

Institutional and Environmental Effectiveness: Will the Paris Agreement Work?

1. Introduction

Following decades of very modest progress in international negotiations, the 2015 Paris Agreement on Climate Change (PA) (UNFCCC, 2015) was hailed worldwide as a breakthrough in climate diplomacy. Being the first global climate agreement that bridges the North–South divide, the PA imposes policy obligations on all countries. Comprehensive in its thematic scope, it contains legal provisions on climate mitigation and emission reductions, climate adaptation policy, international climate finance, reporting and transparency, and cooperative mechanisms such as technology transfer.

How significant is the PA?¹ Analyzing its importance for global climate governance is complicated for several reasons. First, the PA is characterized by remarkable complexity and does not follow the traditional model of international law. Although legally binding, it contains a mixture of mandatory and laissez-faire provisions (Bodansky, 2016). The agreement is therefore ambiguous and open to interpretation. Second, it is designed to evolve over the medium- to long-term future and governments continue to negotiate details of its implementation. Finally, the PA’s institutional effectiveness is distinct from its environmental effectiveness; indeed, the latter will depend on emission trends and temperature changes influenced by multiple factors, some of which are unrelated to the agreement.

This paper offers a review of the rapidly growing literature on the PA, to assess its strengths and weaknesses, its significance, and its prospects. We focus on evaluations of the agreement’s institutional structure and ability to induce member countries to implement policies. In the process, we try to answer the following question: *Based on the literature, to what extent should we expect the PA’s institutional architecture to be effective in influencing policy behavior?*

We begin by summarizing the PA (section 2). As explained in section 3, we frame the main body of our review in terms of a trilemma: the challenge of simultaneously achieving all three conditions vital for effectiveness – broad participation in the treaty (section 4), deep

¹ The Paris outcome included not only the PA but also an accompanying decision by the Conference of the Parties (COP). This paper focuses on the PA.

policy commitments by participating countries (section 5), *and* satisfactory levels of compliance (section 6). We then review assessments of the PA by experts who actively participated in negotiations (section 7). Finally, we draw some conclusions based on patterns identified in our review (section 8).

2. The Paris Agreement: a Summary

The PA is an international policy agreement that relies on combining a top-down approach that imposes legally binding obligations on countries and a bottom-up approach to policy formulation that leaves much up to state governments. It leaves governments with full discretion over domestic policies, and rests on “nationally determined contributions” (NDCs) to global climate policy. At the same time, it creates strong obligations to develop, implement, and regularly strengthen such actions, while subjecting national policies to a robust system of international oversight.

Key provisions include a global objective of holding the temperature increase to “well below 2° C” and a commitment to “pursue efforts to limit the temperature increase to 1.5° C” (Art. 2). The long-term policy goals are to reach peak global emissions “as soon as possible” and to achieve zero net emissions in the second half of this century (Art. 4.1). This vague language is balanced by binding clauses on national actions: “Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve” (Art. 4.2). Domestic policy programs are subject to a strong transparency and monitoring system that places extensive informational requirements on countries (Art. 13). In particular, requirements related to mitigation are defined in the strongest possible legal language (“each Party shall”). Recorded in a public registry maintained in Bonn, Germany, national plans and targets are open to international scrutiny.

Notably, the PA is programmed to grow stronger by requiring countries to revise domestic policy plans and adopt more stringent targets every five years, with strongly worded language intended to guarantee policy “progression” over time (Art. 4.3). This “ratcheting mechanism” was extensively negotiated over several years, with strong support from the European Union, Brazil, and others. Aiming for ever-accelerating policy actions by countries and constant evolution of the global policy regime, these provisions could have enormous significance (Dimitrov, 2017, p. 2; Rajamani, 2016, p. 501). A global stocktake of collective progress shall be conducted in 2023 and every five years thereafter, presumably to inform

countries' future policymaking. The PA is also subject to further negotiations. Currently, governments are conducting negotiations on the "rulebook" for implementation policies remaining to be finalized in 2018 or possibly 2019.

The PA's strengths include principled obligations to act, regularity and progression of national policy development, as well as provisions for international transparency and accountability. The agreement is weaker on the long-term global goal for emission reductions, adaptation policy, liability and compensation for climate impacts, and technology transfer. Politically, the PA arguably favors developed countries of the North, who won most major battles (Andresen, 2015; Bodansky, 2016; Dimitrov, 2016). The new climate deal meets all key demands of the United States, while being least fair to the African Group and other Least Developed Countries by not including references to their special circumstances.

Virtually all weaknesses of the PA and all its less binding provisions are due to US policy preferences. Throughout the preceding years of negotiations, it became clear that the agreement's shape would be constrained by domestic US politics and would have to rely on the US President's ability to sign an executive agreement without involving Congress. The European Union, most island states (AOSIS), and a coalition of Latin American countries (AILAC) pushed for a legally binding treaty with mandatory national mitigation policies and quantified global targets. However, the United States opposed binding commitments concerning mitigation and finance so adamantly that other countries had to choose between a weaker global treaty with US participation and a stronger treaty without US participation (Dimitrov, 2016). The US delegation was singularly responsible for turning mitigation policy "commitments" into "contributions" in the NDCs. It was also responsible for deleting the definitive word "fulfil" in relation to NDCs, thereby weakening legal obligations to implement and achieve policy results. Finally, it was responsible for making developed country mitigation policy less legally binding, by replacing the strong word "shall" with the legally weaker "should" (Dimitrov, 2016; Rajamani, 2016; Fry, 2016). Where the United States clearly failed was on the issue of loss and damage, where agreed provisions were a victory (albeit a moderate one) for island nations (Art. 8). The United States made strong efforts yet did not succeed in keeping loss and damage completely out of the PA, or in folding it under the adaptation chapter (Fry, 2016).

3. Governing Global Climate Change: a Trilemma

Scott Barrett (2003) suggests that to be effective, a multilateral environmental agreement (MEA) must attract broad-to-full participation, be ambitious in its depth of commitments, and obtain high compliance rates. We may call satisfying all these conditions a trilemma that is very challenging to solve, at least in the climate change context.

