Governing Cooperative Approaches under the Paris Agreement

Michael A. Mehling∗

Parties to the Paris Agreement can engage in voluntary cooperation and use internationally transferred mitigation outcomes towards their national climate pledges. Doing so promises to lower the cost of achieving agreed climate objectives, which allows countries to increase their mitigation efforts with given resources. Lower costs do not automatically translate into greater climate ambition, however: Transfers that involve questionable mitigation outcomes can effectively increase overall emissions, affirming the need for a sound regulatory framework. As Parties negotiate guidance on the implementation of cooperative approaches under the Paris Agreement, they must consider governance options to secure environmental integrity and address the question of overall climate ambition. But country views are far apart on central questions. Of all the issues under negotiation to operationalize the Paris Agreement, cooperative approaches are the only agenda item still under debate. Drawing on an analytical framework that incorporates economic theory, deliberative jurisprudence, practical case studies, and treaty interpretation, this Article maps central positions of actors in the negotiations and evaluates relevant options included in recent textual proposals. It concludes with a set of recommendations on how operational guidance can balance necessary safeguards for climate ambition with flexibility to contain transaction costs and allow for greater participation.

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∗ Deputy Director, Center for Energy and Environmental Policy Research, Massachusetts Institute of Technology, Cambridge, MA, USA; Professor, School of Law, University of Strathclyde, Glasgow, UK. Contact: mmehling@mit.edu. The author gratefully acknowledges valuable comments on early versions from William Acworth, Thiago Chagas, Gilles Dufrasne, Eva Filzmoser, Thomas Kansy, Nicolas Kreibich, Kelly Levin, Mary J. Mace, Andrei Marcu, Giuseppe Montesano, Wolfgang Obergassel, Robert N. Stavins, Robert C. Stowe, Jeff Swartz, Moritz von Unger, Karl Upston-Hooper, and Peter Zaman; as well as support from the Enel Foundation, the Harvard Project on Climate Agreements, and the Swiss Network of International Studies (SNIS) under the project "Designing Effective Regulation for Carbon Markets at the International, National, and Subnational Level." He remains fully responsible for any errors and all opinions expressed in this paper. Relevant negotiations are considered up to and including the Bonn Climate Change Conference held in June 2019.

INTRODUCTION

Although the Paris Agreement does not make express reference to carbon markets,[1] Article 6 of the Agreement is widely held to be the "latest incarnation of these approaches in an international climate treaty"[2] by allowing Parties to cooperate in the achievement of their Nationally Determined Contributions (NDCs). Recent scholarship has suggested that such cooperation can "increase

1. For a definition of such mechanisms and further discussion, with examples, *see infra*, Part II.A.

2. Andrew Howard, *Incentivizing Mitigation Using International Carbon Markets to Raise Ambition*, FED. MINISTRY FOR THE ENV'T, NATURE CONSERVATION & NUCLEAR SAFETY OF GER. 6 (2018), https://www.carbon-mechanisms.de/fileadmin/media/dokumente/Publikationen/Studie/Studie_2018_KoruClimate_Incentivizing.pdf.

the latitude of Parties to scale up the ambition of their NDCs;"[3] likewise, scholars have recommended a balanced approach to the governance of Article 6 in order to avoid "restrictive quality or ambition requirements" that might "dampen incentives for cooperation."[4] By contrast, a growing body of literature has highlighted the potential of cooperative approaches to weaken aggregate efforts if unaccompanied by robust governance requirements.[5]

Under the Paris Agreement Work Program (PAWP), Parties have been engaged in developing operational rules and guidance for the implementation of Article 6.[6] How to address questions of ambition and environmental integrity in the governance framework for Article 6 has consistently proven one of the most contentious items in these negotiations. On matters related to climate ambition, that is, the stringency of efforts to mitigate climate change,[7] Parties and observers have voiced widely divergent preferences about the appropriate balance between international prescription and national flexibility.[8] Accordingly, iterations of the textual proposals under negotiation have featured long lists of options for potential inclusion in the "Paris Rulebook."[9] The sheer number of options reflects the diversity and irreconcilability of current Party views as expressed in earlier submissions and statements.[10]

Parties, groups of Parties, and observers have proposed relevant options that range from a high degree of prescriptiveness and central oversight to flexibility and delegation to individual Parties.[11] These options are not being negotiated in a legal vacuum. The mandate to elaborate guidance is enshrined in the Paris Agreement, a legally binding treaty. The wording and intent of that mandate constrain what the Parties can and cannot include in operational details on Article

3. Michael A. Mehling et al., *Linking Heterogeneous Climate Policies (Consistent with the Paris Agreement)* 35 (Harvard Project on Climate Agreements 2017), https://www.belfercenter.org/publication/linking-heterogeneous-climate-policies-consistent-paris-agreement.

4. Michael A. Mehling et al., *Linking Climate Policies to Advance Global Mitigation*, 359 SCI. 997, 998 (2018); *see also* Daniel M. Bodansky et al., *Facilitating Linkage of Climate Policies Through the Paris Outcome*, 16 CLIMATE POL'Y 956, 960 (2016).

5. *See infra*, Part I, for references and discussion.

6. *See* Conference of the Parties on its twenty-first session, *Part two Action taken by the Conference of the Parties at its twenty-first session*, 2, FCCC/CP/2015/10/Add.1 (Jan. 29, 2016) [hereinafter Decision 1/CP.21] (requests the Subsidiary Body for Scientific and Technological Advice (SBSTA) develop and recommend such guidance).

7. On the concept of ambition in this context, see, e.g., the detailed discussion of alternative ways to raise the ambition of climate mitigation in JÜRG FÜSSLER ET AL., ARTICLE 6 IN THE PARIS AGREEMENT AS AN AMBITION MECHANISM: OPTIONS AND RECOMMENDATIONS vii (2019), https://www.carbonlimits.no/wp-content/uploads/2019/07/Ambition-Raising-and-Article-6-Final.pdf.

8. *See infra*, Part III.C, for references and discussion.

9. *See infra*, Part III.A, for references and discussion.

10. *Id.*

11. Susan Biniaz, *Analyzing Articles 6.2 and 6.4 of the Paris Agreement along a Nationally' and Internationally' Determined Continuum*, *in* MARKET MECHANISMS AND THE PARIS AGREEMENT 55, 55–56 (Robert N. Stavins & Robert C. Stowe eds., 2017). For examples and discussion of Party positions, see *infra*, Part III.C.

6. Conversely, if Parties fail to agree on an issue, that issue will likely remain within the Parties' discretion, given the permissive nature of international law.[12] Resolving the tension between flexibility and prescription will need to occur within these legal confines, warranting a careful analysis of the scope and limitations of the current negotiating mandate.

This Article dissects the problematic tension between environmental ambition and flexibility in carbon trading through an analytical framework that builds on an established body of scholarship and incorporates insights from the operation of existing carbon markets. It begins with a survey of the theoretical literature on economic instruments for climate change mitigation. In particular, it focuses on the economic rationale of such instruments, the required governance structures, and the implications of both under and overregulation. Next, the Article draws on experiences yielded from operation of the Clean Development Mechanism (CDM) under the Kyoto Protocol and the European Union emissions trading system (EU ETS) to infer lessons from past regulatory choices on the appropriate balance between prescription and flexibility in carbon trading.

The following Parts apply this analytical framework to the discussion of operational guidance for Article 6(2) of the Paris Agreement. Article 6(2) involves the use of internationally transferred mitigation outcomes (ITMOs) towards achievement of NDCs and provides the normative framework for different variations of carbon trading across jurisdictions. To this end, the Article evaluates the legal mandate for guidance on Article 6(2)—as it relates to questions of environmental ambition—based on the text and negotiating history of Article 6(2). It then maps the positions of influential stakeholders on these questions to identify potential areas of convergence in the evolving negotiation process. Navigating within this legal and political maneuvering space, the Article relates previous insights from theory and practice to key options currently under discussion in the negotiations. It concludes with a set of overarching principles that can help inform the further elaboration of cooperative approaches going forward, and thereby contributes to the literature on instrument choice and design in international climate policy.

I. AMBITION, FLEXIBILITY, AND ARTICLE 6(2) OF THE PARIS AGREEMENT

Article 6 of the Paris Agreement allows Parties to engage in voluntary cooperation as they implement their NDCs.[13] One such channel of cooperation—set out in Article 6(2)—involves the use of ITMOs towards achievement of NDCs. Although the provision omits explicit mention of markets, it "firmly

12. *See infra*, Part III B, for further discussion.

13. Paris Agreement on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104 (at art. 6(2)). As of November 15, 2019, 187 parties have ratified the Paris Agreement. *See* UNFCCC, *Paris Agreement Status of Ratification*, (last visited Mar. 10, 2019), https://unfccc.int/process/the-paris-agreement/status-of-ratification.

anchors market mechanisms in the Paris Agreement"[14] and thus harbors the promise of such mechanisms to lower the cost of achieving environmental policy objectives.[15] In practice, Article 6(2) could be implemented in different ways, including direct transfers between governments, linkage of emissions trading systems or other mitigation policies across two or more Parties, sectoral or activity crediting mechanisms, other forms of cooperation involving public or private entities, or all of the above.[16]

Typically, such cooperation will take place because it is cheaper for the transferring Party to reduce emissions than for the Party acquiring the ITMOs.[17] With the compliance flexibility introduced through Article 6(2), both Parties can leverage the difference in their respective costs for mutual benefit: the acquiring Party reduces the cost of meeting its pledged NDC, whereas the transferring Party will receive some form of compensation, usually in monetary terms.[18] One estimate suggests that this ability to transfer mitigation outcomes across Parties can reduce the costs of global mitigation under currently submitted NDCs by one third by 2030 and by about a half by 2050.[19] Another estimate anticipates even greater cost savings of between 59 and 79 percent by 2035, with the higher end of the range contingent on inclusion of abatement from reduced deforestation

14. Benito Müller, *Article 6 Market Approaches under the Paris Agreement*, EUROPEAN CAPACITY BUILDING INITIATIVE 7 (2018), https://ecbi.org/news/article-6-market-approaches-under-paris-agreement.

15. For a brief discussion of carbon markets and their rationale as policy instruments for climate change mitigation, *see infra*, Part II.A.1.

16. Howard, *supra* note 2, at 7–8; Andrew Howard, *Voluntary Cooperation (Article 6)*, *in* THE PARIS AGREEMENT ON CLIMATE CHANGE: ANALYSIS AND COMMENTARY 178, 185 (Daniel Klein et al. eds., 2017); Nicolas Kreibich, *Raising Ambition Through Cooperation Using Article 6 to bolster climate change mitigation*, WUPPERTAL INST. 7–8 (2018), https://epub.wupperinst.org/frontdoor/deliver/index/docId/7122/file/7122_Raising_Ambition.pdf; Nicolas Kreibich & Wolfgang Obergassel, *New Paths to Policy Crediting? Challenges and Opportunities of Policy-Based Cooperation Under Article 6 of the Paris Agreement*, WUPPERTAL INST. 4 (2018), https://epub.wupperinst.org/frontdoor/deliver/index/docId/7205/file/7205_Policy_Crediting.pdf; Mehling, *supra* note 4, at 2.

17. As Müller, *supra* note 14, at 14, explains, the Parties involved in Art. 6.2 transfers have been designated in different ways in the draft negotiating texts, with Parties transferring ITMOs out of their jurisdiction variously referred to as "host Parties," "generating Parties," "originating Parties," or "transferring Parties," while those receiving them have been referred to as "acquiring Parties" or "using Parties."

18. Exceptions may exist when cooperation is motivated by political rather than economic considerations, for instance to build capacity and channel climate finance to developing country Parties. Likewise, compensation may be affected in nonmonetary terms, for instance through the transfer of technology or a political concession in another issue area, such as international trade in goods and services.

19. WORLD BANK GROUP, STATE AND TRENDS OF CARBON PRICING 80 (2016). For 2030, the calculation was based on Intended Nationally Determined Contributions (INDCs) available at the time, with estimated cost savings—measured as economy-wide welfare changes when comparing a business-as-usual evolution of the energy system with an evolution where emissions are constrained in line with the INDC pledges—amounting to around $115 billion per year. *Id.* at 83. For 2050, the calculation assumes convergence of global per capita emissions in line with limiting global warming to 2 C in 2100, yielding estimated cost savings from trading of around 54 percent, or $3.94 trillion per year. Overall, this results in cumulative discounted savings in mitigation costs, using a 5 percent discount rate, of $6.2 trillion between 2012 and 2050. *See id.* at 83, 86.

and forest degradation.[20] Research has also affirmed that global mitigation trading, rather than just regional trading, brings about substantial cost savings.[21]

Such cost reductions, in turn, allow for greater climate ambition with available resources. By helping to achieve initial NDCs more easily, the ability to transfer mitigation efforts can lower political resistance to more ambitious pledges in the future and unlock additional resources that can be diverted to mitigation activities.[22] As the Special Report of the Intergovernmental Panel on Climate Change (IPCC) on Global Warming of 1.5°C underscored, the pace and scale of mitigation efforts needed to achieve the temperature goals of the Paris Agreement[23] have "no documented historic precedent" and call for unparalleled levels of investment.[24] Because financial resources are limited, there is doubt about whether these investment levels will be sufficient, as assessments of current financial flows show a considerable investment shortfall.[25] Any policy approach that strengthens the impact of a given level of investment may prove critical in narrowing the considerable ambition gap of existing NDCs.[26]

By leveraging the cost savings from cooperation, countries could accelerate the progression of their mitigation pledges across NDC cycles. One modeling assessment suggests that global use of carbon markets would help achieve almost twice the emission reductions at the same total cost.[27] Another estimate considers

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20. Environmental Defense Fund, *Catalyzing Carbon Markets Globally to Realize the Promise of Paris The Power of Markets to Increase Ambition*, MARRAKECH P'SHIP, 2–3 (2018), https://unfccc.int/sites/default/files/resource/236_Talanoa%20submission%20carbon%20markets%20potential%20EDF%20April%203.pdf. For this estimate, the authors compared expected total global costs for meeting currently pledged NDCs from 2020 to 2035 based on their existing use of markets and estimates of current sectoral plans and policies, with expected costs in a variety of scenarios including domestic and international emissions trading, with and without use of credits from Reducing Emissions from Deforestation and Forest Degradation (REDD) activities. *See id.*

21. *See generally* Baran Doda et al., *Linking Permit Markets Multilaterally*, CHAIRE ÉCONOMIE DU CLIMAT (2018) (applying a general model to quantify the economic gains of multilateral linking, the authors find that emissions trading between the power sectors in Canada, continental Europe, South Korea, the United Kingdom, and the United States generates gains of up to $370 million per year relative to autarky).

22. Environmental Defense Fund, *supra* note 20, at 1.

23. *See* Paris Agreement, *supra* note 13, at art. 2(1) (stating as its objective "to strengthen the global response to the threat of climate change . . . by (a) [h]olding the increase in the global average temperature to well below 2 C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 C above pre-industrial levels").

24. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC), GLOBAL WARMING OF 1.5ºC: AN IPCC SPECIAL REPORT 4–8, SPM-29 (2018). In the energy sector alone, the IPCC estimates that average supply-side investments needed to achieve the 1.5 C and 2 C temperature objectives amount to $3.5 trillion per year (2010 dollars) between 2016 and 2050. *See id.* at 4–13.

25. Barbara Buchner et al., Global Landscape of Climate Finance 2017, CLIMATE POL'Y INIT. (Oct. 2017), https://climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2017.

26. U.N. Environment Programme, *The Emissions Gap Report 2017 A UN Environment Synthesis Report* 1 (Nov. 2017). As the report observes, current NDCs are "far from the level of ambition required for an emissions pathway consistent with staying below a 2 C, let alone a 1.5 C, temperature increase" and currently cover "only around one third of the emission reductions needed by 2030." *Id.* at 1.

