negotiations?" (Bachelor's Thesis, Aalto University School of Business, 2020) at 20; Gampfer, above n 225, at 79.
[264] Melin, above n 263, at 20; Gampfer, above n 225, at 79.
[265] Melin, above n 263, at 19.

approaches often have low levels of public support because of their perceived illegitimacy, as the public generally has more trust in measures implemented under the UN.[266]

However, a counterargument could be made that public opinion is increasingly in favour of alternative approaches to climate action. For instance, the overwhelming public majority in China, Europe, and the US see climate change as a serious problem, with the majority of the US public in favour of "far-reaching climate action."[267] Club structures are also heavily backed by economists. In 2021, over 3,000 US economists were in favour of introducing a carbon tax and CBA measures.[268]

Pihl argues club legitimacy could be strengthened if members redistribute the revenues from their carbon taxes and tariffs to groups in need of support.[269] He argues this would make a carbon tax more popular among tax payers and help give it political backing.[270] Alternatively, he argues tax and tariff revenues could be redistributed to developing countries for climate adaptation support.[271] This may also mitigate the concern that minilateral clubs exclude the voices of developing countries during negotiations.

Goldthau and Tagliapietra also argue that revenues from carbon taxes and CBA measures can be returned to citizens, and argue this will ensure environmental policies "don't worsen existing inequalities or create new classes of economic losers."[272] Without redistributing these revenues, the global south will be hit much harder than the global north – not only

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[266] Gampfer, above n 225, at 63 and 65. This is still the case in the US, where citizens generally sceptical of the UN. See also Melin, above n 263, at 18-19.

[267] Tagliapietra and Wolff, above n 41, at 2.

[268] Tagliapietra and Wolff, above n 41, at 2; Climate Leadership Council "Economists' Statement on Carbon Dividends: Largest public statement of economists in history" (17 January 2019) <https://clcouncil.org/economists-statement/>.

[269] Pihl, above n 260, at 55.

[270] Pihl, above n 260, at 55; Klenert and others *Making Carbon Pricing Work* (MPRA Paper no. 80943, 23 August 2017). However, one may doubt the general idea that tax payers are happy to support wealth distribution. For further reading, see Monica Prasad "Hidden benefits and dangers of carbon tax" (2022) 1(7) PLOS Climate 1 at 2.

[271] Pihl, above n 260, at 55.

[272] Goldthau and Tagliapietra, above n 252, at 2.

worsening the situation for already-vulnerable countries, but the international climate mitigation efforts may lose legitimacy in the eyes of the global south, thus discouraging developing countries from supporting these efforts.[273] They argue that revenues could even be earmarked for those developing countries most impacted by climate change who have contributed the least,[274] supporting the Paris Agreement's CBDR-RC principle.

One could also argue that legitimacy concerns are overstated, given the failures of multilateral efforts discussed in Part II. As we have seen, the benefits of legitimate multilateral processes are diluted when negotiations become complex and futile when too many parties are involved. The ability of UN-type institutions and agreements to equitably include developing countries in negotiations has been frequently doubted.[275] The inability of the UNFCCC to meet the demands of climate-vulnerable countries was apparent at COP 26 in Glasgow 2021.[276] Further, minilateral clubs can mitigate this concern if designed to be inclusive. Their legitimacy can be strengthened if they incentivise membership from states that are "the most responsible, the most vulnerable, and the most capable."[277]

It should also be stressed that Nordhaus' club design proposal does not purport to be a sole alternative to multilateralism, but rather to enhance its effectiveness.[278] A club's compatibility with multilateral regimes will be strengthened if its design and emission reduction targets closely align with the goals of international agreements.[279] If a club can successfully complement multilateral efforts, it is likely to be generally accepted.[280]

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[273] Goldthau and Tagliapietra, above n 252, at 2.

[274] Goldthau and Tagliapietra, above n 252, at 2.

[275] See generally Matthew Stephen "Legitimacy Deficits of International Organizations: design, drift, and decoupling at the UN Security Council" (2018) 31(1) Cambridge Rev Int Aff 96; Victor, above n 213, at 9.

[276] Megan Rowling and Beh Lih Yi "Vulnerable nations demand funding for climate losses, fearing UN 'talk shop' (8 June 2022) Thompson Reuters Foundation News <https://news.trust.org>.

