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A Minilateral Solution for Global Climate Change? On Bargaining Efficiency, Club Benefits, and International Legitimacy

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Abstract:

Gridlock in the multilateral climate negotiations has created growing scholarly and practical interest in the use of minilateral forums. A large variety of climate club proposals have been developed in recent years, which promise more effective bargaining among the main climate powers, better incentives to encourage mitigation efforts and discourage free-riding, and new ways to align international power asymmetries with the interests of the global climate regime. I investigate the three dominant rationales that underpin minilateralist proposals. I offer a critical review of their potential as well as their limitations in promoting global climate action. I argue that minilateralism is unlikely to overcome the structural barriers to a comprehensive and ambitious international climate agreement. However, climate clubs can enhance political dialogue in the context of multilateral negotiations and can provide a more conducive environment for great power bargaining. They can create club benefits that strengthen mitigation strategies and help reduce the dangers of free-riding for so-called coalitions of the willing. And they can help re-legitimize the global climate regime against the background of profound power shifts that have slowed down progress in the multilateral negotiations.

Despite over two decades of multilateral negotiations, international society has yet to produce an effective response to the threat of global warming. The 1997 Kyoto Protocol to the 1992 UN Framework Convention on Climate Change (UNFCCC), so far the only legally binding treaty with specific emission reduction targets, has proved to be ineffective. At the 21st Conference of the Parties (COP21) to the UNFCCC in December 2015, 195

countries reached a compromise on the Paris Agreement, which will replace the Kyoto Protocol as the main instrument to bring global emissions under control. But unlike the Kyoto treaty, the new agreement relies on pledges made by emitters, replacing the previous top-down logic of international climate regulation with a bottom-up approach of nationally determined actions. More and more analysts now argue that UNFCCC-style multilateralism needs to be replaced, or at least augmented, with a new form of climate unilateralism. David Victor, for example, hails “the practical benefits that arise from crafting agreements around the core interests of a smaller number of countries.”² Moisés Naím warns against “a flawed obsession with multilateralism as the panacea for all the world’s ills” and advocates “a smarter, more targeted approach” in the form of a unilateral club.³ Anthony Brenton calls for a small group of “Climate Great Powers” to work together to explore bargaining solutions that are unavailable in the multilateral setting.⁴ Likewise, William Antholis and Strobe Talbott, William Nordhaus, Anthony Giddens, and Robyn Eckersley propose the creation of climate clubs comprising a small number of key players that hold the key to finding a global solution.⁵ Timmons Roberts may be overstating the case when he describes the idea of climate unilateralism as “practically conventional wisdom in developed countries”,⁶ but it is hard to escape the conclusion that a discursive shift has occurred that has moved great power unilateralism from the margins to the center of the debate on international climate politics. At the same time, unilateralist proposals remain deeply controversial in global politics and provoke strong reactions, particularly in developing countries that fear being excluded from the negotiation process. Both the effectiveness and legitimacy of the international climate process are therefore at stake in this debate.

Climate change is not the only area of global concern in which established multilateral processes have failed to produce the required level of international cooperation. Political scientists warn of increasing gridlock in global governance across a number of international policy arenas, from financial regulation to nuclear non-proliferation and public health.⁷ In the environmental field, evidence is mounting that humanity is unable to provide adequate policy responses to resource scarcity, degradation of ecosystems,

and the reduction of the planet's ability to absorb waste and pollution. The magnitude of the global challenge is illustrated by what scientists have recently coined the advent of the "Anthropocene", a geological era in which human activities rival global geophysical forces in shaping the planet.⁸ As the Anthropocene unfolds and business-as-usual trends are pushing us against global planetary boundaries, the limitations of conventional top-down approaches in international governance are becoming increasingly apparent. And as Debra Javeline has recently argued, political scientists need to consider not only how to mitigate greenhouse gas emissions but also how to reduce humanity's "vulnerability to the now inevitable impacts of climate change."⁹

In response to the apparent failure of climate multilateralism, scholars have proposed several forms of innovation in global governance, from bottom-up policy processes and experimentalist governance to transnational regime complexes and multi-actor governance networks.¹⁰ Minilateralism is but one, albeit important, variant of global governance innovation. Its attraction lies not least in the fact that it works with the grain of international politics and merely seeks to modify existing processes of international cooperation. Writing in this journal, for example, Robert Keohane and Victor advocate building "parallel club-oriented regimes as part of a regime complex" rather than negotiating a "comprehensive, integrated regime."¹¹ By creatively reshaping the composition of international forums to better reflect global power realities, minilateralism thus promises a more realistic scenario for developing global policy responses.

If indeed an "effective architecture of governance system for planetary stewardship is likely to be polycentric and multi-level rather than centralized and hierarchical,"¹² as Will Steffen et al. suggest, then political science research needs to focus on whether and how such novel governance approaches can be made to work at the global level. The debate on polycentric governance, originally developed for local and national contexts, has only begun to address this question of global effectiveness.¹³ I aim to make a contribution to this debate in two ways. First, I develop a more fine-grained understanding of how minilateralism is meant to promote global climate mitigation, by separating out the different theoretical rationales behind

club-based solutions. Second, by subjecting each of these rationales to critical examination, I inject a greater sense of realism into the debate and identify those areas in which club-based approaches can indeed make a meaningful contribution. Using insights from international relations theories, I map out a research agenda on how to turn minilateral clubs into realistic tools for global governance innovation without falling prey to hubristic expectations.

The analysis unfolds in four steps. I first provide a brief review of the recent debate on climate minilateralism, highlighting the different models that have been put forward and identifying the functions they are intended to serve. The subsequent three sections then examine in more detail how convincing the rationales behind each minilateral model are: the notion that small-n negotiation groups are more likely to reach an international compromise on climate mitigation by improving bargaining efficiency; the idea that climate clubs can change the underlying interest structure in international climate politics by creating club benefits and enforcing club rules; and the argument that a minilateral forum can re-legitimize the multilateral climate regime by empowering the great powers while establishing their special climate responsibilities and tying the club into the multilateral framework. The final section sums up my argument and proposes an agenda for future research. I argue that, while minilateralism is unlikely to overcome the structural barriers to a comprehensive and ambitious international agreement, it can nevertheless serve certain limited purposes: climate clubs can enhance political dialogue in the context of multilateral negotiations and provide a more conducive environment for great power bargaining; they can create club benefits that strengthen mitigation strategies and reduce free-riding, but only for so-called coalitions of the willing; and they can help re-legitimize the global climate regime against the background of profound power shifts that have slowed down progress in the multilateral negotiations.