27. Environmental Defense Fund, *supra* note 20, at 3. Using a partial-equilibrium model based on estimated marginal abatement cost (MAC) curves for major sectors within each country and region, and

the cost savings from international carbon trading to be sufficient for an additional 1.5 $GtCO_2$ of emissions abated by 2030.[28] Overall, international cooperation under Article 6 thus has the potential of becoming "a powerful tool to promote more mitigation action . . . and pave the way for progress within the next NDC cycle."[29]

But lower costs may not automatically translate into greater ambition.[30] Research has noted that cooperative approaches may weaken aggregate efforts if Parties transfer ITMOs with questionable integrity or are discouraged from progressively strengthening their NDCs over time.[31] While it tends to concede the possibility of cost savings,[32] this research is more preoccupied with the risks that could arise from deployment of carbon trading, often with reference to existing carbon markets. These individual studies—a vast majority of which have been commissioned or funded by government agencies in only three

holding total discounted abatement cost constant, the authors estimated cumulative emissions reductions over the period 2020 to 2035 would increase from 77 gigatons of carbon dioxide equivalent ($GtCO_2e$) in the base case to 147 $GtCO_2e$ in a scenario with full global emissions trading, reflecting an increase of 91 percent. *Id*.

28. WORLD BANK GROUP, *supra* note 19, at 85. For this estimate, the authors calculated the mitigation effect of diverting $115 billion in cost savings to abatement activities. *Id*.

29. Malin Ahlberg, *Enhancing Ambition Carbon Pricing as a Tool to Step up Mitigation Efforts*, 6 CARBON MECHANISMS REV. 22, 23–24 (2018).

30. Howard, *supra* note 3, at 3.

31. *Id.*; Kreibich, *supra* note 16; *see* Nicolas Kreibich & Lukas Hermwille, *Robust Transfers of Mitigation Outcomes - Understanding Environmental Integrity Challenges*, WUPPERTAL INST. III (2018), https://www.carbon-mechanisms.de/fileadmin/media/dokumente/Publikationen/Policy_Paper/PP_2016_02_Robust_Transfers_bf.pdf; Stephanie La Hoz Theuer et al., *International Transfers Under Article 6 in the Context of Diverse Ambition of NDCs Environmental Integrity Risks and Options to Address Them* (2017), https://www.sei.org/publications/international-transfers-article-6-ndcs; Axel Michaelowa & Sonja Butzengeiger, *Ensuring Additionality Under Art. 6 of the Paris Agreement Suggestions for Modalities and Procedures for Crediting of Mitigation Under Art. 6.2 and 6.4 and Public Climate Finance Provision Under Art. 6.8* (2017), https://www.perspectives.cc/fileadmin/Publications/Ensuring_additionality_under_Art._6_of_the_Paris_agreement_Michaelowa_Axel__Butzengeiger_Sonja_2017.pdf; Axel Michaelowa, Lukas Hermwille, Wolfgang Obergassel & Sonja Butzengeiger, *Additionality Revisited Guarding the Integrity of Market Mechanisms under the Paris Agreement*, 9 CLIMATE POL'Y 5 (2019); Lambert Schneider et al., *Environmental Integrity under Article 6 of the Paris Agreement* (2017), https://www.dehst.de/SharedDocs/downloads/EN/project-mechanisms/Discussion-Paper_Environmental_integrity.pdf; Lambert Schneider & Stephanie La Hoz Theuer, *Environmental Integrity of International Carbon Market Mechanisms Under the Paris Agreement*, 19 CLIMATE POL'Y 386 (2019); Randall Spalding-Fecher et al., *Environmental Integrity and Additionality in the New Context of the Paris Agreement Crediting Mechanisms* (2017), https://www.energimyndigheten.se/contentassets/2600659ecfa54ec995b835a4c99d75fb/environmental-integrity----final-report-2017.01.24.pdf; Carsten Warnecke et al., *Opportunities and safeguards for ambition raising through Article* 6 (2018), https://newclimate.org/2018/05/09/opportunities-and-safeguards-for-ambition-raising-through-article-6.

32. Interestingly, the potential for cost savings under Article 6 is usually affirmed without these same authors offering any supporting evidence or references; *see, e.g.*, Howard, *supra* note 2, at 3 (noting "[t]he case for international carbon markets being cost-effective in mitigating climate change is well established").

European countries[33]—collectively affirm the need for robust governance to address such risks, usually accompanied by proposals and policy options that should be included in a regulatory framework.[34]

Parties at the Paris Climate Conference were also concerned about the environmental risks of ITMO transfers when they negotiated the Paris Agreement. Article 6(1) notes that use of cooperative approaches allows "for higher ambition" and serves to promote "environmental integrity."[35] Article 6(2) goes further when it states that Parties using ITMOs towards their NDCs "shall . . . ensure environmental integrity and transparency, including in governance."[36] Based on the options included in recent textual proposals discussed in the negotiations,[37] at least some of these concerns will also be addressed by the operational guidance on Article 6(2) that is currently under negotiation. A survey of Party positions in the negotiating process reveals considerable disagreement, however, on the interpretation of these concepts and how they should be reflected—if at all—in relevant guidance.[38] What emerges from the mapping of Party statements and submissions is a range of views along a continuum between prescription and flexibility, inviting questions about the appropriate balance.[39]

This challenge is not new. Ever since market approaches to climate change have been discussed, some stakeholders have endorsed simplicity and speed in their operationalization, while others have placed greater emphasis on the need to secure environmental integrity and ambition.[40] Each viewpoint can cite reasonable arguments, and any compromise will, by necessity, incur a number of tradeoffs. A highly prescriptive governance framework can increase transaction costs to the point of stifling investor interest and exceeding the technical and administrative capacity of some countries. That kind of framework would deter using Article 6(2), diminishing its ability to reduce abatement costs. In contrast, regulatory flaws and shortcomings can result in ITMO transfers of questionable

33. *See* Sandra Greiner & Axel Michaelowa, *Cooperative Approaches Under Art. 6.2 of the Paris Agreement* (2018), https://climatefocus.com/publications/cooperative-approaches-under-art-62-paris-agreement; Howard, *supra* note 2; Kreibich, *supra* note 16; Kreibich & Hermwille, *supra* note 31; Michaelowa & Butzengeiger, *supra* note 31; Warnecke et al., *supra* note 31 (acknowledging the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety as client or sponsor); La Hoz Theuer et al., *supra* note 31; *see also* Stephanie La Hoz Theuer et al., *When Less Is More Limits to International Transfers Under Article 6 of the Paris Agreement*, 19 CLIMATE POL'Y 401 (2019) (acknowledging the Belgian Directorate-General Environment, under the authority of the Federal Public Service Health, Food Chain Safety and Environment, as client or sponsor); Michaelowa et al., *supra* note 31 (acknowledging the German Ministry of Education and Research and the German Federal Ministry of the Environment, Nature Conservation and Nuclear Safety of Germany as client or sponsor); Spalding-Fecher et al., *supra* note 31 (acknowledging the Swedish Energy Agency as client or sponsor).

34. For examples and discussion in the context of individual negotiation issues, *see infra*, Part II.

35. *See* Paris Agreement, *supra* note 13, at art. 6(1).

36. *See id*.

37. For discussion and references, *see infra*, Part III.C.

38. For a mapping of Party positions, *see infra*, Part III.C.

39. Greiner & Michaelowa, *supra* note 33, at 8.

40. Michaelowa & Butzengeiger, *supra* note 31, at 10.

integrity that run counter to the mitigation objectives of the Paris Agreement and undermine confidence in its market mechanisms, echoing a pattern observed under the Kyoto Protocol.[41]

So how should these competing priorities be reconciled? With around half of all Parties signaling their intention to participate in international carbon markets, either as a source of climate finance or as a means to achieve pledged emission reductions,[42] the importance of this question should not be underrated. Identifying an outcome that balances contending views and is acceptable to all Parties will be critical if Article 6(2) is to become, as one veteran of the negotiations has proposed, "the choice for up-scaled mitigation activities" to achieve the Paris Agreement objective of global carbon neutrality in the second half of the century.[43]

Any political outcome should hence be based on a robust understanding of its implications, including the inevitable tradeoffs, and factor in relevant insights from the research community. So far, however, the literature on this complex governance challenge has been to a certain degree self-referential, and difficult to disentangle from the viewpoints of a narrow group of countries commissioning or otherwise supporting the underlying research.[44] While this Article cannot claim to reflect a greater geographic diversity of views—there is currently a dearth of research and analysis on Article 6 from outside Europe and North America—it aims to expand the discussion based on an analytical framework drawn from broader academic enquiry across economic theory and political economy as well as deliberative jurisprudence.

II. ANALYTICAL FRAMEWORK: THEORY AND CASE STUDIES

A. Carbon Markets and Their Regulation

Carbon markets can trace their conceptual origins to economic theory, notably the theory of market failures and the means to correct them. This theoretical rationale is outlined in the following subparts, which discuss the advantages of relying on market-based instruments to address climate change, explain the need for regulatory and institutional structures to govern the operation of such instruments, and, finally, identify how such governance structures are susceptible to various regulatory and policy failures.

41. *See infra*, Part II.A.1 for discussion.

42. International Emissions Trading Association (IETA), *IETA Input to the Talanoa Dialogue* 2 (2018), https://unfccc.int/sites/default/files/resource/94_IETA%20input%20to%20TD_final.pdf; World Bank Group & Ecofys, *State and Trends of Carbon Pricing 2018* 34 (2018), https://openknowledge.worldbank.org/bitstream/handle/10986/29687/9781464812927.pdf.

43. Thomas Forth, *Katowice and the Paris Rule Book*, 3 CARBON MECHANISMS REV. 4, 6 (2018).

44. For references, see *supra* note 33.

1. Markets, Market Failure, and Corrective Intervention

To better understand the implications of alternative approaches to the governance of Article 6(2) and how these might affect its operation, a closer look at the theoretical underpinnings of carbon trading is warranted. Economic theory commonly ascribes environmental challenges to different market failures, caused by, *inter alia*, positive or negative externalities,[45] market power and concentration, split incentives, and information asymmetries. For economists, such market failures denote an inefficient allocation of goods and services by the market, justifying an intervention in the form of public policy.[46] Policymakers seeking to address climate change—once described as "the greatest market failure the world has ever seen"[47]—can take recourse to a portfolio of policy instruments, including corrective pricing and quantity rationing, performance standards, subsidies, agreements, and informational instruments.[48]

Commonly referred to as market-based or economic instruments,[49] this subset of policy instruments influence behavior through price signals.[50] Such instruments are generally credited with achieving climate policy objectives at the lowest cost because they incentivize abatement where it is cheapest.[51] Abatement decisions are decentralized, helping overcome the information asymmetry between policymakers and polluters. By granting polluters flexibility to determine the allocation of resources, these instruments are better at avoiding path dependencies and sunk investments in dead-end technologies.[52]

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45. *See generally* James M. Buchanan & Wm. Craig Stubblebine, *Externality*, 29 ECONOMICA 371 (1962) (discussing externalities in market organization).

46. *See generally* Francis M. Bator, *The Anatomy of Market Failure*, 72 Q. J. ECON. 351 (1958) (dissecting market failures). Ronald H. Coase famously argued that no government intervention is necessary between parties affected by certain types of market failures if they can engage in unobstructed bargaining without transaction costs, since they could agree on a Pareto efficient outcome. *See, e.g.*, Ronald H. Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1, 18 (1960). Coase himself conceded that these conditions are never met in practice, limiting the practical significance of his theorem. *See* Ronald H. Coase, *The Institutional Structure of Production*, 28 AM. ECON. REV. 713, 717 (1992).

47. NICHOLAS STERN, THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW viii (2007).

48. Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014 Mitigation of Climate Change. Working Group III Contribution to the IPCC Fifth Assessment Report* 1155 (2015), https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_full.pdf; Organisation for Economic Co-operation and Development (OECD), *Climate Change Mitigation What Do We Do?* 18–22 (2008), https://www.oecd.org/environment/cc/41751042.pdf.

49. JOHANNES B. OPSCHOOR & HANS VOS, ECONOMIC INSTRUMENTS FOR ENVIRONMENTAL PROTECTION (1989); Robert N. Stavins, *Market-Based Environmental Policies*, *in* PUBLIC POLICIES FOR ENVIRONMENTAL PROTECTION 31 (Paul R. Portney & Robert N. Stavins eds., 2d ed. 2000).

50. ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD), ENVIRONMENTAL POLICY: HOW TO APPLY ECONOMIC INSTRUMENTS 117 (1991).

51. Carolyn Fischer & Richard G. Newell, *Environmental and Technology Policies for Climate Mitigation*, 55 J. ENV. ECON. & MGMT. 142 (2008); *Project 88 Harnessing Market Forces to Protect Our Environment*, *in* ENVIRONMENTAL POLICY FOR THE 1990'S 15, 19 (Robert N. Stavins ed., 1988).

52. Dieter Helm, *Economic Instruments and Environmental Policy*, 36 ECON. & SOC. REV. 205, 215 (2005).

One way to harness the benefits of these economic instruments relies on quantity controls coupled with the creation of a market for tradable units.[53] While guaranteeing a defined policy outcome, such markets also generate an explicit price, thereby internalizing some or all of the social cost of pollution in the private cost of underlying economic activity.[54] As prices for units rise in response to growing scarcity, the demand for them will gradually decrease, along with the associated emissions. Under conditions of perfect competition, this should result in an equilibrium where marginal abatement costs are equalized across all regulated entities, and abatement occurs where it yields the largest net benefit to society.[55]

For climate change policy, the quantity that is being rationed would be issued tradable units conferring the right to discharge a specified quantity of greenhouse gas (GHG) emissions for a specified duration. Variations of this approach range from emissions trading systems based on a technological baseline or an emissions ceiling (cap) to crediting systems based on mitigation efforts at a project, sectoral, or economy-wide level.[56] Collectively referred to as "carbon markets,"[57] these approaches all impose a quantity limitation that generates demand for units, and market participants who have the ability to purchase or sell units at the respective market price. Carbon markets signal the opportunity costs of pollution as determined by the forces of demand and supply. Cooperative approaches and the ability to transfer ITMOs fall within this category of market-based instruments. Article 6 is thus frequently referred to as the "markets provision" of the Paris Agreement,[58] despite lacking an express reference to markets.

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53. Thomas D. Crocker, *The Structuring of Atmospheric Pollution Control Systems*, *in* THE ECONOMICS OF AIR POLLUTION: A SYMPOSIUM 61 (Harold Wolozin ed , 1966); JOHN H. DALES, POLLUTION, PROPERTY & PRICES: AN ESSAY IN POLICYMAKING AND ECONOMICS (1968); W. David Montgomery, *Markets in Licenses and Efficient Pollution Control Programs*, 5 J. ECON. THEORY 395 (1972).

54. While quantity controls with trading are fundamentally distinct from Pigovian pricing set at the level of the social cost of externalities, see ARTHUR C. PIGOU, THE ECONOMICS OF WELFARE (1920), the variable market price of transacted units does send a price signal to market participants, thereby internalizing the externality at least in part.

55. WILLIAM J. BAUMOL & WALLACE E. OATES, THE THEORY OF ENVIRONMENTAL POLICY 177 (2d ed. 1988); THOMAS H. TIETENBERG, EMISSIONS TRADING: PRINCIPLES AND PRACTICE 27 (2d ed. 2006).

56. ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD), DOMESTIC TRANSFERABLE PERMITS FOR ENVIRONMENTAL MANAGEMENT: DESIGN AND IMPLEMENTATION 19 (2001).