[277] Hayley Stevenson and John Dryzek "The legitimacy of multilateral climate governance: a deliberative democratic approach" (2012) 6(1) Crit Policy Stud 1 at 11.

[278] Leal-Arcas, *Climate Clubs for a Sustainable Future: The Role of International Trade and Investment Law,* above n 77, at 16; Leon Martini and Benjamin Görlach *What Role for a Climate Club under the German G7 Presidency?* (Policy Brief, Ecologic Institute, 28 February 2022) at 2.

[279] Leal-Arcas, above n 278, at 16.

[280] Kjell Engelbrekt "Minilateralism matters more? Exploring opportunities to end climate negotiations gridlock" (2015) 1(4-5) Glob Affairs 399 at 408.

3 Retaliation concerns

Another concern of the climate club model is that the threat of sanctions will trigger retaliation from non-member states. Retaliation is particularly likely if non-members argue the uniform carbon tariff is non-compliant with WTO laws.[281] Non-members may retaliate by challenging the club's legality at the WTO, or by imposing counter-tariffs on member states. This could lead to "escalating trade wars and protectionism."[282]

Commentators have differing views on the strength of this concern. Ultimately, retaliation depends on several factors, such as compliance with international law and legitimacy.[283] These factors are difficult to evaluate in the abstract, so the risk of retaliation will be discussed in more detail regarding the G7 climate club proposal below.

E Conclusion

The minilateral climate club model has attracted both support and criticism. The key benefits of a club approach include negotiation efficiency; the creation of an international standard carbon price which provides an incentive among many countries to reduce emissions; an enforcement mechanism in the form of a border tariff which both penalises non-members and incentivises participation; and therefore a promise for effective emission reduction that has not yet been achieved by complex and ineffective multilateral climate agreements.

However, the club model is not easy to achieve. Economists agree that it "faces enormous obstacles and objections."[284] These include legal ambiguity on compatibility with the

[281] Leal-Arcas *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 3.
[282] Melin, above n 263, at 13; Pihl, above n 260, at 53.
[283] See Pihl, above n 282, at 53.
[284] Bertram, above n 39, at 27.

existing international trading regime, the risk of causing unintended protectionism, significant political hurdles, and concerns of retaliation by uncooperative non-members. Despite this, the criticisms of the club model are likely less serious than the "confronting alternatives" of climate change.[285] At least theoretically, climate clubs provide a better opportunity to mitigate climate change than the more 'politically feasible' multilateral climate agreement.[286] To see whether the theoretical promise of a climate club outweighs its concerns in practice, Part V will undertake a case study of a climate club between G7 countries.

V Analysis: A G7 case study

This part attempts to bring together the theoretical underpinnings of the climate club model against the background of existing multilateral and minilateral trading landscapes to consider the effectiveness of a G7 climate club in practice. Firstly, this part will discuss the G7 climate club announcement and its proposed design, then it will analyse whether the theoretical criticisms of the club model will eventuate in practice.

A The G7 climate club proposal

The G7 is an informal political forum of an inter-governmental group of 7 countries: Canada, France, Germany, Italy, Japan, the United Kingdom and the US.[287] The EU has had full participation in the G7 since 1981.[288] It is a "non-enumerated" member as it is a supranational organisation rather than a sovereign member state.[289] This means it does not assume the rotating G7 presidency.[290] The G7 meets annually to discuss issues relating to the international economy, global security, and energy policy.[291] The G7's presidency

[285] Bertram, above n 39, at 27.
[286] Bertram, above n 39, at 27.
[287] G7 Germany "The Members" <www.g7germany.de>; Emily Lieberman "Where is the G7 Headed?" (28 June 2022) Council on Foreign Relations <www.cfr.org>.
[288] European Commission, "G7," above n 287.
[289] European Commission, "G7," above n 287.
[290] European Commission, "G7," above n 287.
[291] Lieberman, above n 287.

rotates annually.[292] As discussed with most minilateral arrangements, the group's limited membership benefits from negotiation efficiency, but is often criticised for excluding emerging and developing powers.[293]

Germany is the G7 president country for 2022, and Germany's Chancellor Olaf Scholz hosted the annual G7 summit in June 2022 in the Bavarian Alps.[294] On 28 June 2022, G7 released a statement announcing their intention to establish a climate club to support the Paris Agreement,[295] and to compensate for the Agreement's lack of enforcement mechanism.[296] Their club proposal highlights that the current multilateral efforts to reduce emissions are not sufficient to achieve the Agreement's goals and limit global warming to 1.5 degrees Celsius.[297]

While the specific design features of the proposed club are to be negotiated at ministerial meetings throughout 2022, Scholz has already given some indication of how he intends the club to operate.[298] Building on the experience of the EU, he intends to construct the club around a similar carbon market system and impose a CBA mechanism for imports into member countries.[299] The club is intended to be open to membership beyond G7 countries, including high emitters, G20 members and other states with developing and emerging economies.[300]

B Political feasibility?