A Review of Minilateralist Proposals

A growing number of analysts have advocated a minilateral solution to the problem of climate change. Closer analysis of these proposals reveals that there are in fact not one but several different minilateral models. These models vary in important ways, with regard to questions of club size and

membership, purpose and function, and legitimacy and inter-regime linkages. As I argue in this section, these variations reflect not just minor differences in regime design but contrasting theoretical rationales for climate multilateralism.

Most multilateralist arguments take as their starting point the assumption that the unequal distribution of power is an inescapable fact of international life, and that if lasting international cooperation is to be achieved then the process of negotiating international agreements must in some way reflect this power asymmetry. This is a central point in Miles Kahler's classic definition of multilateralism as a "system of governance through great power collaboration".¹⁴ However, it is far from obvious how club size and membership should be determined in the case of climate change. In fact, existing proposals range from twenty to just two members. Naim assumes that the number should be "about 20," which would account for between 75 percent and 80 percent of global emissions.¹⁵ Others believe the right number is between twelve and twenty,¹⁶ with some proposing the seventeen-strong Major Economies Forum (MEF) as the appropriate institution.¹⁷ Todd Stern and Antholis advocate a much smaller setting, an "E8" similar to the G7 or G8 meetings.¹⁸ Brenton likewise identifies eight states as "climate great powers".¹⁹ Yet others argue for even smaller clubs, ranging from seven²⁰ to six²¹ and four²² or even just two—a G-2 composed of the United States and China.²³

Why is there no straightforward answer to the question of club size? After all, most proposals tend to agree that climate multilateralism should be built around a "club of the relevant",²⁴ consisting of the major emitters that possess economic weight as well as political influence, and whose support is essential to an effective agreement.²⁵ Such definitions of "relevance" usually revolve around a critical mass approach, which focuses on countries that have significant veto power *and* the capability to contribute to collective problem-solving. If we focus on a country's share of global emissions, share of global GDP, and share of global population as proxy indicators for relevance, then China, the United States, the European Union, Russia, and India are in the top ten according to all three indicators. Japan, Canada, and Brazil make it into the top ten with regard to two indicators, while Saudi Arabia, South Korea, Iran, Pakistan, Nigeria, Bangladesh, Indonesia, Mexico,

and Australia are in the top ten according to just one indicator.²⁶ Clearly, the question of “climate power” status is intimately tied to the question of how we define relevance in climate politics.

A variant of this club model, which is based on considerations of legitimacy in addition to those of veto power and capability, includes a mix of major emitters, major economies, and those countries most at risk from climate change—“the most capable, the most responsible and the most vulnerable.”²⁷ Furthermore, if a climate club is defined not by veto power but by the level of ambition, then membership rules become even more fluid. Minilateral forums could become trend-setters in international climate policy if they are built around coalitions of the willing.²⁸ By excluding laggards with veto power, a “transformational climate club”²⁹ composed of environmentally-progressive countries could create club benefits that would encourage others to join and gradually enlarge the circle of members as the level of ambition rises. Finally, some models that focus on problem-solving capacity go even further and propose to extend the club model beyond the inter-governmental realm by including non-state actors, in particular corporations that possess the capacity to advance global mitigation efforts in specific sectors.³⁰ In the latter case, minilateralism becomes an even more flexible tool of polycentric governance, involving state and nonstate actors and operating at transnational and regional levels.³¹

It is clear from this brief review that the design of club size and membership is closely related to what a climate club is meant to achieve. On this question, three different types of minilateral functions can be distinguished, and it makes sense to structure our analysis around these three minilateralist rationales. The first is about enhancing political dialogue and bargaining. A minilateral forum achieves this by allowing the major emitters to discuss climate policy informally, away from official multilateral negotiations. Such a dialogue forum would enable the political leaders of the major emitters to build mutual trust and explore how to find common ground without the expectation of reaching a formal agreement, much like in the G-8 or G-20.³² For this, club membership would be restricted to the great powers, but could vary depending on the specific focus of the political dialogue. Alternatively, the minilateral club could be the main forum for full-scale negotiations. In order to

lower the transaction costs of bargaining and reduce the severity of interest asymmetries among great powers, the number of club members would need to be kept to a minimum.³³ Naim calls this minilateralism's "magic number", or "the smallest possible number of countries needed to have the largest possible impact on solving a particular problem."³⁴

A second climate club model goes beyond deliberation and bargaining and aims at the creation of membership-specific incentives that encourage compliance with climate agreements. Based on economic theories of cooperation,³⁵ the minilateral forum would be structured to create specific benefits that can be limited to those countries that are willing to join the institution and abide by its rules.³⁶ It could establish mechanisms for enforcing its rules and agreements, mainly by imposing sanctions on non-compliant members but potentially also to target non-members with a view to incentivizing them to join the club. Accordingly, the composition of the club would vary depending on the underlying interest structure and the ability of its members to create club benefits. Importantly, as club size affects countries' willingness to pay for club benefits, the number of countries that decide to join the climate club would have an important influence over the bargaining dynamics within the club.³⁷

A third model of minilateralism sees the climate club as a tool for legitimating great power cooperation in the context of the existing multilateral regime. Creating a formally-established climate club would acknowledge the underlying reality of great power politics and grant special rights to the great powers (so-called great power prerogatives) while tying them to the multilateral process. By creating a formal link between the club and the multilateral regime, this model seeks to reduce the risk of fragmentation and destabilization that comes with a proliferation of small-n forums. It is concerned with legitimating the inevitable practice of informal great power cooperation as a stepping stone towards more a comprehensive multilateral agreement, which in turn would help re-legitimate the multilateral regime in the eyes of the great powers themselves. In this model, membership in the club and institutional links to the UNFCCC would need to be designed to achieve small-n bargaining efficiency while retaining sufficient representation by less powerful members of the climate regime.³⁸

As has become clear in this brief review, we are dealing with not one but at least three different unilateral approaches to solving the global climate problem. Which of these can hope to make a meaningful contribution to the global mitigation challenge? I shall consider each model in turn and apply insights from international relations theories to identify a realistic scenario for climate clubs as part of global climate governance. As I shall argue, unilateralism offers no panacea for the ills of climate multilateralism, but a carefully crafted club solution holds the promise of moving us beyond the current state of multilateral gridlock.