57. Although other GHGs may be included, the term "carbon market" is widely used because carbon dioxide is the main GHG in terms of its overall contribution to climate change and because tradable units are mostly denominated in terms of carbon dioxide equivalent, *see* Richard G. Newell et al , *Carbon Markets 15 Years after Kyoto Lessons Learned, New Challenges*, 27 J. ECON. PERSPECTIVES 123, 124 (2013).

58. Martin Cames et al , *International Market Mechanisms After Paris*, GERMAN EMISSIONS TRADING AUTH. 1, 7 (2016).

A market-based approach is particularly suited to address climate change because GHGs are not in themselves toxic and the damage function of their accumulation in the atmosphere is shallow in the short run,[59] which allows for spatial and temporal flexibility in the policy response.[60] Climate change is unique in that the underlying causes are diffuse, widely heterogeneous, and virtually ubiquitous activities, necessitating policy solutions that are scalable and cost-effective. As abatement costs rise over time—with cheap abatement options being exhausted first[61]—the cost-effectiveness of market-based instruments will become increasingly important to sustain policy ambition over the long term, underscoring the potential role of Article 6(2) in the successive progression of NDCs.

2. Markets and the Role of Governance

While carbon markets are a powerful tool to address climate change, they also place high demands on the institutional and regulatory architecture created for their implementation.[62] Properly defined and enforced institutions—including property rights—are necessary for any market to achieve efficient outcomes,[63] especially where they affect public goods and common-pool resources.[64] Like other markets,[65] carbon markets are therefore embedded in and facilitated by government regulation.[66] Because they are premised on an artificially constrained supply of emission units, however, they are particularly dependent on a robust governance framework and credible policy mandates.

At a minimum, carbon markets require a process to ensure transparency of emissions, including a regulatory framework for measurement, reporting, and verification (MRV), as well as the required infrastructure to track distribution and ownership of assigned and transacted units.[67] Establishing such structures is

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59. This is the case because climate change is a stock externality: Its consequences depend not on emissions in a single year, but on the accumulated stock of emissions over time. *See* Richard G. Newell & William A. Pizer, *Discounting the distant future how much do uncertain rates increase valuations?*, 46 J. ENVTL. ECONS. & MGMT. 52 (2003).

60. Helm, *supra* note 52, at 223; Alan J. Krupnick & Ian W.H. Parry, *What Is the Best Policy Instrument for Reducing CO_2 Emissions?*, *in* FISCAL POLICY TO MITIGATE CLIMATE CHANGE: A GUIDE FOR POLICYMAKERS 1, 1 (Ruud de Mooij, Michael Keen, & Ian W H. Parry eds., 2012).

61. Stern, *supra* note 47, at 63, 191.

62. Ruth Greenspan Bell, *The Kyoto Placebo*, 22 ISSUES SCI. & TECH. 28, 29 (2006).

63. Coase, *supra* note 46.

64. ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 15 (1990); *see* Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 REV. ECON. & STAT. 387 (1954).

65. MAX WEBER, WIRTSCHAFT UND GESELLSCHAFT 364 (3rd ed. 1947) (regarding the typology of goods).

66. Markus Lederer, *Market Making Via Regulation The Role of the State in Carbon Markets*, 6 REG. & GOVERNANCE 524 (2012).

67. Suzi Kerr et al., *Emissions Trading in Practice A Handbook on Design and Implementation*, WORLD BANK GROUP (2016), http://documents.worldbank.org/curated/en/353821475849138788/Emissions-trading-in-practice-a-handbook-on-design-and-implementation; ERIK F. HAITES & GEOFFREY BIRD, AN EMERGING MARKET FOR THE ENVIRONMENT: A GUIDE TO EMISSIONS TRADING 12 (2002).

critical, yet frequently constrained by insufficient technical and administrative capacities, including resources and suitable personnel.[68] Moreover, the operations of carbon markets are impacted by the fact that different jurisdictions show great variation in their legal and administrative systems, their regulatory cultures, and their traditions of transparency, accountability, and access to information.[69] As the conceptual notion of carbon trading moves from theory to implementation, its elegant simplicity gives way to complex governance challenges.

These governance challenges are all the more important because incentive structures in carbon markets differ fundamentally from those in more established markets: Buyers and sellers can afford indifference about whether transacted units actually reduce emissions, making evasion a positive sum game for both parties. Absent adequate safeguards, the intangible nature and limited, inelastic supply of emission units renders carbon markets relatively more susceptible to price volatility and strategic or fraudulent behavior.[70] Such risks to market integrity have prompted extensive debate about governance requirements, including the role of financial market regulation and its extension to carbon market governance.[71]

Another challenge arising from the unique incentive structure of carbon markets is intertemporal—or dynamic—inefficiencies.[72] Such inefficiencies consider the effect of policy instruments over time and have also been discussed

68. Thomas L. Brewer & Michael A. Mehling, *Transparency of Climate Change Policies, Markets, and Corporate Practices*, *in* THE OXFORD HANDBOOK OF ECONOMIC AND INSTITUTIONAL TRANSPARENCY 179, 188 (2014).

69. Ruth Greenspan Bell, *Choosing Environmental Policy Instruments in the Real World*, ORG. FOR ECON. CO-OPERATION AND DEV. 11 (2003), http://www.oecd.org/environment/cc/2957706.pdf; *see* Coraline Goron & Cyril Cassisa, *Regulatory Institutions and Market-Based Climate Policy in China*, 17 GLOBAL ENVTL. POL. 99, 10102 (2017) (providing specific China examples).

70. Beat Hintermann, *Market Power, Permit Allocation and Efficiency in Emission Permit Markets*, 49 ENVTL. & RES. ECON. 327, 327 (2011); William D. Nordhaus, *After Kyoto Alternative Mechanisms to Control Global Warming*, 96 AM. ECON. REV. 31, 33–34 (2006); *see generally* Robert W. Hahn, *Market Power and Transferable Property Rights*, 99 Q. J. ECON. 753 (1984). In an earlier version of his article, Nordhaus even went so far as to say that "cheating will probably be pandemic in an emissions trading system that involves large sums of money." William D. Nordhaus, *Life After Kyoto Alternative Approaches to Global Warming*, NAT'L BUREAU OF ECON. RES. 19 (2005), http://www.nber.org/papers/w11889.

71. Jonas Monast et al., *U.S. Carbon Market Design Regulating Emission Allowances as Financial Instruments*, NICHOLAS INST. 3–4 (2009), https://nicholasinstitute.duke.edu/climate/carbon-market-oversight/u.s.-carbon-market-design-regulating-emission-allowances-as-financial-instruments; William C. Whitesell & Stacey L. Davis, *Preventing Market Disruptions in Cap-and-Trade Programs*, CENT. CLEAN AIR POL'Y 15–18 (2008), http://ccap.org/assets/Preventing-Market-Disruptions-in-Cap-and-Trade-Programs_CCAP-Oct-2008.pdf.

72. BAUMOL & OATES, *supra* note 55, at 212.

in the context of emissions trading[73] and offset crediting.[74] Applied to Article 6, intertemporal or dynamic inefficiencies could include a perverse incentive for Parties to weaken the ambition of their future climate pledges. Unlike the Kyoto Protocol, the Paris Agreement requires all Parties to participate in mitigation, altering the incentive structure for countries as they consider future climate pledges. A central feature of the Paris Agreement is its NDC cycle that requires Parties to update their NDC every five years, ensuring a progression beyond the current NDC and reflecting "the highest possible level of ambition."[75]

In the context of Article 6, however, commentators have expressed concern that cooperative approaches could disrupt the foregoing cycle of progressively more ambitious NDCs.[76] Generally speaking, when Parties adopt more stringent mitigation pledges, they also commit to a greater share of domestic mitigation options to achieve those pledges. Conversely, a weaker NDC can be achieved by deploying a smaller share of available mitigation options, leaving more unused abatement opportunities for potential transfer under Article 6. This prospect of profitable transfers could, in turn, incentivize Parties to adopt less ambitious targets so they retain more mitigation opportunities for eventual conversion to ITMOs.[77] Implementing regulatory safeguards to counter such a dynamic will be one of the most challenging and contested aspects of operationalizing Article 6.

3. Government Failure and the Limits of Regulation

As will be described in the next Part,[78] several of these vulnerabilities have already been observed in practice, harming carbon markets and their support among market participants and the broader public. This latter observation mirrors the experience in other markets, where underregulation has proven detrimental and ultimately prompted calls for regulatory reform from market participants themselves.[79] Yet while the economic benefits of market-based instruments are

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73. Jared C. Carbone et al., *The Case for International Emission Trade in the Absence of Cooperative Climate Policy*, 58 J. ENV. ECON. & MGMT. 266, 273 (2009); Carsten Helm, *International Emissions Trading with Endogenous Allowance Choices*, 87 J. PUB. ECON. 2737, 2739 (2003); Bjart Holtsmark & Dag Einar Sommervoll, *International Emissions Trading Good or Bad?*, 117 ECON. LETTERS 362, 363–64 (2012).

74. Jon Strand, *Carbon Offsets with Endogenous Environmental Policy*, 33 ENERGY ECON. 371, 376 (2011).

75. *See* Paris Agreement, *supra* note 13, at art. 4 (stating "[e]ach Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. . . . Each Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition. . . . Each Party shall communicate a nationally determined contribution every five years.").

76. *See* La Hoz Theuer et al., *supra* note 31.

77. Howard, *supra* note 2, at 6.

78. *See infra*, Part II.B.

79. Joseph E. Stiglitz, *Government Failure vs. Market Failure Principles of Regulation*, *in* GOVERNMENT AND MARKETS: TOWARD A NEW THEORY OF REGULATION 13, 15 (Edward J. Balleisen & David A. Moss eds., 2012).

predicated on an adequate governance framework, excessive regulation can prove equally detrimental. Just as market failures call for regulatory intervention to secure the conditions needed for an efficient allocation of resources, regulation that exceeds the level needed to correct those market failures will counteract the allocative efficiency achieved through corrective measures.

Regulatory intervention into the operation of markets raises questions that go beyond the appropriate level of such intervention and also include the quality and objectives of intervention. In the literature, such questions have been discussed under the broader label of nonmarket or government failures, including cognitive, organizational, and political barriers.[80] Like other climate policies, carbon markets are exposed to rent-seeking and regulatory capture at various stages of their implementation, but their technical complexity arguably expands the number of entry points for influencing behavior.[81] More generally, governments tend to suffer from information asymmetries and capacity constraints that limit their ability to identify and implement the most appropriate intervention.[82] It has even been argued that climate change stretches the capability of governments to process and react to the attendant information.[83] As a result of these various factors, policymakers face considerable difficulties in identifying the optimal balance between too much or too little regulation, and any balance they might strike will, in turn, be subject to political pressures and stakeholder influences.

Even where these cognitive, organizational, and political barriers could be overcome, some commentators have gone further and questioned the altruistic motivations of government actors to intervene in the public interest.[84] Contested arguments of this sort do not require further elaboration here; it suffices to acknowledge that regulation, like markets, suffers from its own vulnerabilities.

In the practical operation of carbon markets, such failures can manifest themselves in several ways. Stakeholder pressures can weaken the stringency of

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80. Michael C. O'Dowd, *The Problem of "Government Failure" in Mixed Economies*, 46 S. AFRICAN J. ECON. 242, 244–46 (1978); GORDON TULLOCK ET AL., GOVERNMENT FAILURE: A PRIMER IN PUBLIC CHOICE 117–19, 121–22 (2002); Burton Allen Weisbrod, *Problems of Enhancing the Public Interest Toward a Model of Governmental Failures*, *in* PUBLIC INTEREST LAW: AN ECONOMIC AND INSTITUTIONAL ANALYSIS 30 (Burton Allen Weisbrod et al. eds., 1978); CHARLES WOLF JR., MARKETS OR GOVERNMENTS: CHOOSING BETWEEN IMPERFECT ALTERNATIVES 35–37 (1993).

81. JONAS MECKLING, CARBON COALITIONS: BUSINESS, CLIMATE POLITICS, AND THE RISE OF EMISSIONS TRADING 48–50 (2011); on the concepts, *see* James Buchanan & Gordon Tullock, *Polluters' Profits and Political Response Direct Controls Versus Taxes*, 65 AM. ECON. REV. 139, 141–42 (1975); Anne O. Krueger, *The Political Economy of the Rent-Seeking Society*, 64 AM. ECON. REV. 291, 291 (1974); George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971).

82. FRIEDRICH A. VON HAYEK, LAW, LEGISLATION, AND LIBERTY: RULE AND ORDER 14 (1973); BRIAN E. DOLLERY & JOE L. WALLIS, MARKET FAILURE, GOVERNMENT FAILURE, LEADERSHIP AND PUBLIC POLICY 37 (1999).

83. Max H. Bazerman, *Climate Change as a Predictable Surprise*, 77 CLIMATIC CHANGE 179, 180–81 (2006).

84. HA-JOON CHANG, THE POLITICAL ECONOMY OF INDUSTRIAL POLICY 33 (1996); ANTHONY DOWNS, AN ECONOMIC THEORY OF DEMOCRACY 279 (1957); TULLOCK ET AL., *supra* note 80, at 10.

mitigation targets or influence the design of carbon markets in ways that favor certain market participants.[85] Conversely, policymakers may err on the side of caution and opt for excessive regulation that contributes to high transaction costs. Transaction costs can significantly affect the operation of carbon markets,[86] diminishing liquidity and the efficiency of price discovery. Where individual transactions require prior government approval, they can also discourage trading.[87] Overly stringent restrictions can deter market actors from participating in the market altogether.[88]

Overall, reconciling competing visions of the appropriate balance between prescriptiveness and flexibility, or between securing ambition and reducing cost, encompasses inevitable normative and economic tradeoffs. Theoretical enquiry can only go so far in offering guidance for what ultimately remains a political question. Still, it does provide useful reminders of the rationale of market mechanisms, the need for and limitations of governance, and the trade-offs inherent to different political choices. These insights will be revisited in the interim conclusions in subpart II.C, but the next subpart will test their manifestation in practice against two case studies of existing carbon markets: the flexibility mechanisms of the Kyoto Protocol and the EU ETS.

B. Case Studies: Experiences with Carbon Markets

Many of the conceptual challenges described in the foregoing Part have been encountered in practice with existing carbon markets. Two contexts, in particular, have yielded valuable lessons on the delicate balance between under and overregulation of carbon trading: the international flexibility mechanisms introduced under the Kyoto Protocol and the supranational emissions trading system created by the EU. The following subparts describe both carbon markets and the experiences yielded with of their governance structures.

1. Kyoto Protocol Flexibility Mechanisms

Under the Kyoto Protocol to the U.N. Framework Convention on Climate Change (UNFCCC),[89] developed country Parties that entered quantified

85. Peter Markussen & Gert Tinggaard Svendsen, *Industry Lobbying and the Political Economy of GHG Trade in the European Union*, 33 ENERGY POL'Y 245, 246 (2005); Irja Vormedal, *The Influence of Business and Industry NGOs in the Negotiation of the Kyoto Mechanisms The Case of Carbon Capture and Storage in the CDM*, 8 GLOBAL ENVTL. POL. 36, 57–58 (2008).

86. Robert N. Stavins, *Transaction Costs and Tradeable Permits*, 29 J. ENV. ECON. & MGMT. 133, 137–43 (1995).

87. Robert W. Hahn & Gordon L. Hester, *Where Did All the Markets Go? An Analysis of EPA's Emissions Trading Program*, 6 YALE J. ON REG. 109, 145–46 (1989).

