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Abstract

We know the science of climate change; we know the economics of climate change; we also know the law of climate change. However, we do not know how countries may come together to cooperate on climate change mitigation. One way of doing so successfully is by putting together the climate regime with the international trading system via the creation of climate clubs, namely the coalition of the willing. This article aims to explain that, by building climate clubs and making use of the international trading system, we can reach a better future for all.

I. Introduction

Ideologies such as nationalism and socialism have tried to explain social relations in the world. Following changes in the global economy, recent books have addressed new social trends that result in the world not being what societal institutions are supposed to make of the world, namely a reasonably fair place, a more generous and inclusive society.[1] This article tries to use climate clubs[2] in the context of the international trading system to reach a sustainable and prosperous future.

In recent years, we have observed warmer temperatures, increasing numbers of floods, forest degradation,[3] forest fires, and droughts, among other natural catastrophes. Where drought has become a perennial problem, adaptation has become the norm.

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[1] See for instance M. Carney, *Value(s): Building a Better World for All*, Signal Books, 2021; M. Shafik, *What We Owe Each Other: A New Social Contract for a Better Society*, Princeton University Press, 2021; J. Norberg, *Open: The Story of Human Progress*, Atlantic Books, 2020.

[2] A climate club is understood as a coalition of countries that commit to strong steps to reduce greenhouse gas emissions and may have mechanisms to penalize countries that do not participate. See W. Nordhaus, "The Climate Club: How to fix a failing global effort," *Foreign Affairs*, May/June 2020, p. 10, available at https://pcfraz.org/resources/Documents/The%20Climate%20Club%20_%20Foreign%20Affairs.pdf.

[3] When Joe Biden of the US complained to President Bolsonaro of Brazil in September 2020 that he should stop cutting trees in the Amazon, the Brazilian president twitted: "Our sovereignty is non-negotiable." See O. Stunkel, "How Biden can change Bolsonaro's mind on the Amazon," *Americas Quarterly*, 11 January 2021, available at https://www.americasquarterly.org/article/how-biden-can-change-bolsonaros-mind-on-the-amazon/. The European Union has similar concerns with Mercosur over rampant deforestation in the Amazon, which will determine whether the Europeans will ratify a recently concluded free trade agreement with Mercosur.

As of 2020, the consumption of coal in the US and Europe had fallen by 34% since 2009, mainly due to government policy and cheaper energy alternatives. However, coal still represents around 27% of the raw energy necessary to power our daily activities[4] and, in some developed countries, coal is the main cause of air pollution.[5] For some countries that are still developing their economies, dismissing coal may mean dismissing their right of developing countries to choose their own energy source for economic growth.[6] By producing GDP, countries extract natural resources and dump waste back into nature. As solar farms and onshore wind energy become increasingly cheaper (in fact, they are the cheapest source of new electricity for around 66% of the world's population), coal will face fierce competition.[7] In the US, the Biden administration intends to boost the off-shore wind-energy industry by deploying 30 gigawatts of offshore wind capacity by 2030.[8]

This article aims to explain that, by building climate clubs and making use of the international trading system, we can reach a better future for all. After this introduction, Section II provides the analytical framework, Section III sets the scene, whereas Section IV offers an analysis of climate clubs. Section V conceptualizes climate clubs in the context of international trade, whereas Sections VI and VII conclude the article and offer some light to the future, respectively.

II. Analytical Framework

We know the science of climate change; we know the economics of climate change; we also know the law of climate change. However, we do not know how countries may come together to cooperate on climate change mitigation. One way of doing so successfully is by putting together the climate regime with the international trading system via the creation of climate clubs, namely the coalition of the willing. These clubs can be parallel to, within, or outside the UNFCCC. The result may be a club of sorts: of national carbon taxes or carbon-market coalitions.

While President Trump opted to ditch the Paris Climate Agreement, the European Union (EU) thinks there is now scope for a plethora of joint initiatives as President Biden reversed course by returning the US to the Paris Agreement on Climate Change.[9] These initiatives include cooperating on regulation for sustainable finance, building on the EU's so-called green taxonomy, forming a "green tech alliance" on clean technologies, collaborating on carbon pricing, and forming a Trade and Climate Initiative within the World Trade Organization.

The use of trade as a tool for climate action can go a long way. It is not just punitive. It can also be cooperative mechanisms where the environmental exceptions within Article XX of the GATT can be broadened to allow people to pursue more ambitious climate and environmental domestic policies, where one can work with countries and bilateral trade agreements to expand clean energy trade and investment as well as cooperation on technology.

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[4] The Economist, "Make coal history," 5 December 2020, p. 13.
[5] Of the 100 European cities with the highest level of air pollution, 29 are in Poland. See The Economist, "Graphic detail: Coal-fired heating pollutes Poland's skies," 30 January 2021, p. 73.
[6] The Economist, 2 January 2021, p. 12.
[7] The Economist, "Make coal history," 5 December 2020, p. 13.
[8] The Economist, 3 April 2021, p. 8.
[9] In fact, in April 2021, President Biden hosted the Leaders Summit on Climate, where he invited 40 world leaders. See https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/26/president-biden-invites-40-world-leaders-to-leaders-summit-on-climate/.

If we are serious about deep decarbonization, we are going to need large amounts of clean energy trade around the world. We should think about countries that are very good at producing cheap batteries, solar panels, and other emerging technologies. We are going to need a lot more trade in those technologies around the world.

Instead of the Paris Agreement on Climate Change, some economists such as Scott Barret or William Nordhaus prefer a climate-club approach to climate-change mitigation, a climate club-type approach for more effective climate-change mitigation. This idea of a climate club is, among other things, about border adjustments to level the playing field. Beyond levelling the playing field, a climate club is intentionally punitive to incentivize countries to do things that their domestic political system will not support.

The climate-club concept is a very interesting idea for how one can come together with a set of countries and then encourage and force other countries to escalate their ambition. Three indicators seem relevant to give legitimacy to a climate club: 1) how much of the world's population it represents; 2) coverage of the world's GDP; and 3) level of GHG emissions' coverage. On this point of indicators, around 50% of humanity lives within the world's ten largest economies. Bringing together these economies would make an effective climate club. However, one needs to think carefully about what happens after that, how countries respond to it, and whether that may cause a breakdown of much of the international trading system that is so important and necessary to advance trade in clean technologies.

Three characteristics appear evident for the creation of a climate club:

1. Most big GHG emitters need to be members of the club;
2. Membership benefits are a must, and they should outweigh obligations; and
3. The club would need to be related to sanctions for non-compliance.

One would need to make sure that such sanctions would not violate international law and/or World Trade Organization (WTO) legal rules. However, one should be concerned about the overuse of sanctions as a tool of diplomacy and economic statecraft. One should also take into account the response to retaliation and escalation resulting from sanctions in climate clubs. In William Nordhaus's analysis, the level of sanction of border adjustment required to do the job is not just on the carbon intensity of carbon-intensive goods and services; rather, it is across the entire economy.[10]

More than 100 countries/trading blocs, many of the biggest companies,[11] and 400 cities have promised to reach net-zero carbon emissions by 2050. The EU, the UK, South Korea, and Japan are among them. China said it will get there by 2060. This means that their economies will not put more carbon dioxide into the atmosphere than they take out, which will come at an enormous economic price. It remains to be seen whether voters in liberal democracies will accept higher energy prices to fix climate change. President Biden of the US is also keen to reach that target by 2050. Doing so puts all these economies in line with the Paris Agreement on Climate Change of limiting global warming to 2 degrees Celsius above pre-industrial levels. Therefore, those six players, among others, are ideal candidates for a climate club.

[10] William Nordhaus, "A New Solution: The Climate Club," *The New York Review of Books*, 2015, available at http://www.nybooks.com/articles/2015/06/04/new-solution-climate-club/
[11] https://carbon.ci/insights/companies-with-net-zero-targets/.

Along the same lines, we would argue that (major emitting) companies should also create their climate club. Why? Because companies are on the front line on issues such as climate change and some have promised to be carbon-neutral by 2050. In addition, we could have a green recovery, turning the covid crisis into a climate opportunity,[12] whether in COP26 or China stating that it will reduce the carbon intensity of GDP by 18% between 2021 and 2025[13] and by 65% by 2030 (based on the 2005 levels), and go net-zero by 2060.[14]

The world has moved from hyperglobalization (in the words of Dani Rodrik)[15] to localization, characterized by national protectionism. Regionalism can be explained by the fact that globalization peaked in 2007-2008 and, since then, we have seen the rise of regional blocs, slowbalization, and localization. In the context of climate change mitigation, this reality explains why countries may be thinking about the creation of climate clubs (as examples of regional/plurilateral arrangements, as opposed to a global architecture).

III. Setting the Scene

The shortcomings of multilateralism are well understood. Often treaty regimes, albeit by design, contain such limitations that consensus is necessary for their further development, including the subsequent imposition of binding obligations upon their parties. Consensus, on the other hand, is not easy to come by, given the complexities of negotiations among a plurality of states with extremely diverse interests and capabilities. This is even more so when it comes to climate mitigation, given the structural and other challenges of taking meaningful action. Case in point being the universal, multilateral climate governance regime *par excellence*, namely the United Nations Framework Convention on Climate Change (UNFCCC),[16] the overall governance of which is provided by its Conference of the Parties (COP) through its annual meetings ever since its advent. The UNFCCC is predicated on consensus-based approaches to rulemaking, resulting in standoffs between parties, given the disparity of, among other things, interests, capabilities, abatement capacity, and development level.[17]

Moreover, the rise of greater protectionist reflexes during times of economic crisis (cf. the ongoing global recession following the 2008 financial crisis that is likely to be further compounded by the ongoing COVID-19 pandemic) have a corroding effect on multilateralism in various fields of international cooperation (cf., among other things, the European Union (EU) and Brexit,[18] the resetting of North American economic cooperation by the Trump

[12] Restrictions related to covid caused a 6% reduction in energy-related global CO2 emissions in 2020. The decline in road activity accounted for 50% of the fall in demand for oil and 35% came from aviation. The Economist, 6 March 2021, p. 7.
[13] The Economist, 13 March 2021, p. 5.
[14] The Economist, "Cleaning Up: Can China's carbon market take off?" 27 February 2021, p. 57.
[15] D. Rodrik, *The Globalization Paradox: Democracy and the future of the world economy*, W. W. Norton & Co., 2011.
[16] United Nations Framework Convention on Climate Change, Durban, S. Afr., Nov. 28–Dec. 11, 2011, *Rep. of the Conference of the Parties*, U.N. Doc. FCCC/CP/2011/9/Add.1
[17] J. Vogel, (2014). The problem with consensus in the U.N. Framework convention on climate change. *Philosophy & Public Policy Quarterly*, 32(2), 14–21
[18] In relation to its Brexit and collective climate abatement, following its departure from the EU on January 31, 2020, the United Kingdom (UK) committed to participate in the European Union (EU) Emissions Trading System (ETS) during the transition period until the end of 2020. UK installations therefore continued to face compliance obligations for their 2019 and 2020 emissions. In February 2020, the UK published its approach to negotiating the future relationship with the EU, in which the UK stated that its future carbon pricing initiative will support its net zero by 2050 target. It is also considering a link between any future UK ETS and the EU ETS, similarly to the Swiss-EU ETS linking model. This would allow allowances to be exchanged between the two systems. However,

administration with the replacement of the North American Free Trade Agreement (NAFTA) by the United States-Mexico-Canada Agreement (USMCA),[19] and currency and trade antagonisms between the United States (US) and China). Arguably, a further casualty of such global dynamics is the willingness of the international community to commit to *binding* and *enforceable* ambitious targets within the context of the UNFCCC and its successive agreements. To begin with, the agreements reached within the context of the UNFCCC have been relatively anemic given their modest goals and/or lack of enforcement and, thus, their limited capacity to meaningfully forestall potentially catastrophic climatic impacts caused by human activity. Such half-hearted and, in the event, fateful, multilateralism seems ripe for reconsideration. In the absence, therefore, of some effective nigh-universal binding *top-down* regime to meaningfully regulate emissions, it is vital to look at other means of achieving or, at the very least, approximating the necessary abatement targets.

What is more, a number of commentators, including Professor and Nobel Laureate William Nordhaus, consider a pernicious aspect of the existing multilateral order to be its scope for *freeriding*[20] and, therefore, that solutions must be designed to reduce or altogether eliminate such scope. However, as the notion of freeriding generally concerns the enjoyment of a benefit without contributing to its cost, it does not entirely tally with the realities of climate change, given that such freeriding has less to do with states *enjoying a benefit* cost-free, and more to do with states actually *not suffering potential anticompetitive effects* to their economies by not implementing meaningful carbon abatement measures. What is more, the global commons/public good to be defended within the context of multilateral climate mitigation efforts remains somewhat elusive.[21] In that sense, it is not clear how freeriding arguments may

fallback options, such as a standalone UK ETS and a long-term carbon tax, are also being considered by the UK government has therefore legislated provisions for both a UK ETS and carbon tax as part of its 2020 legislative proposals. For more background information *see* World Bank. State and Trends of Carbon Pricing 2020 (May), World Bank, Washington, DC. (39).

[19] The USCMA entered into force on July 1, 2020. *See* the Office of the United States Trade Representative website for the US view on the USCMA's objectives: https://ustr.gov/trade-agreements/free-trade-agreements/united-states-mexico-canada-agreement. Also, for the text of USCMA *see*: https://ustr.gov/trade-agreements/free-trade-agreements/united-states-mexico-canada-agreement/agreement-between.

[20] W. Nordhaus (2020, May/June) The Climate Club: How to Fix a Failing Global Effort, *Foreign Affairs*. Nordhaus discusses such dynamic thus, "Free-riding is a major hurdle to addressing global externalities, and it lies at the heart of the failure to deal with climate change. Consider a voluntary agreement, such as the Kyoto Protocol or the Paris accord. No single country has an incentive to cut its emissions sharply. Suppose that when Country A spends $100 on abatement, global damages decline by $200 but Country A might get only $20 worth of the benefits: its national cost-benefit analysis would lead it not to undertake the abatement. Hence, nations have a strong incentive not to participate in such agreements. If they do participate, there is a further incentive to understate their emissions or to miss ambitious objectives. The outcome is a noncooperative free-riding equilibrium, in which few countries undertake strong climate change policies—a situation that closely resembles the current international policy environment." However, it is not clear what are the 'global damages' that decline by $200, or how Country A only benefits by $20 vis-à-vis its $100 outlay while a freeriding Country B also benefits presumably by $20 while not spending a dime. Also *see* W. Nordhaus (2015) Climate Clubs: Overcoming Free-riding in International Climate Policy. *American Economic Review*, 105(4): 1339-1370 where the issue of freeriding is analyzed in greater detail. In sum, the issue pertains to how abatement costs (often prohibitive and damaging for competitiveness) accrue nationally while the benefits of abatement accrue globally and are independent of where emissions take place. Moreover, given that cost of abatement, many states choose not to participate as the penalties are lower than such costs. This results in low participation rates but also low penalties given that so few states are in the climate club in question. Therefore, trade sanctions on non-participants seem to be indispensable, albeit highly controversial given their implications for global trade.