Bargaining Efficiency

Rationalist theories of international relations that focus on the distribution of national interests and the bargaining context in which countries pursue their interests have been at the forefront of developing unilateralist proposals. Their starting point is the widely-shared observation that UNFCCC-style multilateralism is cumbersome, inefficient, and slow. Universal emancipation in the negotiations empowers too many countries that have no interest in a workable compromise and produces outcomes that reflect the lowest common denominator.³⁹ In their view, Olson's famous dictum that "the larger the group, the farther it will fall short of providing an optimal amount of a collective good" sums up what is wrong with climate multilateralism.⁴⁰ Creating international co-operation on emissions reductions is a costly global collective good, with not enough major powers willing to pay for its provision. Unless the major polluters' interests change, something else—the bargaining process—has to change to improve the provision of the collective good. One conclusion that rationalists draw from this analysis is that a shift of the negotiations towards a unilateral forum would improve the efficiency of the bargaining context and promote a more meaningful international agreement.

The "k-group" approach to international bargaining captures the logic of this argument.⁴¹ Small groups of countries find it easier to reach agreements than large-n settings, mainly because fewer countries' interests and circumstances need to be taken into account, fewer bilateral and plurilateral side-deals need to be struck, and linkage politics can be used in a more targeted way. Furthermore, where club-based negotiations take place behind

closed doors and away from the glare of the world's media, trust is more likely to be built between the club members, and the temptation for negotiators to pander and posture is reduced.⁴² This is what happened in the early phase of the post-1945 trade talks. The GATT (General Agreement on Tariffs and Trade) started out as a small club of major economies that negotiated a succession of trade liberalization agreements. The small number of players in the early GATT rounds reduced the complexity of reciprocal deals, and conducting the talks far from the limelight of public scrutiny helped to insulate the negotiations from protectionist interests.⁴³ In short, reducing the number of players and creating an exclusive bargaining environment increases the efficiency of negotiations and boosts the chances of finding a compromise agreement.

There is some evidence that the k-group logic can make a difference in international climate politics. Minilateralists point to the experience of the Copenhagen conference of 2009, where two weeks of painstaking multilateral negotiations failed to deliver the long-awaited global climate treaty. It was only at the end of the conference, when a small group of world leaders came together in a more informal setting, away from the strictures of the UNFCCC process, that progress was made. Heads of state from the most important emitter countries, including the United States, China, and India, were able to agree on the Copenhagen Accord, a short political statement that was later integrated into the UNFCCC agreements and paved the way for the Durban Platform on Enhanced Action.⁴⁴ The small group that achieved this outcome had no formal mandate or status within the UNFCCC. Formed spontaneously on a self-selecting basis, it comprised the leading emitters with veto power in climate politics.

But could such a k-group approach provide the breakthrough in future climate negotiations that the world has been waiting for? The experience with the Copenhagen Conference is instructive in this regard. The Copenhagen Accord is a political agreement short on detail and precision, laying out basic principles for how future negotiations are to advance the goal of climate mitigation. It succeeded precisely because it sidestepped some of the more difficult issues, especially the distribution of the mitigation burden between the main emitters. Where the interests of the great powers are too diverse and

domestic support for strong international action too weak, changes to the bargaining process alone cannot hope to overcome those barriers, especially when it comes to distributional conflicts. The comparison with trade negotiations—often cited by minilateralists—is also instructive here. In the GATT’s early days the main powers of North America and Europe achieved landmark deals based on a series of minilateral bargains. They were able to establish a rules-based regime, reduce tariffs across different sectors, and agree to certain national exemptions and flexibility clauses to bridge diverging national interests. But such compromises were possible in the GATT because the key countries bargained not just over the distribution of the costs of policy adjustment—they were also set to derive short- and medium-term gains from mutually agreed trade liberalization. The GATT negotiations succeeded because they were able to turn trade liberalisation into a (at least partially) private good that the members of the club could appropriate.

In contrast, the climate negotiations are set up primarily to focus on the distribution of mitigation burdens, with few, if any, economic gains on the table, at least in the short to medium term. In a situation where the main interest of a significant number of great powers lies in resisting costly policy measures to reduce emissions, shifting the negotiations to a minilateral forum will do little to induce a change in the interest calculus of major emitters. As some minilateralists acknowledge,⁴⁵ a climate club that includes most major emitters would face the same structural impediments to a global mitigation agreement that have plagued the UNFCCC negotiations. Only by excluding reluctant veto players and constructing the club as a coalition of the willing could interest divergence be reduced enough to facilitate a mitigation agreement. This would, however, reduce the overall impact of such an agreement on global emissions, thereby limiting its environmental effectiveness.

This is not to say that minilateral forums cannot make a meaningful contribution to international climate policy. Even if they do not alter individual country positions in any substantial way, they can still provide a useful opportunity for great power dialogue that can inject political momentum into the multilateral negotiations. Indeed, some of the main emitters have repeatedly sought to engage such small-n forums to build broad coalitions

around their preferred climate policy initiatives. The European countries repeatedly put climate change on the agenda of the G-8, at the Gleneagles summit in 2005 and again at the Heiligendamm summit in 2007, while the United States preferred to work through its own minilateral institution, the Asia-Pacific Partnership on Clean Development and Climate (APP). To be sure, neither of these institutions produced any breakthrough results, and some were seen as potential distractions from multilateral negotiations, or forum-shifting, as was the case with the APP. Indeed, as I will discuss, such forums are still plagued by questions of procedural legitimacy, though they are increasingly welcomed by the leading emitters as more flexible means to explore opportunities for agreement in the UNFCCC and beyond. Talk may be cheap, but it remains an essential mode of diplomacy, especially in the field of climate change.

Club Benefits

The second rationale that rationalist theories of International Relations put forward for a minilateral approach is focused on the ability of minilateral forums to change interest structures. Rather than merely altering the bargaining process, climate clubs are expected to create incentives for states to join clubs and abide by their rules. By changing the way individual countries calculate their national interest, minilateralism is expected to become a transformative institution that tackles the structural barriers to strong mitigation agreements.