88. Nordhaus, *supra* note 70, at 18.

89. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 2303 U.N.T.S. 162. As of March 1, 2019, the Kyoto Protocol remains in effect for 192 states. *See* UNFCCC, *The Kyoto Protocol Status of Ratification*, UNITED NATIONS: CLIMATE CHANGE, https://unfccc.int/process/the-kyoto-protocol/status-of-ratification, (last visited Nov. 5, 2019).

emission limitation and reduction obligations (QELROs) during the first commitment period from 2008 to 2012 were able to meet these obligations through a set of flexibility mechanisms: international emissions trading and two project mechanisms, Joint Implementation (JI) and the Clean Development Mechanism (CDM).[90] A subsequent amendment to the Kyoto Protocol, adopted in Doha in 2012, defines the parameters of a second commitment period for the period between January 1, 2013 and December 31, 2020. Although this amendment has yet to enter into force, the few Kyoto Parties with QELROs participating in the second commitment period have collectively agreed to reduce GHG emissions by at least 18 percent below 1990 levels.[91]

Largely adopted in response to pressure from a group of advanced economies,[92] the flexibility mechanisms were included in the Kyoto Protocol to help lower the cost of compliance with mitigation commitments by leveraging the differences in abatement costs between developed and developing countries.[93] Although the relevant provisions of the Kyoto Protocol set out considerably more operational detail than Article 6(2) of the Paris Agreement, they still mandated Parties with subsequent elaboration of additional modalities, procedures, and guidelines.[94] Such implementing rules were eventually adopted in 2001 as part of the Marrakesh Accords, a series of decisions that govern implementation of the Kyoto Protocol.[95]

Under these rules, use of the flexibility mechanisms is voluntary, but subject to several eligibility requirements. To participate in international emissions trading, for instance, countries must have calculated their assigned emission budgets pursuant to specified accounting modalities; established a national system for the estimation of GHG emissions by sources and removals by sinks; and created the necessary infrastructure to account for the issuance, holding, transfer, cancellation, and retirement of tradable units.[96] Annual submission of

90. Occasionally, joint fulfilment of commitments pursuant to Article 4 of the Kyoto Protocol has also counted towards the flexibility mechanisms of the Kyoto Protocol. *See generally* David Freestone, *UNFCCC, the Kyoto Protocol, and the Kyoto Mechanisms*, *in* LEGAL ASPECTS OF IMPLEMENTING THE KYOTO PROTOCOL MECHANISMS: MAKING KYOTO WORK 3 (David Freestone & Charlotte Streck eds., 2005).

91. *See* Amendment to the Kyoto Protocol pursuant to art. 3, ¶ 9 (the Doha Amendment). Conference of the Parties, Report of the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol on its Eighth Session, Decision 1/CMP.8, U.N. Doc. FCCC/KP/CMP/2012/13/Add.1 (Feb. 28, 2013).

92. JOANNA DEPLEDGE, TRACING THE ORIGINS OF THE KYOTO PROTOCOL: AN ARTICLE-BY-ARTICLE TEXTUAL HISTORY 61–68 (2000).

93. Lawrence H. Goulder & Brian M. Nadreau, *International Approaches to Reducing Greenhouse Gas Emissions*, *in* CLIMATE CHANGE POLICY: A SURVEY 115, 122–25 (Stephen H. Schneider et al. eds., 2d ed. 2002).

94. *See* Kyoto Protocol, *supra* note 89, at arts. 6(2), 12(7), 17.

95. Suraje Dessai & Emma Lisa Schipper, *The Marrakech Accords to the Kyoto Protocol Analysis and Future Prospects*, 13 GLOBAL ENVTL. CHANGE 149, 149–50 (2003).

96. *See* Kyoto Protocol, *supra* note 89, at arts. 3(7), 3(8), 5(1); Conference of the Parties, Report of the Conference of the Parties on its Seventh Session, Addendum, Pt. Two, 50, Modalities, Rules and Guidelines for Emissions Trading under Article 17 of the Kyoto Protocol, Decision 18/CP.7, U.N. Doc.

an accurate inventory is a key eligibility requirement,[97] as is maintenance of a "commitment period reserve" limiting the share of tradable units Parties may sell to 10 percent of their respective assigned amount.[98] Compliance with these requirements is assessed through an independent review process, and failure to observe relevant obligations can result in sanctions, such as exclusion from the use of the flexibility mechanisms.[99]

Activity under the emissions trading system was limited.[100] One explanation for this limited uptake is that sovereign states are not motivated by cost-minimization or profit-maximization to the same extent private actors are, and they instead tend to be driven by geopolitical and diplomatic considerations.[101] In practice, however, limited trading activity has very real consequences for the allocative efficiency of carbon markets. Weak market participation reduces liquidity and can increase opportunities for market manipulation. It may also distort the price signal. An observer of the international carbon market has noted that enhanced participation would increase the "likelihood that the price signal generated by trading is a reliable indicator for investment decisions."[102] If proven true, these observations have considerable relevance for Article 6, which discusses participation restrictions for non-Party stakeholders, such as subnational and private entities.[103] They would also likely affect market activity just as they have in the case of international emissions trading under the Kyoto Protocol.

Much greater levels of market activity have occurred under JI and the CDM, which also allow extensive involvement of the private sector. Both are subject to a separate set of rules from international emissions trading, reflecting their fundamentally different nature as project-based mechanisms that yield offset

FCCC/CP/2001/13/Add.2 (Jan. 21, 2002); Conference of the Parties, Report of the Conference of the Parties on its Seventh Session, Addendum, Pt. Two, 55, Modalities for Accounting of Assigned Amounts under art. 7, ¶ 4 of the Kyoto Protocol, Decision 19/CP.7, Annex, U.N. Doc. FCCC/CP/2001/13/Add.2 (Jan. 21, 2002).

97. *See* Kyoto Protocol, *supra* note 89, at art. 7(1); Conference of the Parties, Report of the Conference of the Parties on its Seventh Session, Addendum, Pt. Two, 50, Guidance for the Preparation of the Information Required under art. 7 of the Kyoto Protocol, Decision 22/CP.7, Annex, ¶¶ 3(a)–3(f), U N. Doc. FCCC/CP/2001/13/Add 2 (Jan. 21, 2002).

98. *See* Conference of the Parties, Report of the Conference of the Parties on the Second Part of its Sixth Session, The Bonn Agreements on the Implementation of the Buenos Aires Plan of Action, Decision 5/CP.6, 15, U.N. Doc. FCCC/CP/2001/5 (Sept. 25, 2001).

99. Farhana Yamin, *The International Rules on the Kyoto Mechanisms*, *in* CLIMATE CHANGE AND CARBON MARKETS: A HANDBOOK OF EMISSIONS REDUCTION MECHANISMS 1, 61–67 (Farhana Yamin ed., 2005).

100. Igor Shishlov et al., *Compliance of the Parties to the Kyoto Protocol in the First Commitment Period*, 16 CLIMATE POL'Y 768, 778 (2016).

101. ROBERT W. HAHN & ROBERT N. STAVINS, WHAT HAS THE KYOTO PROTOCOL WROUGHT? 9 (1999).

102. Andrew Hedges, *The Secondary Market for Emissions Trading Balancing Market Design and Market Based Transaction Norms*, *in* LEGAL ASPECTS OF CARBON TRADING: KYOTO, COPENHAGEN, AND BEYOND 311 (David Freestone & Charlotte Streck eds., 2009).

103. *See* relevant proposals discussed *infra*, Part III.C.2.

credits.[104] Under both mechanisms, projects must satisfy an "additionality" test, demonstrating that the emission reductions would not have taken place without the project.[105] Projects must result in emission reductions that go beyond a baseline scenario and result in real, measurable, and lasting climate benefits.[106] This reliance on a counterfactual baseline scenario has been contested, as it involves predicting future energy consumption patterns, fuel prices, and energy policies, all of which presupposes highly subjective assumptions.[107] With both parties to a mitigation project standing to benefit from its implementation, they share an incentive to overstate actual emission reductions.[108]

Particular concerns have been voiced against the CDM, which involves emission reduction projects in developing countries without mitigation commitments of their own under the Kyoto Protocol. Reflecting such concerns, the Marrakech Accords set out a highly detailed procedure to determine the additionality of proposed mitigation projects. Under these rules, development and approval of CDM projects require evaluation and registration by the CDM Executive Board (CDM EB), as well as independent project validation, verification, and certification of reductions by accredited Designated Operational Entities.[109]

Transaction costs resulting from this elaborate process have been considerable, and they have disproportionately impacted smaller emission reduction projects where they constitute a larger share of project revenue.[110] Despite more relaxed rules for the smaller projects prevalent in the least developed countries, these transaction costs have influenced the geographic distribution of investment away from poorer regions.[111] Of the roughly 8,000

104. ANJA KOLLMUSS ET AL., HANDBOOK OF CARBON OFFSET PROGRAMS: TRADING SYSTEMS, FUNDS, PROTOCOLS AND STANDARDS 12 (2010).

105. Peter Erickson et al., *Net Climate Change Mitigation of the Clean Development Mechanism*, 72 ENERGY POL'Y 146, 147–49 (2014).

106. *See, e.g.*, Conference of the Parties, Report of the Conference of the Parties on its Seventh Session, Addendum, Pt. Two, 20, Modalities and Procedures for a Clean Development Mechanism, as Defined in Article 12 of the Kyoto Protocol, Decision 17/CP.7, Annex, ¶ 44, U.N. Doc. FCCC/CP/2001/13/Add.2 (Jan. 21, 2002); Conference of the Parties, Report of the Conference of the Parties on its Seventh Session, Addendum, Pt. Two, 5, Guidelines for the Implementation of Article 6 of the Kyoto Protocol, Decision 16/CP.7, Annex, Appendix B, ¶ 1, U.N. Doc. FCCC/CP/2001/13/Add.2 (Jan. 21, 2002).

107. *See* ORG. FOR ECON. CO-OPERATION AND DEV. (OECD), EMISSION BASELINES: ESTIMATING THE UNKNOWN 21–24 (2000).

108. Michael Wara & David G. Victor, *A Realistic Policy on International Carbon Offsets*, PROGRAM ON ENERGY AND SUSTAINABLE DEV. 23–24 (2008), https://law.stanford.edu/publications/a-realistic-policy-on-international-carbon-offsets.

109. *See generally* Decision 17/CP.7, *supra* note 106.

110. Bruce P. Chadwick, *Transaction Costs and the Clean Development Mechanism*, 30 NAT. RESOURCES F. 256, 259 (2006); Matthias Krey, *Transaction Costs of Unilateral CDM Projects in India Results from an Empirical Survey*, 33 ENERGY POL'Y 2385, 2396–97 (2005); Axel Michaelowa et al., *Transaction Costs of the Kyoto Mechanisms*, 3 CLIMATE POL'Y 261, 275 (2003).

111. Michael A. Mehling, *Governing Cooperative Approaches Under the Paris Agreement*, MASS. INST. TECH. CTR. FOR ENERGY AND ENVTL. POL'Y RES. WORKING PAPER SERIES 13 (Dec. 2018), http://ceepr.mit.edu/files/papers/2018-017.pdf.

registered CDM projects to date, for instance, only about 3 percent are located in African countries,[112] where more diffuse emission patterns and generally challenging investment conditions have further exacerbated this uneven project distribution.[113] Coupled with a bias for large industrial projects,[114] the strong regional dominance of Asian countries—and above all China—in hosting projects has prevented the CDM from realizing its separate objective of assisting developing countries in achieving sustainable development.[115] Also, the average time to progress from project validation to registration, monitoring, and issuance of credits has been around thirty-six months, with a lengthening tendency in recent years.[116] Unsurprisingly, stakeholders have complained that the CDM approval process is "unclear, impractical, and resource intensive," suggesting that the regulatory framework "discouraged investment in the kinds of projects that would have the most benefits" without "necessarily result[ing] in a higher quality of credits."[117]

In effect, CDM procedures have been shown to suffer from various forms of regulatory failure. Documented shortfalls in the quality of critical validation and certification functions performed by Designated Operational Entities prompted scrutiny and resulted in the suspension of accreditations.[118] Recurring instances of collusion between supposedly independent actors, such as project developers, national approval authorities (Designated National Authorities, or DNAs), and even the supervisory CDM EB itself, invited accusations of flawed governance and outright fraud.[119] Likewise, the design and operation of the

112. Exec. Bd. of the Clean Dev. Mech., Annual Report to the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol, 7, U.N. Doc. FCCC/KP/CMP/2018/3 (Sept. 21, 2018); *see generally* Nicolas Kreibich et al., *An Update on the Clean Development Mechanism in Africa in Times of Market Crisis*, 9 CLIMATE & DEV. 178 (2017).

113. Wolfgang Obergassel & Friederike Asche, *Shaping the Paris Mechanisms Part III An Update on Submissions on Article 6 of the Paris Agreement*, WUPPERTAL INST. FOR CLIMATE, ENV'T & ENERGY 14–15 (2017), https://www.carbon-mechanisms.de/en/submissionsIII.

114. Michael Wara, *Is the Global Carbon Market Working?*, 445 NATURE 595, 595 (2007); Lambert Schneider, *Perverse Incentives Under the CDM An Evaluation of HFC-23 Destruction Projects*, 11 CLIMATE POL'Y 851, 853–55 (2011).

115. Jane Ellis et al., *Taking Stock of Progress Under the Clean Development Mechanism (CDM)*, ORG. FOR ECON. CO-OPERATION AND DEV. 34–35 (2004), https://www.oecd.org/env/cc/32141417.pdf; Karen Holm Olsen, *The Clean Development Mechanism's Contribution to Sustainable Development A Review of the Literature*, 84 CLIMATIC CHANGE 59, 64 (2007).

116. United Nations Framework Convention on Climate Change, *Project Activities* (data as of Feb. 28, 2019), http://cdm.unfccc.int/Statistics/Public/CDMinsights/index.html.

117. U.S. GOV'T ACCOUNTABILITY OFF., GAO-09-151, INTERNATIONAL CLIMATE CHANGE PROGRAMS: LESSONS LEARNED FROM THE EUROPEAN UNION'S EMISSIONS TRADING SCHEME AND THE KYOTO PROTOCOL'S CLEAN DEVELOPMENT MECHANISM 7, 47 (2008).

118. Tom Young, *UN Suspends Top CDM Project Verifier Over Lax Audit Allegations*, BUSINESSGREEN (Dec. 1, 2008), https://www.businessgreen.com/bg/news/1803220/un-suspends-cdm-project-verifier-lax-audit-allegations.

119. *See* Florens Flues et al., *What Determines UN Approval of Greenhouse Gas Emission Reduction Projects in Developing Countries?*, 145 PUB. CHOICE 1, 2 (2010); Jessica F. Green, *Delegation and Accountability in the Clean Development Mechanism The New Authority of Non-State Actors*, 4 J. INT'L

CDM have evidenced susceptibility to regulatory capture by stakeholders.[120] With up to a third of expected credits never generated and another third only delivered with significant delays, the CDM process has also manifested considerable project risk for developers.[121]

Soon after the entry into force of the Kyoto Protocol, several independent studies suggested that a considerable share of registered projects lacked additionality[122] or incentivized production of industrial GHGs in order to decompose them.[123] Such research quickly garnered attention in the mainstream media[124] and undermined public support for the CDM, which in turn pressured governments to introduce restrictions on the acceptance of Certified Emission Reductions (CERs).[125] Notwithstanding a documented ability to dramatically reduce the cost of achieving mitigation commitments,[126] the market for CERs subsequently suffered a dramatic decline. Within the space of a few years, CER prices fell 98 percent from previous highs, at one point earning them the headline of "worst performing commodity."[127] A major assessment of the CDM concluded in 2012 that the market had "essentially collapsed."[128] Declining

L. & INT'L REL. 21, 53 (2008); Peter Newell, *The Political Economy of Carbon Markets The CDM and Other Stories*, 12 CLIMATE POL'Y 135, 137 (2012).