Perhaps the best-known trilemma in political economy originated from the Mundell–Fleming model (which contributed to Mundell’s being awarded the Nobel Prize in Economics in 1999).² This model encapsulates the trilemma of global economic integration: Countries may enjoy any combination of two aspects: monetary autonomy (setting one’s interest rate), choice of exchange rate system (fixed/pegged or free/floating), and free capital mobility. However, it has been shown theoretically and through empirical work that not all three goals can be fully achieved simultaneously. Economists have discussed this “impossible trinity” extensively (e.g., Krugman, 1999; Obstfeld, 2004, 2005, 2010; Bluedorn, 2010).

Dani Rodrik (2007) has proposed a second trilemma: It is impossible to simultaneously enjoy deep economic integration, national sovereignty, and democratic (domestic) politics.

We consider all of Barrett’s (2003) three components at length later (sections 4 through 6). Note that it is fairly easy to achieve any one of these components to a high degree in a climate agreement. For example, the PA has in practice already achieved very broad participation (see section 4). Similarly, deep commitments could presumably be achieved in an agreement between only the most enthusiastic countries. Finally, high compliance rates could be achieved by simply watering down commitments to near business-as-usual (BAU) levels.

According to Barrett (2003), even high scores on two components might be achieved, but would likely be accompanied by a very moderate score on the third. For example, only few countries would likely be willing to participate in a climate agreement with deep commitments and strong enough enforcement provisions to ensure practically full compliance.

Thus, it appears that Barrett’s (2003) dictum for effective global climate (and other environmental) agreements resembles the impossible trinity. Absent a cost-effective and socially acceptable technical genie, at nearly any point in time, the trilemma may lead to trade-offs that politicians seeking re-election must contend with. In the next three sections, we

² <https://www.nobelprize.org/prizes/economics/1999/mundell/facts/> (accessed 28 August 2018).

consider how the PA can be expected to do regarding participation, commitment depth, and compliance.

4. Participation

4.1 Actors

The PA stands out as having the most inclusive set of commitments ever made by UN members to climate change mitigation. As of September 2018, 197 Parties had signed the PA and 180 had ratified it, while 176 had submitted an NDC. These 176 Parties were responsible for about 90% of global GHG emissions. Russia – responsible for about 5% of global GHG emissions – was the largest emitter that had not ratified the agreement; however, Russia had submitted an NDC.

A major setback concerning participation in the PA occurred in June 2017, when President Trump announced his intention to withdraw the United States from the PA. He also vowed to cease domestic implementation immediately. However, the short-term effects of his decision on actual US emissions need not be as large as some initially feared. Domestic countermoves include, inter alia, establishing the United States Climate Alliance, a joint initiative led by 16 governors, whose states contribute about 46% of US GDP (www.usclimatealliance.org). Moreover, despite serious doubts among conservative Republicans, most Americans want climate scientists to have a major role in climate policymaking (Pew Research Center, 2016). Finally, while one plausible prediction would be that several other governments might see President Trump's decision as an invitation to save money by following the United States to the exit, Victor (2017) points to the possibility for other major powers to lead, particularly China, as having greater long-run importance. Victor's succinct summary of the current US–China relationship says that whereas America is leaving, China is saying it will remain.

4.2 Participation: universal and differentiated

Since their beginning, UNFCCC negotiations have struggled with stark asymmetries between “guilt” in causing GHG emissions and capacity to alleviate them on one hand and vulnerability to consequences those emissions could generate on the other. Together, the largest GHG emitters – China, the United States, and the European Union – account for more than half of aggregate world emissions, while the 100 states emitting least account for no

more than 3–4% (WRI, 2017). By using NDCs as the main basis for commitments, the PA acknowledges that inviting poor countries also to develop and submit their own plans might help them identify projects, for example in energy supply, that make good sense at local or national levels.

This procedural change does not imply that external funding will no longer be needed to improve living conditions in the South. Nor does it suggest that the pattern observed by Rokkan (1966, p. 105) in domestic politics – “votes count but resources decide” – is no longer valid at the international level. Rather, the wide scope for domestically promoted projects suggests that regular follow-up meetings will be critical in developing pragmatic and mutually beneficial modes of cooperation across the North–South divide.

Even if progress is made in developing North–South cooperation, vulnerable groups may point to ongoing *environmental* processes – such as sea-level rise, desertification, and exhaustion of essential natural resources (e.g., clean water) – as threats that might force them to leave their homelands and face an even more uncertain future elsewhere (IPCC, 2013). Under such conditions, the PA relies heavily on substantial increases in contributions from large and better-off countries. For most donor countries, however, support at the level required will likely not be politically feasible unless significantly moderated through cost-saving technological advances or other major innovations.

4.3 Prospects of coalition building

The prospects for progressive coalition building depend heavily on the relationship between *coalition builders* and *veto players*. The group of coalition builders has at its core seriously concerned activists who would likely become members of a winning coalition were such an entity to emerge.³ Such a coalition will likely bring together rich and poor countries, each largely respecting challenges facing the other side. Coalition builders would like to see a genuinely progressive global regime emerge from the PA.

The veto players group is a somewhat loose coalition consisting mainly of major oil and gas producers whose wealth depends upon the export of fossil fuels. They are keen to preserve access to attractive markets, mostly still found in rich countries. Recognizing that future market prospects will likely change, some major oil and gas producers are investing heavily in

³ Here, a winning coalition refers to a group of states – possibly supported by non-governmental actors – who can, by own or collaborative efforts, achieve the more ambitious goals that they have set for themselves.

large solar energy plants, aimed mostly at domestic markets. Such investments might nonetheless be interpreted as indicating that even major oil and gas producers are preparing for change.