Analysts of international climate politics have long argued that one of the key shortcomings of the climate regime is the absence of international mechanisms that encourage compliance and deter free riding.⁴⁶ For as long as international climate politics aims at producing a global public good in the form of coordinated emission reduction by all major emitters, the supply of such a public good will be insufficient. What is needed, therefore, is a change in the nature of international cooperation. Instead of aiming for near-universal membership in a broad mitigation agreement, climate politics needs to redefine climate protection as a quasi-private good. A minilateral club is needed to produce this shift, as it allows for the creation of club benefits that are restricted to those countries willing to abide by its rules. In theory, climate

minilateralism thus offers three advantages over a multilateral approach: it allows climate leaders to go ahead with more ambitious mitigation policies without waiting for laggards to agree to the collective effort; it creates benefits from emission reductions that encourage countries to join the club, thereby enlarging the scope of the agreement over time; and it enables the club to enforce commitments as membership in the club can be suspended and benefits can be withdrawn. In this way, minilateralism seeks to change international climate politics from a lowest-common-denominator logic towards a more decentralized game of ratcheting up mitigation efforts.

Proponents of this approach draw inspiration from the experience with post-1945 trade liberalization talks. The GATT started out as a club of 23 founding countries that grew into a near-universal trade organization with 161 members (as of April 2015). Operating as a relatively small club of like-minded advanced economies, the GATT achieved rapid reductions in trade tariffs in its early days, with a quick succession of five trade rounds in its first twenty years. Membership grew slowly but steadily during this period, and the coverage of trade issues expanded as well, especially with the conclusion of the Uruguay Round in 1994.⁴⁷ The GATT integration process was driven initially by the United States as the world's leading economy in the immediate postwar era, and later through a form of collective leadership by the United States, Europe, and Japan. The club nature of the GATT allowed the trade regime to create specific benefits to members that were unavailable to non-members, such as market access, lower tariffs, and use of a dispute settlement mechanism. In this way, club-based cooperation changed states' incentive structure to favour reciprocal trade liberalization, mainly because the GATT's exclusion mechanism turned free trade into a private good. Even if the gradual expansion of free trade through GATT rounds ended up producing side benefits for non-members and the global economy as a whole,⁴⁸ the discrete benefits to individual countries arising from GATT membership were large enough to incentivize a growing number to join the club and abide by its rules.⁴⁹

How could a similar approach be applied to climate politics? The fundamental dilemma of international climate cooperation is that the public good nature of mitigation efforts creates pervasive free-riding incentives,

thereby undercutting countries' willingness to contribute to the mitigation effort. Any country trying to reduce its own emissions faces costs that it has to shoulder in the short run. However, the benefits that it produces, in the form of global climate stabilization, materialize in the long run and are non-excludable. In the absence of a multilateral climate regime that enforces national mitigation commitments, the only way to change this incentive structure is either to reduce the national costs of climate mitigation or to turn mitigation benefits from a public into a private good, or both. Minilateralism is meant to achieve this by creating club arrangements that pool the mitigation cost among a small group of countries and create excludable club benefits from their cooperation.

The benefits of club-based international cooperation are usually based on preferential access to certain economic gains, in the form of finance, trade, investment or technology. In the case of climate change, this could involve granting club members preferential access to climate finance, e.g., through grants or loans for investments in emission-reducing technologies; it could be based on a scheme to share proprietary low-carbon technologies at no cost or at below-market rates; or it could lead to collective mitigation efforts based on sectoral agreements or regional emission trading schemes that lower the costs of mitigation.⁵⁰ Clubs may also need to impose sanctions on members to encourage compliance and deter free riding. This usually takes the form of exclusion from the club, withdrawal of certain membership rights, trade discrimination, or financial penalties. In the case of a climate club, non-compliant members could face the withdrawal of club benefits such as access to climate finance and technology sharing, or the imposition of carbon tariffs on their exports. In principle, any such benefits could be created in a large-n multilateral setting, too, but where interest diversity and free-riding incentives are high, as in climate change, the advantages of operating in a small-n environment are overwhelming: producing benefits and imposing sanctions is less costly, and bargaining over rules is less complex, if club membership is small.

How convincing is this minilateralist logic? In assessing the viability of climate clubs, it is important to consider the different ways in which they are expected to change countries' incentives.

The first transformation that a climate club may aim at is to make international action to protect the climate an excludable (private) good, so that membership in the club becomes valuable to major emitters. Because of the transboundary nature of the climate problem, climate mitigation itself can never be constructed as a private good. The reduction of emissions in any country or group of countries will always benefit the world collectively, and no country can be excluded from global climate stabilization. The only way to get around this is to focus on international cooperation that involves climate mitigation as a side effect but is valuable to countries for other reasons. Such non-climate benefits include energy efficiency gains or technological innovation and diffusion.⁵¹ To be sure, where such opportunities for mutually beneficial cooperation exist, rational actors should pursue them in any case—adding climate mitigation into the mix merely strengthens the rationale for creating such clubs. Recent research suggests that climate mitigation increasingly offers net benefits to countries undertaking investments in low-carbon solutions.⁵² But realizing the opportunities for mutually beneficial arrangements will be difficult for several reasons. For one, the global governance of energy is highly fragmented and hindered by competing policy objectives.⁵³ Despite the recent creation of the International Renewable Energy Agency,⁵⁴ international cooperation on energy efficiency and green technology has a poor track record. The Asia-Pacific Partnership (APP), so far the only major experiment to create a club focused on energy efficiency and climate protection, offers some insights in this regard. Initiated by the Bush Administration as an alternative to the Kyoto Protocol, the APP was disbanded after only five years in operation and has had little discernible impact on emission trends.⁵⁵ The initiative was widely perceived to be a laggards' club, with key countries (USA, Australia, Canada) led by governments that were skeptical about the need for urgent climate action. In other words, the APP offered a suitable forum for action, but lacked political will to make a difference. A unilateral forum makes little difference if it is not led by ambitious countries with sufficient economic and political clout.

Furthermore, even if a more lasting and dynamic clean energy or green technology club can be created, it is far from clear whether such cooperation would help reduce emissions as a side-benefit. The mitigation potential of low-

carbon technologies depends on overcoming a complex web of economic, political, regulatory, and societal barriers, most of which are located at the national level.⁵⁶ International cooperation can provide a more supportive environment for low-carbon transformations, e.g., by pooling research funding or promoting technology diffusion, but the critical bottlenecks are to be found in the domestic realm. Energy or technology clubs that depend on positive externalities to reduce emissions are therefore bound to be an unreliable and unpredictable instrument for climate mitigation. There are good reasons to pursue collective gains from cooperation on energy efficiency and green technology, but it is unrealistic to expect non-climate benefits from club cooperation to play a major role in driving global mitigation strategies.