120. Vormedal, *supra* note 85, at 50.

121. Alain Cormier & Valentin Bellassen, *The Risks of CDM Projects How Did Only 30% of Expected Credits Come Through?*, 54 ENERGY POL'Y 173, 182 (2013).

122. Lambert Schneider, *Is the CDM Fulfilling its Environmental and Sustainable Development Objectives? An Evaluation of the CDM and Options for Improvement*, ÖKO-INSTITUT 40–44 (2007), https://www.oeko.de/oekodoc/622/2007-162-en.pdf; Michael Wara, *Measuring the Clean Development Mechanism's Performance and Potential*, 55 UCLA L. REV. 1759, 1795 (2008). One reason for the prevalence of nonadditional projects in the early years of the CDM was the ability to rely on an ill-defined "barrier test" to demonstrate additionality, which was eventually replaced by an investment test, see Michaelowa & Butzengeiger, *supra* note 31, at 5.

123. Schneider, *supra* note 114, at 387.

124. *See, e.g.*, Jeffrey Ball, *U.N. Warming Program Draws Fire*, WALL ST. J., July 11, 2008, at A1; Elisabeth Rosenthal & Andrew W. Lehren, *Incentive to Slow Climate Change Drives Output of Harmful Gases*, N.Y. TIMES, August 8, 2012, at A1.

125. In the European Union, for instance, industrial gas projects involving trifluoromethane (HFC-23) and nitrous oxide (N_2O) from adipic acid production have been ineligible for compliance under the EU ETS since January 1, 2013. *See* Commission Regulation 550/2011 of June 7, 2011, Determining, Pursuant to Directive 2003/87/EC of the European Parliament and of the Council, Certain Restrictions Applicable to the Use of International Credits from Projects Involving Industrial Gases, 2011 O.J. (L 149) 1. Additionally, since 2013, credits from projects registered after 2012 have been ineligible unless they were generated in a least developed country (LDC). *See* Directive 2009/29/EC of the European Parliament and of the Council amending Directive 2003/87/EC so as to Improve and Extend the Greenhouse Gas Emission Allowance Trading Scheme of the Community, 2009 O.J. (L 140) 63, Art. 11a (4) and (5).

126. Randall Spalding-Fecher et al., *Assessing the Impact of the Clean Development Mechanism Report Commissioned by the High Level Panel on the CDM Policy Dialogue*, CLEAN DEV. MECHANISM 5–6 (2012), http://www.cdmpolicydialogue.org/research/1030_impact.pdf; Jean-Marc Burniaux et al., *The Economics of Climate Change Mitigation*, ORG. FOR ECON. CO-OPERATION AND DEV. 54 (2009), https://www.oecd-ilibrary.org/economics/the-economics-of-climate-change-mitigation_224074334782.

127. Gerard Wynn & Nina Chestney, *Carbon Offsets Near Record Low, Worst Performing Commodity*, REUTERS, (Aug. 5, 2011), https://www.reuters.com/article/us-carbon-low/carbon-offsets-near-record-low-worst-performing-commodity-idUSTRE77442920110805.

128. Spalding-Fecher et al., *supra* note 126, at 67.

transaction volumes also caused a loss in institutional capacity as major market facilitators, including project developers, brokers, and other intermediaries, downsized their activities or ceased operations altogether.[129]

Overall, the experience with the CDM has been a cautionary one, evidencing how an attempt to correct a market failure has suffered from failures of its own. No simple answer can be inferred on the appropriate balance between regulation and flexibility. With the benefit of hindsight, it is clear that certain project methodologies should have been excluded from the outset. A cumbersome approval process has contributed to project risk and high transaction costs, without preventing questionable outcomes. As one veteran summarizes it, critics of the CDM process argue that "the testing was too complex and substantially increased transactions costs for project developers. Yet, it was required for safeguarding the environmental integrity of the mechanism."[130] At the same time, those complex governance rules were insufficient to deter market participants from undesirable and, in some cases, fraudulent behavior.

Numerous changes have been made to reform the mechanism by closing regulatory loopholes, introducing greater standardization of methodologies and baselines, and streamlining the lengthy and bureaucratic approval process. Introduction of solid fee revenues from project registration and CER issuance has helped the CDM EB scale up its support staff, greatly accelerating the approval, registration, and issuance processes.[131] Still, these reforms arguably came too late to undo the reputational damage and unilateral restrictions that have already been implemented in key jurisdictions as a response to the perceived shortcomings of the CDM.[132] Coinciding with historically low demand for CERs, these reforms alone are unlikely to revive an ailing market.[133] What is more, the improvements they introduce may still be insufficient to prevent CDM projects with questionable additionality.[134] What they highlight, however, is the dynamic nature of carbon market mechanisms and their governance frameworks: No design is final, and growing experience with the operation of the market as well as changing circumstances will necessitate amendments and revisions over time.[135]

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129. Jørund Buen, *CDM Criticisms Don't Throw the Baby out with the Bathwater*, FNI CLIMATE POL'Y PERSPECTIVES 3 (2013) https://www.fni.no/publications/cdm-criticisms-don-t-throw-the-baby-out-with-the-bathwater-article904-290.html.

130. Michaelowa & Butzengeiger, *supra* note 31, at 5.

131. Buen, *supra* note 129, at 4.

132. Axel Michaelowa, *A Call to Action But Too Late, in Vain?*, 13 CLIMATE POL'Y 408, 408–09 (2013).

133. Obergassel & Asche, *supra* note 113, at 16–17.

134. *See* Martin Cames et al., *How Additional is the Clean Development Mechanism? Analysis of the Application of Current Tools and Proposed Alternatives*, ÖKO-INSTITUT 10–12 (2016), https://ec.europa.eu/clima/sites/clima/files/ets/docs/clean_dev_mechanism_en.pdf.

135. Newell et al., *supra* note 57, at 139–40.

Information asymmetries, regulatory capture, and other dynamics discussed in the previous Part[136] have contributed to the challenges experienced with the CDM, undermining its efficiency and possibly accelerating its dramatic demise. Importantly, however, the empirical track record seems to refute concerns that the CDM would incentivize host countries to weaken domestic climate policy trajectories, be it because they seek to improve their attractiveness for investors or because developed countries already harvested all attractive mitigation options.[137] Rather, empirical data, surveys, and case studies suggest that an abundance of affordable abatement options, the collateral benefits of many climate policies, and the raised public and institutional awareness of climate issues in host countries have outweighed any such negative incentives.[138] Meanwhile, other domestic factors—including economic priorities and institutional power structures—have played a much greater role than carbon finance in driving the adoption of climate and energy policies.[139] If anything, the geographic and sectoral concentration of projects has provided strong evidence for the ability of private sector actors to identify and harness low cost abatement opportunities.[140]

Notwithstanding the various challenges encountered in the implementation of the market mechanisms under the Kyoto Protocol, it bears noting that all Parties with QELROs fully complied with their mitigation obligations during the first commitment period.[141] During that period, the flexibility mechanisms collectively mobilized in excess of $140 billion in climate finance, a vast majority of which went to developing countries, and a good share of which was invested in Green Investment Schemes as a means of advancing sustainable development and other social and environmental benefits.[142] For some Parties, such as Japan, use of the flexibility mechanisms proved essential to meet their committed emission reductions,[143] validating the underlying rationale of these market approaches. As the ongoing reform of the CDM regulatory architecture

136. *See supra* Part II.A.3.

137. On such concerns, see Burniaux et al., *supra* note 126, at 62; Cameron Hepburn, *Carbon Trading A Review of the Kyoto Mechanisms*, 32 ANN. REV. ENV'T. & RES. 375, 386 (2007).

138. Buen, *supra* note 129, at 5

139. *Id.*; *see* Paula Castro, *Does the CDM Discourage Emission Reduction Targets in Advanced Developing Countries?*, 12 CLIMATE POL'Y 198, 212 (2012); *see also* Randall Spalding-Fecher, *National Policies and CDM E+, E- or Both?*, 2 CARBON MECHANISMS REV. 9, 11 (2014).

140. Yoko Nobuoka et al., *Encouraging Increased Climate Action by Non-Party Stakeholders*, ORG. FOR ECON. CO-OPERATION AND DEV. 19 (2015), https://www.oecd-ilibrary.org/content/paper/5jm56w74s5wg-en.

141. Michael Grubb, *Full Legal Compliance with the Kyoto Protocol's First Commitment Period Some Lessons*, 16 CLIMATE POL'Y 673, 674 (2016).

142. Howard, *supra* note 2, at 179; *see* Andreas Tuerk et al., *Green Investment Schemes The AAU Market between 2008 and 2012*, CLIMATE STRATEGIES (2013), https://climatestrategies.org/publication/green-investment-schemes-the-aau-market-between-2008-2012/.

143. Shishlov et al , *supra* note 100, at 777.

continues to unfold, questions about future demand for CERs and their eligibility under the Paris Agreement will need to be answered.[144]

2. European Union Emissions Trading System

Operational since 2005, the EU ETS remains the largest carbon market currently in operation. It presently operates in thirty-one countries—all twenty-eight EU Member States as well as Iceland, Liechtenstein, and Norway—and covers around 12,000 emitters that account for roughly two billion metric tons of GHGs, or 45 percent of EU emissions. This makes the EU ETS—itself the outcome of a policy turn after initial European resistance against carbon markets[145]—a centerpiece of EU climate policy.[146] Over a dozen directives, regulations, and decisions set out the legal framework of the EU ETS, linking it to international offsets, extending the market to new sectors and gases, establishing a common registry, and providing technical guidance and procedural details on design features such as auctioning and MRV.[147]

Governance of the EU ETS has evolved significantly since its inception. Competences in a number of areas—such as allocation of units and registry operation—became successively more centralized as implementation at the Member-State level proved inadequate. Features were added to the original directive in response to observed regulatory gaps and design shortcomings. Two sets of challenges have attracted particular criticism in the practical operation of the EU ETS: first, a prolonged price weakness coupled with high volatility in the European carbon market, and second, a series of criminal activities involving tax fraud, phishing, and outright theft. Both are discussed at greater length below.

During its first trading period from 2005 to 2007, the EU ETS was overshadowed by a widely-publicized collapse of carbon prices due in large part to insufficient or inaccurate data.[148] European Union Allowances (EUAs) witnessed a price drop from originally more than €32 in the spot market in early April 2006 to a figure in the single digits only months later.[149] A first set of

144. *See generally* Frank Wolke, *A Balanced Transition The Future of the CDM in Light of the Paris Agreement*, 6 CARBON MECHANISMS REV. 10 (2018).

145. Brettny Hardy, *How Positive Environmental Politics Affected Europe's Decision to Oppose and Then Adopt Emissions Trading*, 17 DUKE ENVTL. L. & POL'Y F. 297, 300 (2007); Jørgen Wettestad, *The Making of the 2003 EU Emissions Trading Directive An Ultra-Quick Process due to Entrepreneurial Proficiency?*, 5 GLOBAL ENVTL. POL. 1, 8 (2005).

146. Jos Delbeke, *The Emissions Trading Scheme (ETS) The Cornerstone of the EU's Implementation of the Kyoto Protocol*, *in* EU ENERGY LAW, VOL. IV: THE EU GREENHOUSE GAS EMISSIONS TRADING SCHEME 1 (Jos Delbeke ed., 2006).

147. Damien Meadows et al., *EU ETS Pricing Carbon to Drive Cost-effective Reductions across Europe*, *in* EU CLIMATE POLICY EXPLAINED 26 (Jos Delbeke and Peter Vis eds. 2015).

148. Regina Betz & Misato Sato, *Emissions Trading Lessons Learnt from the 1st Phase of the EU ETS and Prospects for the 2nd Phase*, 6 CLIMATE POL'Y 351, 352–54 (2006).

149. WORLD BANK, STATE AND TRENDS OF THE CARBON MARKET 2007 12 (2007), http://documents.worldbank.org/curated/en/416871468138574709/pdf/399230Carbon1Trends1200701PUBLIC1.pdf (last visited Aug. 31, 2019).

independently verified emissions reports for the year 2005 had been released earlier that month by Member States,[150] revealing that aggregate emissions were significantly below the annual average allocation of allowances for the first period.[151] Capacity constraints and an ambitious timeline contributed to this information shortfall, although political incentives for Member States to favor their domestic industries in the allocation process also influenced national allocation decisions.[152] Reports of substantial windfall profits for sectors able to pass through the cost of freely allocated EUAs added to the reputational damage for the EU ETS.[153]

Carbon prices experienced continued weakness over the following two trading periods due to an economic slowdown across Europe, greater than expected abatement under complementary policies, and extensive use of offset credits from CDM and JI projects.[154] When the value of EUAs fell to new lows early in the third trading period (2013 to 2020), what had been a simmering crisis of confidence erupted in calls for fundamental changes to the European carbon market.[155] After years of resisting calls for intervention in the carbon market, the European Commission responded by initiating a discussion on structural reform options.[156] Following initial setbacks, the European Council and Parliament eventually approved a postponement of the scheduled auction of allowances (also known as "backloading")[157] as well as a dynamic supply adjustment

150. European Commission Press Release IP/06/612, EU Emissions Trading Scheme Delivers First Verified Emissions Data for Installations (May 15, 2006).

151. A. Denny Ellerman & Barbara K. Buchner, *Over-Allocation or Abatement? A Preliminary Analysis of the EU ETS Based on the 2005–06 Emissions Data*, 41 ENVTL. & RES. ECON. 267, 286 (2008).

152. Frank J. Convery & Luke Redmond, *Market and Price Developments in the European Union Emissions Trading Scheme*, 1 REV. ENVTL. ECON. & POL'Y 88, 94 (2007); Michael A. Mehling, *Emissions Trading and National Allocation in the Member States An Achilles Heel of European Climate Policy*, 5 YEARBOOK EUR. ENVTL. L. 113, 156 (2003).

153. A. DENNY ELLERMAN ET AL., PRICING CARBON: THE EUROPEAN UNION EMISSIONS TRADING SCHEME 326 (2010); Jos Sijm et al., *CO_2 Cost Pass-Through and Windfall Profits in the Power Sector*, 6 CLIMATE POL'Y 49, 49 (2006).

154. Nicolas Koch et al., *Causes of the EU ETS Price Drop Recession, CDM, Renewable Policies or a Bit of Everything? New Evidence*, 73 ENERGY POL'Y 676, 677 (2014).

155. *ETS, RIP?*, THE ECONOMIST (Apr. 20, 2013), https://www.economist.com/finance-and-economics/2013/04/20/ets-rip; George Monbiot, *This Faith in the Markets Is Misplaced Only Governments Can Save Our Living Planet*, THE GUARDIAN (Apr. 22, 2013), https://www.theguardian.com/commentisfree/2013/apr/22/faith-markets-misplaced-governments-save-planet.