[21] Things such as clean air, public health, water quality, the integrity of ecosystems, and so on, are public goods. Environmental degradation does not limit itself to national borders; that much is clear. Yet the notion of global commons/public goods remains elusive although that need not inhabit in the slightest the need for the international community to take meaningful action to address climate change, particularly when the current overall objective

be framed within the context of the enjoyment on the part of a state of some benefit cost-free when that *benefit* pertains to averting environmental degradation, which, after all, may impact states differently. For instance, the current state of play – i.e., the inadequacy of existing global abatement efforts for containing average global temperature increases by 2100 to no more than 2°C over pre-industrial levels –[22] would have very different implications for Mauritius than for Russia, given that such failure would pose an existential threat to the former, while potentially advantageous to the latter.[23]

Disparities between parties to the UNFCCC, including their historical cumulative emissions, abatement capacity, and level of development, provide useful context as to why *differentiations in multilateral efforts* exist and may be entirely valid.[24] In fact, the notion of common but differentiated responsibility (CBDR) is a principle that is deployed across many multilateral environmental agreements, including the UNFCCC. Article 3 of the UNFCCC states that,

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of ensuring that average global temperatures do not rise above 2°C by 2100 is sufficiently specific for states to consider how to go about collectively to achieve this common goal. In that sense, the *global public good* is to preserve the integrity of the global ecosystem to its projected state following an increase of no more than 2°C over pre-industrial levels. The global public good in that sense accrues intergenerationally. Others have posited that "the stability of the Earth's climate is a global public good". *See* L. Weischer, J. Morgan, and M. Patel (2012) Climate Clubs: Can Small Groups of Countries make a Big Difference in Addressing Climate Change? *RECIEL* 21 (3), 177.

[22] It is worth noting that the end of 2020 marked the moment under the Paris Agreement 'ratchet mechanism' when parties were expected to formally submit more ambitious emissions reduction commitments in relation to their 2030 targets. However, just 45 parties (44 countries, plus the EU *sui juris*) met this deadline. After a year disrupted by the global pandemic states responsible for only c. 28% of global emissions registered new or updated 'nationally determined contributions' (NDCs) on the UN's official registry by the end of 2020 (cf. https://www4.unfccc.int/sites/NDCStaging/Pages/LatestSubmissions.aspx). Some emitters did register their NDCs in time, including the UK and the EU, but there were also major absences including China, India, and the US. Even among the new submissions many lacked increases in ambition since their first pledges made previously (2015), or even backtracked with scaled-back proposals. However, one expert, Professor Niklas Höhne, as reported by Josh Gabbariss for Carbon Brief, assesses collective plans to be still 'totally off' what is required to achieve Paris Agreement targets. *See* J. Gabbariss (2021, January 8). *Analysis: Which countries met the UN's 2020 deadline to raise 'climate ambition'?*. CarbonBrief. https://www.carbonbrief.org/analysis-which-countries-met-the-uns-2020-deadline-to-raise-climate-ambition. According to the analysis presented by Climate Action Tracker, just 8 parties (7 states plus the EU *sui juris*) have submitted stronger NDC targets than their previous commitments and 118 parties have not updated targets altogether. As of February 3, 2021, new NDC submissions covered c. 31.6% of global emissions and 25.2% of the global population. *See* https://climateactiontracker.org/climate-target-update-tracker/.

[23] *See* M. F. Dellinger, Narrowed Constellations in a Supranational Climate Change Regime Complex: The 'Magic Number' is Three (March 1, 2014). 37 *Fordham Int'l L.J.* 373 (2014), 383, where it is stated that, "Russia's official attitude towards climate change is hesitant because of the perceived benefits to it of climate change and its self-proclaimed 'better' ability to deal with climate change than other nations."

[24] Among other things, such differentiations in the distribution of obligations, albeit temporary in some cases, are witnessed not only in the UNFCCC's principle of common but differentiated responsibilities (CBDR) but also the notion of special and differential treatment (SDT) as reflected across various provisions within the context of the World Trade Organization (WTO), including the Decision on Differential and More Favorable Treatment, Reciprocity and Fuller Participation of Developing Countries (commonly referred to as the 'Enabling Clause') that serves as the basis for the WTO's Generalized System of Preferences (GSP). For a fuller account of SDT provisions within the WTO order *see* Development: Trade and Development Committee (WTO) https://www.wto.org/english/tratop_e/devel_e/dev_special_differential_provisions_e.htm. *See* also the 27 Rio Principles found in the Rio Declaration on Environment and Development, signed at the 1992 Earth Summit in Rio de Janeiro. Principle 6 states: "The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority."

> parties should protect the climate system for the benefit of future and present generations of human kind on the basis of equity and in accordance with their common but differentiated responsibility and respective capabilities.

In that sense, CBDR affirms that, while it is a common responsibility of all states to protect the integrity of the environment, some should take stronger action than others. The justification for differentiated responsibilities is twofold: first, those that have most heavily contributed to (and benefited from) the accumulation of atmospheric greenhouse gas (GHG) emissions have a greater burden of responsibility and, second, those that have greater abatement capability, on account of access to resources, including wealth and technology, should contribute more. Against the above context, freeriding arguments may be falling short of properly reflecting the complexities of global climate policy.

That being said, the literature is rife with, among other things, game theoretical conceptualizations, but also scrutiny of trends in state practice, suggesting perhaps too great a role of the scope for freeriding in multilateralist failure concerning global abatement efforts. For instance, when one considers international cooperation in relation to environmental protection, it is apparent that the goal – namely the prevention of the sort of environmental degradation that would pose serious threats to human, animal, and plant life and health – actually pertains to a *transboundary, intergenerational common good*. Securing such an objective benefits the entire international community, including fully developed and post-industrial states – responsible for historical and ongoing emissions – but also developing states whose development is emissions-intensive (e.g. China and India, among others). It is not only those coastal including island states facing threats to their existence that are set to benefit from global temperature stabilization. However, those not facing existential threats are, therefore, tempted to shirk the likely economic burdens of abatement, particularly when the development of their economies is a higher priority.

Although, as discussed above, this is not *freeriding* in the sense of enjoying some existing benefit the cost of which burdens others, strictly speaking, such states are relieved of the current and ongoing cost of action necessary to safeguard an existing and future *benefit*. In future, should environmental collapse be averted, it is only then that such states would enjoy the benefits (or rather the felicitous preclusion of climatic collapse along with the rest of international community) of climatic integrity without having borne the economic, and potentially social and political, costs of the requisite abatement efforts. Notions from game theory offer perhaps cynical, albeit insightful, glimpses into the ways of statecraft. What we may witness is reverse Beggar-Thy-Neighbor effects,[25] whereby, assuming burdens accrued domestically (that is to say, the cost of abatement) actually translates into benefits to one's neighbors (that is to say, to those who bore no such costs).

Undoubtedly, this is all moot should failure to take meaningful action result in the sort of climatic degradation about which scientists have long warned the international community.

IV. Climate Clubs: Minilateralist Paths to Climate Mitigation

[25] The concept of 'Beggar-Thy-Neighbor' pertains to the likely negative implications of a state's economic policies for the economic interests of other states. This 18th-century notion originates in the writings of Adam Smith (*see An Inquiry into the Nature and Causes of the Wealth of Nations*, Book IV, Chapter III). Reverse Beggar-Thy-Neighbor effects would involve just the opposite – namely costly domestic measures on the part of one state resulting in free benefits to other states.

Nordhaus so aptly highlights how climate mitigation solutions must *also* be sought outside a multilateralism that, under its current form, has persistently failed to produce a legally binding international agreement on climate change when one considers the last twenty-five years or so of its life, namely since the 1990s.[26] Such solutions must be well attuned to the realities of failed multilateralism, including the lack of adequate and binding targets, incentives, and penalties to achieve critical mass in global mitigation efforts, hence why Nordhaus calls for some complementary solution to multilateralism – namely the *climate club* model – that takes stock of existing pitfalls.

There is extensive literature exploring or advocating solutions beyond multilateralism, namely minilateralist solutions,[27] that is to say, solutions that involve at least three parties (be they jurisdictions or states).[28] The idea that groups of states/jurisdictions can come together to develop and pursue specific common objectives concerning their shared interests is not new. In fact, it is at least as old as the rise of empires in the Bronze Age, where separate realms would oscillate between warfare and peace to, among other things, advance their trade interests through coalitions and arrangements (cf. the *Amarna letters* containing diplomatic correspondence in Akkadian, the diplomatic lingua franca, between the Great Powers of the Ancient East Mediterranean/Near East and their vassals during the late half of the 2nd millennium BCE[29]) to the exclusion of others. In that sense, such modalities of inter-state cooperation that rely on obligations, sticks, and carrots are far from novel.

Terms of convenience encountered in the literature that pertain to such minilateralist solutions include *climate clubs*, *carbon clubs*, *carbon market clubs*, *club-like arrangements*, and *climate mitigation clubs*. However, the nomenclature is incidental as what actually matters is the content of such arrangements,[30] as is discussed throughout the present publication. What

[26] W. Nordhaus (2020, May/June) The Climate Club: How to Fix a Failing Global Effort, Foreign Affairs. Nordhaus states that, "The bottom line is that climate policy has not progressed over the last three decades. The dangers of global warming are much better understood, but nations have not adopted effective policies to slow the coming peril".

[27] Among others, W. Nordhaus (2020, May/June) The Climate Club: How to Fix a Failing Global Effort, Foreign Affairs; M. F. Dellinger, Narrowed Constellations in a Supranational Climate Change Regime Complex: The 'Magic Number' is Three (March 1, 2014). 37 *Fordham Int'l L.J.* 373; L. Weischer, J. Morgan, and M. Patel (2012) Climate Clubs: Can Small Groups of Countries make a Big Difference in Addressing Climate Change? *RECIEL* 21 (3); J. Hovi, D.F. Sprinz, H. Sælen, and A. Underdal (2016) Climate change mitigation: a role for climate clubs? *Palgrave Communications*. 2:16020; R. Falkner (2015) *A minilateral solution for global climate change? On bargaining efficiency, club benefits and international legitimacy.* Centre for Climate Change. Economics and Policy. Working Paper No. 222, London, UK; Victor D G (2015) The Case for Climate Clubs. International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum: Geneva, Switzerland; J. Morgan and L. Weischer (2012, October 29). *Two Degrees Clubs: How Small Groups of Countries Can Make A Big Difference on Climate Change* (World Resources Institute); J. Hovi, D. F. Sprinz, H. Sælen & A. Underdal (2017) The Club Approach: A Gateway to Effective Climate Co-operation? *B. J. Pol. S* 49 1071-1096; D. G. Victor (2015) *The Case for Climate Clubs*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum, 2015. www.e15initiative.org/; W. Nordhaus (2015) Climate Clubs: Overcoming Free-riding in International Climate Policy. *American Economic Review*, 105(4): 1339-1370; and N. Martin and J. C. J. M. van den Bergh (2019) A multi-level climate club with national and sub-national members: theory and application to US states. *Environ. Res. Lett.* 14 124049.

[28] *See* J. Hovi, D. F. Sprinz, H. Sælen & A. Underdal (2017) The Club Approach: A Gateway to Effective Climate Co-operation? *B. J. Pol. S* 49 1071-1096 where they define a climate club "as any international actor (country) group that (1) starts with fewer members than the UNFCCC has and (2) aims to co-operate on climate change mitigation" (1072).

[29] *See* S. Izre'el, The Amarna Tablets for background information and access to particular portions of the corpus, https://www.tau.ac.il/humanities/semitic/amarna.html

[30] *See* L. Weischer, J. Morgan, and M. Patel (2012) Climate Clubs: Can Small Groups of Countries make a Big Difference in Addressing Climate Change? *RECIEL* 21 (3), where the authors argue that the term 'clubs' includes

is crucial is whether such minilateralist formations pertain exclusively or partially to climate mitigation, are *impactful*, and are capable of bringing collective efforts on track to meeting global abatement objectives.

While minilateralist approaches are predicated on *coalitions of the willing*,[31] there is limited effectiveness in merely *clubbing* together the most ardent of environmentalist states if they do not include the most emitting or, at the very least, if they do not include such states with the necessary geopolitical and geo-economic clout to draw in the most emitting players. For instance, the top four (by global share) emitters, namely China, the US, the EU27 plus the UK, and India, have collectively contributed to 55 per cent of total global GHG emissions over the last decade, while, collectively, G20 members are responsible for 78 per cent of total GHG emissions,[32] and, therefore, what these states, either separately or jointly, do to mitigate or compound climate change rightly attracts intense scrutiny. For instance, according to the latest United Nations Environmental Programme (UNEP) Emissions Gap report, collectively, G20 members are currently not on track to achieving their unconditional nationally determined contributions (NDCs), as some are on track, others are falling short, while for others, it is unclear.[33] What is clear, however, is that the *emissions gap* – i.e. the discrepancy between current commitments and those needed to limit average temperature rises by the end of the century to a maximum of 2°C – remains gaping.[34]

Moreover, such minilateralism need not be antagonistic towards multilateralism,[35] and often minilateralist initiatives purport to be complimentary towards the latter, although, as

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"any grouping that comprises *more than two and less than the full multilateral set of countries party to the UNFCCC* and that has not reached the degree of institutionalization of an international organization. While clubs may include other stakeholders, they are predominantly governed and funded by national governments. This broad definition can include very different degrees of formality and organization. Regular conferences and meetings, as well as groupings frequently referred to as 'initiatives', 'forums' or 'partnerships', are, for the purposes of this chapter, all included in the 'clubs' term. We exclusively consider clubs that discuss and promote greenhouse gas emissions reductions or a sub-issue directly relevant to climate change mitigation, such as the promotion of renewable energies." (emphasis added) (177).

[31] *See* J. Bacchus, *The Willing World: Shaping and Sharing a Sustainable Global Prosperity*. Cambridge: Cambridge University Press, 2018, in which Bacchus makes the case for global action and multilateralism, based on the rule of law, on the part of willing actors in a manner that optimally promotes both environmental and economic objectives.

[32] United Nations Environment Programme (2020). *Emissions Gap Report 2020 – Executive summary*. Nairobi, v-vi. https://www.unep.org/emissions-gap-report-2020.

[33] Ibid. viii.

[34] To track progress of global decarbonization efforts, UNEP collects data and compiles periodic reports to assess discrepancies between the purported goals and the situation on the ground. This discrepancy is known as the 'emissions gap'. Successive reports highlight the inadequacy of global efforts. To mark the ten-year anniversary since the first assessment, the UNEP published an assessment report taking stock of action over the ensuing decade, which makes for sober reading in that it finds that despite a decade of "increasing political and social focus on climate change and the milestone Paris Agreement, global greenhouse…emissions have not been curbed, and the emissions gap is larger than ever". What is more, it states that "…essentially, there has been no real change in the global emissions pathway in the last decade. The *effects* of climate policies have been *too small* to offset the impact of key drivers of emissions such as economic growth and population growth…. [T]he fact remains that at the global scale *we have failed to bridge or even narrow* the 2020 emissions gap… *if the Paris goals are to be kept viable, the world cannot afford to lose another decade*.' Altogether, ambition and action over the past decade have simply been inadequate, so *action now needs to be faster and more transformational*." (emphasis added). *See* J. Christensen, and A. Olhoff (2019). Lessons from a decade of emissions gap assessments. United Nations Environment Programme, Nairobi (1, 3, and 4) https://www.unenvironment.org/resources/emissions-gap-report-10-year-summary.