The second club strategy for changing countries' incentives is based on the provision of financial transfers. Paying other countries to increase environmental protection is a common feature in international environmental politics. Several multilateral regimes rely on aid mechanisms to increase participation and compliance, and the UNFCCC itself uses several such funding mechanisms to promote climate mitigation and adaptation (Global Environment Facility, Adaptation Fund, Clean Development Mechanism). To be effective, such aid mechanisms depend on a high level of environmental concern among donor countries and the capacity to absorb aid and reduce environmental degradation among recipient countries. For this reason, international environmental aid has usually flown from the North to the South, and mostly to emerging economies with large populations.⁵⁷ The same has been the case with climate funding through the Clean Development Mechanism, which has benefitted primarily China, India, Brazil, South Korea, and Mexico.⁵⁸ However, climate aid flows have had a negligible effect on global emissions so far and have failed to stem the rising tide of emissions from emerging economies. Channeling such transfers through smaller clubs could provide an attractive option for better targeting aid. But it is unlikely that environmental concern will be high enough among donor countries to pay for significant mitigation efforts in the largest emitters from the Global South, which are also major economic competitors. Financial transfers may play a small role in the global mitigation effort, but the leading global emitters will have to finance the bulk of emission reductions themselves.

The third club strategy involves sanctions to reduce the risk of free riding. They can be imposed on existing members if they fail to comply with club rules or used against non-members in order to induce them to join the club. In both cases, the sanctions need to be costly enough to alter the target country's interest calculation, which usually requires trade restrictions in one form or the other. Proponents of such an approach point to the use of trade restrictions in the Montreal Protocol, which are widely held to have ensured high levels of compliance and attracted near-universal participation.⁵⁹ In his proposal for a climate club, Nordhaus discusses carbon-specific tariffs or a uniform tariff on imports from non-members as the best way for club members to ensure that others will want to join the collective mitigation effort.⁶⁰ Economic calculations of the required tariff suggest that it would be within a reasonable range—Nordhaus arrives at a 2 percent universal tariff.

However, this club logic ignores two important political barriers that make it an unrealistic tool for building an effective climate club. First, it is far from clear that non-members would choose to join a climate club when faced with a punitive carbon or universal tariff. Given that such a tariff would potentially run foul of several provisions of the WTO trade regime,⁶¹ they are far more likely to challenge the unilateral use of sanctions. This is precisely what the United States, China, and India did when the European Union announced its plan to include all international airlines in its regional carbon emissions trading scheme.⁶² It is interesting to note in this context that the Montreal Protocol's system of trade sanctions was never challenged under the GATT or WTO, not least because all major economies agreed to be bound by the environmental regime. No such broad-based agreement exists among the major greenhouse gas emitters, however. Second, the obstacles to successfully negotiating a club agreement with strict trade sanctions are particularly high, and it is unlikely that any of the leading emitters, with the possible exception of the EU, would be willing to accede to such a demanding treaty backed up by punitive sanctions. Indeed, most major powers have traditionally resisted strong compliance and enforcement mechanisms in environmental treaties, preferring the flexibility that is provided by facilitative compliance approaches.⁶³ Climate politics is no exception to this, where the majority of the leading emitters, most notably the United States and China but

also India, have rejected binding emissions targets that can be enforced through international law. The only feasible scenario for an effective sanctions regime would be a coalition of the willing that share a common interest in effective climate action and use sanctions to strengthen their commitments, or a regional body that can use already existing mechanisms to punish non-compliant behavior (as is the case in the European Union).

Finally, a climate club would need to support any mitigation commitment by establishing an effective system for reporting, monitoring, and verification. This is to prevent shirking by members that claim to adhere to club rules but fail to do so in reality. This has so far eluded most existing minilateral efforts; most of the existing clubs, such as the Asia-Pacific Partnership, were unable to establish a comprehensive system of monitoring and verification. And the history of multilateral negotiations suggests that major powers are reluctant to subject themselves to strict international monitoring and verification obligations in the environmental field. This is not to suggest that this would be an unrealistic task, however. Regional clubs can use existing supra-national legal systems created within regions (e.g., EU emissions trading scheme), and the on-going UNFCCC negotiations have made some progress towards a global system of monitoring, reporting, and verification (MRV).

In sum, the preceding discussion suggests that while climate clubs may be able to make an important, if limited, contribution to global climate policy, they are unlikely to do so by altering the incentives of reluctant global players. Clubs will be at their most effective when they are constructed as coalitions of the willing, i.e. small groups of countries whose interests are closely aligned around a joint mitigation strategy. In such cases, climate clubs help the members to reduce the costs of emission reductions and encourage compliance. This can work in regional settings, for example in highly integrated regional organizations, such as the EU, or in looser networks of sub-national actors that link up their emissions trading schemes, as is the case in North America.⁶⁴ It is also possible that such clubs emerge among countries and other actors whose interests are aligned along sectoral lines (e.g., major shipping companies and nations). In both these cases, the rationalist theory of club cooperation offers some limited hope for an improved

regime design as part of a multi-level and poly-centric governance system. However, climate clubs are unlikely to be able to win over, let alone coerce, major emitters that are reluctant to join the global mitigation effort. In this sense, they are not a “new solution”⁶⁵ to the global climate problem.

International Legitimacy

A third rationale for climate minilateralism is centred on the notion of legitimacy and great power responsibility, and is based on constructivist and English School theories of international relations. At its core is the argument that minilateral clubs can remedy multilateralism’s legitimacy crisis. Viewing multilateralism as a distinct norm in international society that favors international interaction based on rules rather than the exercise of power, this perspective is primarily concerned with enhancing multilateralism’s effectiveness (output legitimacy) while preserving its procedural fairness and inclusiveness (input legitimacy). In the post-1945 era, multilateralism proved to be an overwhelmingly successful form of international cooperation that served the interests of great powers as well as weaker states. More recently, however, its input and output legitimacy have both come under strain.⁶⁶ Emerging powers are challenging the representativeness of existing international institutions while the established powers, chiefly the United States, question the usefulness of multilateral forums as the number of members—and veto players—expands. For multilateralism to remain both legitimate and effective, therefore, multilateral institutions and processes need to adapt to the shifting power balance and accommodate the demands of the powerful few. As Finnemore has argued, “the challenge for multilateralism is, and has always been, to devise rules that both accommodate power (so the strong will ‘buy in’) but are accepted by others.”⁶⁷ In this view, minilateralism becomes a tool for re-legitimizing multilateralism by giving great powers a privileged position in decision-making, while acknowledging their special responsibilities in the pursuit of the global common good.⁶⁸