156. *Commission Report to the European Parliament and the Council The State of the European Carbon Market in 2012*, COM(2012) 652 (Nov. 14, 2012), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0652&from=EN. Options identified in this report include: Increasing the EU GHG emissions reduction target for 2020; permanently retiring a certain number of allowances in the current trading phase; revising the annual reduction in the number of allowances; including more sectors in the EU ETS; limiting access to international credits; and introducing discretionary price management mechanisms such as a price management reserve. *Id.*

157. Decision 1359/2013/EU of the European Parliament and of the Council of 17 December 2013 amending Directive 2003/87/EC Clarifying Provisions on the Timing of Auctions of Greenhouse Gas Allowances, 2013 O.J. (L 343) 1.

mechanism, the Market Stability Reserve.[158] Carbon prices have since experienced a gradual recovery, strengthened by recent legislative changes for the fourth trading period (2021 to 2030) that introduced a steeper emission reduction pathway and accelerated the withdrawal of surplus allowances into the Market Stability Reserve.[159]

In addition to these difficult price dynamics, a second set of challenges involved various criminal activities and efforts to exploit regulatory loopholes in the EU ETS. Between 2009 and 2010, for instance, value-added tax fraud—also known as carousel fraud—in the course of EUA transactions deprived Member States of more than €5 billion in tax revenue.[160] 2010 and 2011 also saw scandals involving the sale of recycled CERs, phishing attempts on the German national registry, and a series of subsequent cyberthefts affecting several million EUAs.[161] Such events eroded confidence in the market and highlighted the need for improved oversight, prompting the European Commission to propose further regulatory reforms.[162]

Aside from a directive extending application of the value-added tax reverse charge mechanism to emissions trading, the European Union also strengthened oversight of carbon market transactions by closing a substantial gap in the existing regulatory framework. Both primary and a majority of secondary market transactions had already been subject to regulatory oversight, but spot market transactions were still largely exempted. Since 2018, a change to the Markets in Financial Instruments Directive mandates trading of derivatives on regulated venues, introduces position limits and reporting requirements for derivatives, and—most importantly—classifies allowances as financial instruments under the directive. As a result of these regulatory changes, market participants are subject to new registration and licensing duties, disclosure and reporting requirements, and additional disciplines for the previously unregulated spot market.[163] From 2012 onwards, the European Union has operated a single European registry for EUAs and other units, the European Union Transaction Log, enabling centralized oversight of all transactions.[164]

158. Decision 2015/1814 of the European Parliament and of the Council of 6 October 2015 Concerning the Establishment and Operation of a Market Stability Reserve for the Union Greenhouse Gas Emission Trading Scheme and amending Directive 2003/87/EC, 2015 O.J. (L 264) 1.

159. Susanna Twidale, *Value of Global CO_2 Markets Hit Record 144 Billion Euros in 2018 Report*, REUTERS (Jan. 16, 2019), https://www reuters.com/article/us-global-carbontrading-report/value-of-global-co2-markets-hit-record-144-billion-euros-in-2018-report-idUSKCN1PA27H.

160. Patrick Keyzer et al., *Carbon Market Integrity Integrity and Oversight of the European Emissions Trading System*, CARBON MARKET INST. 13 (2012), www.carbonmarketinstitute.org; Dominique Guegan et al., *Missing Trader Fraud on the Emissions Market*, 18 J. FIN. CRIME 183 (2011).

161. POINT CARBON, CARBON MARKET MONITOR: A REVIEW OF 2012 3 (2012).

162. Alexandre Kossoy et al., State and Trends of the Carbon Market 2012, WORLD BANK 30–31 (2012), http://hdl.handle.net/10986/13336.

163. Directive 2016/1034 of the European Parliament and of the Council of 23 June 2016 amending Directive 2014/65/EU on Markets in Financial Instruments, 2016 O.J. (L 175) 8.

164. Regulation 920/2010 of the European Commission of 7 October 2010 for a Standardised and Secured System of Registries Pursuant to Directive 2003/87/EC of the European Parliament and of the

What the track record of the EU ETS again highlights is the critical role of information. Regulatory decisions on the overall amount of allowances and their allocation have suffered from information asymmetries, a lack of accurate data, and uncertainty about fundamental trends, severely undermining the functioning of the European carbon market during its first trading periods. Implementing a policy solution for the supply and demand imbalance in the carbon market has taken over a decade, in part due to rent-seeking behavior of affected sectors and Member States. Likewise, incidents of market power and abuse have required a regulatory response, and additional restrictions have since been put in place. Although these restrictions are justified to secure market integrity and restore confidence among its participants, they may yet impact market participation and liquidity. As an intervention to correct the market failure of unpriced externalities, the EU ETS has, in other words, evidenced various forms of government failure and undergone a difficult process to address design flaws and identify the appropriate level of regulation.

Yet the EU ETS also has demonstrated how continuous improvement helped ensure its durability as a climate policy, and while it is still early to assess the lasting impact of the latest reforms, a recent substantial increase in EUA prices[165] suggests that the changes are showing the desired effect. What is more, the EU ETS saw a liquid market for allowances emerge in the first years of trading, measured in terms of the frequency and size of transactions, the number and type of market participants, and the average size of spreads.[166] Since then, the EU ETS has reached maturity, as evidenced by several indicators: a number of competing trading platforms, including the European Energy Exchange, the Intercontinental Exchange, and the European Climate Exchange; high trading volumes both through exchanges and over-the-counter transactions; a wide range of traded products in the spot and derivative markets; and a diverse set of market participants, including compliance entities, various financial service providers, and other intermediaries.[167] As a result, price discovery has been efficient and transparent, highlighting the role of broad market participation—with implications for the debate about eligibility restrictions and a potential role of the private sector in cooperative approaches under Article 6.

Council and Decision No. 280/2004/EC of the European Parliament and of the Council, 2010 O.J. (L 270) 1.

165. Between January and December 2018, for instance, EUA prices in the secondary market increased almost threefold, from € 8 to € 25 per ton of CO_2e. *See* Hæge Fjellheim, *Will high European carbon prices last?* (Dec. 12, 2018), https://www.refinitiv.com/perspectives/market-insights/will-high-european-carbon-prices-last.

166. A. Denny Ellerman & Paul L. Joskow, *The European Union's Emissions Trading System in Perspective*, C2ES 16 (2008), https://www.c2es.org/document/the-european-unions-emissions-trading-system-in-perspective. A liquid market can be defined as one "where there are ready and willing buyers and sellers on a continuous basis . . . ." *See* Directive 2014/65/EU, *supra* note 163, at art. 4.

167. ELLERMAN ET AL., *supra* note 153, at 127–34.

C. Interim Conclusions

Striking the right balance between regulation and flexibility has posed a perennial challenge for policymakers looking to implement functioning markets. As shown in the previous Parts, the theoretical literature supports regulatory intervention where it is necessary to correct market failures, which not only include the environmental externality of GHG emissions, but also information asymmetries and issues of market power. Aside from the political decision to introduce a carbon market with an appropriately ambitious target to begin with, this theoretical logic also argues for a role of government in creating a governance framework that guarantees rights, enforces obligations (with tangible penalties, if necessary), ensures transparency of emissions and market transactions, facilitates efficient price discovery, and secures the integrity of the market against market power and collusion.

Importantly, both theory and experience affirm the importance of stringent environmental objectives for robust market participation, scarcity in the market, and price discovery.[168] As the case studies document, regulatory loopholes and integrity flaws undermine the confidence of market participants and create pressure for reform. Sometimes, as in the case of unilateral restrictions on the acceptance of CERs, such reforms can be abrupt and have unintended consequences. More often, however, reforms progress slowly, weakening public acceptance of the carbon market and compromising its perceived legitimacy as a policy instrument.

To be a credible tool for climate change mitigation, carbon markets require a sound regulatory framework, and ignoring that imperative in the interest of expedience or under pressure from interested stakeholders will ultimately backfire. That said, policymakers should nonetheless strive for simplicity and transparency as well as streamlined procedures whenever possible. Transaction costs and capacity constraints have had a documented effect on the operation of existing carbon markets. Individual approval of transactions, in particular, tends to increase transaction costs and give rise to uncertainty,[169] advocating for standardization to reduce layers of bureaucracy. Meanwhile, restrictions on participation—notably the exclusion of private sector participants from international emissions trading—have been shown to impact market liquidity. In contrast, greater market access in the EU ETS has contributed to the emergence of a liquid and mature market with greater resilience against market power as well as efficient price discovery.

Beyond the essential governance requirements outlined above, the invariable tradeoffs caused by government failure suggest a higher burden of justification for regulatory intervention. Assumptions of the impartiality or

168. Richard L. Schmalensee & Robert N. Stavins, *The Design of Environmental Markets What Have We Learned from Experience with Cap and Trade?*, 33 OXFORD REV. ECON. POL'Y 572, 583 (2017).

169. Robert W. Hahn & Gordon L. Hester, *Marketable Permits Lessons for Theory and Practice*, 16 ECOLOGY L.Q. 361, 378 (1989).

rationality of government actors may be as misplaced as assumptions of always rational and profit-maximizing market participants. Not all risks that flow from the use of carbon markets can be averted through regulation, save perhaps through a complete shutdown of market activity. Even after several reforms, the sophisticated rules designed to ensure the environmental integrity of CDM projects have proven incapable of preventing many projects with little or no additionality.[170] Yet at the same time, there is an appreciable risk that pursuit of indefectible governance frameworks—however well-intentioned—will end up deterring uptake of market approaches,[171] along with the cost savings these offer.

In short, the lessons from theory and experience cannot do away entirely with the need for balancing contending preferences. Perceptions of the relative importance of different objectives vary too much for that, as do interpretations of normative terms such as ambition and integrity. What may appear as excessively burdensome governance to some may appear barely adequate to others.[172] Where technically complex and normatively contested viewpoints are difficult to reconcile, and their proponents can draw on reasonable arguments and legitimate concerns, the required balancing act calls for a process that aggregates preferences to reach a mutually acceptable outcome.

Because it is geared towards a policy decision, the aggregating mechanism in this case is not a market, but the political process. As ideally conceived, it will afford equality of access to all affected stakeholders and base formal decisions on informed deliberation and public reasoning.[173] Such an ideal process can only be aspired to—and is certainly not realized—by the tenuous and often opaque practices of international diplomacy.[174] Nonetheless, there remains an argument for requiring that substantive choices, and especially those on contested and consequential matters, be made at the highest political level in the international regime.

In practice, that means reserving the most eminent political questions for deliberation and decision making by the Parties, with the outcome reflected in a formal treaty and subsequently legitimized through national procedures in every acceding jurisdiction.[175] Decisions by conferences or meetings of the Parties can still claim a degree of procedural legitimacy, but their normative character is already diminished and debated relative to that of the actual treaty.[176] This

170. Cames et al., *supra* note 134, at 10–12.

171. Nordhaus, *supra* note 70, at 18.

172. Michaelowa & Butzengeiger, *supra* note 31, at 5.

173. JÜRGEN HABERMAS, VORSTUDIEN UND ERGÄNZUNGEN ZUR THEORIE DES KOMMUNIKATIVEN HANDELNS 177 (1984); JOHN RAWLS, POLITICAL LIBERALISM 214 (Expanded ed. 2005).

174. PHILIP ALLOTT, THE HEALTH OF NATIONS: SOCIETY AND LAW BEYOND THE STATE 380–98 (2002); ANNE-MARIE SLAUGHTER, A NEW WORLD ORDER 8–11 (2004).

175. Daniel M. Bodansky, *The Legitimacy of International Governance A Coming Challenge for International Environmental Law?*, 93 AM. J. INT'L L. 596, 618–19 (1999).

176. Jutta Brunnée, *COPing with Consent Law-Making Under Multilateral Environmental Agreements*, 15 LEIDEN J. INT'L L. 1, 41 (2002); Jan Klabbers, *The Redundancy of Soft Law*, 65 NORDIC J. INT'L L. 167, 170–71 (1996).

applies even more to the outcomes of negotiations from subsidiary entities with limited participation and less transparent processes, which should focus on technical matters but not seek to reverse or reinterpret the consensus expressed in the actual treaty.

Applied to Article 6(2), this calls for identifying the mandate for operational guidance in the Paris Agreement itself and ascertaining the extent to which the Parties intended such guidance to apply to merely technical or also political questions about the appropriate balance of international oversight and national sovereignty. Likewise, the choices underlying ambition and environmental integrity have to be dissected to determine whether their center of gravity falls more on the political or technical side. Critically, this also means that questions clearly political in character—such as the ambition of domestic mitigation efforts, something the Paris Agreement fundamentally leaves to determination by the Parties—should not be reopened by way of technical deliberations on market design, where the negotiating dynamic and process will fundamentally differ from that of the negotiations preceding the Paris Agreement itself.

III. OPERATIONALIZING ARTICLE 6(2): THE PARIS RULEBOOK

Drawing on the foregoing analytical framework, the following Part will apply insights from carbon market theory and practice to the context of Article 6 and related negotiations. Applying this framework first necessitates an assessment of the negotiating mandate under Article 6(2) and subsequent decisions that have relevance for the question of ambition. This is followed by a survey of Party positions and their reflection in the evolving negotiations, including recent textual proposals. Conclusions from this Part help identify the political and legal opportunity space for the concluding recommendations set out in the final Part.

A. Role and Status of the Paris Rulebook

Understanding the negotiating history and current status of the Paris Agreement is important to correctly interpret the mandate for further operationalization of Article 6(2). With the adoption of the Paris Agreement, its 195 signatories committed to a collective "paradigm that, over time, catalyzes ever stronger global action to combat climate change."[177] With its decentralized architecture built on nationally determined mitigation pledges, the Paris Agreement departs markedly from its predecessor, the Kyoto Protocol. Many of its provisions—including Article 6(2)—are sparsely worded and replete with undefined or vague concepts, reflecting a lack of consensus on more detailed language at the time of adoption.[178] When it comes to operationalization,

177. Daniel M. Bodansky, *The Paris Climate Change Agreement A New Hope?*, 110 AM. J. INT'L L. 288, 290 (2016).

178. Müller, *supra* note 14, at 11.

however, such "constructive ambiguity"—often a deliberate inclusion in negotiated outcomes to accommodate conflicting viewpoints—is not helpful:[179] "Not only does it contribute to uncertainty about various elements of the Paris Agreement, it also threatens to compromise effective implementation of key rights and obligations due to divergent interpretations."[180]

In the decision formally adopting the Paris Agreement and several provisions of the treaty itself, Parties therefore set out mandates to elaborate more detailed operational rules, modalities, procedures, and guidelines on a broad set of issues ranging from mitigation and adaptation to transparency, accounting, compliance, and assessment of progress.[181] Collectively, these operational details were elaborated as part of the "Work Program under the Paris Agreement" (PAWP),[182] which is colloquially referred to as the "Paris Rulebook." Following an ambitious timeline agreed to in Marrakesh during the twenty-third Session of the Conference of the Parties to the UNFCCC (COP23), this Work Program was scheduled for adoption by the Meeting of the Parties to the Paris Agreement (CMA) in December 2018 in Katowice, Poland.[183]

Working through three bodies of the UNFCCC, namely the Ad Hoc Working Group on the Paris Agreement (APA), the Subsidiary Body for Scientific and Technical Advice (SBSTA), and the Subsidiary Body for Implementation, Parties elaborated draft negotiating texts for the various agenda items. After another round of discussions, held from September 4 through 9, 2018 in Bangkok, Thailand, progress made across all three bodies was compiled into a single 307-page document that provided a basis for the negotiations in Katowice.[184] Across all agenda items, views on the structure and content of implementation guidance remained widely heterogeneous. Observers characterized the outcome as "uneven" and explained the slow pace of negotiations with principled disagreement on several key issues, such as the differentiation between developed and developing countries.[185]

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179. *Id*. at 2.

180. Harro van Asselt, Kati Kulovesi & Michael A. Mehling, *Negotiating the Paris Rulebook Introduction to the Special Issue*, 12 CARBON & CLIM. L. REV. 173, 173 (2018).

181. *See* Decision 1/CP.21, *supra* note 6, Section III.

182. *See* Matters Relating to the Implementation of the Paris Agreement, Decision 1/CMA.1, ¶¶ 5–7, *in* Report of the Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement on the First Part of its First Session, Addendum, Pt. Two, U.N. Doc. FCCC/PA/CMA/2016/3/Add.1 (Jan. 31, 2017).