[35] *See* Victor (2015) *The Case for Climate Clubs*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum, 2015 (8) who states that minilateralist

some commentators have analyzed, minilateralism engenders fragmentation in global climate governance, with varied implications for multilateralism.[36] What is more, the involvement of particular states in such minilateralist arrangements may have considerable implications on their effectiveness, given the importance of such states when it comes to their GHG emissions and/or geo-economic and geo-political clout. For instance, the impact of the US withdrawal from the Paris Agreement under the Trump administration has been assessed as negative for multilateralism, given that the US had not merely gone from being leader to follower, but to actually becoming an outsider, thus undermining the extent of Paris Agreement abatement efforts.[37] It is worth noting that the US is the second largest emitter in absolute terms and was the twelfth in terms of emissions *per capita* in 2017,[38] and, therefore, its absence has implications globally. The Biden administration, however, by signaling on January 21, 2021 its acceptance of the Paris Agreement, has sought to reverse this situation, thus bringing the US back into the fold.[39]

It is also worth noting that the US has had an ambivalent approach towards multilateralist climate mitigation as this remains a controversial policy field at the domestic level. Historically, the US has consistently been reluctant to assume binding obligations where no such/analogous obligations are also assumed by parties with less developed economies, as had been the case under the Kyoto Protocol to the UNFCCC, which categorized parties into different groupings burdened by different obligations. Against that backdrop, US reticence and vacillation may well reappear in future, unless some monumental cultural shift takes place in the US to definitively catalyze public opinion in favor of multilateralism. That being said, the

arrangements need not be taken as "replacements to the UN approach but as friendly competitors and complements".

[36] F. Biermann, P. Pattberg, H. van Asselt, and F. Zelli (2009) The Fragmentation of Global Governance Architectures: A Framework for Analysis, *Global Environmental Politics* 9:4 and Victor (2015) *The Case for Climate Clubs*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum, 2015.

[37] D. F. Sprinz, H. Sælen, A. Underdal & J. Hovi (2018) The effectiveness of climate clubs under Donald Trump, *Climate Policy*, 18:7, 828.

[38] US total annual CO2 emissions stand at c. 5.28 billion MtCO2 (2019), annual emissions per capita stand at c. 16.16 MtCO2 (2017). US total annual emissions represented c. 14.72% of global CO2 emissions (2017), while US historical, cumulative CO2 emissions stand at 410.24 billion MtCO2 (up to 2019). For comparison, China's total annual CO2 emissions stand at c. 10.17 billion MtCO2 (2019); annual emissions per capita at c. 6.76 MtCO2 (2017). China's total CO2 emissions for 2017 represented 27.32% of global CO2 emissions. China's historical, cumulative CO2 emissions stand at c. 219.99 billion MtCO2 (up to 2019). In terms of their respective share of global cumulative CO2 emissions, the US share stands at 24.82% while China's at 13.31%. Based on 2017 figures, the US was the twelfth in terms of per capita emissions. Qatar, Kuwait, Bahrain, UAE, Saudi Arabia, Australia, Kazakhstan, Brunei, and Trinidad & Tobago, among others, actually preceded it. The above figures have been drawn from charts developed by Our World in Data (https://ourworldindata.org/co2/country/united-states?country=USA~CHN and https://ourworldindata.org/co2-emissions) and the World Resources Institute (https://www.wri.org/blog/2020/02/greenhouse-gas-emissions-by-country-sector), which, in turn, rely on a variety of datasets cited in their respective sources.

[39] White House: Briefing Room (2021, January 20) *Paris Climate Agreement* [Statement] https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/paris-climate-agreement/. What is more, President Biden has alluded to his vision for the US to play a more leading role in climate diplomacy by stating that, "On day one, I signed the paperwork to rejoin the Paris Climate Agreement. We're taking steps led by the example of integrating climate objectives across all of our diplomacy and raise the ambition of our climate targets. That way, we can challenge other nations, other major emitters … to up the ante on their own commitments. I'll be hosting climate leaders — a climate leaders' summit to address the climate crisis on Earth Day of this year. America must lead in the face of this existential threat. And just as with the pandemic, it requires global cooperation." *See* White House: Briefing Room (2021, February 4) *Remarks by President Biden on America's Place in the World* [Speeches and Remarks] https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/02/04/remarks-by-president-biden-on-americas-place-in-the-world/

US has been involved in successful minilateralism when it comes to its geopolitical rival: China.

For instance, in 2013 China and the US agreed to bilaterally phase down a group of the most harmful pollutants, namely hydrofluorocarbons (HFCs) and, furthermore, to provide global leadership to that end;[40] an event that has been heralded as indicative of their "potential willingness to accede to an internationally binding climate change agreement which in turn may cause a watershed in negotiations and spur further action".[41] Interestingly, such bilateral cooperation took place in the midst of antagonisms on various fronts, including in connection to currency and trade disputes. This fact contradicts the notion that successful inter-state collaboration is predicated on cordial relations.[42] That being said, while the participation of the US is not crucial for the formation or eventual success of minilateralist solutions, such clubs are less likely to extend over more than 50% of global emissions and to thus secure substantial cuts.[43]

As mentioned earlier, the implications of minilateralist solutions for multilateralism should not be ignored. Such implications are neither always apparent nor uniform, given the variety of minilateralist initiatives at play. Sprinz et al. conclude that climate clubs, however, need not necessarily be antagonistic to multilateralism. While such minilateralism can provide alternatives to unsuccessful multilateralism – e.g. the Paris Agreement regime, should it fail to ensure that global efforts are on track to meet global objectives – they may actually be complimentary.[44]

1. Climate Club Minilateralism

The relevant literature contains much support for minilateralist approaches to climate governance, including for the purposes of surmounting existing consensus-based hurdles at the multilateral level. However, minilateralist solutions are not always successful and may actually undermine multilateralist efforts. For instance, a club of sorts, the erstwhile Asia-Pacific

[40] White House: Office of the Press Secretary (2013, June 8) *United States and China Agree to Work Together on Phasing Down of HFCs* [Press Release] https://obamawhitehouse.archives.gov/the-press-office/2013/06/08/united-states-and-china-agree-work-together-phase-down-hfcs, where it is stated, among other things, that, "President Obama and President Xi agreed on an important new step to confront global climate change. For the first time, the United States and China will work together and with other countries to use the expertise and institutions of the Montreal Protocol to phase down the consumption and production of hydrofluorocarbons (HFCs), among other forms of multilateral cooperation. A global phase down of HFCs could potentially reduce some 90 gigatons of CO2 equivalent by 2050, equal to roughly two years' worth of current global greenhouse gas emissions."

[41] M. F. Dellinger, Narrowed Constellations in a Supranational Climate Change Regime Complex: The 'Magic Number' is Three (March 1, 2014). 37 *Fordham Int'l L.J.* 373 (2014), 375.

[42] In fact, Dellinger (ibid, 391) offers examples of how treaty creation and collaboration may take place even at the height of antagonisms. For instance, the height of the Cold War did not prevent the erstwhile Soviet Union to negotiate and conclude an agreement on the governance of Antarctica with, among other states, its archenemy at the time, the US.

[43] Sprinz, Sælen, Underdal, and Hovi have assessed the implications of US participation and absence from climate club initiatives, and their analysis indicates that the likely impact would depend on the US's initial role in such initiatives. E.g. whether it had initiated/led, had been a follower, or had never participated. For the purposes of the present chapter, it would suffice to state that, predictably, climate club initiatives involving the most significant states in terms of emissions and/or geopolitical clout are likely to be the most impactful when it comes to climate mitigation. *See* D. F. Sprinz, H. Sælen, A. Underdal & J. Hovi (2018) The effectiveness of climate clubs under Donald Trump, *Climate Policy*, 18:7, 835-836.

[44] D. F. Sprinz, H. Sælen, A. Underdal & J. Hovi (2018) The effectiveness of climate clubs under Donald Trump, *Climate Policy*, 18:7, 836.

Partnership on Clean Development and Climate Change[45] (APP), to name but one example, sought to pursue voluntary climate mitigation objectives outside the UNFCCC, despite the express claim that it was to complement the Kyoto Protocol regime,[46] but was unable to secure emissions reductions beyond what could probably have otherwise been achieved collectively under binding targets within the multilateralist system.[47] The 2009 Major Economies Forum on Energy and Climate[48] (MEF) and the 2012 Climate and Clean Air Coalition[49] are other examples of minilateralist arrangements in that regard.[50]

Furthermore, it is crucial to analyze each minilateralist solution separately in assessing their particular content – particularly the nature, level, and bindingness of abatement ambition/targets – to assess whether they are in line with global climate mitigation objectives. As Shuting Pomerleau highlights, minilateralist solutions are not a 'silver bullet' for a variety of reasons, including the potential implications of measures for consumers in climate club member states.[51]

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[45] The APP was established in July 2005 between Australia, China, India, Japan, South Korea, and the US (with New Zealand and Canada joining later) to pursue voluntary climate mitigation objectives. The APP sought, among other things, to promote the take-up and use of energy efficient and cleaner technologies particularly on the part of less developed countries (India and China) on their path to industrialization and development. The APP adopted its Charter in Sydney in January 2006 and lasted until 2011, although various APP-related projects remain in operation.
https://web.archive.org/web/20090920021825/http://www.asiapacificpartnership.org/pdf/resources/charter.pdf

[46] *See* APP Charter (ibid) recitals where it is stated that, "Bearing in mind that the purposes of the Partnership are consistent with the principles of the United Nations Framework Convention on Climate Change and other relevant international instruments, and are intended to complement but not replace the Kyoto Protocol….". *See* also APP Charter Annex I *Vision Statement of Australia, China, India, Japan, the Republic of Korea, and the United States of America for a new Asia-Pacific Partnership on Clean Development and Climate* of 28 July 2005 where it is stated that the APP "will be consistent with and contribute to our efforts under the UNFCCC and will complement, but not replace, the Kyoto Protocol".

[47] *See* J. Hovi, D. F. Sprinz, H. Sælen & A. Underdal (2017) The Club Approach: A Gateway to Effective Climate Co-operation? *B. J. Pol. S* 49 1071-1096 (1091) who also suggest that club-like arrangements have been 'no more effective' than the UNFCCC in mitigating climate change given that they neither provide exclusive member benefits nor make conditional emissions reduction commitments (1091).

[48] Current MEF members: Australia, Brazil, Canada, China, the European Union (EU) *sui juris*, France, Germany, India, Indonesia, Italy, Japan, South Korea, Mexico, the Russian Federation (Russia), South Africa, the United Kingdom (the UK), and the US. President Obama announced the launch of the MEF on March 28, 2009 to facilitate 'candid' dialogue between the major developed and developing economies over clean energy and emission reduction/decarbonization objectives in light of the December 2009 UNFCCC Conference of Parties in Copenhagen. Denmark, in its capacity as President of the December 2009 Conference of the Parties, and the United Nations were also invited to participate. U.S. Department of State (2009) *Major Economies Forum on Energy and Climate Change* [Press Release] https://2009-2017.state.gov/e/oes/climate/mem/index.htm.

[49] The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants, launched in 2012 by the UNEP, is a voluntary partnership of governments, intergovernmental organizations, businesses, scientific institutions, and civil society organizations aimed at improving air quality and environmental protection through actions to reduce short-lived pollutants. https://ccacoalition.org/en/content/about-0.

[50] D. F. Sprinz, H. Sælen, A. Underdal & J. Hovi (2018) The effectiveness of climate clubs under Donald Trump, *Climate Policy*, 18:7, 830

[51] Shuting Pomerleau (Niskanen Center) argues that Nobelist William Nordhaus's alternative proposals hinge on the imposition of global carbon price and uniform import tariffs on non-members as a means to address free riding which may actually hurt consumers in implementing members than those outside the bloc. Other difficulties include reaching consensus on carbon price and social costs and so on which is hard enough domestically. Nordhaus's proposal is not for a border carbon adjustment (BCA) contingent on emission content of goods but a uniform tariff on all imports from non-member states. Something along the lines of US$25 per MtCO2 and a 3% *ad valorem* tariff would provide strong incentive for non-members. Also, a *uniform* tariff imposed on non-members does not discriminate in favor of low-carbon imports, which is absurd and potentially counterproductive. This could also be said about the imposition of retaliatory measures by non-members. Solutions may exist in leveraging or amending current World Trade Organization (WTO) rules but this may be unfeasible given the

One such assessment is provided by Weischer, Morgan, and Patel (2012), who examine 17 clubs founded between 1974 and 2012 that, either exclusively or partially, concern climate mitigation, and found that such arrangements generally fall within two categories: *dialogue forums* or *implementation groups*.[52] The former concern the type of club where parties exchange information and gain a better understanding of their respective positions, whereas the latter collectively implement agreed policies. Examples of the former include the G8, G20, MEF, the Renewable Energy Policy Network for the 21st Century (REN21), and the Global Bioenergy Partnership, while examples of the latter include the Renewable Energy and Energy Efficiency Partnership (REEEP) and the Global Green Growth Institute. However, their analysis concludes that, while the clubs examined make 'important contributions' – e.g. they facilitate a better mutual understanding of the respective positions and interests of parties, facilitate the sharing of best practice, and help coordinate mitigation action – they are neither focused on significantly increased ambition[53] nor dramatically reduce GHG emissions at the scale and speed required to meet global mitigation targets (i.e. to ensure that average global temperatures do not exceed 2°C by the end of the century).[54]

In response to what would make a climate club 'transformational' and consistent with the 2°C target, the World Resource Institute (WRI) has arrived at the following four criteria:

1. ambitious vision;
2. clear membership conditions;
3. considerable member benefits; and
4. a clear pathway from immediate action to expansion (i.e. increase in ambition and potentially membership) over time.

More specifically, vision must be in line with climate science, and may relate to targets concerning emissions reductions, energy efficiency, renewable energy (RE) deployment, or price parity for RE technology. According to the WRI, ambition must reflect what is necessary to solve the problem.

Membership should be exclusive and only granted to parties that meet clear criteria that are consistent with the vision. Such conditions may be predicated on the track records, current or future targets, or other indicators of current and future commitment/action. Such criteria

complexities involved (e.g. unanimity of members to amend key norms). What is more, commenting on Nordhaus's Climate Club proposals, Pomerleau states that "…a climate club might not be a silver bullet to global climate-mitigation efforts. While the proposal is ambitious and backed by detailed modeling, it's not without its own challenges. Nordhaus admitted that 'the international community is a long way from adopting a Climate Club or a similar arrangement to slow the ominous march of climate change.' No country can solve climate change on its own. An effective and accountable international collaboration mechanism is overdue." *See* S. Pomerleau (2020, September 21), *Potential Challenges to a Climate Club*. Niskanen Center. https://www.niskanencentre.org/potential-challenges-to-a-climate-club/.