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[292] Lieberman, above n 287.

[293] Lieberman, above n 287.

[294] G7 Germany, "The Members," above n 287.

[295] G7 Germany, "G7 Statement on Climate Club," above n 6, at 1.

[296] Climate Trade, "What the G7 Climate Club means for carbon markets."

[297] G7 Germany, "G7 Statement on Climate Club," above n 6, at 1.

[298] Wesley Morgan "New German leader proposes a 'climate club' of leading economies that would punish free riders like Australia" (3 February 2022) The Conversation <www.theconversation.com>.

[299] Susanne Dröge and Marian Feist "The G7 Summit: Advancing International Climate Cooperation?" SWP <www.swp-berlin.org>.

[300] G7 Germany, "G7 Statement on Climate Club," above n 6, at 2.

There are reasons to be both optimistic and sceptical of the political feasibility of a club forming under the modern political landscape. One reason for optimism is that many countries are willing to adopt more extreme climate policies. Aside from the EU's proposed CBA mechanism, G7 countries Canada and Japan are also planning their own CBA mechanisms.[301] The UK has also encouraged the idea of a climate club, and democratic decision-makers in the US have considered enacting climate policies like the EU.[302] With the deadlock in multilateral trade negotiations, countries have also shown an increasing willingness to engage in climate-related trade policy through the growing number of FTAs and the increasing promotion of green technologies internationally.[303] It is now generally recognised that climate-friendly policies are beneficial for governments to adopt for both the health of their populations and their economies.[304]

While these are promising moves, they are somewhat incoherent. Domestic climate policies are dependent on a country's emission-reduction ambitions, economy size and capabilities.[305] There have only been limited regional efforts to coordinate shared standards, for example, with the EU and US negotiations regarding a novel agreement to restrict market access to carbon-intensive steel.[306] While the likes of van den Bergh and others have shown to be optimistic about global carbon pricing, it seems that this incoherency raises the concerns of Haites who was much more critical of the feasibility of coordinating an international carbon pricing system.[307]

As we have seen, domestic producers under WTO law must not be treated more favourably than those overseas, meaning the carbon price of imports cannot be more than the domestic

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[301] Morgan, above n 298.

[302] Morgan, above n 298; Josh White "US Senate considers a carbon border to level the tax field" (4 May 2022) ITR <www.internationaltaxreview>.

[303] Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 3.

[304] Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 3.

[305] Michael Jakob and others "How trade policy can support the climate agenda" (2022) 376(6600) Science 1401 at 1402.

[306] Morgan, above n 298; The White House "FACT SHEET: The United States and European Union to Negotiate World's First Carbon-Based Sectoral Arrangement on Steel and Aluminium Trade" (31 October 2021) <www.whitehouse.gov>.

[307] van den Bergh and others, above n 181, 1060; Haites, above n 217.

carbon price.[308] Jakob and others point out why this is problematic in practice, taking the example of the EU and China, whose carbon prices differ by approximately a factor of 10.[309] A common carbon price standard between each jurisdiction would need to be set at least at the Chinese level, which would not be enough to guard EU producers from carbon leakage.[310]

Other countries face high political barriers that may prevent them from ever establishing a carbon price. Jakob and others are also sceptical of the US ever putting a WTO-consistent price on carbon.[311] Because WTO law limits CBAs to only adjust under policies that have a carbon price placed on emissions, not for other kinds of regulation like the renewable portfolio standards that are popular in the US.[312] A further complicating factor is that each country has their own carbon pricing technique, whether by emissions trading or carbon tax, and each also differs on how the revenues from these policies are spent (some, for example, reimburse these taxes to exporters).[313]