Could the introduction of minilateral cooperation restore the output legitimacy of climate multilateralism while retaining a sufficient degree of procedural legitimacy? At first sight this seems a paradoxical suggestion. After all, past efforts to shift the climate negotiations to other international forums

have widely been perceived as a threat to the UNFCCC's standing as the dominant and universally accepted forum for negotiating climate policy. Especially US initiatives to create new minilateral institutions, such as the Asia-Pacific Partnership and the Major Economies Forum, were originally greeted with vehement opposition from within the UNFCCC's membership.⁶⁹ Analysts have also highlighted the risks of institutional fragmentation and loss of legitimacy if the centrality of UNFCCC multilateralism is diluted.⁷⁰

For constructivists and English School theorists, the legitimacy of the climate regime rests not solely in the broad acceptance it has gained, based on near-universal membership and consensus-based decision-making in a transparent process. It also, and critically, depends on the performance of the regime as a regulatory instrument. As Eckersley argues, "effectiveness is an important component of legitimacy," and the climate regime's failure to drive down emissions is therefore eroding its legitimacy as a workable international regime.⁷¹ In this view, minilateralism offers an opportunity to strengthen output legitimacy, by giving great powers certain prerogatives that facilitate more effective bargaining and strengthen compliance. At the same time, such climate club initiatives would need to be linked to the regime's multilateral framework if a sufficient degree of input legitimacy is to be retained.

From its origins in the early 1990s, the UNFCCC regime favoured input over output legitimacy, deriving its legitimacy mainly from strong versions of procedural multilateralism and North-South equity. In the UNFCCC and the Kyoto Protocol, industrialised countries agreed to take on a larger mitigation burden based on the principle of "common but differentiated responsibilities" (CBDR), but U.S. contestation of the exclusion of large developing countries from emission reduction commitments undermined the greater power consensus around the CBDR norm. As emissions were rising fast in emerging economies, the question of how to readjust the distribution of the mitigation burden became one of the central points of contention in the post-Kyoto negotiations.⁷² In this context, the purpose of introducing minilateral elements is to increase the legitimacy of the climate regime in the eyes of the great powers. By giving them a privileged space in which to agree their respective contribution to the global collective mitigation effort, their special interests are protected in exchange for an acknowledgement of their special

responsibilities. At the same time, placing the minilateral forum within the UNFCCC regime would ensure that the overall regime structure remains legitimate to all countries.

Eckersley's model of a climate club with formal links to the UNFCCC regime is the most fully developed proposal of this kind. Eckersley proposes a formally established Climate Council composed of major emitters and other countries, with members chosen from three categories: "the most capable, the most responsible and the most vulnerable."⁷³ This Climate Council could be as small as eight or as large as 23 and would offer a critical mass approach to small-n negotiations, thus aiming for the kind of bargaining efficiency gains that rationalists also advocate. It would give climate powers an opportunity to pre-negotiate climate mitigation deals that could then be adopted by the wider membership of the UNFCCC, but without subjecting this pre-negotiation phase to the cumbersome and highly inclusive UNFCCC process. The great powers would be in control of the club process but would still need to gain the approval of the members of the Climate Council that represent the large majority of developing countries. Eckersley is thus explicit in linking any outcomes from club-based cooperation to the multilateral framework of the UNFCCC. In her view, whatever the Climate Council agrees would not replace multilateralism, but could serve "as a stepping-stone towards a more comprehensive treaty".⁷⁴ By formally incorporating the club into the existing multilateral regime and making it answerable to the Conference of the Parties to the UNFCCC, Eckersley hopes to ensure that the Council would better reflect the underlying power balance in climate politics while preventing an erosion of the regime's overall legitimacy.

Is such a construction likely to succeed? Can it adequately reflect power asymmetries and grant great power prerogatives while assuring the weaker members of the regime that they have not been reduced to bystanders in the climate negotiations? In other words, can the introduction of minilateralism into the UNFCCC regime increase its output legitimacy, by strengthening the buy-in from major emitters, while ensuring a sufficient degree of input legitimacy, particularly with regard to the representation of developing countries? We need to consider three key questions in this context.

The first question concerns the promise of greater bargaining efficiency. In similar fashion to rationalists, the constructivist argument for climate minilateralism rests on the assumption that small-n bargaining can lead to faster and more effective results. Eckersley, for example, supports the idea of a critical mass approach that enables the core group of parties on the Council to reach an agreement first before the remaining UNFCCC parties are asked to endorse it.⁷⁵ However, the same problems that plague the rationalist case for small-n negotiations afflict constructivist arguments. Restricting bargaining to the major polluters cannot address the structural problem that is posed by interest diversity and disincentives to take costly mitigation action. If anything, making victims of global warming (mostly developing countries) members of the minilateral forum would merely reproduce the political fault-lines that have bedeviled the UNFCCC's multilateral process. Clearly, the attempt to achieve a balanced representation in the Climate Council seeks to address input legitimacy concerns, but by reducing the exclusivity of the club it makes it even less likely that such small-n negotiations could break the deadlock in the bargaining process. It is reasonable to expect, therefore, that the conflict between input and output legitimacy cannot be entirely resolved.

If limits on performance-based legitimacy are the price to pay for enhancing representativeness and input legitimacy, then a second question arises: would the combined minilateral and multilateral architecture be legitimate in the eyes of the broader UNFCCC membership? Clearly, having a balanced representation of the main culprits and victims of climate change would ensure that developing country voices are at least heard inside the club. Whether they would also have veto power over any decisions taken by the club depends on its decision-making rules and whether its agreements need formal adoption by all parties to the UNFCCC. Past experience suggests that any deviation from consensus-based decision-making within the UNFCCC is highly controversial and will be resisted by developing countries. The informal practice of using small-n gatherings in the climate negotiations, from the "Friends of the Chair" groups to the high-level meeting at the end of the Copenhagen Conference, has attracted strong criticism at critical junctures in the negotiations. Formalising such minilateral practices and making them more representative and transparent would certainly help

address some of the concerns, but it is difficult to see how minilateral decisions could ever legitimately force the hand of the multilateral climate regime.⁷⁶ Again, we find that the inherent conflict between output and input legitimacy is a dilemma that refuses to go away even if climate minilateralism is formally integrated into the UNFCCC.