Interestingly, it seems that during the past ten years or so, these groups have somewhat converged on a common understanding of three basic normative principles that can guide climate change negotiations (Matoo & Subramanian, 2015; Muller et al., 2009; Underdal & Wei, 2015). One such principle says that, in general, actors are *responsible* for damage generated by their activities. Another principle focuses on intellectual and financial *capabilities* to develop effective alternatives to fossil fuels. Given gaps between rich and poor, this criterion is usually translated into a rule requiring that the rich help the poor exploit renewable or low-carbon energy sources. The third principle elevates *basic human needs* to the status of an indisputable criterion. All these principles are frequently invoked and rarely disputed. Even President Trump's abrupt decision to withdraw the United States from the PA seems to be more an attack on IPCC advice and the seemingly unfair distribution of obligations among rich countries than an attack on general norms for assisting poor developing countries.

Finally, we also see significant growth in activities of many non-governmental organizations and transnational networks of cities and other municipalities in developing "private regulations," broadly defined as voluntary standards, rules, and practices (Auld & Gulbrandsen, 2013, p. 397). Studies assessing such regulations' effectiveness show mixed results (Chan et al, 2018; Michaelowa & Michaelowa, 2014; Green 2014; Gulbrandsen & Auld, 2016). Most often, it seems schemes certifying well-defined (market) performance standards and involving "synergy with government regulations" (Green, 2013, p. 2) obtain higher scores than do more diffuse and often less consequential declarations of intent.

5. Ambition and progression over time

Three elements of the PA are particularly relevant for assessing its ambition level: global goals, current NDCs, and the framework of obligations and expectations for future NDCs. Studies quickly established that current NDCs are insufficiently ambitious to be consistent with common temperature goals. Therefore, whether the PA will be effective in achieving its mitigation goal depends on whether the third element will facilitate a progression of ambition over time.

5.1 Global goals

The goal to limit warming “to well below 2° C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5° C” has been called the PA’s centerpiece (Rajamani & Guerin, 2017). The reference to 1.5° C was championed by the most vulnerable countries and achieved through negotiating with OECD countries (Brun, 2016) and the Arab Group (Rajamani & Guerin, 2017). Scholars have questioned not whether these limits are ambitious, but whether they are achievable (Allen et al., 2017; Goodwin et al., 2017; Raftery et al., 2017). “Even a realistic crash course program to cut emissions will blow through 2 degrees; 1.5 degrees is ridiculous” (Victor, 2016).

5.2 National targets

A report by the UNFCCC secretariat determined already prior to COP21 that submitted NDCs failed to put emissions on a path consistent with limiting warming to 2° C (UNFCCC, 2015), a conclusion since confirmed by others (e.g., Fawcett et al., 2015; Rogelj et al., 2016; Höhne et al., 2017). Per Keohane and Victor (2016), current NDCs constitute “shallow coordination” – not negligible yet not nearly ambitious enough. The discrepancy between temperature goals and NDCs highlights that the central challenge of the national determination approach is to generate the ambition level needed (Friedrich, 2017). We now assess how the PA addresses this challenge.

5.3 A novel approach to fostering ambition

Several scholars have highlighted that the PA represents a novel approach, both compared with the past climate regime and with other environmental regimes. It consolidates a transition from a “regulatory” model of binding, negotiated emissions targets to a “catalytic and facilitative” model aiming to induce coordinated policy shifts (Hale, 2016). Falkner (2016) argues it heralds a new era in international climate politics, calling it a framework for making voluntary pledges for international comparison and review (“pledge-and-review”), in the hope that naming and shaming will increase ambition. Many scholars have noted the framework mixes top-down and bottom-up elements. This new approach emerged more by default than by design, because a purely top-down targets-and-timetables approach would have been a simpler way to achieve temperature goals, but was politically infeasible (Rajamani & Guerin, 2017). However, the Paris approach can also be defended using managerial theories of international relations (Doelle, 2017). The PA relies on norms as mechanisms for strengthening ambition, while doing little to restructure

incentives (Bang et al., 2016). A critical view dismisses it as “meaningless”, constituting a collection of independent, unilateral, and unenforceable targets being sold as a multilateral consensus (Spash, 2016).

Compared with the mechanisms of other environmental regimes, the mechanisms for strengthening commitments are considerably less straightforward (Young, 2016). We now review the most central textual elements for fostering ambition.

5.4 NDC cycle

One central tool for ratcheting up ambition is the obligation to prepare successive NDCs every five years (Art. 4.2 and Art. 4.9) (Friedrich, 2017). This obligation is the PA’s core legal commitment on the Parties, per Brun (2016). Each party’s successive NDCs “will represent a progression beyond [its previous NDC] and reflect its highest possible ambition” (Art. 4.3). Both elements in Article 4.3 faced widespread opposition during negotiations (Brun, 2016) and it is unclear whether the final formulation is legally binding (see Winkler, 2017). It nevertheless creates expectations of “tremendous significance” in guiding the NDCs in an increasingly ambitious direction (Rajamani & Guerin, 2017).

5.5 Transparency and global stocktake

Keohane and Oppenheimer (2016) argue that pledge-and-review can work only in the presence of transparency, while Winkler (2017) emphasizes that Article 4’s NDC provision must be read together with links to transparency and the global stocktake, because they are crucial for providing an upward ambition spiral.

Article 13 establishes a transparency framework. Parties shall regularly report their emissions and provide information necessary to track progress in their NDC implementation and achievement. Article 13 also states reports shall be reviewed multilaterally. For Falkner (2016), these reviews are the principal tool for driving up ambition, through creating periodic moments for naming and shaming.

The transparency framework is focused on individual Parties, and will be insufficient for assessing aggregate progress (Briner, 2016; Rajamani, 2016). Collective progress toward achieving the PA’s goals will be assessed in a global stocktake every five years, from 2023 (Art. 14). The stocktake is crucial for driving ambition, because it links individual ambition to the collective goals, and can thus be regarded as the engine of the agreement, expected to drive political momentum (Friedrich, 2017). Notably, the stocktake’s outcome “shall inform” Parties in updating and enhancing their actions. The interpretation of “inform” will be crucial

for what role the stocktake will play in national processes. Friedrich (2017) argues it must entail some kind of action by recipients.