So far, these political difficulties assume countries are at least willing to cooperate and unify climate standards. Unfortunately, not all major actors are convinced by the club idea. Many club proponents worry about the willingness of China to become a club member.[314] Despite China pursuing its own climate goals, it remains to be cautious in engaging bilaterally with the West.[315] Leal-Arcas argues China sees the West as a region of "economic decline and instability," whereas themselves as a country of "economic rise and social stability."[316] Pongratz is also critical, arguing China is not a natural club member

[308] Jakob and others, above n 305, at 1402.
[309] Jakob and others, above n 305, at 1402.
[310] Jakob and others, above n 305, at 1402.
[311] Jakob and others, above n 305, at 1402.
[312] Jakob and others, above n 305, at 1402; see also National Conference of State Legislatures "State Renewable Portfolio Standards and Goals" <www.ncsl.org>.
[313] Jakob and others, above n 305, at 1402.
[314] See for example Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 4; Martini and Görlach, above n 278, at 33; Barbara Pongratz "Climate Club idea needs adjustment if China is to be involved" (24 May 2022) Mercator Institute for China Studies <https://merics.org>.
Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 7.
[316] Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 7.

due to its historical geopolitical and systemic conflicts with the US.[317] She believes a club design that allows for "select exemptions and special treatment" is vital in mitigating Chinese resistance, as this will give China more time to, for example, develop its own carbon pricing systems and generally comply with club rules.[318]

These concerns arise over existing tensions in the trade relationship between China and the EU.[319] The EU has, for example, already invoked WTO consultations and dispute settlement system regarding China's non-compliance with international trade standards, including allegations that China is using poor social and environmental standards to confer a competitive advantage.[320]

Others are more optimistic about China's participation. Goldthau and Tagliapietra argue the traditional US-China relationship of "mutual mistrust" when it comes to climate policy has already been eroded in some respects.[321] They argue the COP26 US-China joint declaration on enhanced climate action signifies a promising recognition of the mutual need for climate action and, hopefully, cooperation.[322] They further point out China's potential interests in becoming a club member are twofold: it will firstly prevent it being subject to CBA measures in its export markets, and secondly, it will prevent carbon leakage in other Asian countries.[323]

It seems that political barriers may not be fatal to the success of a G7 club. Careful design and incremental membership options can be used to mitigate political infeasibility and encourage stubborn countries. It is also important to remember that refusal from non-members is not enough to prevent the formation of a club, although non-participation from major emitters may frustrate the club's effectiveness and legitimacy, as will be discussed

[317] Pongratz, above n 314.

[318] Pongratz, above n 314.

[319] Rafael Leal-Arcas "Challenges and Opportunities in the EU-China Trade Relations" in Young-Chan Kim (ed) *China and the Belt and Road Initiative* (Springer, Cham, 1 January 2022) at 41.

[320] Leal-Arcas, "Challenges and Opportunities in the EU-China Trade Relations," above n 319, at 41.

[321] Goldthau and Tagliapietra, above n 252, at 2.

[322] Goldthau and Tagliapietra, above n 252, at 2.

[323] Goldthau and Tagliapietra, above n 252, at 2.

below. The threat of climate change is too great to allow club efforts to be quashed due to political hurdles. As we have seen with China, while political barriers to a club may be significant, we still have reasons to be optimistic about China's potential for involvement.

C Legitimacy concerns?

As discussed above, the literature on minilateralism has criticised the legitimacy of a climate club vis-à-vis existing multilateral efforts. When investigating whether these concerns are well-founded in the context of a G7 club, it may be a useful starting point to analyse the proposal alongside Leal-Arcas' three indicators of legitimacy.[324] The first indicator requires consideration of how much of the world's population the club represents.[325] This indicator counts against G7's legitimacy, as G7 countries only represent 10% of the world population, at most.[326] This gives strength to arguments mentioned above, such as those that criticise how much input developing countries get in club policies as opposed to in multilateral forums. Of course, the G7 is proposing an open club that may well end up representing a significantly larger portion of the world population – however, the initiating G7 group still sets the rules and requires the legitimacy of those outside the group to increase membership.

The second indicator requires consideration of how much coverage of the world's GDP the group has.[327] G7 alone represents approximately 40% of the world economy.[328] The third indicator considers the level of GHG emissions the club covers.[329] G7 countries are responsible for 25% of global emissions.[330]

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[324] Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 5.

[325] Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 5.