The third question takes us back to the initial aim of making the climate regime more legitimate in the eyes of the great powers. Can the creation of minilateral decision-making forums provide adequate great power prerogatives to ensure their buy-in? It is a widely-held assumption that minilateralism is indeed the best way to balance power asymmetry with multilateral legitimacy. But the experience of post-1945 international cooperation shows that great power prerogatives come in many different forms: from informal minilateralism (e.g., GATT's green room) to weighted voting rights (e.g., IMF) and the exclusive use of veto power (e.g., UN Security Council). It is the analogy with international trade cooperation that usually informs proposals for climate minilateralism. The GATT analogy suggests that, if the major trading powers were able to agree multilateral trade disciplines informally within small-n negotiations before these were later adopted by the entire GATT membership, then something similar should be attempted in the climate negotiations. But this analogy overlooks a crucial difference between trade and climate cooperation. The great powers have used minilateral talks to structure multilateral trade deals in order to pursue their shared interests in advancing the trade liberalization agenda. In the climate talks, the main (short-term) interest that the great powers share is in avoiding costly short-term commitments to emissions reductions, whatever the long-term damage they may suffer from global warming. They may have come to accept a special responsibility to protect the global climate, but they continue to prefer to translate this responsibility into regulatory measures that reflect domestic policies rather than internationally agreed targets. With the exception of the European Union, all major emitters have come to reject the idea of a legally-binding mitigation agreement. Thus the main great power prerogative that they demand from the climate regime is the ability to set their own level of ambition for reducing emissions, based on domestic policy

preferences. This, of course, could be achieved in the existing multilateral process of the UNFCCC just as much as in a minilateral setting.

The central dilemma, then, is that climate minilateralism as an integral part of the multilateral UNFCCC framework would not get us closer to a strong and binding international agreement on mitigation, but would allow the great powers to shift the nature of the climate regime from a top-down towards a bottom-up logic of national pledges. The critical point is that major emitters demand flexibility, not exclusive decision-making authority, in exchange for great power responsibilities. Such flexibility, in the form of voluntary pledges to limit or reduce emissions, is already emerging in the existing multilateral framework, as the 2015 Paris Agreement demonstrates. Climate minilateralism may play a role in facilitating great power dialogue, but it is primarily a change in the objective of the negotiations and the nature of mitigation commitments that would strengthen the climate regime's legitimacy in the eyes of the great powers. Minilateralism as a legitimating strategy would thus merely accelerate the existing shift away from a top-down regulatory approach towards a looser bottom-up governance system.

Conclusions

Climate minilateralism has received growing scholarly attention in recent years, not least because it is now widely recognized that the multilateral climate regime has failed to stem the rise in global greenhouse gas emissions. This signals a decisive shift in the debate on how to deal with the global threat of climate change. It parallels similar developments in other global policy areas marked by multilateral gridlock, from international trade to financial regulation and nuclear non-proliferation. While scholars debate whether and how the UNFCCC regime can be reformed, a growing number are engaged in a search for alternative approaches to global climate governance. The realization is setting in that policy responses to global warming will have to be developed simultaneously at different levels of governance, from the local to the regional and global, and involving different types and configurations of actors. Within this debate, the idea of climate clubs has gained particular prominence as it promises to deal with several of multilateralism's main shortcomings: its cumbersome and slow bargaining

process that gives veto power to too many players; its inability to create incentives for emission reductions and prevent free-riding; and its inability to acknowledge, and work with, the reality of power asymmetry that is at the heart of the global mitigation challenge. Could climate clubs be a “new solution”⁷⁷ to the global climate problem?

Three conclusions follow from the analysis in this paper. First, when discussing a minilateral solution to climate change, we need to recognize that there are at least three different types of minilateral logics at work—bargaining efficiency, club benefits, international legitimacy—and that they offer different paths towards a global climate solution. The size and composition of minilateral forums is intimately tied to the purpose that these forums are meant to serve and cannot be discussed independently from it. In the case of small-group bargaining forums, minilateralism aims at improving the efficiency of the bargaining situation, thereby facilitating agreement on climate mitigation among a small group of major emitters without necessarily altering their interest calculation. Climate clubs can also be designed to produce excludable club benefits or impose sanctions on non-compliant members or non-members. In this case, their purpose is to reduce interest diversity and create incentives for countries to join the club and abide by its rules. Finally, a climate club may also serve the purpose of strengthening the international legitimacy of the climate regime by acknowledging the desire of great powers for special power prerogatives while tying their club-based cooperation to the multilateral framework. Our assessment of whether minilateralism offers a potential solution must be sensitive to these three different rationales.

Second, closer scrutiny of these three logics offers reasons for caution against exaggerated hopes that surround some (though not all) climate club proposals. With regard to small-n bargaining forums that seek to stimulate dialogue and build trust among leading emitters, a change in the bargaining context on its own is unlikely to overcome the profound interest diversity and incentives for free-riding. 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. Concerning climate clubs that seek to shift the incentive structure towards stronger mitigation efforts, a focus on non-climate objectives such as

energy efficiency, technological innovation, or climate finance may be able to create certain excludable club benefits, which in turn can attract members to the club and reduce the tendency towards free-riding. But such changes to the incentive structure are unlikely to work in the case of large emitters whose interests are not aligned with climate mitigation or that lack domestic support for strong international action. Finally, establishing minilateral forums would go some way towards better aligning international power asymmetries with the objectives of the climate regime. Leading emitters could be given a privileged status in the climate regime's decision-making structure in exchange for acceptance of their special climate responsibilities. But this kind of great power privilege would not achieve significantly greater buy-in from the more recalcitrant climate powers. Their main interest is in gaining greater flexibility in how mitigation policies are designed and implemented, not an exclusive right to set binding international targets. It is tempting to think that, where collective bargaining among the UNFCCC's near-universal membership has failed to reach agreement on international climate action, a small group of global powers could cut a deal that would stand a better chance of being implemented. But the analysis in this paper shows that we need to be careful in our assumptions about what minilateralism can deliver.

This is not to say that minilateralism cannot play a role in future global climate policy. The third conclusion that follows from the above analysis suggests that certain uses of minilateralism offer a realistic chance of improving global climate governance. Minilateral forums create opportunities for high-level political dialogue that helps with building trust and exploring areas of potential compromise. If successful, they create political momentum that can stimulate progress in multilateral negotiations. The U.S.–Chinese agreement on emissions reductions, announced in November 2014 after nine months of bilateral talks, was widely hailed for strengthening the chances of a successful outcome in the 2015 Paris negotiations.⁷⁸ It is but one recent example of how minilateral efforts, whether in the G-20 or the G-2, can inject dynamism into the multilateral process.