[52] L. Weischer, J. Morgan, and M. Patel (2012) Climate Clubs: Can Small Groups of Countries make a Big Difference in Addressing Climate Change? *RECIEL* 21 (3). The membership of the clubs examined ranged from 7 (Asia-Pacific Partnership on Clean Development and Climate, which came to a close in 2011) to 73 (the REDD+). Most related to energy issues and were independent of the UNFCCC but a minority were connected to the implementation of UNFCCC COP decisions.

[53] Ibid. 192.

[54] Ibid. 187, and J. Morgan and L. Weischer (2012, October 29). *Two Degrees Clubs: How Small Groups of Countries Can Make A Big Difference on Climate Change* (World Resources Institute). https://www.wri.org/blog/2012/10/two-degrees-clubs-how-small-groups-countries-can-make-big-difference-climate-change.

must be specific and measurable, and also reflect the willingness of parties to move forward but also raise ambition in future.

In terms of benefits, there must be strong incentives for joining so that prospective members will accept the ambitious conditions for membership. Therefore, the club has to create palpable member benefits in areas such as investment, technology sharing, and/or trade, which should not otherwise be available to those outside the club.

> In terms of a clear pathway to current and future action, the club would need, to become operational quickly, so it is likely to start with relatively easy-to-implement activities, such as information sharing. However, a two degrees club should be set up in a way that allows it to address more difficult questions (e.g., around trade), grow in scope (e.g., expanding from renewable energy or efficiency to other areas), and increase the number of members over time. What starts as a small energy transformation club could turn into a 'low-carbon union,' providing significant benefits across all sectors of the low-carbon economy to a growing number of member countries.[55]

A further review builds on existing analyses to find some merit in the pursuit of minilateralist solutions and to offer recommendations to that end. Hovi et al. suggest that starting small, namely with a small group of 'enthusiastic' states to then seek to entice 'reluctant' states may be 'promising' for the purposes of climate mitigation. However, most importantly, the potential synergistic effects of minilateralist instances on multilateralism (namely the UNFCCC regime) may hold some positive implications for global abatement efforts, although the potential of climate clubs for being instrumental in global climate mitigation is not readily apparent in the scholarly literature.[56]

Falkner, in his analysis, concludes that minilateralism is unlikely to overcome structural barriers to a comprehensive and ambitious international climate agreement. That being said, minilateralist initiatives such as climate clubs may, among other things, enhance political dialogue within the context of existing multilateral negotiations and, thus, facilitate 'great power bargaining',[57] which, in itself, is a useful net gain, if no actual drawbacks to multilateralism are discernable.

Other studies seek to prescribe the *features* of effective minilateralism. For instance, Nordhaus provides extensive analysis on the pitfalls and likely facilitators of effective minilateralism by examining no less than 44 regimes across 15 regions.[58] Essentially, effective

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[55] J. Morgan and L. Weischer (2012, October 29). *Two Degrees Clubs: How Small Groups of Countries Can Make A Big Difference on Climate Change* (World Resources Institute). https://www.wri.org/blog/2012/10/two-degrees-clubs-how-small-groups-countries-can-make-big-difference-climate-change.

[56] J. Hovi, D.F. Sprinz, H. Sælen, and A. Underdal (2016) Climate change mitigation: a role for climate clubs? *Palgrave Communications*. 2:16020

[57] R. Falkner (2015) *A minilateral solution for global climate change? On bargaining efficiency, club benefits and international legitimacy.* Centre for Climate Change. Economics and Policy. Working Paper No. 222, London, UK. Having analyzed the relevant literature and particular examples of clubs, Falkner concludes that minilateralism offers "no panacea for the ills of climate multilateralism. Most critically, climate clubs cannot pressurize or induce reluctant great powers to reduce their greenhouse gas emissions. However, a realistic approach to climate minilateralism, focused on coalitions of the willing, holds the promise of moving us beyond the current stalemate in international climate negotiations. The rise of minilateralism … can be harnessed to strengthen an increasingly polycentric field of global governance. … can inject political momentum into gridlocked international processes, provide new forms of collective leadership in a post-hegemonic world and reconcile existing multilateral regimes with shifts in the global power balance." (27).

[58] W. Nordhaus (2015) Climate Clubs: Overcoming Free-riding in International Climate Policy. *American Economic Review*, 105(4): 1339-1370.

minilateralism seems to boil down to the presence of effective sticks and carrots to ensure the incremental increase in participation and ambition during the life of a club-like arrangement.

As discussed in greater detail in other parts of the present publication, examples would be regimes that contain trade sanctions or other trade barriers (e.g. taxes including carbon taxes, import tariffs, and/or carbon allowance requirements) for non-participants of a sufficient level that cannot be ignored.[59] For instance, when trade sanctions are lower than the abatement costs necessary under a climate club, there is no tangible incentive (setting aside the need to meaningfully address climate change and avert further environmental degradation) for a non-participant state to join the club. In other words, if it costs less to abstain, states may choose to abstain. What is more, an effective climate club ought to contain consistent carbon pricing along with trade sanctions to induce substantial abatement. That said, Nordhaus suggests that the sustainability of such a regime is predicated on trade growth;[60] therefore, there seems to be insufficient evidence based on the modeling on whether effective carbon pricing can be sustained where there is no growth, given the implications of carbon pricing externalities for trade growth.

Following the analysis of minilateralist proposals and experiences, Weischer et al. also conclude on the sort of features that seem indispensable to optimal minilateralism, including the need for a shared vision and the offer of strong exclusive (primarily economic) incentives for members that are also compatible with existing international rules.[61]

Hovi et al. also conclude that effective minilateralism relies on the existence of a variety of factors, including conditional commitments (that is to say, that membership is conditional), exclusive *club goods* (that is to say, membership benefits), support from at least one global power (e.g. the EU or the US, and less so from China, which is less likely to be as enthusiastic), and higher marginal returns from participation.[62]

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[59] The appropriate level of a uniform *ad valorem* tariff on all imports from non-participants is not straightforward and would have to be conditional on other aspects of the climate club including its carbon pricing and particular membership. Nordhaus considers penalties for non-participants in the form of such tariffs varying from 0% to 10%. It is suggested that a rate of at least 4% could induce states to join a club which involves high-income states (given the implications for their trade exports), while a higher rate of 5% or more could be conducive to a club coming closer to achieving its abatement gains. However, even a tariff of 2% could induce a coalition that comes close to optimal abatement levels so long as the target carbon price is c. US$50 per MtCO2. *See* W. Nordhaus (2014). Climate Clubs: Designing a Mechanism to Overcome Free-riding in International Climate Policy. Presidential Address to the American Economic Association (2014, January 4), (2, 24 & 29). This is also reflected in Nordhaus's subsequent publication, *see* W. Nordhaus (2015) Climate Clubs: Overcoming Free-riding in International Climate Policy. *American Economic Review*, 105(4): 1339-1370 (1356).

[60] *See* W. Nordhaus (2014). Climate Clubs: Designing a Mechanism to Overcome Free-riding in International Climate Policy. Presidential Address to the American Economic Association (2014, January 4), where it is stated that, "Assuming that international trade rises at the same time as world output and its composition is unchanged… the optimal carbon price would need to rise by one-fifth relative to output and trade over the period to 2100…. If the policy were to keep within a 2°C upper temperature limit, the target would [be around] $50 per ton CO2…but it would grow more slowly than world GDP…. The modelling results indicate that modest trade penalties on non-participants can induce a coalition that approaches the optimal level of abatement as long as the target carbon price is less than $50 per ton range. The regime is *sustainable as long as world trade grows as fast as the optimal carbon price*. Such a regime would have incentives favorable for attracting a large majority of countries." (emphasis added) (32 & 33).

[61] L. Weischer, J. Morgan, and M. Patel (2012) Climate Clubs: Can Small Groups of Countries make a Big Difference in Addressing Climate Change? *RECIEL* 21 (191, 192).

[62] *See* J. Hovi, D. F. Sprinz, H. Sælen & A. Underdal (2017) The Club Approach: A Gateway to Effective Climate Co-operation? *B. J. Pol. S* 49 1071-1096, where it is stated that, "First, the 'right' actors must be *enthusiastic*. In particular, the actors initiating the club must control a sufficiently large share of global emissions and income. The United States or the European Union (EU) (*but not China*) can under some conditions single-handedly initiate

David Victor,[63] overall, also supports minilateralism and argues that there ought to be greater openness on the part of skeptics within the UN climate diplomatic community towards such solutions, given the limitations of UNFCCC-type multilateralism. Victor also argues that club-like arrangements should make specific pledges to the UNFCCC process and allow external scrutiny, both for the purposes of allaying fears concerning inter-regime antagonisms but to also encourage the sharing of best practice.[64] Moreover, Victor identifies two types of club member that effective clubs ought to draw in, given that their cooperation is likely to yield the greatest gains. On the one hand, there are those that are net contributors to global public goods by means of their considerable abatement efforts or targets (e.g. the EU, Norway, Sweden, and even the US), while, on the other, there is the type of club members that are reluctant 'laggards' when it comes to assuming specific binding targets comparable to those of other members, and to allowing outside scrutiny (e.g. China).[65]

Among others, Brewer et al. have carried out a review of existing club-like arrangements, albeit in connection to carbon markets, to examine whether membership size is a determinant of success and whether club-like benefits can incentivize participation and compliance. [66] Among their findings is the notion that, while some climate clubs, when compared to multilateral organizations, may facilitate agreement, conditions on participation and compliance can still prevent participation and consensus-building. In that sense, the sort of hurdles inherent to multilateralism may also be present in minilateralist solutions. As a starting point for potential participants to consider in designing a club arrangement, Brewer et al. refer to a number of issues that club rules may need to establish, including commitments to comparable targets, consistency across the membership (e.g. common definition of units, allowances, offsets etc.), the agreed scope of coverage, converging emissions-verification checks, compliance assurance, and a shared registry (or network of registries).[67]

Martin et al. list factors in assessing whether the top 15 global emitters are likely to participate in minilateralist arrangements, including their respective carbon dependence, domestic public opinion on climate change, official policy position, and involvement in climate coalitions. [68] They devise a 'net likelihood' taxonomy that places each of the emitters under review in either the 'likely' grouping or the 'not likely'. The former includes the EU as a bloc, three EU member states (France, Germany, and Italy), the UK, Canada, and Japan – which so far, represent six of the G7 members – along with Australia, Brazil, Mexico, and South Korea, while the latter grouping includes China and the US, along with India, Indonesia, Iran, Russia, Saudi Arabia, and South Africa.[69]

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a club that can persist and attract other members. If both were enthusiastic, the prospects for at least moderate club success would appear bright, because in our model *the United States and the EU can in many cases entice China to join* by appealing to its self-interest." (emphasis added) (1073).

[63] D. Victor (2015) *The Case for Climate Clubs*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum, 2015 (8).

[64] Ibid. 5 & 6.

[65] Ibid. 9.

[66] T. L. Brewer, H. Derwent, A. Błachowicz & M. Grubb (2016) Carbon Market Clubs and the New Paris Regime. Networked Carbon Markets. World Bank, Washington, DC. World Bank. https://openknowledge.worldbank.org/handle/10986/25768

[67] Ibid. 31.

[68] N. Martin and J. C. J. M. van den Bergh (2019) A multi-level climate club with national and sub-national members: theory and application to US states. *Environ. Res. Lett.* 14 124049

[69] Ibid. 4.

2. Climate Club formation

While, undoubtedly, the formation of clubs – at the very least, coalitions of the *willing* – neither precludes nor, on the face of it, undermines concurrent or subsequent multilateralism, without the participation of the greatest culprits (i.e. highest GHG emitters), it simply cannot achieve the critical mass necessary to prevent temperature increases above prescribed objectives (i.e. 1.5-2°C by 2100 relative to pre-industrial temperature levels). The UNEP considers that the current emissions gap can be bridged, but that 'unprecedented and immediate action' is necessary.[70] What this means is that the situation is so pressing that, at the very minimum, the top ten emitters must take serious abatement action in order to close the gap in time to avert potentially catastrophic knock-on effects to the climate. In that sense, there is no room for complacency and prevarication.

The science is settled. However, moral implorations and appeals to reason are clearly not enough as they have yet to yield significant abatement within the existing multilateralist setting. That being said, loci of minilateralism (even when they lack the highest emitters) could well serve as the nuclei upon which other states progressively latch, so long as effective incentives and penalties are present to incrementally lead to climate clubs of consequence when it comes to meeting global abatement goals. In fact, these are views supported by commentators who consider it useful to build clubs around enthusiastic and powerful states willing and able to contribute meaningfully.[71] Particularly fruitful would be concerted, meaningful action in relation to renewable energy storage, solar and wind energy, energy efficiency in appliances and passenger transport, afforestation, and halting deforestation.[72] However, the underlying assumption here is that,

> countries will act quickly and implement the most cost-effective measures in their national contexts [which] is evidently a very idealistic assumption, but it underlines the fact that the policies and technologies needed to bridge the gap are readily available and at limited costs.[73]

Furthermore, the viewpoint that *all* major emitters are needed for a climate club has been challenged by various commentators. Dillinger does not consider this essential and proposes a range or narrower constellations even arguing that *as few as two* parties could kickstart a new climate club: the obvious ideal being that of a China-US climate club. A bilateral precedent pertains to how initially intractable Japan-US negotiations on telecommunications actually resulted in the multilateralization of this policy area and the advent of the International Telecommunication Union. Another example of starting small is the current EU that had initially involved two (namely France and Germany), then six states with agreements on steel and coal, to then transform into the current global juggernaut presently comprising 27 member states. Other examples involve the 1947 General Agreement on Tariffs and Trade signed by

[70] Christensen, J. and Olhoff, A. (2019). Lessons from a decade of emissions gap assessments. United Nations Environment Programme, Nairobi (6).
[71] J. Hovi, D. F. Sprinz, H. Sælen & A. Underdal (2017) The Club Approach: A Gateway to Effective Climate Co-operation? *B. J. Pol. S* 49, 1091, and D. Victor (2015) *The Case for Climate Clubs*. E15 Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum, 2015 (3, 4, & 12).
[72] *See* Christensen, J. and Olhoff, A. (2019). Lessons from a decade of emissions gap assessments. United Nations Environment Programme, Nairobi. According to that report, these areas "present a combined potential of up to 21 GtCO2e per year by 2030, which is *more than sufficient* to get on a pathway to well below 2°C." (emphasis added). In fact, total emissions reduction could be as high as 38 GtCO2e per year (within an uncertainty range of 35-41 GtCO2e) per year (6).
[73] Ibid. 6.