[326] Felix Richter "How Representative Is the G7 of the World It's Trying to Lead?" (27 June 2022) Statista <www.statista.com>.

Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 5.

[328] Richter, above n 326; International Energy Agency "G7 members have a unique opportunity to lead the world towards electricity sectors with net zero emissions" (20 October 2021) <www.iea.org>.

[329] Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 5.

[330]International Energy Agency, above n 328; Axel Michaelowa and others *Towards an Inclusive Climate Alliance With a Balance of Carrots and Sticks* (Policy Brief, T7 Task Force Climate and Environment, G7 Germany's Presidency 2022, 21 March 2022).

These latter indicators are significant, given high GDP countries are disproportionately contributing to climate change.[331] If G7 can convince other major emitters to join, such as China (which contributes approximately 27% of global emissions),[332] the club's statistics would drastically improve. However, on assessing G7 members alone we can see that these statistics are not likely to convince critics that a G7 club represents enough of the emission-heavy parts of the world to be a legitimate climate actor.

Other efforts are therefore necessary to strengthen G7's legitimacy. We have considered above per Gampfer and Pihl's arguments that one way a club can increase its legitimacy is to redirect carbon tax revenues to groups in need of support, thus appeasing taxpayers, and/or redirecting revenues to developing countries to aid with climate adaption.[333] While it is too early to tell whether this system will be adopted by the G7, support for developing countries has been otherwise contemplated. During Scholz's speech at the World Economic Forum in January 2022, he stated that "by addressing technology transfer and climate financing, we hope to bring developing and emerging economies on board."[334]

Whether the international community views the G7 climate club as legitimate will, therefore, largely depend on its membership and design. Evidence so far suggest that climate ambitious countries tend to see clubs as legitimate because they feel disadvantaged in the markets of energy-intensive goods.[335] For example, New Zealand has shown a willingness to join G7's proposed club for this reason.[336] If climate ambitious countries all support the G7 club as an opportunity to get preferential market access and tackle free-

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[331] Global Citizen "G7 Summit: This is What the G7 Must Do to Fight Climate Change" (17 June 2022) <www.globalcitizen.org>; International Energy Agency, above n 328.

[332] Climate Trace "China" <www.climatetrace.org/inventory>.

[333] See Gampfer, above n 225; Pihl above n 260.

[334] The Federal Government G7 Germany "Speech by Federal Chancellor Olaf Scholz at the World Economic Forum's Davos Dialogue on 19 January 2022 (video conference) 'Working Together, Restoring Trust;" (19 January 2022) <www.bundesregierung.de>.

[335] Mark Daalder "NZ expresses active interest in joining German 'climate club'" (7 September 2022) Newsroom <www.newsroom.co.nz>.

[336] Daalder, above n 335.

riding and carbon leakage, the club will more likely be seen as a legitimate initiative. Because effectiveness is another indicator of legitimacy, a club may be seen as legitimate purely because it can attract climate ambitious countries and make effective steps towards emission-reduction, regardless of whether it has the support of uncooperative states.

D Risk of retaliation?

In light of the ranging views of retaliation discussed in Part IV, the real risk of retaliatory measures from non-club members is hard to calculate in the abstract. It seems the threat of retaliation depends on club size, maturity, the strength of sanctions, and who the club members are. This section will analyse the literature on retaliation in terms of a G7 club by first considering the risk of retaliation against G7 if they undertook Nordhaus' uniform border tariff proposal. Then, it will consider this risk if a carbon-specific tariff was adopted. Finally, it will consider G7's options to both limit the risk of retaliation and respond to retaliatory threats.

1 Retaliation against a uniform tariff

We have seen how, while a uniform tariff promotes bargaining efficiency, opponent countries will be more likely to establish WTO non-compliance. While G7 proposals suggest the group intends to phase in a carbon-specific tariff,[337] it is still useful to first consider the barriers a club would face if they implemented Nordhaus' ambitious uniform tariff proposal. If G7 members opted to impose a uniform tariff CBA mechanism, they would have to accept the likelihood of a successful challenge against them at the WTO and turn their attention to affecting international law amendments. Nordhaus himself accepts that his uniform tariff proposal might clash with international law, but simply proposes 'climate amendments' to both international and domestic trade law that allow uniform tariffs on non-members within a climate treaty, and would also prohibit retaliation against

[337] Daalder, above n 335.

club members.[338] Since the threat of retaliation stems from potential club inconsistencies with WTO law, it makes sense to look to reform to minimise retaliation risks.