5.6 Outlook

Due to the discrepancy between collective goals and aggregated effects of NDCs, the PA's fate will be determined by mechanisms for ratcheting up ambition (Young, 2016; Doelle, 2017). Because the PA's approach to ratcheting up is novel, it represents a high-stakes experiment in multilateral cooperation (Doelle, 2017). Most scholars express caution when assessing the likelihood that the agreement's provisions will actually deliver sufficient ratcheting up. The hope is that they will foster "soft reciprocity," in which successfully implementing NDCs creates a positive spiral of trust and cooperation. However, the risk is that reviews might reveal implementation gaps that could create a negative spiral of weakening trust and declining ambition (Falkner, 2016). Young (2016) warns that the mechanisms for strengthening commitments seem ill-defined and weak, and that efforts to remedy them could easily break down in mutual recriminations. Thus, it would not be surprising if the agreement fails. Keohane and Victor (2016) predict that without new incentives for climate action, collaboration is firmly stuck on easy coordination. Simulations of political dynamics under the PA also find that it is unlikely to endogenously deliver sufficient ambition ramp-up to achieve the 2° C goal, even under very optimistic assumptions (Sælen, forthcoming).

6. Compliance

Our discussion of the trilemma (section 3) is compatible with the frequently made observation that (full) compliance is neither a necessary nor a sufficient condition for effectiveness (Mitchell, 2008; Victor, 2011). However, no agreement can be very effective unless it achieves a reasonable degree of compliance. Moreover, for any given combination of participation level and commitment depth, the better the compliance rate, the higher the agreement's effectiveness.

In the PA's context, "compliance" may be defined as the action or process of (1) abiding by the agreement's procedural regulations and (2) fulfilling NDCs concerning emissions reductions (or limitations).⁴ Legally binding aspects of the agreement largely concern (1),

⁴ The latter point also includes nationally determined contributions to climate finance; however, we here focus on mitigation.

while provisions relating to (2) are typically of a “soft” nature.⁵ It is therefore largely unsurprising that the Parties decided in favor of a managerial approach rather than a strong mechanism for promoting implementation and compliance (Doelle, 2017, p. 376). Indeed, as Dagnet and Northrop emphasize (2017, p. 345), “it is difficult to conceive that a Party would need to ‘comply’ with something that is not mandatory.” The formulation in Article 15.2, stating that the implementation and compliance mechanism “shall be expert-based and facilitative in nature and function in a manner that is transparent, non-adversarial, and non-punitive,” must be seen in this light.

However, Article 4.2 prescribes that Parties shall “pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions” [NDCs]. Moreover, Article 13.7 requires Parties to provide information that facilitates tracking progress concerning the implementation of their NDC. As Winkler emphasizes (2017, pp. 146–148), these two Articles ensure that Parties are legally bound to actively pursue their NDCs.

Different opinions exist concerning prospects for high compliance with the PA. On one hand, the PA’s ability to achieve high compliance rates has been seriously questioned. For example, Bang et al. (2016, p. 210) argue that compliance will likely be the agreement’s “Achilles’ heel,” while Barrett (2016, p. 76) predicts that Paris will more likely “change what players say than what they do.” Similarly, Falkner (2016, p. 1122) reminds us that the historical record is not particularly encouraging concerning compliance with previous ambitious targets for emissions reductions.

On the other hand, some have voiced reasons for optimism. For example, Falkner (2016) points out that, by rooting targets in domestic politics rather than in international consent, the PA imposes a new context that could prove more conducive to compliance.⁶ Likewise, Tørstad (2018) argues that the prospects for compliance are reasonably good, because the PA reflects a consensus among nations that climate change concerns all, because climate change mitigation is gradually becoming more beneficial in financial terms, and because many NDCs do not deviate radically from a BAU scenario. Finally, a series of survey experiments find that public opinion in major emitter countries is surprisingly positively inclined toward domestic

⁵ However, article 4.2 obliges Parties to “pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions” (i.e., NDCs).

⁶ While Falkner no doubt has a good point, it is worth noting that Germany – a global champion of ambitious climate policy – recently gave up on its *self-imposed* target of reducing emissions 30% below 1990 levels by 2020. See <https://qz.com/1175308/germany-is-abandoning-its-climate-goals-for-2020-what-happens-next/> (accessed 07.08.2018).

emissions reductions, regardless of whether other countries reciprocate (Bernauer et al., 2016; Bernauer & Gampfer, 2015; McGrath & Bernauer, 2017).

Many scholars hold transparency and leadership to be crucial for achieving high compliance. To promote transparency, the PA creates three formal review processes – the global stocktake (Art. 14), the transparency framework (Art. 13), and the implementation and compliance mechanism (Art. 15). Outside these formal review processes, non-state actors will likely contribute significantly to enhancing transparency (van Asselt, 2015).⁷ However, countries' NDCs differ in terms of base year, target year, and procedures for assessing and validating progress (Young, 2016). While such differences make assessments challenging, they also reflect the overall flexibility of the pledge-and-review system, which enables countries to tailor their NDCs to match “the interests and views of domestic constituents” (Keohane & Oppenheimer, 2016, p. 146).

Nevertheless, developing NDCs and enhancing the basis for comparability and progress assessments remain high-priority concerns (Victor, 2016). Transparency is needed precisely to assist international comparison of national policies and thus to enable effective naming and shaming through expert review, peer pressure among states, and green NGOs' scrutiny domestically and internationally (Falkner, 2016, p. 1121).

In addition, transparency is also important for limiting possibilities for creative accounting. Consider developed countries' pledge under the Copenhagen Accord (and renewed in the PA) to provide at least US\$100 billion yearly in climate finance to developing countries by 2020. An OECD report found that by 2014, private and public sources had already pledged as much as US\$62 billion (OECD, 2015), which would seem to indicate reasonably high compliance with this pledge. However, developing countries (notably India) seriously questioned these OECD figures, arguing that the true amount of fresh funds at the time might have been as low as US\$2.5 billion, the difference being due to “relabeling or redirection of existing official development flows” (Clémentçon, 2016, p. 11).