183. Formally the Third Part of the First Session of the CMA, *see* para. 2 of Fiji Momentum for Implementation, Decision 1/COP 23, *in* Report of the Conference of the Parties on its Twenty-third Session, U.N. Doc. FCCC/CP/2017/11/Add.1 (Feb. 8, 2018). Given the early entry into force of the Paris Agreement, the first session—which began in 2016—was extended to allow more time for negotiations of the PAWP.

184. Ad Hoc Working Group on the Paris Agreement (APA), *PAWP Compilation* (Sept. 9, 2018), https://unfccc.int/sites/default/files/resource/Latest%20PAWP%20documents_9Sep_0.pdf.

185. IISD Reporting Services, *Summary of the Bangkok Climate Change Conference 4-9 September 2018*, 12 EARTH NEGOTIATIONS BULLETIN 1 (Sept. 12, 2018), http://enb iisd.org/download/pdf/enb12733e.pdf

Regarding Article 6(2), this compilation contained a thirty-one page section elaborated by SBSTA with draft elements of guidance on a wide variety of matters.[186] On October 15, 2018, the presiding officers of APA, SBSTA, and the Subsidiary Body for Implementation issued a Joint Reflections Note addressing progress made to date under all elements of the work program, with annexes containing new textual proposals meant to "facilitate completion of the PAWP at COP 24."[187] Among these was a new textual proposal for guidance on Article 6(2), which—while not superseding the outcome of the Bangkok meeting—tried

> to advance the thinking of Parties by removing remaining duplication; streamlining where there are multiple options, including grouping options into suboptions where appropriate, and moving detail to the workplan where this may assist readability of the options; lightly editing the text; improving consistency of wording; and simplifying language where possible.[188]

Already shorter at twenty-four pages, with an annex listing follow-up work to be carried out in 2019, this document retained the options contained in the draft outcome of the prior Bangkok negotiations, but organized them more efficiently. A table outlining the options and suboptions relevant to matters of governance, ambition, and environmental integrity is included below.[189] At the end, even the least contested matters remained on the table, signaling that the final form and content of guidance on Article 6(2) was far from settled.

Given the status of the textual proposal, it was already becoming clear before Katowice that none of the extant proposals had successfully captured all major viewpoints. Going into the Katowice negotiations, Parties already acknowledged that they would have to prioritize their efforts and concentrate on matters that already enjoyed a measure of political support, while leaving contested issues and purely technical details for continued negotiation in the years to come.[190] As one participant in the negotiations commented, COP24 was expected to result in "a very general decision, a one-pager with two annexes,"

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186. These matters include, *inter alia*, general principles; scope, and whether the guidance also applies to mitigation activities under Article 6(4); the characteristics of an ITMO, and whether units generated under other mechanisms—such as Article 6(4) and the CDM—as well as mitigation outcomes other than emission reductions can qualify as ITMOs; alternative forms of oversight and institutional governance; participation requirements and responsibilities, including institutional structures and types of NDCs a Party needs to have in place to engage in cooperative approaches; how and when Parties should make corresponding adjustments for emissions covered by their NDC; and the modalities for the share of proceeds for adaptation. *See* APA, *PAWP Compilation*, *supra* note 184, 52–82.

187. UNFCCC, *Joint Reflections Note by the Presiding Officers of the Ad Hoc Working Group on the Paris Agreement, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation*, U.N. Doc. APA-SBSTA-SBI.2018.Informal.2, ¶ 3 (Oct. 15, 2018), https://unfccc.int/sites/default/files/resource/APA_SBSTA_SBI.2018 Informal.pdf.

188. UNFCCC, *Joint Reflections Note by the Presiding Officers of the Ad Hoc Working Group on the Paris Agreement, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation. Addendum 2 Matters Relating to Article 6 of the Paris Agreement and Paragraphs 36–40 of Decision 1/CP.21*, U.N. Doc. APA-SBSTA-SBI.2018.Informal.2.Add.2, ¶ 5 (Oct. 15, 2018), https://unfccc.int/sites/default/files/resource/APA_SBSTA_SBI.2018.Informal.2.Add_.2.pdf.

189. *See* Table 1, *infra*, Part III.C.1.

190. UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 188, ¶ 4.

where the first annex would contain basic decisions reached at COP24, and the second would outline "a work plan for 2019 covering all remaining technical deliverables."[191] Even that, however, proved too optimistic.

Despite a promising start, with an influential group of countries submitting a joint proposal on contested accounting issues,[192] the latest negotiating text remained encumbered by competing options and bracketed text.[193] Parties were unable to agree on the required level of uniformity and prescriptiveness regarding corresponding adjustments and conversion of metrics.[194] Other items that eluded consensus were mandatory deduction of a share of proceeds for adaptation and the role of land use and forestry activities under cooperative approaches.[195] Negotiations nearly derailed when a small subset of Parties—notably Brazil and the Arab Group[196]—opposed inclusion of language on corresponding adjustments in the operational details for Article 6(4) that was seen to be essential by other parties to prevent double counting of emission reductions.[197]

In the end, the Katowice climate summit went into overtime as negotiators sought to break the impasse over Article 6, yet various attempts to secure a consensus through compromise proposals failed.[198] To allow adoption of the remaining elements of the "Paris Rulebook," the presidency decided to postpone negotiations on Article 6 to future sessions. In its final decision, the CMA noted that no consensus could be reached on the final negotiating text and called upon SBSTA to build on existing progress and elaborate a new proposal for adoption at its second session.[199] Importantly, different negotiating texts remained on the

191. Forth, *supra* note 43, at 4.

192. Submitted by the Independent Alliance of Latin America and the Caribbean, Australia, Canada, the EU, Japan, Mexico, New Zealand, and Switzerland, this proposal underscored the need for corresponding adjustments when transferring mitigation outcomes under Article 6. *See* Wolfgang Obergassel et al., *Paris Agreement Ship Moves Out of the Drydock. An Assessment of COP24 in Katowice*, WUPPERTAL INST. 14 (2019), https://wupperinst.org/fa/redaktion/downloads/publications/COP24-Report.pdf.

193. At one point the nearly thirty-page draft on guidance for Article 6(2) was eventually narrowed down to a mere eight pages during COP24 in Katowice, yet important matters still remained bracketed. *See* UNFCCC, *Guidance on Cooperative Approaches Referred to in Article 6, Paragraph 2, of the Paris Agreement*, THE KATOWICE TEXTS: PROPOSAL BY THE PRESIDENT 32–38 (Dec. 14, 2018), https://unfccc.int/sites/default/files/resource/Katowice%20text%2C%2014%20Dec2018_1015AM.pdf.

194. IISD Reporting Services, *Summary of the Bangkok Climate Change Conference 4-9 September 2018*, 12 EARTH NEGOTIATIONS BULLETIN 18 (Dec. 18, 2018), http://enb iisd.org/download/pdf/enb12733e.pdf.

195. Charlotte Streck et al., *COP24 Katowice Setting the Paris Agreement in Motion* 4 (2019), https://climatefocus.com/publications/cop24-katowice-setting-paris-agreement-motion.

196. The group of Arab States is comprised of twenty-two members: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen. *See* UNFCCC, *Party Groupings*, https://unfccc.int/process-and-meetings/parties-non-party-stakeholders/parties/party-groupings (last visited July 10, 2019).

197. Obergassel et al., *supra* note 192, at 14.

198. See, notably, UNFCCC, *The Katowice Texts*, *supra* note 193.

199. Matters Relating to Article 6 of the Paris Agreement and Paragraphs 36–40 of Decision 1/CP.21, Decision-8/CMA.1, paras. 1–2, *in* Report of the Conference of the Parties serving as the Meeting

table following the Katowice climate summit,[200] meaning that no single proposal was fully representative of the current views of all Parties.

During the intersessional negotiations in Bonn, Germany in June 2019, Parties once again brought forward the work undertaken in previous negotiations.[201] Toward the end of the meeting, the cofacilitators chairing the relevant contact group issued a new set of textual proposals on Article 6 that will serve as the basis for negotiations at COP25 in Santiago, Chile in December 2019.[202] As was the case with previous iterations, however, the new draft text on guidance for Article 6(2) once again contains dozens of bracketed options, highlighting the continued challenges encountered in trying to secure a consensus on core issues.[203] One reason for this outcome was the pressure from Parties to reflect the full range of views expressed in previous negotiations and written submissions, some of which had been omitted by the Katowice presidency in an effort to streamline the text.[204] Options relevant to matters of ambition and environmental integrity contained in the draft texts of the June 2019 conference are discussed in Part III.C.1.

Overall, Parties still face a large number of choices as they seek to operationalize Article 6 and retain considerable latitude in how they address matters that are relevant to ensuring ambition in the guidance on Article 6(2). To better understand the parameters within which they will exercise this latitude, it is necessary to dissect the legal mandate governing the negotiations, as well as its relationship to other elements of the Paris Agreement and the work program. From there, the analysis can proceed to map the substantive options contained in the most recent textual proposal and survey Party views as reflected in statements and submissions.

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of the Parties to the Paris Agreement on the Third Part of its First Session, held in Katowice from 2 to 15 December 2018, U.N. Doc. PA/CMA/2018/3/Add.1 (Mar. 19, 2019).

200. Notably, the final proposal issued by the COP presidency towards the end of the summit does not necessarily supersede the earlier, less advanced draft forwarded by SBSTA halfway through the summit. *See* Andrei Marcu & Mandy Rambharos, *Rulebook for Article 6 of the Paris Agreement Takeaway from the COP 24 Outcome* 5 (2019), https://ercst.org/publication-rulebook-for-article-6-of-the-paris-agreement-takeaway-from-the-cop-24-outcome.

201. IISD Reporting Services, *Summary of the Bonn Climate Change Conference 17-27 June 2019*, 12 EARTH NEGOTIATIONS BULLETIN 1, 10 (June 30, 2019), https://enb.iisd.org/download/pdf/enb12759e.pdf.

202. UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches Referred to in Article 6, Paragraph 2, of the Paris Agreement Annex* (June 26, 2019), https://unfccc.int/sites/default/files/resource/SBSTA50.DT_.i11a%20clean.pdf.

203. In effect, even with its multiple bracketed options, Parties insisted that the draft text not be considered a consensus document, as the conclusions of the relevant meeting expressly clarify: ". . . this does not represent a consensus among Parties." *See* UNFCCC, *Guidance on Cooperative Approaches Referred to in Article 6, Paragraph 2, of the Paris Agreement Draft Conclusions Proposed by the Chair*, U N. Doc. FCCC/SBSTA/2019/L.9, ¶. 2, note 2 (June 27, 2019), https://unfccc.int/sites/default/files/resource/sbsta2019_L.09E.pdf.

204. IISD Reporting Services, *supra* note 201, at 10.

B. Legal Analysis: Mapping the Mandate of Article 6(2)

1. Textual Analysis of Article 6(2)

A literal reading of Article 6(2) of the Paris Agreement provides the first and most authoritative indication of the scope and limitations of the mandate to elaborate operational guidance. As an element of the Paris Agreement, it forms part of an international treaty that has been ratified, accepted, approved, or otherwise acceded to[205] in conformity with the domestic procedures of its Parties. Hence, the language in Article 6(2) is the most immediate manifestation of state consent that underlies the normative validity of the Paris Agreement. That said, the wording of Article 6(2) is sparse as far as the content and purpose of guidance is concerned. It states that:

> Parties shall, where engaging on a voluntary basis in cooperative approaches that involve the use of internationally transferred mitigation outcomes towards nationally determined contributions, promote sustainable development and ensure environmental integrity and transparency, including in governance, and shall apply robust accounting to ensure, inter alia, the avoidance of double counting, consistent with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement.[206]

What can be clearly inferred from the provision is a mandate for the CMA to adopt guidance. Less clear, however, is whether that mandate merely relates to the "robust accounting to ensure, inter alia, the avoidance of double counting" spelled out directly prior to the mention of guidance in Article 6(2); or whether the mandate also extends to the other conditions spelled out throughout the remainder of Article 6(2). In particular, the question arises whether guidance also should extend to the need for cooperative approaches to "promote sustainable development and ensure environmental integrity and transparency, including in governance."[207] One commentator on the negotiations has drawn attention to the conscious use of "inter alia" in Article 6(2), which he considers a reflection of concerns among some Parties that mere avoidance of double counting is insufficient to ensure "robust accounting."[208] Even if that were the case, it still does not clarify whether guidance should go beyond "robust accounting" to include considerations such as sustainable development and environmental integrity. Commentators have also drawn on the wording "consistent with guidance" to argue that such guidance is not meant to impose constraints on

205. *See* Paris Agreement, *supra* note 13, at art. 21(1).
206. *Id.* at art. 6(2).
207. *Id.*
208. Müller, *supra* note 14, at 8.

Parties using ITMOs, as they would have then opted for different language, such as "subject to guidance" or "subject to rules."[209]

While its normative character is significantly weaker relative to a treaty provision such as Article 6(2), the decision accompanying the Paris Agreement sets out additional detail on the mandate by requesting SBSTA to

> develop and recommend the guidance referred to under Article 6, paragraph 2, of the Agreement for consideration and adoption by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its first session, including guidance to ensure that double counting is avoided on the basis of a corresponding adjustment by Parties for both anthropogenic emissions by sources and removals by sinks covered by their nationally determined contributions under the Agreement.[210]

Again, the wording of this decision fails to specify the precise scope of the guidance. By expressly referring to the avoidance of double counting "on the basis of a corresponding adjustment," this passage seems to imply that the guidance only should cover accounting issues and not the other substantive conditions mentioned in Article 6(2). Its mention of "including," however, could be interpreted to mean that avoidance of double counting is only one of several possible elements that might be included in operational guidance. While this provides an opening for arguments that Article 6(2) guidance should extend to considerations other than accounting, it is important to remember that its status as a COP decision is subservient to the actual treaty, the Paris Agreement.[211]

Guiding principles for the interpretation of ambiguous treaty provisions are set out in the Vienna Convention on the Law of Treaties (VCLT),[212] which is reflective of international custom, as evidence of a general practice accepted as law.[213] According to its general rule of treaty interpretation set out in Article 31(1), a "treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose."[214] Relevant context can include "[a]ny instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty"[215] and "[a]ny subsequent practice in the application of the treaty which establishes the

209. ASIAN DEVELOPMENT BANK (ADB), DECODING ARTICLE 6 OF THE PARIS AGREEMENT 19 (2018).

210. Decision 1/CP.21, *supra* note 6, ¶ 36.

211. Brunnée, *supra* note 176, at 177; Klabbers, *supra* note 176, at 214.

212. Vienna Convention on the Law of Treaties (VCLT), *opened for signature* 23 May 1969, 1155 U N.T.S. 331, 11–13, 23.

213. Anthony Aust, *Vienna Convention on the Law of Treaties (1969)*, 10 *in* THE MAX PLANCK ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW (Rudiger Wolfrum ed., 2d ed. 2013).

214. VCLT, *supra* note 212, at art. 31(1).

215. *Id.* at art. 31(2)(b).

agreement of the parties regarding its interpretation."[216] Article 32 proceeds to list supplementary means of interpretation, stating that:

> Recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of article 31, or to determine the meaning when the interpretation according to article 31 . . . leaves the meaning ambiguous or obscure.[217]

Together, these rules of interpretation affirm the relevance of other provisions in the Paris Agreement, including the remaining paragraphs of Article 6. They also clarify that other instruments and subsequent state practice can offer guidance when interpreting ambiguous treaty provisions, which, applied to Article 6(2), includes the decision accompanying the Paris Agreement. And finally, the interpretation rules highlight the importance of preparatory work and other evidence of the circumstances at the time the treaty was adopted, commonly referred to as the *travaux préparatoires*.[218] All these sources of interpretive guidance will be drawn on next to further complement the textual interpretation of Article 6(2) and its mandate.