Climate clubs can also seek to shift the incentive structure of emitters towards greater mitigation efforts, though this is likely to work only for those countries whose preferences are already more closely aligned. Such

coalitions of the willing can choose club structures to reinforce their commitment to mitigation policies, lower the costs of emission reductions, establish monitoring and verification systems, and prevent shirking and free-riding. Such coalitions of like-minded actors usually emerge as regional clubs (as in the case of the EU) or can be constructed around specific economic interests based on sectoral agreements (which may also include corporations). In this way, minilateral clubs allow climate leaders to go ahead with their mitigation policies without waiting until agreement is reached among all major emitters. Such regional or sectoral climate clubs can also become building blocks of a larger climate governance architecture.⁷⁹

Climate clubs, if established as an integral part of the multilateral regime, may also help re-legitimize the UNFCCC and its related instruments at a time when major emitters increasingly doubt its usefulness and long-term viability. By granting powerful states certain privileges as part of an integrated club arrangement, the multilateral regime would seek to balance existing power asymmetries with major emitters' special responsibilities. And by formally linking minilateral and multilateral forums, such an approach would counter the risk of conflictive fragmentation of climate governance.

The discussion here raises several questions for future research. How can minilateral approaches be made to work as part of an increasingly multi-level and polycentric climate governance system? How can environmental leaders utilize climate clubs to raise the level of political ambition and encourage other actors to join in collective mitigation efforts? Future research will need to focus on the conditions in which minilateralism can create club benefits that change states' preferences and interest calculations. This should involve systematically considering and comparing experiences with different areas of global policy coordination. It should also lead to more empirical investigations of how club benefits alter sectoral or issue-specific interests at the domestic level. Research should also be conducted on how to structure the relationship between emerging minilateral and existing multilateral regimes, so as to promote integration and synergy within an increasingly decentralized global governance architecture.

In sum, 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. It 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. In situations where global public goods are in short supply, international society has no choice but to seek innovative approaches to global governance.

Notes

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² Victor 2006, 96.

³ Naím 2009, 135.

⁴ Brenton 2013.

⁵ Antholis and Talbott 2010; Giddens 2009; Eckersley 2012; Nordhaus 2015a.

⁶ Roberts 2011.

- 7 Hale, Held, and Young 2013; Goldin 2013.
- 8 Crutzen 2002.
- 9 Javeline 2014.
- 10 Abbott 2012; Hoffmann 2011; Vasconcelos, Santos, and Pacheco 2013; De Burca, Keohane, and Sabel 2014.
- 11 Keohane and Victor 2011.
- 12 Steffen et al. 2011, 757.
- 13 Ostrom, Gardner, and Walker. 1994; Cole 2015.
- 14 Kahler 1993, 304.
- 15 See also Carin and Mehlenbacher 2010; Cooper 2010; Houser 2010.
- 16 Victor 2011, 214 and 245; Victor 2006, 101; Bausch and Mehling 2011, 43.
- 17 Victor 2009.
- 18 Stern and Antholis 2007.
- 19 Brenton 2013, 542.
- 20 Hovi, Skodvin, and Aakre 2013, 145.
- 21 Giddens 2009, 221.
- 22 Antholis and Talbott 2010, 76.
- 23 Bausch and Mehling 2011, 44; Hovi et al. 2013, 145.
- 24 Rinke and Schneckener 2012, 26.
- 25 Naím 2009; Brenton 2013, 542.
- 26 Based on World Bank data on country GDP in 2012, population in 2012, and CO2 emissions in 2010. The European Union is treated as a single power.
- 27 Eckersley 2012, 33
- 28 Hale 2011, 100.
- 29 Weischer, Morgan, and Patel 2012.
- 30 Stewart, Oppenheimer, and Rudyk 2013.
- 31 For a systematic overview, see Bulkeley et al. 2014.

- 32 Stern and Antholis 2007; Weischer, Morgan, and Patel 2012, 180.
- 33 Kahler 1993; Victor 2011, 210-15; Stern and Antholis 2007.
- 34 Naím 2009, 135.
- 35 Barrett 2003; Prakash and Potoski 2006.
- 36 Stewart, Oppenheimer, and Rudyk 2013.
- 37 For a related argument, see Bayer and Urpelainen 2014.
- 38 Eckersley 2012; Bukovansky et al. 2012.
- 39 Keohane and Raustiala 2010, 378; Falkner, Stephan, and Vogler 2010; Victor 2006.
- 40 Olson 1968.
- 41 Victor 2011, 210-215.
- 42 Stasavage 2004.
- 43 Keohane and Nye 2002.
- 44 Bodansky 2010.
- 45 Victor 2006, 95.
- 46 Barrett 2003, ch. 15.
- 47 Hoekman and Kostecki 2009.
- 48 Goldstein, Rivers, and Tomz 2007.
- 49 Fratianni and Pattison 2001.
- 50 Stewart, Oppenheimer, and Rudyk 2013; Kulovesi 2012.
- 51 Stewart, Oppenheimer, and Rudyk 2013, 365.
- 52 Stern 2015; Green 2015.
- 53 Dubash and Florini 2011.
- 54 Van de Graaf 2013.
- 55 Andresen 2014.
- 56 Sovacool 2013.
- 57 Hicks et al. 2008, 58.

- 58 <http://cdm.unfccc.int/Statistics/Public/CDMinsights/index.html>.
- 59 Barrett 2010.
- 60 Nordhaus 2015a.
- 61 For an overview of the literature on this, see Jaspers and Falkner 2013.
- 62 Bartels 2012.
- 63 Faure and Lefevere 2015.
- 64 Rabe forthcoming.
- 65 Nordhaus 2015b.
- 66 Newman, Thakur, and Tirman 2006.
- 67 Finnemore 2005.
- 68 Bukovansky et al. 2012, 156-7.
- 69 Van Asselt 2007.
- 70 Biermann et al. 2009; Karlsson-Vinkhuyzen and McGee 2013.
- 71 Eckersley 2007, 307.
- 72 Hurrell and Sengupta 2012, 469.
- 73 Eckersley 2012, 33.
- 74 Eckersley 2012, 23.
- 75 Eckersley 2012, 36 and 37.
- 76 Eckersley acknowledges this and proposes that if the proposal of the Council were not accepted by the full regime, they could form the basis of a stand-alone plurilateral agreement for a coalition of the willing; 2012, 38.
- 77 Nordhaus 2015b.
- 78 Godenberg 2014.
- 79 Falkner, Stephan, and Vogler 2010.

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