A second important factor is leadership by major emitters. The 2014 climate agreement between the world's two biggest emitters of GHGs – the United States and China – arguably

⁷ Karlsson-Vinkhuyzen et al. (2017) identify four main sources of transparency: formal review procedures based on peer-to-peer accountability; national and regional institutions such as the European Commission, national parliaments or inspection agencies; citizens and NGOs using COPs, other international forums, and social media to sound alerts; and governments holding themselves to account through internal systems of monitoring and policy evaluation.

set an example for other countries to follow and thereby helped pave the way for broad support for the PA a year later. While the continued China–US climate partnership might have proved conducive also for ambition as well as for compliance, their leadership suffered a severe blow in June 2017, when President Trump announced the United States’ withdrawal from the PA. An important question is now: Can other main actors assume leadership roles to motivate other countries to adopt ambitious NDCs and comply with them? Indeed, the world currently “lacks a single undisputed leader in the field of climate change” (Parker et al., 2015, p. 443). In particular, the European Union, who assumed the leader role after President Bush’s repudiation of Kyoto in 2001, is currently struggling to “to keep its internal momentum on climate change going in line with long-term emissions reductions objectives for 2050 and beyond” (Cléménçon, 2016, p. 14).⁸

Finally, compliance levels will likely depend on technological progress (Bang et al., 2016). It is therefore unsurprising that the PA greatly emphasizes technology development and technology transfer (Rajamani, 2016). Technological progress beyond governments’ expectations would facilitate high compliance levels. In contrast, technological progress below expectations would make fulfilling NDCs costlier than anticipated and might therefore undermine compliance (at least in some countries).

In sum, the literature seems to suggest that the likelihood of achieving high compliance with the PA currently remains uncertain. In particular, high compliance will likely require a high degree of transparency and comparability. It will also likely require strong leadership and fast technological progress, particularly if countries – in keeping with the PA – significantly ratchet up their NDC ambitions in the future.

7. Insiders’ Views

Following the Paris conference, several practitioner-scholars who participated in negotiations published analyses of and commentaries about the PA. Their perspectives are instructive in assessing its significance. Several common themes emerge from these insider analyses.

First, the PA constitutes a political success and a major historic breakthrough in the history of global climate negotiations (Bodansky, 2016; Brun, 2016; Dimitrov, 2016; Doelle, 2016;

⁸ Still, the EU is currently in the process of ratcheting up its NDC from reducing emissions 40% below 1990 levels by 2030 to reducing them 45%. See <http://www.climatechangenews.com/2018/06/20/eu-will-increase-pledge-paris-agreement-says-canete/> (accessed 22 September 2018).

Rajamani, 2016). Insiders describe the PA as “a culmination of decades of climate diplomacy” (Brun, 2016, p. 121), “a historic achievement in multilateral diplomacy” that is the “most ambitious outcome possible in a deeply discordant political context” (Rajamani, 2016, pp. 493–94). In contrast to past climate negotiations, countries demonstrated reciprocal willingness to compromise, and the PA is balanced in that most players made sacrifices and gained something in return (Dimitrov, 2016; Kinley, 2017). A veteran negotiator, known for his vocal advocacy for the strongest possible treaty, recognized overall progress and wrote that island states generally welcomed the PA “as a good outcome albeit not a great one” (Fry, 2016, p. 105). Even skeptical commentators generally disappointed by the PA regard it as the best possible outcome, given political disagreements (Cléménçon, 2016). Insiders also stress groundbreaking, innovative features of the PA, including the move away from strict differentiation between developed and developing countries (Rajamani & Guerin, 2017).

Second, the PA is a treaty under international law (Bodansky, 2016; Bodle & Oberthür, 2017). International lawyers on the inside emphasize that the PA entails extensive binding legal obligations on countries (Bodansky, 2016; Mace & Verheyen, 2016; Rajamani, 2016). This outcome is particularly significant given that all legal options were on the table, and that the accord’s legal nature was not settled until the second week of negotiations in Paris. India in particular insisted that the agreement’s contents be finalized before its legal form, meaning we could have had a non-ratifiable, nonbinding instrument.

Third and importantly for our purposes, technical and legal experts involved in negotiations believe the agreement has a strong potential for being effective. Recently, members of the UNFCCC secretariat and other experts close to the process contributed to a book that draws the broad conclusion that the PA is equipped to achieve the ambitious goals it contains (Klein et al., 2017). One insider writes, “we should expect to see consistent over-achievement among Parties” because of political momentum the PA is generating (Higham, 2017).

Fourth, the PA is a facilitative rather than prescriptive instrument. Compliance mechanisms are weak, with a “facilitative” committee to consider country implementation in a “non-adversarial and non-punitive” manner (Art. 15). As one analysis puts it, the PA uses “legally soft language that nudges but does not prescribe” (Bodle & Oberthür, 2017). It defines aspirational goals and establishes normative expectations (Rajamani, 2016), while some provisions create obligations of conduct rather than results (Ibid.; Bodansky, 2016). Its form reflects the strong preferences of the United States, China, and India, who opposed mandatory achievement of targets (Dimitrov, 2016; Rajamani, 2016, p. 498). Most insiders recognize that

the PA is not a conventional agreement that follows the traditional top-down model of international law. Assessing its impact therefore requires a holistic perspective. Narrowly focusing on individual legal provisions would be misleading, since the dynamic interaction of legal provisions on mitigation, transparency, and progression is equally important (Winkler, 2017). Thus, the PA's impact will likely come through other mechanisms that influence policy behavior rather than through formal compliance, and will likely rely more on normative forces.

A fifth common theme among insiders is uncertainty about the future. While all consider the PA as a major pillar of the global climate policy regime, they emphasize the contingent nature of its potential impact. Most agree it is too early to tell and that the result depends on domestic developments (Winkler, 2017; Cléménçon, 2016). Some emphasize the “interpretative possibilities” engrained in the treaty's text and the room for legal heuristics regarding some provisions (Rajamani, 2016). Others stress the broader socio-political context, vested interests in the fossil-fuel economy, and whether investments will continue to flow toward renewable energy (Cléménçon, 2016; Higham, 2017). Still others emphasize that PA implementation depends on rules and procedures yet to be agreed in current and future negotiations on the “rulebook” (Mace & Verheyen, 2016; Fry, 2016; Winkler, 2017).