23 parties and how it resulted in the current World Trade Organization (WTO) multilateral trade order currently extending over 164 parties.[74]

Unsurprisingly, club efficiency is inescapably predicated on the *quality* and *quantity* of prospective members and their agreed abatement targets. While the most immediate thought may be on how to co-opt many, if not all, of the largest emitters, it may be more instructive to focus on co-opting a mixture of states that, among themselves, have much else to offer, including abatement capability, financing, geo-economic clout, and leadership. Some have argued that it may be fruitful to start with a small group of leadership states. While this alone is unlikely to reduce the current global emissions gap, what it may achieve, among other things, is to facilitate technological development and transfer, 'provide momentum', and become 'transformational' by providing 'proof-of-concept' for non-participants to emulate. Evidently, this would be contingent on the necessary political will on the part of climate leaders being forthcoming.[75]

For instance, a trilateral arrangement between China, the EU, and the US would obviously be ideal, given the fact that it involves the top three GHG emitters in absolute terms,[76] but also involves states representing the most responsible, the most capable, and the lesser developed. Dellinger further concludes that the 'magic number' could be as little as three,

> The "magic number"—to recall, "the smallest possible number of countries needed to have the largest possible impact on solving a particular problem" or at least instigating crucial action towards a resolution—is, in the climate change context, three: the United States, the European Union, and China. This constellation would account for 49% of the world's total GHG emissions. And with Brazil as an increasingly likely fourth player, 52% of global GHGs would be accounted for. Scientifically, this is arguably not a high enough percentage to solve the ultimate problem, but … broader multilateral action can be derived progressively from narrower beginnings, so even a coalition of "just" three or four initial parties may be enough. So far, the international community has gained literally nothing from attempting the broadest possible solution; near-global treaty participation.[77]

As briefly mentioned earlier, given the Biden administration's re-accession to the Paris Agreement and US presidential statements expressing intention to provide climate leadership, coupled with EU enthusiasm to provide leadership and to further explore climate cooperation with China, such a prospect seems increasingly less chimeric. As the third highest emitter (and second highest GDP), the EU is evidently among the most appealing contenders for optimal climate club formation. What is more, it falls within the 'likely' grouping under the Martin et al. taxonomy of prospective participants, mentioned earlier. Moreover, the EU currently pursues trade diplomacy with three other states that fall within the 'likely' grouping, namely Japan, Mexico, and South Korea, and with one state from the 'not likely' grouping, namely South Africa.[78] Additionally, the EU has a long history of being a climate leader with its

[74] M. F. Dellinger, Narrowed Constellations in a Supranational Climate Change Regime Complex: The 'Magic Number' is Three (March 1, 2014). 37 *Fordham Int'l L.J.* 373 (2014) (401).
[75] J. Morgan and L. Weischer (2012, October 29). *Two Degrees Clubs: How Small Groups of Countries Can Make A Big Difference on Climate Change* (World Resources Institute).
[76] *See* interactive chart at the World Resources Institute website using 2018 figures https://www.wri.org/blog/2020/12/interactive-chart-top-emitters.
[77] *See* M. F. Dellinger, Narrowed Constellations in a Supranational Climate Change Regime Complex: The 'Magic Number' is Three (March 1, 2014). 37 *Fordham Int'l L.J.* 373 (2014) (438).
[78] N. Martin and J. C. J. M. van den Bergh (2019) A multi-level climate club with national and sub-national members: theory and application to US states. *Environ. Res. Lett.* 14 124049 (4).

ambitious (yet perhaps unrealistic, given the political and institutional realities)[79] targets. In that sense, it has the capacity to provide strong leadership globally, but also within an effective minilateralist climate club arrangement.

Other club-like arrangements could involve states such as India, Russia, Japan, South Korea, and Brazil, which could provide the right mix between capability, responsibility, and need/vulnerability when it comes to the configuration of members.[80]

Furthermore, discussion around climate clubs is not limited to national actors, and does extend to sub-national, but also sectoral, with the obvious examples being the energy-intensive trade-exposed (EITE) sectors (including steel, aluminum, and concrete)[81] and other sectors (fashion, international maritime, and aviation).

In conclusion, arriving at the 'right' configuration of participants to club-like climate arrangements is far from straightforward. Enticing the most polluting has not worked within multilateralist settings due to political and other pitfalls. Those are not necessarily absent in smaller settings. Nor is there a certain path to success. As Nordhaus puts it,

> An important question is, how would … a Climate Club get started? Who would define the regime? Would it begin with a grand Bretton-Woods-type conference? Or would it evolve from a small number of countries who see the logic, define a regime, and then invite other countries to join?
>
> There are no clear answers to these questions. International organizations evolve in unpredictable ways. Sometimes, it takes repeated failures before a successful model is developed. The histories of the gold and dollar standards, cholera conventions, the WTO, the European Union, and the Internet all emphasize the unpredictability in the development of international regimes…. *The destination of a Climate Club is clear, but there are many roads that will get there* (emphasis added).[82]

3. Climate Clubs and the UNFCCC (Minilateralism vis-à-vis Multilateralism)

It should be noted from the outset that the UNFCCC contains provisions (cf. Articles 4(2) & 12) that expressly recognize the right of parties to come together to pursue particular policies and measures that contribute to the objectives of the UNFCCC. Moreover, provisions within the Paris Agreement reflect this openness towards minilateralist cooperation in recognizing that parties may choose to pursue voluntary cooperation in pursuit of their intended nationally

[79] J. Pisani-Ferry, a senior fellow at the Peterson Institute for International Economics and a senior fellow at the Brussels-based Bruegel think tank, in his Memorandum to the President of the European Commission on Concrete Initiatives for a More Outward-Looking, Geopolitical Europe, lauding aspects of President von der Leyen's State of the Union 2020 Address, highlights how the EU, in its present form, is 'not wired' for the EU's climate agenda given its institutional limitations – after all, it remains a rules-based institution chiefly inward-looking with regard to its politics and its need to reach and sustain agreements between a disparate set of member states. *See* J. Pisani-Ferry (2020, December 2) *Memo to the European Commission on concrete initiatives for a more outward-looking, geopolitical Europe* (PIIE). https://www.piie.com/blogs/realtime-economic-issues-watch/memo-european-commission-concrete-initiatives-more-outward.

[80] Such configurations are explored at length by Dellinger. *See* M. F. Dellinger, Narrowed Constellations in a Supranational Climate Change Regime Complex: The 'Magic Number' is Three (March 1, 2014). 37 *Fordham Int'l L.J.* 373 (2014) (412-420, 435-438).

[81] Cement accounts for around 8% of global GHG emissions and steel for 7-9%. See The Economist, "Climate change and innovation: Greenbacks for greenery," 31 October 2021, pp. 55-57, at 57. The fashion industry is responsible for around 15% of global GHG emissions, whereas aviation around 5% and shipping 3-5%.

[82] W. Nordhaus (2015) Climate Clubs: Overcoming Free-riding in International Climate Policy. *American Economic Review*, 105(4): 1339-1370, (1351-1352).

determined contributions (INDCs) to allow for higher ambition in their mitigation efforts, but to also allow for reaching economies of effort (cf. Article 6).[83] In that sense, minilateralist arrangements are, on the face of it, compatible with the UNFCCC. However, this is not to say that such arrangements necessarily have positive implications for UNFCCC multilateralism.

It is crucial, therefore, to analyze each minilateralist initiative on its own merits to discern its likely impact on multilateralism. To that end, Biermann et al. have systematically analyzed examples of minilateralist climate mitigation initiatives, but also conducted a systematic review of the relevant literature, to assess implications for global climate governance (and its cohesion) and how this issue is examined in the literature.[84] They conclude that minilateralist initiatives may be initially assessed to establish whether they contribute to fragmentation in global climate governance.[85] Subsequently, those found to contribute to fragmentation may then be further categorized according to their 'degree of fragmentation,' i.e., on whether, overall, they have *synergistic*, *cooperative*, or *conflictive* fragmentative effects on global climate governance,[86] with the first two evidently being the least harmful.

Biermann et al. conclude that, for the most part, global climate governance appears to exhibit cooperative fragmentation, with its institutional hub/core being the UNFCCC, which lays down the foundations for multilateralist governance, while also recognizing that states parties with disparate realities (e.g. emissions history, development level, means, capabilities, and so on) may have common but differentiated responsibilities and respective capabilities (CDR-RC), thus acknowledging that global objectives may have to also rely on minilateralist solutions.

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[83] *See* The Economic Potential of Article 6 of the Paris Agreement and Implementation Challenges (2019) IETA, University of Maryland and CPLC. Washington, D.C. (15) which extensively analyzes the scope of Article 6 of the Paris Agreement for parties to work together to either lower the costs of achieving their pledges or to increase their ambition. Since parties have different abatement capabilities and global emissions shares, emissions trading under Article 6 may be necessary to incentivize parties with excess abatement capacity to become net-negative emitters to 'compensate' for other parties unable currently to reach carbon neutrality. Also *see* World Bank. State and Trends of Carbon Pricing 2020 (May), World Bank, Washington, DC (49) and UNFCCC, Draft CMA Decision on the Rules, Modalities and Procedures for the Mechanism Established by Article 6, Paragraph 4, of the Paris Agreement, December 15, 2019, for further detail.

[84] F. Biermann, P. Pattberg, H. van Asselt, and F. Zelli (2009) The Fragmentation of Global Governance Architectures: A Framework for Analysis, *Global Environmental Politics* 9:4 (14 & 15).

[85] Ibid. 19, where it is stated that "[I]n global environmental politics more than 700 multilateral agreements are in force. Most have evolved independently, cover different geographic and substantial scopes, and are marked by different patterns of codification, institutionalization, and cohesion. A decade ago, in response to this fragmentation, a United Nations task force recommended stronger cooperation between multilateral environmental institutions to facilitate synergies and promote policy coherence. This fragmentation has also been at issue in numerous policy proposals that call for the clustering and integration of environmental institutions, notably through establishment of a world environment organization, to create a less fragmented architecture in this field. While some observers support a world environment organization to tackle fragmentation in global environmental governance, others oppose the idea of 'organizational tinkering' and emphasize the benefits of a more fragmented architecture." Ibid. 19.

[86] Ibid. 20-22. According to Biermann et al. an example of *synergistic fragmentation* would be the Vienna Convention for the Protection of the Ozone Layer (Vienna, 22 March 1985) and its Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal, 16 September 1987) plus their subsequent amendments. An example of *cooperative fragmentation* would be in relation to a common issue but were there are different institutions e.g. the UNFCCC and its Kyoto Protocol. An example of *conflictive fragmentation* would be where regimes are hardly connected and have conflicting sets of underlying objectives and principles e.g. the 1995 Agreement on Trade-Related Aspects of Intellectual Property (TRIPS) (within the context of the World Trade Organization – NB. TRIPS is a 'covered' WTO agreement binding on all WTO parties) and how aspects of it may interact with the 1992 Convention on Biological Diversity (CBD) (broadly within the context of the United Nations (UN)) in relation to how, among other things, genetic resources are fairly and equitably exploited.

For instance, the Kyoto Protocol within the context of the UNFCCC provided for differentiation of obligations depending on the level of development of states, but also contained features (e.g. mechanisms such as emissions trading, funding arrangements, and the Clean Development Mechanism (CDM)) that go beyond the UNFCCC and do not apply to all its parties (e.g. the US is party to the UNFCCC, but not the Protocol, and this has fragmentative implications). The EU's Emissions Trading System (ETS), while in line with the UNFCCC and Kyoto Protocol, is systemically independent of those regimes and has clear collaborative effects vis-à-vis UNFCCC multilateralism. In that sense, fragmentation in global climate governance may provide abatement solutions not currently attainable within the existing multilateralist setting by facilitating the inclusion of more relevant actors and sectors than may be possible through a more 'integrated but static architecture'. Case in point is, for instance, how the Kyoto Protocol (or the Paris Agreement on Climate Change, for that matter) had not required emissions reductions from, among others, international aviation, yet the EU bloc, through the EU ETS, sought to cover this sector.[87]

However, other instances may have had more harmful implications. For instance, Weischer et al. consider that minilateralist initiatives such as climate clubs or coalitions were originally formed to compete with the UNFCCC, but that nowadays, for their most part, they complement the latter.[88] Moreover, Biermann et al. consider the now-defunct APP to be a departure from key UNFCCC regime features, including the differentiation between industrialized and developing states. Even though not comparable to the UNFCCC regime, they consider that the APP,

> still provide[d] an alternative to international climate action that may reduce incentives for complying with, or signing up to, international legally binding commitments…. Importantly, these instances of fragmentation in climate governance [were] intentional." The Asia-Pacific Partnership and similar proposals – backed by the United States – were created not out of ignorance of the climate regime but *because* of it, at a time when the climate convention and the Kyoto Protocol were well established and in force.[89]

This also chimes with the views of other commentators. Bäckstrand et al. have also suggested that the APP and other minilateralist initiatives had actually been designed as 'alternative models or rival forums' to the UNFCCC. That being said, they find that successive waves of minilateralism have led to most of this initial inter-club 'rivalry to have vanished', though they state it is too early to assume that this trend is irreversible. [90] Such fragmentation need not be *conflictive*, however, were an important actor such as the US to seek to form some minilateralist, even bilateral, arrangement with, say, an equally important actor such as China, where the abatement etc. ambitions are substantially above what may currently be achieved multilaterally within the UNFCCC context.[91]

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[87] Ibid. 28 & 29. Biermann et al. also state that a fragmented architecture "might offer solutions that are specifically tailored for specific regions and thus increase equity by better accounting for special circumstances…. Yet again, serious problems may outweigh benefits. First, conflictive fragmentation, where different actors pull in different directions, may complicate linkages with other policy areas".

[88] L. Weischer, J. Morgan, and M. Patel (2012) Climate Clubs: Can Small Groups of Countries make a Big Difference in Addressing Climate Change? *RECIEL* 21 (191).

[89] F. Biermann, P. Pattberg, H. van Asselt, and F. Zelli (2009) The Fragmentation of Global Governance Architectures: A Framework for Analysis, *Global Environmental Politics* 9:4 (22-24).

[90] K. Bäckstrand, F. Zelli, & P. Schleifer (2018). The Legitimacy and Accountability in Polycentric Climate Governance. In A. Jordan, D. Huitema, H. van Asselt, & J. Forster (Eds.), *Governing Climate Change: Policentricity in Action* (338-356). Cambridge: Cambridge University Press. (350).

[91] F. Biermann, P. Pattberg, H. van Asselt, and F. Zelli (2009) The Fragmentation of Global Governance Architectures: A Framework for Analysis, *Global Environmental Politics* 9:4 (26 & 27).