Amending international trade law to allow clubs to operate in this way has been contemplated by others. Leal-Arcas proposes that international trade rules, including WTO rules, should be drafted through the lens of sustainable development to meet modern needs.[339] Given that multilateralism has proven to be infeasible, he proposes a group of like-minded countries undertake this task.[340] The WTO currently fails to acknowledge the indisputable trade-climate nexus, despite calls having been made to amend WTO laws to reflect the trade regime's important role in climate change mitigation.[341]

Bertram also acknowledges it is inevitable that any proposed uniform tariff by the club will be challenged at the WTO.[342] Club members would have to successfully dispute claims under, for example, the WTO's general exception provisions.[343] If it cannot be argued the tariff is consistent with international law, club members would have to advocate for international law amendments, as Nordhaus and Leal-Arcas have recommended.[344]

Whether or not members would be successful in amending international law is debated. Tagliapietra and Wolff are sceptical: they argue that "hoping the global trade regime will change so it accommodates Nordhaus's tariff idea is akin to hoping the free-riding problem will disappear."[345] While the process of amending international law may seem ambitious,

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[338] Nordhaus, above n 34, at 1349; Bertram, above n 39, at 28.

[339] Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 3.

[340] Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 3.

[341] See, for example, Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 3; Nordhaus, above n 34, at 1349; European Commission *Reforming the WTO: Towards a Sustainable and Effective Multilateral Trading System* (Luxembourg, Publications Office of the European Union, NG-02-21-300-EN-N, 2021) at 6-7; Mark John "Analysis: Big climate change job awaits WTO – if it can step up" (24 November 2021) Reuters <www.reuters.com>.

[342] Bertram, above n 39, at 28.

[343] Bertram, above n 39, at 28.

[344] Bertram, above n 39, at 28; Nordhaus, above n 34, at 1349; Leal-Arcas, *Creating an Effective, Legally Binding, and Enforceable Climate Club*, above n 5, at 3.

[345] Tagliapietra and Wolff, above n 41, at 2.

many scholars remain hopeful, or even desperate, given the promise of clubs to affect real change. For example, Pihl and Melin offer a useful perspective by comparing these political hurdles to the existential threat of climate change.[346] When comparing this to the 'worst-case scenario' of a club not being able to be made consistent with international law (which would involve costly WTO litigation[347] and ultimately the disbanding of the club,[348] as discussed below), it seems the risk of climate change is too great to not attempt a club. Emphasising the seriousness of the climate change threat will also strengthen arguments that the international trading system should be amended.[349]

Bertram describes the 'worst-case scenario' of implementing the uniform tariff proposal as the maintenance of the status quo: the "club would disband and individual nations would fall back into the default option of business-as-usual trade."[350] However, he believes that if club members were successful in their dispute, the club would rapidly gain force and attract other members.[351] The more initiating members of the club, the more likely it will be successful, particularly if members are powerful.[352] A group like G7 would therefore be a promising group to advocate for WTO amendments to implement a uniform tariff, however, it seems more likely they will adopt a carbon-specific CBA, at least in the club's early stages.

2 Retaliation against a carbon-specific tariff

As we have seen, a carbon-specific tariff is a less ambitious way to design the club that is more likely to be WTO compliant, albeit at the cost of bargaining efficiency.[353] The

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[346] Melin, above n 263; Pihl, above n 260.

[347] See Amrita Bahri *Public Private Partnership for WTO Dispute Settlement: Enabling developing countries* (Edward Elgar Publishing Limited, Northampton, 2018) at 16-17.

[348] Bertram, above n 39, at 28.

[349] See Nordhaus, above n 34, at 1349.

[350] Bertram, above n 39, at 28. One should not also forget the costs of WTO litigation: see Bahri, above n 347, at 16-17.

[351] Bertram, above n 39, at 28.

[352] Bertram, above n 39, at 28.

[353] Of course, advocating for international law amendments is possible, and may well be encouraged, even if this less ambitious carbon-specific border tariff were adopted.

bargaining difficulties under this approach are likely to be so great that club members will have to take an incremental approach to sanctions, focusing on certain industries at a time.