Finally, theoretical explanations of the Paris outcome are scant among insider accounts. One account emphasizes the role of organizational leadership, stressing particularly the entrepreneurial leadership of the High Ambition Coalition in bridging the North–South divide, and the importance of adopting a bottom-up approach to global climate governance in boosting participation (Brun, 2016). Another study highlights process variables, such as negotiating strategy and organizational tactics. It argues that negotiations succeeded because of the skilled use of secrecy, entrepreneurial leadership, and superb organizational tactics by the French government, together with persuasive argumentation by the European Union and island states that altered policy preferences, changed actors' minds about the wisdom of climate policy, and facilitated social learning (Dimitrov, 2016). A more widely shared perspective is compatible with realism and concerns the pivotal role of the United States. Most insider and outsider observers agree that the PA satisfies most US policy preferences under the Obama administration (see above).

8. Conclusions

According to our review of literature on the PA, at least seven main conclusions may be drawn:

First, a near consensus appears to exist that the PA has the *potential* to deliver. Practitioners and scholars alike seemingly agree that it is a complex yet significant agreement that cannot simply be dismissed as irrelevant.

Second and perhaps unsurprisingly, inside observers are generally more optimistic about prospects for success than outside observers are. Analyses by outside observers often emphasize the agreement's weaknesses and theoretical expectations that its implementation will encounter considerable obstacles. In contrast, academics participating in negotiations in and before Paris tend to regard the PA as a breakthrough, to emphasize its strengths, and to evaluate its prospects favorably.

Third, insiders and outsiders alike emphasize there is no guarantee the PA will eventually deliver sufficient global emissions reductions to reach its collective temperature goals. Legal complexities of the agreement and uncertainties about global and domestic socioeconomic developments make the long-term impact of the PA highly contingent.

Fourth, serious reasons for skepticism exist, which is unsurprising considering the trilemma outlined in section 3. Because participation in the PA is expected to remain broad, the major challenge for long-term effectiveness will likely be to facilitate fast ratcheting-up of NDC ambition, while keeping compliance rates high. An essential factor will be the extent to which enthusiastic countries can inspire others to follow suit. Both NDC ambition and compliance levels will arguably be determined through a struggle between, on one hand, forces wanting to continue producing and using fossil fuels more or less as usual and, on the other hand, emerging international norms to reduce emissions, sustained by peer pressure from green NGOs and from fast-growing industries producing clean energy.⁹ Some observers note that the outlook depends on the outcome of ongoing negotiations on the Paris "rulebook" (e.g., Falkner, 2016; Winkler, 2017). Indeed, Victor and Oppenheimer (2016) warn that these negotiations may prove even more difficult than negotiating the PA itself. Placing only modest burdens on states and being vague on key points, the PA made the cost of accession low and the reputational cost of staying out high. This logic no longer applies when countries

⁹ Keohane and Oppenheimer (2016) argue that countries might be motivated to reduce emissions by domestic side benefits; pressure from domestic constituencies; "specific" or "diffuse" rewards from other countries; and a desire to cultivate their international reputation.

are to agree on details concerning transparency and other elements crucial for ratcheting up ambition, because these decisions will imply real costs for states.

Fifth, the literature also notes the importance of interactions between the PA and exogenous factors for determining long-term ambition levels. For example, Keohane and Oppenheimer (2016) conclude that the PA's actual impact will depend on whether domestic groups can use it as leverage for climate action. Similarly, Keohane and Victor (2016) argue that whether negotiations lead to substantial mitigation will depend less on the PA's text than on domestic and transnational politics. Finally, Young (2016) presents two pathways to success for the PA. One features a disruptive climate shock; the other involves breaking the political grip of BAU forces and fostering a revolution in public consciousness.

Sixth, the PA's prospects will be heavily influenced by non-state actors, too. Implementing existing NDCs as well as governments' willingness to increase ambition over time will be highly influenced by business practices, investment patterns, and climate governance initiatives at subnational levels (Bäckstrand et al., 2017).

Finally, developments so far are not particularly promising in terms of environmental results. Assessments of the first-round NDCs find they fail to put emissions on a path consistent with achieving the collective temperature goals (UNFCCC, 2015; Rogelj et al., 2016; Climate Action Tracker, 2017). To make things even more challenging, in 2017 global CO₂ emissions resumed growth after three years at relatively constant levels. It is therefore extremely important that the PA meet expectations concerning its ability to deliver deep global emission cuts.

References

- Andresen, Steinar. 2015. International Climate Negotiations: Top-down, Bottom-up or a Combination of Both? *The International Spectator* 50 (1): 15-30.
- Auld, G., & Gulbrandsen, L. H. (2013). Private Regulation in Global Environmental Governance. In R. Falkner (Ed.), *Handbook of Global Climate and Environmental Policy*. Oxford: Wiley-Blackwell.
- Bang, G., Hovi, J., & Skodvin, T. (2016). The Paris Agreement: Short-Term and Long-Term Effectiveness. *Politics and Governance*, 4(3), 209-218.
- Barrett, S. (2003). *Environment and Statecraft - The Strategy of Environmental Treaty-Making*. Oxford: Oxford University Press.
- Barrett, S. (2016). The Paris Agreement: We can do (and have done) better. *The Paris Agreement and Beyond: International Climate Change Policy Post-2020*, 75-78.
- Bernauer, T., Dong, L., McGrath, L. F., Shaymerdenova, I., & Zhang, H. (2016). Unilateral or reciprocal climate policy? Experimental evidence from China. *Politics and Governance*, 4(3), 152-171.
- Bernauer, T., & Gampfer, R. (2015). How robust is public support for unilateral climate policy? *Environmental Science & Policy*, 54, 316-330.
- Bluedorn, J. C., & Bowdler, C. (2010). The Empirics of International Monetary Transmission: Identification and the Impossible Trinity. *Journal of Money, Credit and Banking*, 42(4), 679-713.
- Bodansky, D. (2016). The legal character of the Paris Agreement. *Review of European, Comparative & International Environmental Law*, 25(2), 142-150.
- Bodle, R., & Oberthür, S. (2017). Legal Form of the Paris Agreement and Nature of Its Obligations. In D. R. Klein, M. P. Carazo, M. Doelle, J. Bulmer, & A. Higham (Eds.), *The Paris Agreement on Climate Change. Analysis and Commentary* (pp. 91-106). Oxford: Oxford University Press.
- Briner, G., & Moarif, S. (2016). Unpacking provisions related to transparency of mitigation and support in the Paris Agreement. *Climate Change Expert Group* (Vol. 2016(2)). Paris: OECD/IEA.