As Morgan and Weischer argue, an effective 'transformational' climate club along the lines they envisage need not aim to replace the UNFCCC regime, which, after all, remains the one platform where *global* ambition and other key considerations, including equity, can keep being discussed and negotiated. In that sense, climate clubs could complement the UNFCCC regime, as they would enable their respective memberships to assume more ambitious commitments than they would alone, and pull other countries with them. Furthermore, how efforts are coordinated between the UNFCCC and minilateralist arrangements such as climate clubs should not be neglected, not least to ensure that information and best practice sharing remain effective.[92] Furthermore, Falkner lauds Eckersley's climate club proposed model as the 'most fully developed' in relation to formalizing links to the UNFCCC regime.[93] Other examples include the Non-state Actor for Climate Action (NAZCA), which is a platform of several minilateral arrangements over which the UNFCCC Secretariat has the possibility to keep track.[94]

Other analyses of global climate governance conclude that it is characterized by polycentrism, where there is an identifiable epicenter, namely the UNFCCC that provides the overarching normative and governance context, but where there are other loci of climate governance including public and private actors in relation to, among other things, market involvement (e.g. emissions trading, finance, etc.) and the Kyoto Protocol's CDM.[95] In that sense, again, minilateralist solutions involving institutional fragmentation may also involve interdependence among actors and could be seen as actually advancing UNFCCC multilateralist goals. Bäckstrand et al., also view that the multilateralist UNFCCC, through the subsequent Paris Agreement, institutionalized 'hybrid multilateralism,' where one witnesses an intensified interplay between multilateral and minilateral/transnational climate cooperation, whereby the UNFCCC Secretariat plays a coordinating role.[96]

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[92] *See* J. Morgan and L. Weischer (2012, October 29). *Two Degrees Clubs: How Small Groups of Countries Can Make A Big Difference on Climate Change* (World Resources Institute), where it is stated that "Defining the relationship of such clubs to the UNFCCC could become an important issue in the ongoing negotiations – the clubs could formally or informally report to the UNFCCC. Going further, the actions of the club members could also be negotiated, recognized, and monitored within the UNFCCC." Also *see* L. Weischer, J. Morgan, and M. Patel (2012) Climate Clubs: Can Small Groups of Countries make a Big Difference in Addressing Climate Change? *RECIEL* 21 (3), where the authors state that UNFCCC multilateralism should not be replaced given that "climate change is caused by the cumulative effects of all global emissions, all major emitters need to be brought into an agreement to avoid free rider problems that would undermine the effectiveness of any solution. Furthermore, the impacts of climate change are affecting all countries, especially the poorest and most vulnerable, so they need to have a voice in the decision-making process to ensure an ambitious outcome that will be accepted as legitimate." (178).

[93] *See* R. Falkner (2015) *A minilateral solution for global climate change? On bargaining efficiency, club benefits and international legitimacy.* Centre for Climate Change. Economics and Policy. Working Paper No. 222 (20) and R. Eckersley, (2012) Moving Forward in the Climate Negotiations: Multilateralism or Minilateralism? *Global Environmental Politics* 12(2): 24-42 (33).

[94] K. Bäckstrand, F. Zelli, & P. Schleifer (2018). The Legitimacy and Accountability in Polycentric Climate Governance. In A. Jordan, D. Huitema, H. van Asselt, & J. Forster (Eds.), *Governing Climate Change: Policentricity in Action.* Cambridge: Cambridge University Press. (351).

[95] K. Bäckstrand, F. Zelli, & P. Schleifer (2018). The Legitimacy and Accountability in Polycentric Climate Governance. In A. Jordan, D. Huitema, H. van Asselt, & J. Forster (Eds.), *Governing Climate Change: Policentricity in Action* (338-356). Cambridge: Cambridge University Press.

[96] Ibid (345), where the authors state that, "the UNFCCC Secretariat tak[es] a role as facilitator or orchestrator of transnational climate action…. The Lima-Paris Action Agenda (which later morphed into the Marrakech Partnership for Global Climate Action) and the Non-state Actor Zone for Climate Action (NAZCA) were launched to galvanize the groundswell of actions on climate change mitigation and adaptation from cities, regions, businesses and civil society organizations".

Lastly, empirical insights suggest that minilateral approaches attract less support among the general public and the climate diplomatic community when compared to UNFCCC multilateralism, particularly when climate clubs fail to cover large shares of global emissions. That being said, support increases when other club-design factors such as differentiation in commitment levels, membership benefits/club goods, and sanctions for non-members are present.[97]

4. Legitimacy and Accountability

Questions of *legitimacy* and *accountability* often arise in relation to global climate governance, including minilateralist initiatives and polycentrism.[98] For instance, the UNFCCC regime is predicated, for the most part, on the voluntarist nature of international law. Parties voluntarily accede to it and assume the (general) international obligations under that treaty. It is then open to them to consent to the imposition of subsequent international obligations. In that sense, the UNFCCC Secretariat enjoys legitimacy and is accountable to the parties of the UNFCCC. This is a view also reflected empirically.[99] This could also be said for minilateralist initiatives such as climate clubs comprising states as members, but this is less so with transnational climate clubs that, in addition, comprise non-state actors such as industry/sectoral representatives and so on. Therefore, the implications such initiatives may have for UNFCCC multilateralism should also be examined in relation to how they actually interplay with the latter and, more specifically, whether and to what extent they provide scope for UNFCCC scrutiny.[100]

What is more, Bäckstrand et al. highlight how legitimacy may be intricately connected to questions of representation, and that climate minilateralism has exhibited 'considerable lack of inclusiveness' of poorer states, such as small island states and least-developed economies, in relation to clubs such as those within the 'global' context (e.g. G7, G8, G20 etc.), but also from more technology-specific initiatives, thus failing to reflect a more balanced participation in relation to abatement capability and climate vulnerability.[101] Furthermore, empirical evidence would suggest that

[97] R. Gampfer (2014) UNFCCC v. Minilateralism: Effects on agreement design features on support for global climate governance architectures, ETH Zürich, Center for Comparative and International Studies. Gampfer surveyed two constituencies: climate policymakers – namely, UNFCCC delegates – and the US general public.

[98] For a discussion on polycentrism and governance across complex human systems, *see* Nobel Laureate E. Ostrom (December 8, 2009) *Beyond Markets and States: Polycentric Governance of Complex Economic Systems* (Nobel Lecture), among other writings by Ostrom.

[99] *See* R. Gampfer (2014) UNFCCC v. Minilateralism: Effects on agreement design features on support for global climate governance architectures, ETH Zürich, Center for Comparative and International Studies (3) where survey conclusions include the notion that climate clubs lack the sort of legal legitimacy that UNFCCC possesses given the role and symbolism of the UN when it comes to multilateral negotiations over global issues.

[100] *See* K. Bäckstrand, F. Zelli, & P. Schleifer (2018). The Legitimacy and Accountability in Polycentric Climate Governance. In A. Jordan, D. Huitema, H. van Asselt, & J. Forster (Eds.), *Governing Climate Change: Policentricity in Action* (338-356). Cambridge: Cambridge University Press, where it is stated "The problem of accountability at the transnational level is amplified in polycentric climate governance, where actors are both regulators and regulated, be it cities, intergovernmental agencies, carbon market actors or standard-setting organisations…. The range of accountability and legitimacy challenges is so varied in polycentric climate governance that the key task becomes one of analysing the dynamics and logics of legitimacy and accountability in each. Polycentricity includes governance arrangements requiring top-down, hierarchical accountability as well as horizontal, non-hierarchical (market, peer and reputational accountability)." (344).

[101] *See* K. Bäckstrand, F. Zelli, & P. Schleifer (2018). The Legitimacy and Accountability in Polycentric Climate Governance. In A. Jordan, D. Huitema, H. van Asselt, & J. Forster (Eds.), *Governing Climate Change: Policentricity in Action*, where they state that, "Minilateral climate coalitions or clubs, that is initiatives predominantly governed by a limited number of governments, have multiplied since the mid- 2000s. Established

> polycentric governance can equally be non-transparent and exclusive in providing closed venues for coalition building, trust and bargaining between powerful elites from government, market and civil society. This image is far from the normative ideal in polycentric theory: of multiple platforms and domains actively facilitating dialogue and deliberation between political decision-makers and affected stakeholders.[102]

Moreover, for Eckersley, "to restrict the negotiations of any anti-pollution treaty to the biggest polluters and to exclude victims of pollution simply because their pollution contribution is negligible" seems elitist and would run against "the basic principles of communicative justice".[103] To address such concerns, Eckersley's proposed model of climate club is also aimed at widening participation by seeking to also establish a 'Climate Council' comprising major emitters and other members drawn from among the 'most capable', 'most responsible' and the 'most vulnerable' groupings of states.[104]

Weischer et al. also highlight that lack of representation in minilateralist initiatives could result in privileging "the voices of those within clubs at the expense of those outside, reproducing existing international hierarchies," which could also mean that the abatement goals and ambition remain too weak.[105]

According to Bäckstrand et al., the picture has improved somewhat with what they term 'third wave minilateralism,' which, they assess, has had positive implications for inclusiveness and accountability. They cite a 2017 systematic comparison of 38 clubs which indicates that 33 of them are more open and inclusive, having foregone the 'by-invitation-only' approach in 'first and/or second wave' minilateralist initiatives.[106]

Notwithstanding the foregoing, it should be noted that more accountable initiatives do not necessarily result in optimal abatement outcomes.[107] Less 'democratic' or 'inclusive' institutions could, conceivably, be more effective as ambition would be less vulnerable to the vagaries of politics inherent to multilateralism. Dillinger makes this point to illustrate that 'exclusive' minilateralism – i.e. climate club arrangements which exclude non-governmental organizations (NGOs) and the 175 or so states with the least emissions – may actually lead to the remaining parties to be better able to establish small, more responsive institutions/climate clubs. Moreover, there is precedent concerning 'clubs within clubs' in the form of concentric

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by elected state governments on the one hand, but excluding a large group of countries on the other, they have distinctive legitimacy and accountability implications…." (348 & 349).

[102] Ibid. 341.

[103] R. Eckersley, (2012) Moving Forward in the Climate Negotiations: Multilateralism or Minilateralism? *Global Environmental Politics* 12(2): 24-42 (33).

[104] *See* R. Falkner (2015) *A minilateral solution for global climate change? On bargaining efficiency, club benefits and international legitimacy.* Centre for Climate Change. Economics and Policy. Working Paper No. 222 (20) and for specific details, R. Eckersley, (2012) Moving Forward in the Climate Negotiations: Multilateralism or Minilateralism? *Global Environmental Politics* 12(2): 24-42 (33).

[105] L. Weischer, J. Morgan, and M. Patel (2012) Climate Clubs: Can Small Groups of Countries make a Big Difference in Addressing Climate Change? *RECIEL* 21 (184).

[106] K. Bäckstrand, F. Zelli, & P. Schleifer (2018). The Legitimacy and Accountability in Polycentric Climate Governance. In A. Jordan, D. Huitema, H. van Asselt, & J. Forster (Eds.), *Governing Climate Change: Policentricity in Action*, where they mention that as a consequence "more than 120 countries are members of climate clubs today".

[107] Ibid, 347, where it is stated that "A glance at the wider literature on accountability in global environmental governance reveals further complexities and contradictions…; the rapid proliferation of accountability mechanisms in this domain has done little to stop the environment from deteriorating." NB. K. Bäckstrand et al. are referring to the work of C. Brandi and S. Bauer, S. (2017). Climate Clubs: Potentials and Pitfalls for Enhancing Legitimacy in Global Climate Governance. Bonn: German Development Institute.

circles, including the EU and the Eurozone, as well as the United Nations (UN) and the UN Security Council. In that sense, climate clubs need not be inclusive per se to attain optimal outcomes. As Dillinger puts it,

> One of the perhaps most prevalent premises promoted in climate discourse is the notion that a new treaty must be highly inclusive for reasons of procedural fairness and general democracy. This premise is proving dated or even outright false. While many legal scholars still refer to 'all' major emitters, this notion denotes the ideal of international inclusiveness that has proved unrealistic so far.[108]

Let us know analyze climate clubs in the context of international trade.

V. Conceptualizing climate clubs in the context of international trade

1. Key considerations

Regional trade agreements (RTAs) have served as laboratories of change for a long time. In recent times, we see they are used to move forward the sustainable-development agenda in the context of the World Trade Organization. That said, given the transnational nature of sustainable development and environmental protection, it is necessary to go beyond RTAs and free trade agreements (FTAs) for such issues, although regional trade is arguably a more effective and faster way to tackle transnational issues. There are two broad types of FTAs / RTAs with environmental-protection chapters: a) those like the Comprehensive Economic and Trade Agreement between Canada and the European Union (EU), which deal with sustainable development, climate change, waste, border issues; and b) US FTAs model, which are more modest when it comes to dealing with trade and the environment. What follows are various ideas of how one could conceptualize climate clubs in the framework of the trading system.

Why a regional trade agreement would be allowed under the GATT

Regional trade agreements (RTAs) are defined as reciprocal trade agreements between two or more partners, including FTAs and customs unions. Article XXIV of the General Agreement on Tariffs and Trade (GATT) allows regional trading arrangements to be set up as a special exception to the principle of non-discrimination (GATT Articles I and III), subject to strict criteria, including that the regional integration should complement the multilateral system and not threaten it. RTAs under Article XXIV should not 'raise barriers to the trade of other contracting parties'. Therefore, the RTA in question should not affect trade with a third-party nor divert trade from it.

Why a regional trade agreement would be necessary

Climate change discussions and, crucially, the Kyoto Protocol/the Common but Differentiated Responsibilities principle have divided developed and developing nations by placing the focus on 'responsibility'. An RTA will shift the focus to other factors, which the Kyoto Protocol failed to consider. Below are the following four factors: enthusiasm, power, capability, and institutional strength. Let us go over each one of them.

- Enthusiasm: Since entering an RTA would be a voluntary step based on each party's 'enthusiasm' towards mitigating climate change, this factor would play a central role in defining the climate club's constitution. The logic of carbon trade does not exist for

[108] M. F. Dellinger, Narrowed Constellations in a Supranational Climate Change Regime Complex: The 'Magic Number' is Three (March 1, 2014). 37 *Fordham Int'l L.J.* 373 (2014) (405-411).

countries that do not recognize the need to mitigate climate change, although fewer and fewer countries fall under this category, as more countries (and companies) are now committing to being carbon neutral by 2050 or 2060. Hence, such RTA should be directly linked to the Paris Agreement on Climate Change.

- Power: An RTA is a diplomatically, politically, and economically sound incentive for non-Annex I countries to enter negotiations. However, it makes more climate sense for equally powerful nations to negotiate and enter into mutually binding agreements (despite the complexity of such negotiations) than for economically weaker countries to enter, potentially imbalanced, agreements with economic giants (i.e., today's high greenhouse gas (GHG) emitters). This is because weaker nations, which are nevertheless low-emitting countries, would not be able to impose high binding standards on powerful nations.

- Capability: The very definition of a universal organization is based on its propensity to accept any independent State of the international community as a member. All States trade goods and services, but can every State trade carbon. Does every State even produce carbon? The question here is why should the Vatican City be included in a carbon trade agreement when its 'capability' level is near zero? However, despite being qualified as developing nations, India, China and other similar developing nations have a high ability to trade carbon.

  This factor may even lead to a gradual substitution of the terms 'developed' and 'developing' by taking away the focus from GDP and placing it on emission units to distinguish between 'carbon-rich' and 'carbon-poor' states. Countries that both currently and in the past hardly contributed to global emissions (e.g., least-developed countries and small island developing states) will justifiably not face higher standards for emission trade/emissions reduction. In this sense, environmental 'justice' is still conserved.