So does a phased approach to border tariffs reduce the risk of retaliation? It may be useful to analyse how countries have reacted to other novel trade-related climate policies, for instance, the EU's proposed CBA mechanism, which is planned to phase-in tariffs, starting with carbon-intensive industries. Despite proponents of the EU CBA mechanism hoping it would create incentives for countries to develop stricter climate standards,[354] the literature on the EU CBA mechanism often raises the risk of retaliation, with many sources of the view that retaliation is likely,[355] albeit less so than under a uniform tariff model.

Retaliation against the EU may eventuate in two ways. The first is where affected partners impose retaliatory tariffs on EU exports.[356] These counter-tariffs may be 'symmetrical' by applying a similar tariff on a similar good, or 'asymmetrical' by applying tariffs on unrelated products where the EU may be particularly vulnerable.[357]

We can also see Hagen and Schneider's concerns for small clubs reflected in the EU CBA mechanism. They distinguish between *small, early* and *larger, mature* clubs, finding that the effectiveness of trade sanctions is only likely to be worthwhile in mature clubs to help maintain stability and cooperation.[358] They argue incentives to initiate a club are weaker than the costs of retaliation in this early stage.[359] With the CBA only applying to EU imports, the EU is left disproportionately exposed to retaliatory measures on its exports.[360]

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[354] Sanna Markkanen and others *On the Borderline: the EU CBAM and its place in the world of trade* (Working paper, University of Cambridge Institute for Sustainability Leadership, 2021) at 48.

[355] See for example Gary Hufbauer, Jisun Kim and Jeffrey Schott "EU's proposed CBAM would cover a small share of its imports but leave exports open to retaliation" (3 November 2021) PIIE <www.piie.com>; Markkanen and others, above n 354; Cecilia Bellora and Lionel Fontagné "EU in Search of a Wto-Compatible Carbon Border Adjustment Mechanism" (20 July 2022) available at <https:papers.ssrn.com>.

[356] Hufbauer, above n 355.

[357] Markkanen and others, above n 354, at 48

[358] Achim Hagen and Jan Schneider "Small climate clubs should not use trade sanctions" (2022) ERSS 92 102777 at 2.

[359] Hagen and Schneider, above n 358, at 2.

[360] Hufbauer, above n 355.

A G7 club with limited membership would be more exposed to retaliatory measures on exports than a larger, mature club with membership from stubborn trading partners. For the reasons discussed under political feasibility, China poses a particular threat to a G7 club and is the most likely source of retaliatory measures.

The second risk stems from the likelihood that EU trading partners will challenge the legality of the CBA mechanism at the WTO. However, as we have seen, a successful challenge under the WTO's national treatment principle is less likely with a carbon-specific tariff. However, even a phased approach to CBAs will likely attract threats of retaliation. For instance, Russia and India have already threatened to bring the EU's CBA mechanism under the WTO's dispute system.[361] While the likelihood of their challenge succeeding is debated,[362] the EU's experience shows that some resistance is an inevitability.

In any event, should a challenge be successful, Bertram's arguments would apply anyway: the club could argue for amendments to international law to accommodate them, and if that fails, the group's club efforts would simply disband.[363] Again, this risk of retaliation may be further diluted by the fact that WTO disputes are costly and their outcomes uncertain, meaning a WTO violation does not inevitably mean a successful settlement action.[364]

3 Going forward: options to limit retaliation

We have seen that incremental membership options may lower the risk of retaliation and increase bargaining efficiency. These more conservative approaches to club formation are endorsed by Hagen and Schneider.[365] If G7 were to adopt their approach, they would not place much focus on trade sanctions during the club's early stages.[366] Instead, G7 would

[361] Leal-Arcas, above n 117, at 26.
[362] Indra Overland and Rahat Sabyrbekov "Know your opponent: Which countries might fight the European carbon border adjustment mechanism?" (2022) 169 Energy Policy 113175 at 1-2.
[363] Bertram, above n 39, at 28.
[364] Markkanen and others, above n 354, at 49
[365] Hagen and Schneider, above n 358.
[366] Hagen and Schneider, above n 358, at 3.

focus on alternative ways to align common interests and carry less risk of retaliation.[367] The authors list examples "joint climate policy initiatives on CO_2 pricing, international emissions trading, and carbon leakage prevention, supply side policies, R&D cooperation, development of common standards, joint industry and infrastructure projects, as well as funding and financing mechanisms."[368] Once the club is mature, G7 can consider imposing trade sanctions to help stabilise the club, as sanctions are less risky at this stage.