- Brun, A. (2016). Conference diplomacy: The making of the Paris Agreement. *Politics and Governance*, 4(3), 115-123.
- Bäckstrand, K., Kuyper, J. W., Linnér, B.-O., & Lövbrand, E. (2017). *Non-state actors in global climate governance: from Copenhagen to Paris and beyond*. Taylor & Francis.
- Chan, S., Falkner, R., Goldberg, M., & van Asselt, H. (2018). Effective and geographically balanced? An output-based assessment of non-state climate actions. *Climate Policy*, 18(1), 24-35.
- Church, J. A., & Clark, P. U. (2013). Sea Level Change. In T. F. Stocker et al. (Ed.), *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* Cambridge: Cambridge University Press.
- Dagnet, Y., & Northrop, E. (2017). Facilitating Implementation and Promoting Compliance (Article 15). In D. R. Klein, M. P. Carazo, M. Doelle, J. Bulmer, & A. Higham (Eds.), *The Paris Agreement on Climate Change. Analysis and Commentary* (pp. 338-351). Oxford: Oxford University Press.
- Dimitrov, R. S. (2016). The Paris Agreement on Climate Change: Behind Closed Doors. *Global environmental politics*, 16(3), 1-11.
- Doelle, M. (2017). Assessment of Strengths and Weaknesses. In D. R. Klein, M. P. Carazo, M. Doelle, J. Bulmer, & A. Higham (Eds.), *The Paris Agreement on Climate Change. Analysis and Commentary* (pp. 375-388). Oxford: Oxford University Press.
- Falkner, R. (2016). The Paris Agreement and the New Logic of International Climate Politics. *International Affairs*, 92(5), 1107-1125.
- Fawcett, A. A., Iyer, G. C., Clarke, L. E., Edmonds, J. A., Hultman, N. E., McJeon, H. C., et al. (2015). Can Paris pledges avert severe climate change? *science*, 350(6265), 1168-1169.
- Friedrich, J. (2017). Global Stocktake (Article 14). In D. R. Klein, M. P. Carazo, M. Doelle, J. Bulmer, & A. Higham (Eds.), *The Paris Agreement on Climate Change. Analysis and Commentary* (pp. 319-337). Oxford: Oxford University Press.
- Fry, I. (2016). The Paris Agreement: An Insider's Perspective-The Role of Small Island Developing States. *Environmental Policy and Law*, 46(2), 105.

- Goodwin, P., Katavouta, A., Roussenov, V. M., Foster, G. L., Rohling, E. J., & Williams, R. G. (2018). Pathways to 1.5 °C and 2 °C warming based on observational and geological constraints. *Nature Geoscience*, 11(2), 102-107.
- Green, J. F. (2013). Order Out of Chaos: Public and Private Rules for Managing Carbon. *Environmental Policy and Law*, 46(2), 105-108.
- Green, J. F. (2014). *Rethinking Private Authority*. Princeton, NJ: Princeton University Press.
- Gulbrandsen, L. H., & Auld, G. (2016). Contested accountability logics in evolving nonstate certification for fisheries sustainability. *Global environmental politics*, 16(2), 42-60.
- Hale, T. (2016). "All hands on deck": The Paris agreement and nonstate climate action. *Global environmental politics*, 16(3), 12-22.
- Higham, A. (2017). Epilogue: Making the Transition from an International Agreement to a New Epoch of Human Prosperity in One Generation. In D. R. Klein, M. P. Carazo, M. Doelle, J. Bulmer, & A. Higham (Eds.), *The Paris Agreement on Climate Change. Analysis and Commentary* (pp. 413-416). Oxford: Oxford University Press.
- Höhne, N., Kuramochi, T., Warnecke, C., Röser, F., Fekete, H., Hagemann, M., et al. (2017). The Paris Agreement: resolving the inconsistency between global goals and national contributions. *Climate Policy*, 17(1), 16-32.
- Karlsson-Vinkhuyzen, S. I., Groff, M., Tamás, P. A., Dahl, A. L., Harder, M., & Hassall, G. (2018). Entry into force and then? The Paris agreement and state accountability. *Climate Policy*, 18(5), 593-599.
- Keohane, R. O., & Oppenheimer, M. (2016). Paris: beyond the climate dead end through pledge and review? *Politics and Governance*, 4(3), 142-151.
- Keohane, R. O., & Victor, D. G. (2016). Cooperation and Discord in Global Climate Policy. *Nature Climate Change*, 6, 570-575.
- Kinley, R. (2017). Climate change after Paris: From turning point to transformation. *Climate Policy*, 17(1), 9-15.
- Klein, D. R., Carazo, M. P., Doelle, M., Bulmer, J., & Higham, A. (Eds.). (2017). *The Paris Agreement on Climate Change : Analysis and Commentary*. Oxford: Oxford University Press.