  Moreover, there is only a handful of currently implemented (and rather diverse) carbon trading systems (either national or subnational): from the large GHG emitters of the world, Brazil, Russia, and India do not have any Emissions Trading System (ETS) in place at all. China's is just starting up and has legal loopholes, of which the worst polluters will take advantage. The EU's was launched in 2005, but barely worked functioned for a long time because the price of carbon was close to zero. Why not focus on harmonizing what already exists and establish/harmonize the ETSs for the major emitting countries? Why not connect existing ETSs to other regions via a carbon border tax? Current ETS linkages are not ambitious enough, such as California and Québec or the EU and Switzerland. To be successful, implementation of the ETS is key.

- Institutional strength: Can every State have harmonized standards for carbon market operations (carbon market infrastructure, accounting, transparency, and environmental integrity)? High-institutional strength countries that also have high carbon emissions are the ones who will be able to create and enforce such standards to set the example for the rest of the world. On the other hand, low-institutional strength and/or low-emission countries will be the ones hindering the process.

That said, there are two main obstacles:

- Without a formal RTA, simply rejecting low-quality and unregulated carbon emission trade from some countries will be a breach of international trade law, as has been demonstrated in environmental-related World Trade Organization (WTO) cases (e.g., the *Tuna-Dolphin* case and the *Shrimp* case). These two cases have shown that there is a propensity for the WTO to favor trade over strict environmental protection. Put differently, legitimacy of high standards and regulations in terms of 'process' (and not 'product') seems to come from regionalism, but not unilateralism/multilateralism; and
- It will be necessary to implement a trading system that applies to 'substantially all the trade,' in accordance with GATT Article XXIV. Carbon market clubs aiming at the liberalization of emission units only would not meet this criterion. To meet the criterion, club members would be required to liberalize trade more broadly between themselves. That raises the question of who would be the likely partners.

Finding partners for a future regional trade agreement

One group of unlikely partners is China, US, the EU, Russia, India, Brazil, and Japan. These are the highest global carbon emitters. These parties to the UN Framework Convention on Climate Change (UNFCCC), all together, are unlikely to enter into a mega free trade agreement.

An alternative option is one of double integration: One can think of two-three clubs/groups of likely partners plus a regional trade agreement to unite them, thereby having double integration. There are existing frameworks and free trade agreements under negotiation in which carbon trading can be inserted as a first step. Examples are the US-Mexico-Canada Agreement, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), the Regional Comprehensive Economic Partnership (RCEP),[109] the Comprehensive Economic and Trade Agreement between Canada and the European Union, and the Trans-Atlantic Trade and Investment Partnership, to name a few examples of mega regional trade agreements. All these arrangements could serve as great platforms for climate club based on green trade in goods and services.

In addition, a club approach should not be inflexible in terms of membership or overemphasize ideal scenarios. For instance, while a US-China Agreement is one of the most obvious and ambitious goals, an EU-China-India Agreement would cover a similar percentage of the global GHG emissions. Likewise, while a US-EU-India Agreement would be more geographically spread out, a China-India Agreement would cover slightly more GHG emissions than the former.

Why a regional trade agreement would foster future universal/multilateral discussions

The goal of the WTO and regional trade agreements is the same, namely the liberalization of trade. Their only difference is the level at which the removal of barriers to trade is imposed;

[109] As of November 2020, the RCEP was the world's newest and biggest RTA, but not the deepest. It eliminates fewer tariffs than normal RTAs. When comparing the RCEP text to that of the CPTPP, its competitor, one notes that in many areas the text of RCEP is not only similar, but is, in fact, identical to that of CPTPP. At the same time, there are significant differences between the two Agreements, even in areas where they are comparable in scope and adopt similar approaches. Equally, the level of economic development of the members of both mega-RTAs (RCEP and CPTPP) is vastly different.

while the WTO aims to remove trade barriers at a universal level, RTAs do so at the regional level, for which specific requirements must be met, in accordance to GATT Article XXIV.

Multilateralism and regionalism seem to be competing. In theory, regionalism should complement, not supplant, multilateralism.[110] It can be argued that RTAs play a role in promoting multilateral free trade if they manage to multilateralize regionalism. This argument is even recognized formally in the first sentence of Article XXIV(4) of GATT 1994. It is certainly easier and more manageable to negotiate amongst a small number of large players than it is amongst many small players. Therefore, the creation of clubs could be utilized as a first step towards universalism.

Technological cooperation

Much more global cooperation is necessary. Around 80% of all patent applications in clean energy technology are owned by Japan, the US, the EU (Germany and France), South Korea, and the UK.[111] However, many of the green technology patents have never been used due to either a) incapability of commercialization or b) patent suppression behavior. The latter phenomenon is particularly concerning even if it has been declared as legal by the US courts (*Continental Paper Bag Co. v Eastern Paper Bag Co.* 210 US 405 (1908)). Nonetheless, countries such as Brazil and South Africa have made their progression under the nationally determined contributions conditional on technological transfer and support.

Therefore, an important part of a climate club may be to foster this technological cooperation through a 'limited' compulsory licensing amongst large GHG emitters. This idea may be more compelling for patent holders than making patents internationally available. In other words, green patents could become a climate club good to incentivize participation. This idea may be controversial as green patents should be ideally shared with least developed nations.

However, if climate clubs' cooperation allows large emitters to reduce their emissions, least developed nations could still benefit, as opposed to maintaining the current deadlock on green patents. Moreover, there should be some limitations to countries leaving the club once they obtain a patent. This is where a corporate climate club may be preferable. On technological cooperation, such a club may establish a mega-joint venture scheme that will bind companies under contractual obligations, which do not apply to States.

A climate club of companies

Companies' involvement in climate change mitigation is fundamental, especially following important rising trends regarding corporation social responsibility and investor awareness/responsiveness towards climate change. Countries around the world are making laws that will make corporations accountable for environmental damage. Due to the increasing power of (major) companies, it would be difficult to have effective global emissions reduction without companies' support.

Moreover, there seems to be an apparent incompatibility between strict competition law and climate change law. It seems that competition law hinders effective cooperation between companies seeking to produce sustainable goods. A climate club agreement involving companies may seek to establish a clear and legitimate framework for state aid as well as

[110] See R. Leal-Arcas, "Proliferation of Regional Trade Agreements: Complementing or Supplanting Multilateralism?" *Chicago Journal of International Law*, Vol. 11, No. 2, pp. 597-629, 2011.
[111] https://www.irena.org/inspire/Intellectual-Property-Rights/Global-Patenting-Trends-in-RET

vertical / horizontal cooperation amongst companies to promote emissions reduction. This has been, to some extent, already initiated under the European Green Deal.

Domestic policy preferences

Part of the justification/incentive to join a climate club constitutes a need of structural economic reform in face of crises (including Covid-19, but also financial and international crises). One of the reasons why the parties to the Trans-Pacific Partnership proceeded toward the conclusion of the CPTPP even after the US's withdrawal was their internal motivations beyond the benefits derived from access to the US market. An example is Japan's economic policy. Robert Falkner even notes that "getting a deal on internationally-agreed mitigation efforts is less a question of reducing the number of players than of the convergence of *domestic policy preferences* towards strong international action."[112] This change in domestic policy preferences towards reducing emissions is similar to actions taken in the face of a crisis, e.g.:

- Geostrategic crises relating to energy: Where a State decides to proceed with energy transition/sustainable energy development to reduce energy dependence, it is likely to also want to participate in a climate club since it will already be decarbonizing and able to sell emission units.
- Financial crises relating to economic concentration: There are States, such as the Gulf Cooperation Council (GCC) countries, that are in the process of economic diversification and structural economic reform with a view to becoming less dependent on fossil fuel exportation. These can also be incentives to link their efforts to a climate club.
- Green recovery and Covid-19: If anything, Covid-19 demonstrated the gaps in the high-emission global supply networks. It is an opportunity to increase regional ties and even support countries in localizing the essential food-water-energy[113] nexus. A climate club can be a platform setting the basis for doing so in a sustainable way.

Environmental justice

In the context of climate clubs, one obvious highlight is the concept of the free-rider theory as one of the main disincentives of climate action and of participation in a climate club. It could be argued that free riding as a concept in itself is not a problem, but a prerequisite in the broader context of achieving environmental justice. In other words, there are States (e.g., least developed nations and small island developing states (SIDS)) that have not contributed in the past nor contribute very much in the present to climate change. Yet, they are the main victims of climate change created by emissions from the major emitters. Wouldn't it be in line with the principles of environmental justice to accept that fairness mandates these States to be 'free riders' to the benefits of emissions reduction by major emitters simply because they are 'captive riders' to negative climate change effects created by large emitters?

If yes, the main issue of a climate club is to distinguish the States that should legitimately be allowed to be free riders and those that should not. Legitimate free riders seem to be the States

[112] R. Falkner, "A minilateral solution for global climate change? On bargaining efficiency, club benefits, and international legitimacy," *Perspectives on Politics*, Vol. 14, Issue 1, 2016, pp. 87-101 [emphasis added].
[113] This third element links back to geostrategic crises and energy dependence.

that are adversely affected by climate change, but do not significantly benefit from activities contributing to it. Evidently China, India, or the GCC countries, for example, do not meet the criterion, despite being developing nations. Hence, this perspective shifts the focus from optimal exclusion to optimal inclusion.

While it is accepted that not all the countries that should ideally take part in the climate club will actually not do so, the above should at least provide a justification for why not all countries must take part.

2. Integrating trade and climate change policies through climate clubs[114]

Multilateral treaties are dependent on a minimum of restrictions to make room for all parties (Leal-Arcas et al., 2020). This has generated scepticism about the possibility of creating strong multilateral treaties that incorporate both trade and climate policy considerations and has prompted some scholars to argue for a redesign of international climate treaties. William Nordhaus (2015) proposes the creation of smaller, regional, bilateral agreements between countries in "climate clubs" which are to form country groups that harmonize their climate policies, maintain relevant trade connections, and retain the possibility to grow into larger coalitions. A climate club would help to combine trade instruments and climate policy action to overcome the free riding issues that are present in extant agreements by creating costs of non-membership in the club: "A country considering whether to undertake costly abatement would have to weigh those costs against the potentially larger costs of reduced trade with countries in the club." ("The Climate Club", 2015).

This is not a novel suggestion as numerous scholars have recognized the value of a trade-climate policy hybrid approach and have variously argued for it. Esty relies on similarities between frameworks that govern trade and climate policy and points out the fact that certain trade and climate policy instruments, the 1994 WTO Agreement and 2030 Sustainable development goals respectively, have a shared goal of promoting sustainable development, which requires the protection of the environment (Esty, 2017). Dechezlepetre and Sato carry out a review of works that have analyzed the role of climate policy disparities and their impact on trade and show that the connections between trade and climate policy are complex and necessary (Dechezlepetre & Sato, 2017).

Other scholars concentrating on citizen attitudes to a combined approach in the global south have found that there is a broad support base for the idea with citizens in a sample of countries preferring trade liberalization and environmental protection despite being aware that trade might be detrimental to the environment (Bernauer & Nguyen, 2015). While others have studied instances where trade agreements have already incorporated climate policy considerations through the use of "green language" (Ludwiszewski, 1993; Corbin, 2003), consensus has yet to be achieved, and the lack of a broad global agreement institutionalizing the incorporation of climate policy concerns into trade instruments represents a major institutional challenge facing climate change efforts (Esty, 2017).

Achieving the consensus required for multilateral agreements is precluded by collective-action problems that weaken existing institutions undermining their basis as a launching pad for further and more comprehensive action. Bertram (2016) points out that collective action issues have systematically and consistently undermined the efficacy of international climate treaty instruments that fail to anticipate the deleterious effect of free riding and limited policy agenda

[114] This section has been written by Lee Guantai.

options. The Paris Agreement tries to enervate incentives for free riding by allowing countries to operate under a pledge and review setup where each country can set its own goals. The assumption is that countries will pick commitments at their tenable levels. This, however, fails to consider the free-riding incentives that undermined the Kyoto Protocol in the first place (Bertram, 2016).

Since the free-riding incentives that haunt multilateral climate agreements are tightly linked to trade, it is critical to consider how international trade, as a harmful and necessary activity, and global climate change policy, embodied in agreements such as the Paris Agreement, can be mediated and configured to achieve a *modus operandi* that integrates trade and climate policies possibly through the use of climate clubs.

This requires engagement with the issues that are linked to climate regulation and how it affects trade. Scholars have postulated two main hypotheses about how this relationship is likely to play out. The pollution-haven hypothesis proposes that in the case of uneven regulation policies around the world, pollution-intensive production will shift to low abatement areas (Dechezleprêtre & Sato, 2017). On the other hand, the Porter hypothesis holds that uneven policy stringency will result in technological and market leadership for industries in countries where such policies are enacted (Dechezleprêtre & Sato, 2017). Research on both notions has yielded a mixed bag of results with findings showing that "implementing ambitious environmental policies can lead to small, statistically significant adverse effects on trade, employments, plant location, and productivity in the short run, particularly in pollution and energy-intensive sector" (Dechezleprêtre & Sato, 2017). Conversely, research has also found that environmental regulations induce innovation in cleaner technologies but the benefits from such innovation do not outweigh the costs of regulation (Dechezleprêtre & Sato, 2017). These mixed effects of regulation represent the policy considerations that induce free riding and make countries accede only to the least burdensome regulatory commitments in multilateral climate treaties.

While revealing the ways in which climate regulations can influence trade, the previous arguments also demonstrate how trade affects climate regulation. Esty (2017) argues that these tensions can be resolved through an institutional commitment to sustainability at the highest levels of international economic governance. He argues that the G20 is a body that has the geopolitical clout to spearhead the international endorsement of sustainability by making it a core principle of international cooperation (Esty, 2017). Such an approach would require the G20 to explicitly prohibit "pollution haven" provisions by preventing countries from relaxing environmental standards to attract investment. Esty (2017) points out that such a provision is already contained in section 114 of the North American Free Trade Agreements (NAFTA).

Preferential Trade Agreements (PTAs) and Bilateral Investments treaties (BITs) are some of the more novel and direct means through which trade can aid in sustainability efforts and advancing international climate policies (Leal-Arcas et al., 2020). There has been a recent proliferation of PTAs in the international trading system due to difficulties with the conclusion of multilateral trade agreements (Leal-Arcas et al., 2020). The inclusion of environmental and sustainable chapters in such agreements has bolstered interest in a bottom-up approach to climate change mitigation that circumvents circuitous multilateral treaty negotiations (Leal-Arcas et al., 2020). Consequently, preferential trade agreements represent a high potential area for new climate change approach. Especially by making it possible to build institutions that impose binding obligations and legal penalties for breach of regulatory principles. However, PTAs remain primarily instruments of trade and even though they are increasing incorporating

far reaching environmental regulation provisions, their core emphasis will be on economic growth and economic gain rather than environmental or social progress (Esty, 2017).

Consequently, the tensions between trade and climate policy regulation that produce competing incentives remain a stumbling block for sustainable development. Multilateral treaties are clunky and lack the ability to marshal necessary impetus for change. PTAs and other trade instruments can only realign trade and climate policy to a limited extent and even the G20 proposal that Esty puts forth involves countries with the largest incentives for non-punitive climate policies. Containing climate policies and trade in a practical instrument requires a new design ordering how countries solve collective-action problems, especially those arising at the nexus of large-issue areas.