There are problems with this strategy too, though. Having a soft approach to sanctions erodes the strength of Nordhaus' proposal, which is partly so convincing because of its ability to punish non-members. This punitive ability is a feature that both climate and trade agreements have lacked,[369] leading to the very unhappiness that has sparked calls for enforceable, minilateral clubs. As discussed, the rationale for a climate club rests entirely on the need to find alternative arrangements that can effectively incentivise and enforce urgent climate action. Delaying the imposition of club sanctions would undermine the rationale for a climate club entirely. G7 should therefore not be dissuaded from imposing club sanctions altogether.

To compromise, G7 could follow a similar approach to the EU and introduce tariffs for carbon-intensive industries first, and work towards growing membership alongside industry tariff coverage. Eventually, a uniform border tariff could be established once the club has reached maturity and allowed vital developing countries, like China, to align their domestic policies with the club. As with the proposed EU CBA mechanism, sanction exemptions would be the exemption rather than the rule. This would mean non-members are still able to be sanctioned in the most carbon-intensive industries, putting the club's climate benefits into immediate effect. If trade sanctions were not used at all, at least until the club has reached maturity, the club would run the risk of existing merely as another status-quo arrangement.

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[367] Hagen and Schneider, above n 358, at 3.

[368] Hagen and Schneider, above n 358, at 3.

[369] For example, the Paris Agreement and Free Trade Agreements, as discussed in parts II and III.

G7, therefore, has a choice. It could take an ambitious approach by setting a uniform carbon border adjustment and preparing to advocate for WTO law changes to accommodate. Alternatively, the G7 could take a more conservative approach and phase in carbon-specific CBAs that will be more likely to appease trading partners. The latter may still achieve an effective club if high-carbon industries are targeted first, although it is important the tariff's emission coverage gradually expands - even a focus on high-carbon industries can leave significant gaps.[370] However, there is little harm from starting with the ambitious approach, even if it fails - G7 could always resort to the phased carbon-specific approach with a view to slowly increase the reach and intensity of the tariffs and eventually evolve the club into the coalition Nordhaus has envisioned.

VI Conclusion

Multilateral solutions to climate change have failed to meaningfully reduce emissions, largely due to the free-riding problem. While the trade regime has attempted to help incentivise countries to adhere to their international climate commitments, current trade tools, such as TSD chapters in FTAs, have only achieved modest success due to enforcement difficulties. Certain tools of the trade regime do, however, have great potential for inducing adherence to climate goals- such as carbon pricing systems and trade sanctions. However, these tools are currently being used inconsistently throughout the international trading regime and are yet to fulfil their potential.

It is time to look outside multilateralism and coordinate the trade and climate regimes. Climate clubs are proposed as a minilateral method to overcome free-riding, promote efficient bargaining, and effectively reduce emissions. The climate club model has gained growing support in recent years since first introduced in 2015, and has emerged into the policy space in mid-2022 with the G7 proposal to create a climate club. This proposal has, however, raised concerns that climate clubs are illegitimate, politically infeasible and risk sparking retaliatory measures.

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[370] Leal-Arcas, Fakataufou and Kyprianou, above n 148, at 227.

This paper has found that climate club criticisms are not fatal to a G7 club. There are methods to mitigate political barriers to a club, for example by providing phased membership options. While there are reasons to be critical of a club's legitimacy vis-à-vis multilateral arrangements, there are ways to mitigate this concern too. For example, the club could redirect revenues to developing countries and put efforts toward technology transfer and climate financing to increase its legitimacy.

The risk of retaliation against the club is heavily debated. While some believe this risk justifies delaying the imposition of trade sanctions until the club has reached maturity, this paper finds that this would undermine the rationale for clubs. Without sanctions, clubs would achieve no more than status-quo climate arrangements. The 'worst-case scenario' of a club conflicting with WTO law and sparking retaliatory action is the club disbanding- a risk worth taking when one considers this against the threat of climate change, the potential climate benefits of a successful club, and the failure of current climate arrangements. There are also ways to mitigate retaliation concerns, such as taking a phased approach to club membership.

Therefore, this paper encourages the establishment of an open climate club between G7 countries. It is time minilateral trade arrangements are pursued as an additional climate strategy to support emission reduction targets and strengthen multilateral efforts.

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