- Krugman, Paul 1999. "O Canada. A neglected nation gets its Nobel," available from http://www.slate.com/articles/business/the_dismal_science/1999/10/o_canada.html?via=gdpr-consent (accessed 23 September 2018).
- Mace, M., & Verheyen, R. (2016). Loss, Damage and Responsibility after COP 21: All Options Open for the Paris Agreement. *Review of European, Comparative & International Environmental Law*, 25(2), 197-214.
- Mattoo, A., & Subramanian, A. (2012). Equity in Climate Change: An Analytical Review. *World Development*, 40(6), 1083-1097.
- McGrath, L. F., & Bernauer, T. (2017). How strong is public support for unilateral climate policy and what drives it? *Wiley Interdisciplinary Reviews: Climate Change*, 8(6), e484.
- Michaelowa, K., & Michaelowa, A. (2017). Transnational climate governance initiatives: designed for effective climate change mitigation? *International Interactions*, 43(1), 129-155.
- Millar, R. J., Fuglestedt, J. S., Friedlingstein, P., Rogelj, J., Grubb, M. J., Matthews, H. D., et al. (2017). Emission budgets and pathways consistent with limiting warming to 1.5 C. *Nature Geoscience*, 10(10), 741.
- Mitchell, R. B. (2008). Compliance Theory: Compliance, Effectiveness, and Behaviour Change in International Environmental Law. In D. Bodansky, J. Brunnée, E. Hey, & R. B. Mitchell (Eds.), *The Oxford Handbook of International Environmental Law*. Oxford: Oxford University Press.
- Müller, B., Höhne, N., & Ellermann, C. (2009). Differentiating (Historical) Responsibility for Climate Change. *Climate Policy*, 9(6), 593-611.
- Obstfeld, M., Shambaugh, J. C., & Taylor, A. M. (2004). Monetary Sovereignty, Exchange Rates, and Capital Controls: The Trilemma in the Interwar Period. *IMF Staff Papers*, 51, 75-108.
- Obstfeld, M., Shambaugh, J. C., & Taylor, A. M. (2005). The Trilemma in History: Tradeoffs among Exchange Rates, Monetary Policies, and Capital Mobility. *The Review of Economics and Statistics*, 87(3), 423-438.
- Obstfeld, M., Shambaugh, J. C., & Taylor, A. M. (2010). Financial Stability, the Trilemma, and International Reserves. *American Economic Journal: Macroeconomics*, 2(2), 57-94.

- OECD 2015. "Climate Financing Momentum Builds," available from: <http://www.oecd.org/environment/climate-financing-momentum-builds.htm> (accessed 08.08.2018).
- Parker, C. F., Karlsson, C., & Hjerpe, M. (2015). Climate change leaders and followers: Leadership recognition and selection in the UNFCCC negotiations. *International Relations*, 29(4), 434-454.
- Pew Research Center 2016. <http://www.pewinternet.org/2016/10/04/public-views-on-climate-change-and-climate-scientists/>
- Raftery, A. E., Zimmer, A., Frierson, D. M., Startz, R., & Liu, P. (2017). Less than 2 C warming by 2100 unlikely. *Nature Climate Change*, 7(9), 637.
- Rajamani, L. (2016). Ambition and differentiation in the 2015 Paris Agreement: Interpretative possibilities and underlying politics. *International and Comparative Law Quarterly*, 65(2), 493-514.
- Rajamani, L., & Guerin, E. (2017). Central Concepts in the Paris Agreement and How They Evolved. In D. R. Klein, M. P. Carazo, M. Doelle, J. Bulmer, & A. Higham (Eds.), *The Paris Agreement on Climate Change. Analysis and Commentary* (pp. 74-90). Oxford: Oxford University Press.
- Rogelj, J., Den Elzen, M., Höhne, N., Fransen, T., Fekete, H., Winkler, H., et al. (2016). Paris Agreement climate proposals need a boost to keep warming well below 2 C. *Nature*, 534(7609), 631-639.
- Rodrik, Dani 2007. "The inescapable trilemma of the world economy," available from http://rodrik.typepad.com/dani_rodriks_weblog/2007/06/the-inescapable.html (accessed 23 September 2018).
- Rokkan, S. (1966). Numerical Democracy and Corporate Pluralism. In R. A. Dahl (Ed.), *Political Opposition in Western Democracies*. New Haven: Yale University Press.
- Spash, C. L. (2016). This changes nothing: The Paris agreement to ignore reality. *Globalizations*, 13(6), 928-933.
- Tørstad, V. (2018). Håndhevelse og legitimitet: en integrativ vurdering av Parisavtalens effektivitet. *Internasjonal Politikk*, 76(1), 47-72.
- Underdal, A. (1980). *The Politics of International Fisheries Management: The Case of the North-East Atlantic*. Oslo: Scandinavian University Press.

- Underdal, A., & Wei, T. (2015). Distributive fairness: A mutual recognition approach. *Environmental Science & Policy*, 51, 35-44.
- UNFCCC 2015a. Adoption of the Paris Agreement. Available online at: <http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>, last accessed May 19, 2017.
- Van Asselt, H. (2016). The role of non-state actors in reviewing ambition, implementation, and compliance under the Paris agreement. *Climate Law*, 6(1-2), 91-108.
- Victor, D. G. (2011). *Global Warming Gridlock - Creating More Effective Strategies for Protecting the Planet*. Cambridge: Cambridge University Press.
- Victor, D. G. (2016). Making the Promise of Paris a Reality. In R. N. Stavins, & R. C. Stowe (Eds.), *The Paris Agreement and Beyond: International Climate Policy Post-2020*. Cambridge, MA: Harvard Project on Climate Agreements.
- Victor, David 2017. "Order from Chaos: America exits the climate stage."
<https://www.brookings.edu/blog/order-from-chaos/2017/06/01/america-exits-the-climate-stage/>
- Winkler, H. (2017). Mitigation (Article 4). In D. R. Klein, M. P. Carazo, M. Doelle, J. Bulmer, & A. Higham (Eds.), *The Paris Agreement on Climate Change. Analysis and Commentary* (pp. 141-166). Oxford: Oxford University Press.
- WRI 2017. <https://www.wri.org/blog/2017/04/interactive-chart-explains-worlds-top-10-emitters>
- Young, O. R. (2016). The Paris Agreement: Destined to Succeed or Doomed to Fail? *Politics and Governance*, 4(3), 124-132.