The climate club hypothesis is far from being an alternative for existing treaty institutions and, as Nordhaus himself points out, is a utopian idea. Conditions necessary for successful club formation, however, are present in the case of climate and trade policy mediation and support the idea of climate club formation. These conditions include the existence of a sharable public-good-type resource, cooperative benefits for each member of the group, penalties for non-members at relatively low costs for members, and that membership is stable and enduring (Nordhaus, 2015). Consequently, it is possible that the climate club represent an efficient cooperative strategy and the best mechanism for reducing the commitment problems of extant climate agreements (Nordhaus, 2015.)

However, this is not so straightforward since the existence of multilateral environmental agreements such as the Kyoto Protocol is based on the compelling idea that, as the coalition increases to include all countries, the global level of abatement will tend towards an efficient rate, i.e., a global equilibrium of benefits and trade-offs to members that makes the agreement self-reinforcing (Nordhaus, 2015). On the other hand, smaller coalitions, such as those that are likely to be present in the early stage of climate club formation, are notoriously unstable, with much of their success relying on "the structure of payoffs and the stability of the concept" (Nordhaus, 2015). Furthermore, while smaller coalitions are efficient when they work, as the coalition grows, as Nordhaus envisions the climate clubs will over time, the same efficiency problems that plague larger coalitions will likely creep in (Nordhaus, 2015). Consequently, the use of climate clubs as alternatives to overcome the collective action challenges of large member agreements will require that there be a sound design that factors in important aspects of both small and large coalitions.

Possible climate club designs

These aspects include mechanisms for fostering individual rationality and group rationality which are linked to the creation of self-reinforcing treaties (Nordhaus, 2015; Barret, 1994). Individual rationality entails the creation of membership incentives for each member while collective rationality entails the creation of group benefits and non-member penalties. Perhaps a suitable climate club design would anticipate the efficiency issues of large coalitions and the stability challenges of smaller coalitions by making use of trade instruments such as preferential trade agreements or free trade agreements, which have mechanisms for exacting penalties (Leal-Arcas et al., 2020). Indeed, one possible climate design can entail trade agreements with climate provisions that are binding and specific, between high volume trading partners, reduction goals agreed upon by the coalition countries but significantly tougher than international reduction goals, and entail a minimum time limit during which the members of the coalition cannot exit the group or allow new members.

This design entails a higher level of commitment and creates clear reduction goals. The term limits help overcome the stability challenges of small coalitions while enabling members to benefit from the non-membership penalties paid by countries outside the coalition. This is particularly important since as Dechezlepetre and Sato (2017) point out countries that move to regulate pollution first often suffer certain disadvantages in terms of trade. Admittedly, such a design represents a high threshold and is imaginable only for those countries with resolutely intertwined climate and trade policy considerations.

Perhaps the best climate club design would have a two-tier system, where the latter design would be the higher-tier design to which countries would ascend from a low tier club design based on tacit obligatory agreements, instead of binding ones. The lower tier club design would enable countries to try out various climate change regulation means while setting up the institutions required to successfully join the higher tier climate club. Allowing countries to learn and make gradual improvements to the investments required for the successful operation of regulatory coalitions.

William Nordhaus's climate club represents the best mechanism for climate policy action at the international level and, arguably, at a domestic level too. As Bertram (2016) notes, it enables countries with incentive compatibility to work together as they forge their national strategies, avoiding premature unilateral action. Such club also provides a focal point around which international negotiations may be organized (Bertram, 2016). Additionally, Bertram (2016) notes the appeal that such clubs would have for allowing countries "not to bind their citizens to anything unless and until a coalition of some minimal credible size emerges". This is in line with our proposal for the climate club design into two separate tiers, with the lower tier allowing countries a probationary period before entering into serious commitment partnership in the higher tier clubs. The use of PTAs and agreed-upon tariffs in the higher tier club combined with the non-membership penalties makes the climate club a potential self-sustaining model for sustainable development and, if and when countries agree to coalesce into such groups, will be a sinecure providing huge benefits at low enforcement costs.

VI. Concluding Remarks

This article has provided an overview of the key considerations in the relevant discourse exploring or advocating minilateralist approaches to global climate governance. Analysis of the literature in connection to the minilateralist landscape suggests that existing climate clubs function either as *dialogue* or *implementation* forums, and that their implications for multilateralism vary. Some club-like arrangements may have *synergistic* fragmentative effects, others *cooperative*, while yet others may have *conflictive* effects for global climate governance.

Furthermore, they vary in their content: some may be predicated on carbon market arrangements, while others may have more specific policies to encourage financing, increased energy efficiency, or other modalities explored throughout this publication.

Moreover, the multilateralist setting (UNFCCC and subsequent agreements) contains scope for minilateralism. This is apparent also in the bottom-up nature of the Paris Agreement[115] that encourages coalitions of the willing, including among states and private actors. That being said, the current minilateralist landscape does not appear to be achieving

[115] *See* World Bank. State and Trends of Carbon Pricing 2020 (May), World Bank, Washington, DC. (87) for more detail on the bottom-up approach to addressing climate change within the context of Article 6 of the Paris Agreement.

gains on a par or higher than what could have been achieved within the UNFCCC multilateralist regime. In that sense, climate club arrangements need to be impactful in order to secure buy-in and optimal abatement. However, that remains the greatest challenge: namely how to surmount the very dynamics that are present in multilateralism. How to co-opt the most impactful actors has received considerable scholarly attention, as have questions of what may be the golden mean when it comes to the configuration of members. The findings are not straightforward, as they are contingent on a multiplicity of factors.

What is more, the literature, for the most part, contains prescriptive insights into the features and configuration of prospective members for optimal club-like arrangements. The obvious features would be substantial ambition over and above current commitment levels. However, incentivizing participation to ambitious abatement commitments potentially harboring costly and anticompetitive effects relies on striking a shrewd balance between, on the one hand, exclusive club-like benefits for members and, on the other, impactful penalties for non-members. Sufficient benefits draw in those reluctant states that face high abatement costs. Penalties also incentivize buy-in when they are sufficiently impactful.

However, as is to be explored in subsequent parts of the present publication, there are considerable administrative and legal intricacies that would need to be addressed when it comes to the imposition of conditions or penalties (e.g. through the requirement for emission allowances and/or the imposition of levies, including import tariffs or carbon taxation affecting the end price of the goods or services from non-members). Concerns include the erosion of the current multilateral trade order – itself a considerable multilateralist achievement of the post-WWII order – what with the inherent threat of countermeasures when it comes to the unilateral imposition of uniform tariffs or carbon taxes to non-member exports. In that sense, minilateralist solutions need to address and explore all known-knowns and unknown-knowns, respectively, when it comes to blowback to the multilateralism concerning global climate governance and global trade governance.

What is more, it is no less an intricate matter to arrive at the precise configuration of participants for optimal outcomes. That being said, the literature suggests that one need not obsess with including all or any of the highest emitters from the outset. While optimal emissions coverage is the ideal[116] – an ideal after all that multilateralism has historically failed to attain – it need not be the starting point for club formation. Focusing on how to design and promote an effective, incrementalist solution could yield results in terms of advancing climate diplomacy, including facilitating 'great power' dialogue, research and development, investment, and informational and technological exchange.

While the relevant literature, for the most part, expresses an optimistic albeit cautious view on climate clubs,[117] it is reasonable to argue that such minilateralist arrangements, when

[116] *See* R. Gampfer (2014) UNFCCC v. Minilateralism: Effects on agreement design features on support for global climate governance architectures, ETH Zürich, Center for Comparative and International Studies (4). Gampfer lists a series of hypotheses including that, support for minilateralism in prospective member as well as non-member countries is higher the larger the share of global emissions regulated under a climate club arrangement.

[117] Aptly summed up by Falkner when stating that "minilateralism offers *no panacea for the ills of climate multilateralism*. Most critically, climate clubs cannot pressurize or induce reluctant great powers to reduce their greenhouse gas emissions. However, a *realistic approach to climate minilateralism*, focused on coalitions of the willing, *holds the promise* of moving us beyond the current stalemate in international climate negotiations. The rise of minilateralism, often decried as a sign of the disintegration of the postwar multilateral order, *can be harnessed* to strengthen an increasingly polycentric field of global governance." (emphasis added) R. Falkner (2015) *A minilateral solution for global climate change? On bargaining efficiency, club benefits and international*

pertaining to more ambitious policies within a small yet impactful coalition of the mighty and the willing, could certainly catalyze the existing state of global climate diplomacy by providing economic pressure but also moral leadership to co-opt non-members and thus expand progressively towards multilateralism. While legitimacy, inclusiveness, and accountability are not essential for the success of such minilateralist initiatives, addressing those concerns by, for instance, sufficiently subjecting or otherwise linking to multilateralist (i.e. UNFCCC) scrutiny could go some way to allay related concerns and encourage public acceptance.

In sum, many misconceptions surround climate diplomacy discourse. States ought not strive for ideals and perfection, but for realism and effect. Effective climate clubs may contain pathways to optimal abatement efforts at the inter-state and transnational levels.

VII. Looking to the Future

Few people in the rich world may want to volunteer to reduce their living standards. At the same time, it is difficult to ask people from parts of the world that are still developing to sacrifice their chance to become rich. A middle-ground compromise could be technology that brings economies away from using fossil fuels as their principal source of energy. Technology could be instrumental to understand the links between international trade, sustainable development, and environmental protection, which have become increasingly important to understand how we can reach a sustainable future. We know by now that international trade can help decarbonize the economy and create jobs. This duality can be reached through the liberalization of trade in green goods, the circular economy, border carbon adjustment mechanisms (BCAM), or the blue economy, to mention but a few.

The WTO Agreement clearly states in its preamble that the international community should pursue free trade in the context of sustainable development. As a result, the future of the world economy cannot be separated from the future of the environment. This means that we need to re-imagine the rules of international trade (whether multilateral, regional, bilateral) for sustainable development. It also means that free trade needs to be consistent with environmental protection. This article concludes that potential trade concerns should not be an obstacle for the formation of a club of carbon markets in a climate club.

One wonders whether existing WTO rules are sufficient for the envisaged transformation towards a low-carbon society in the context of the EU's Green Deal or is it necessary to have a new agreement/interpretation of existing rules (e.g., on BCAM or subsidies)? If this is a necessary step, should it be part of an overall WTO multilateral reform package discussion or a separate discussion with a possible plurilateral agreement? If it is a plurilateral agreement outside the WTO, would that pose a risk for the most-favored-nation principle, which is a core principle in WTO law?

Going forward, the international community should aim at concluding agreements to eliminate barriers and tariffs on green goods; it should eliminate barriers to trade in

legitimacy. Centre for Climate Change. Economics and Policy. Working Paper No. 222 (27). Also *see* A. Hagen and K. Eisenack (2015) International Environmental Agreements with Asymmetric Countries: Climate Clubs v. Global Cooperation, 20th Coalition Theory Network Workshop (2015, March 19-20), *Fondazione Eni Enrico Mattei*, Venice, Italy, where it is stated that it can generally be shown that "climate clubs are at least not detrimental to global cooperation…we need to conclude that the idea that climate clubs do benefit global climate protection has to be taken with precaution." (18).

environmental services; it should put an end to fisheries subsidies; and both the WTO and the World Bank should work together to phase down and gradually out fossil fuel subsidies, which are diametrically opposed to climate change mitigation. Moreover, the WTO rules (and other rules of international trade) should be drafted through the prism of sustainable development to serve the needs of the 21st century. This may only be achieved via plurilateral agreements, not multilaterally, since the WTO has proven time and time again that it is not feasible. For instance, a group of like-minded countries could take this initiative. In addition, carbon border adjustment mechanisms throughout the world may help put a price on carbon via a carbon tax. With climate a major global priority, it remains to be seen whether the EU will disrupt the global trading system as it will inevitably implement carbon border adjustment taxes.

In recent years, and certainly since the collapse of multilateral trade negotiations in 2008, we have seen the rise of FTAs. Recent FTAs have environmental chapters that promote environmental protection. A case in point is USMCA, although its deficiency is that anything related to climate change is omitted in the agreement. The good news is that many countries are promoting climate change-related technology and many governments throughout the world would like to see a pro-climate agenda in their trade policies (largely because it is in their interest—both in terms of health for their citizens and economic sustainability—to do so). That may mean trade restrictions as part of climate change mitigation measures.

The future trade agenda is full of mega-trends, side-effects of geopolitical conflicts (like that between the US and China, which will most likely be the most important bilateral relationship in the world for years to come in fields such as energy security, international trade, climate change, or finance, to name but a few),[118] it is about e-commerce (especially when it comes to data flows), as well as open, sustainable, and assertive trade. More cooperation in areas such as climate change and public health is urgently required. The recovery from covid-19 will imply the interaction between international trade policy and domestic policies and that trade policy is an enabler of other domestic policies. Countries are prioritizing the implementation and enforcement of their FTAs, especially the sustainability commitments in FTAs. A case in point where sustainability is at the heart of trade policy is the EU-Mercosur FTA, as without sustainability clauses, there would be no political support in the EU for the ratification of this FTA as of early 2021. In fact, the notion of sustainability is present in all labor and environmental protection chapters in recent EU FTAs.

Equally, an increasing number of countries are aiming at carbon neutrality by 2050 or 2060 (which is perceived as benign unilateralism) as well as greater integration of trade policy with other domestic policies (such as sustainability—in its three dimensions, namely development, environmental, and social—and the digital economy). Similarly, governments could enact policies that greener consumption. Putting a price on carbon is a good way forward, making sure that companies and consumers pay for their emissions.

Lastly, we should not underestimate the phenomenal positive impact green technology can have on climate change mitigation. In recent times, there have been scientists stating negative views on the future of humanity and that humans should forget about solving the climate crisis and, instead, invest their efforts and money in migrating from Earth to other

[118] President Xi of China speaks of 'ecological civilization' to show its assertiveness in becoming a climate leader. Areas for potential cooperation with the US are, among others, carbon capture and storage, hydrogen power, and the development of green financial instruments to fund such cooperation. That said, Chinese leaders seem cautious in their bilateral relations with the West, which they see as a region of the world in economic decline and political instability, as opposed to the economic rise and social stability of China.

planets. However, technology evolves very rapidly. The current debate is that green hydrogen will guarantee a sustainable future for our planet. For instance, hydrogen sustains three times as much energy as kerosene and is lighter. In addition, public spending in research and technology is growing in most OECD countries, and more and better subsidies for R&D may take place.[119]

Therefore, there are many reasons to believe that tomorrow's technology will be able to tackle climate change effectively, especially if we continue to invest in green technology. In addition, many countries increasingly have green policies. Technological advancement is a clear example of human progress and, as a result, governments and companies should aim at the promotion of green technology to fight climate change. This can be done with the creation and proliferation of climate clubs, whether for countries or companies.

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[119] The Economist, "The roaring 20s?" 16 January 2021, p. 7.