2. Narrow Context: Elements of Article 6

When looking at other elements of Article 6, it is useful to begin with the first paragraph. It has been labeled a *chapeau*, or general introduction, to the use of cooperative approaches.[219] Article 6(1) of the Paris Agreement introduces the general notion that Parties may choose, on a voluntary basis, to cooperate in the implementation of their NDCs. Its wording includes express reference to ambition and environmental integrity when it states that Parties choose to pursue such cooperation "to allow for higher ambition in their mitigation and adaptation actions and to promote sustainable development and environmental integrity."[220] Although this language does not literally state an increase in ambition as a mandatory outcome of voluntary cooperation, that very effect has been described as "the requirement in the Paris Agreement to legitimize the existence of the option for renewed carbon market mechanisms."[221] Use of "their" in Article 6(1) has been interpreted as meaning that Article 6 should contribute to higher

216. *Id*. at art. 31(3)(b). Article 31(3) also states the relevance of "[a]ny subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions" and "[a]ny relevant rules of international law applicable in the relations between the parties." *Id*. at art. 31(3)(a), (c). Likewise, it specifies in Article 31(4) that "[a] special meaning shall be given to a term if it is established that the parties so intended."

217. *Id.* (focusing on Article 32).

218. ANTHONY AUST, MODERN TREATY LAW AND PRACTICE 244 (2d ed. 2007).

219. Kreibich, *supra* note 16, at 5; Müller, *supra* note 14, at 8.

220. Paris Agreement, *supra* note 13, at art. 6(1).

221. Forth, *supra* note 43, at 9.

ambition in the mitigation targets and actions of both the originating or transferring countries as well as the acquiring or using countries.[222]

Although variously mentioned throughout the Paris Agreement and in relevant decisions,[223] ambition remains an elusive term, suggesting that Parties intentionally opted for "constructive ambiguity"[224] in order to facilitate consensus. Attempts at a more tangible definition of the concept can be found in the literature. In the broadest sense, ambition has been said to reflect the global aggregate of mitigation action;[225] it would thus extend beyond the concept of environmental integrity, which can already be satisfied where emission reductions in one jurisdiction are accompanied by a commensurate increase in emissions elsewhere, without a decline in overall emissions.[226] Ambition is also distinct from the notion of "overall mitigation" mentioned in Article 6(4) of the Paris Agreement,[227] which is not linked to the actions of any one Party, but rather to the overall effect of the mechanism created by that provision.[228]

Aside from such initial boundaries, ambition remains "complex and difficult to determine,"[229] prompting commentators to propose elements or criteria to better identify the presence of ambition. One commentator has suggested the following six conditions that market policies should meet to embody high ambition and promote rising ambition over time: (1) setting NDC targets below expected emissions under a business-as-usual scenario; (2) creating new demand for emission reductions; (3) broadening mitigation action; (4) ensuring environmental quality; (5) expanding coverage of emission inventories; and (6) clearly communicating mitigation goals and policies.[230]

Of these, the first may be the most critical, as it relates to the potential transfer of ITMOs that do not reflect any underlying mitigation efforts. A recent survey comparing NDCs and business-as-usual emission projections has underscored this risk by revealing that such "hot air"—where NDC targets are likely to be achieved or overachieved without further climate action—could eclipse expected emission reductions from countries whose NDCs require actual abatement.[231] Importantly, however, these understandings of ambition are not necessarily reflective of how Parties interpret the underlying concepts. It is also not clear from the wording of Article 6(1) that ambition is a mandatory condition

222. Kreibich, *supra* note 16, at 3. On the terminology of originating, transferring, acquiring, and using Parties, *see supra* note 16.

223. "Ambition" is mentioned six times in the Paris Agreement, *see infra*, Part III.B.3.

224. Schneider & La Hoz Theuer, *supra* note 31, at 387.

225. Howard, *supra* note 2, at 3.

226. Kreibich, *supra* note 16, at 5; Schneider & La Hoz Theuer, *supra* note 31, at 3.

227. Paris Agreement, *supra* note 13, at art. 6(4) (stating "shall aim (d) [t]o deliver an overall mitigation in global emissions").

228. Kreibich, *supra* note 16, at 6.

229. Howard, *supra* note 2, at 3.

230. *Id.* at 9–14.

231. La Hoz Theuer et al., *supra* note 31.

for the use of cooperative approaches, nor that operational guidance on Article 6(2) must incorporate ambition.

In effect, the wording of Article 6(2) does not even mention ambition. What Article 6(2) does specify, however, are conditions for use of cooperative approaches "that involve the use of internationally transferred mitigation outcomes towards nationally determined contributions," making their observance mandatory by using the legally relevant term "shall."[232] Of these conditions, the second refers to environmental integrity, which also has no generally accepted interpretation.[233] In the literature, definitions tend to relate environmental integrity to the ITMOs themselves and see such integrity compromised if a transfer of ITMOs leads to global emission levels that are higher than they would be otherwise.[234]

At a minimum, that understanding of environmental integrity requires that reductions really occur as stated, have lasting mitigation effect,[235] and are accurately tracked and accounted for to avoid double counting.[236] Some authors further list additionality,[237] quality of units, ambition of the NDC targets of the transferring country, and presence of incentives and disincentives for further mitigation action[238] as conditions of environmental integrity, although the relevance of such criteria for Article 6(2) is debated.[239]

Given the diversity of NDC pledges and the limited role of international oversight under the Paris Agreement, Article 6 may struggle to ensure environmental integrity.[240] Still, barring complex questions of additionality, integrity may be meaningfully promoted through proper technical design and process.[241] If so, issues of integrity could become a suitable feature of operational guidance on the implementation of Article 6(2).[242] It bears noting, however, that there is still considerable ambiguity concerning how environmental integrity is to be operationalized under Article 6.1, and there has been no explicit work program associated with it in the decision accompanying the Paris Agreement.[243]

Accordingly, some commentators have taken a more cautious and literal approach to the interpretation of Article 6, recalling the decentralized, Party-

232. Andrei Marcu, *Issues for Discussion to Operationalise Article 6 of the Paris Agreement* 2, 6 (2017), https://www.ictsd.org/sites/default/files/research/article_6_of_the_paris_agreement_iii_final_0.pdf.

233. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 8.

234. Howard, *supra* note 2, at 12; Kreibich, *supra* note 16, at 4; Obergassel & Asche, *supra* note 113, at 1; Schneider & La Hoz Theuer, *supra* note 31, at 387.

235. Howard, *supra* note 2, at 12.

236. Ahlberg, *supra* note 29, at 24.

237. Howard, *supra* note 2, at 12; *but see* Howard, *supra* note 16, at 193.

238. Wolke, *supra* note 144, at 12.

239. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 20.

240. Schneider & La Hoz Theuer, *supra* note 31, at 387.

241. Howard, *supra* note 16, at 193; Obergassel & Asche, *supra* note 113, at 19.

242. For further discussion, *see infra*, Part III.C.2.b.

243. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 8.

driven nature of the Paris Agreement.[244] As they argue, Article 6 is meant to cover all existing cases of cooperation; they highlight that "cooperation is noted, acknowledged, and recognized, rather than approved" under the Paris Agreement, reinforcing the "decentralized and bottom-up nature and ethos" of governance thereunder.[245] On this point, Howard notes that Article 6 is "careful not to suggest that the Paris Agreement gives countries permission to cooperate, as many countries consider they do not need such permission."[246] To support the view that Article 6(2) needs to be interpreted favoring flexibility over prescriptiveness, commentators also cite the wording of Article 6(4), which clearly states that its mechanism is "under the authority and guidance" of the CMA.[247] Whereas Articles 6(2) and 6(3) make no such provision and instead refer to the respective role of Parties.[248]

What remains is an overall impression of conceptual ambiguity. In view of the foregoing rules of treaty interpretation and the primacy of a literal interpretation based on the ordinary meaning of relevant terms, it is clear that notions of ambition and environmental integrity cannot be conclusively defined based on the language of Article 6 alone. Viewpoints and proposals found in the literature cannot supplant or supersede the literal interpretation of relevant treaty text, especially when the literature is still narrowly dominated by authors from a small subset of affected Parties,[249] and is thus not reflective of the full diversity of views across negotiating groups and geographical regions. What can be affirmed with confidence is that ambition and environmental integrity form part of the broader Paris Agreement and hence can play a role when exercising the mandate to adopt guidance on Article 6(2). Again, however, this does not predetermine a specific outcome or interpretation. An assessment of the broader context of Article 6—notably the remaining provisions of the Paris Agreement—does not change this assessment but offers additional interpretive guidance. The next subpart therefore traces the broader context of Article 6 and its implications for guidance on Article 6(2).

244. *See, e.g.*, Andrei Marcu, *What is Standing in the Way of a Happy Ending Reflections on Art. 6 before SBSTA 48?* 1 (2018), https://ercst.org/publication-happy-ending-before-sb44.

245. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 3.

246. Howard, *supra* note 16, at 184.

247. Marcu, *supra* note 244, at 5.

248. *Id.*

249. It is also worth noting that a vast majority of the existing literature on the concepts has been commissioned by a limited number of governments. *See supra* note 33. While this need not influence the research process and results, it does raise questions about the politics of research and how a subset of stakeholders can influence a political discussion with resources potentially unavailable to other stakeholders.

3. Broader Context: The Paris Agreement

As mentioned earlier, the VCLT requires that an international treaty be interpreted "in the light of its object and purpose."[250] This expands the range of relevant interpretive guidance on Article 6(2) and the mandate it contains to the entirety of the Paris Agreement, including its overarching objectives of "strengthen[ing] the global response to the threat of climate change" and "[h]olding the increase in the global average temperature to well below 2°C above preindustrial levels and pursuing efforts to limit the temperature increase to 1.5°C above preindustrial levels."[251] It also allows for consideration of other provisions that have a bearing on Article 6(2), such as Article 4 on the NDC cycle, Article 13 on the enhanced transparency framework, and Article 15 on compliance.[252]

When it comes to ambition more specifically, the concept is referenced in several other provisions of the Paris Agreement. Article 3, for instance, requires Parties "to undertake and communicate ambitious efforts" that "will represent a progression over time." Article 4(3) meanwhile requires that NDCs represent a "progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition." Article 4(5) states that "enhanced support for developing country Parties will allow for higher ambition in their actions," while Article 4(11) allows Parties to adjust their NDCs at any time "with a view to enhancing its level of ambition." Finally, Article 6(8)—which relates to nonmarket approaches—mentions that the general aim of such approaches is "to promote mitigation and adaptation ambition."

A commentator on the provision has drawn on these references to conclude that ambition relates to both targets and actions, which can thus express high or low ambition.[253] He concedes that the discussion of ambition in the negotiations has largely focused on NDCs and the mitigation pledges contained therein, but points to the voluntary nature of NDCs as an argument for extending the relevance of ambition to actions alongside targets.[254] His exegetic application also infers that use of the word "higher" in Article 4(5) means ambition levels can be compared, although the provision does not indicate how such a comparison might occur, nor how ambition can be increased.[255] This, again, underscores that ambition may form an intrinsic element of the Paris Agreement and is a valid consideration in the interpretation of Article 6(2). However, it simultaneously does not dictate a specific material outcome.

250. VCLT, *supra* note 212, at art. 31(1).
251. Paris Agreement, *supra* note 13, at art. 2(1).
252. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 5.
253. Kreibich, *supra* note 16.
254. *Id.*
255. *Id.*

4. Travaux Préparatoires

In his detailed account of the negotiating history of Article 6, Müller documents deeply-held differences between country positions in the negotiations preceding adoption of the Paris Agreement.[256] Among the tensions evident during the negotiations was a bifurcation between two groups: first, a group of developed countries with market mechanisms in place believed that these could be more efficiently regulated domestically rather than under the UNFCCC; second, a group of countries including Brazil and members of the G77 and China negotiating group argued that accounting and environmental integrity concerns called for rigorous standards and multilateral oversight.[257] Some Parties were altogether opposed to market-based approaches for climate change mitigation, leading to an ideological divide between proponents and opponents of market mechanisms.[258]

With regard to governance, several countries favored a top-down rules-based system such as that introduced with the Kyoto Protocol. Others supported nonprescriptive guidance without obligatory rules, instead suggesting that reliance on the general transparency framework being elaborated under the Paris Agreement would suffice.[259] For some countries, notably the United States and Canada, prescriptive accounting rules raised fundamental sovereignty concerns because of subnational cross-border carbon market cooperation, for which they had little oversight.[260] Growing heterogeneity of climate actions, including market approaches, further complicated the negotiations.[261] Given the array of seemingly irreconcilable positions, few observers expected a consensus to emerge during COP21 in Paris, and it was only a concerted effort by a small group of Parties—led by Brazil and the European Union—that allowed the divisions to be overcome in the final days of the negotiations.[262]

While Article 6(2), for instance, makes reference to "governance"—an element that was added to the final text to accommodate concerns of those Parties insisting on stronger multilateral oversight[263]—its choice of words carefully avoids specifying what such governance entails, allowing for alternative interpretations.[264] Similarly, the omission of earlier references to the concept of additionality in the final text indicates that Parties were unable to agree on the

256. Müller, *supra* note 14, at 8.
257. Howard, *supra* note 16, at 182; Müller, *supra* note 14, at 8.
258. Howard, *supra* note 16, at 183.
259. Müller, *supra* note 14, at 5–7.
260. *Id.* at 7.
261. *Id.*
262. *Id.*
263. *Id.* at 8.
264. Given the sequence of words, "Parties shall . . . promote sustainable development and ensure environmental integrity and transparency, including in governance," it could be argued that Parties either have an obligation to (a) ensure transparency in governance, (b) ensure environmental integrity and transparency in governance, or (c) promote sustainable development and ensure environmental integrity and transparency in governance. *See* Paris Agreement, *supra* note 13, at art. 6(2).

material quality threshold this would have introduced for use of ITMOs.[265] Overall, thus, the *travaux préparatoires* can only offer limited guidance for the interpretation of Article 6(2), aside from affirming the balancing act between contending Party views that is already apparent from a literal rendition of its text.

5. Interim Conclusions

Applying the recognized rules of treaty interpretation set out in Articles 31 and 32 of the VCLT offers only limited clarification on the ambiguous concepts of ambition, environmental integrity, governance, and the mandate to elaborate guidance set out in Article 6(2). What this exegetic process affirms, instead, is a recurring tension between elements that favor greater environmental stringency and multilateral oversight and elements that reflect the decentralized and Party-driven dynamic that has found its embodiment in the Paris Agreement. As shown in the brief discussion of the *travaux préparatoires*, this paradigmatic tension can be traced back to the substantial differences between major groups of Parties in the negotiations leading up to the adoption of the Paris Agreement.

Both a literal interpretation of Article 6(2) as well as its context and negotiating history clearly indicate that ambition and environmental concerns are relevant considerations in the implementation of this provision, yet they also unmistakably attest to the unease some Parties felt at including prescriptive statements on oversight and detailed substantive criteria for environmental integrity or ambition. Neither the general rule of treaty interpretation nor the supplementary means of interpretation can conclusively answer whether the mandate to adopt guidance is limited to accounting or extends to the other two conditions for use of ITMOs contained in Article 6(2).

Uncertainties about the implications of the Article 6(2) mandate do not stop there. As Bodansky and Rajamani explain in a recent assessment of the options for implementation of the Paris Rulebook, Parties retain considerable latitude when adopting operational rules.[266] This latitude extends to the decision on whether such rules should be adopted in the first place, and whether to frame such guidance in terms of a binding obligation, a recommendation, or merely an expectation of conduct or outcome.[267] When Parties decide to adopt operational rules, the Paris Agreement affords them broad discretion on how detailed and precise these rules should be.[268] In general, more detailed and precise rules

265. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 21.

266. Daniel M. Bodansky & Lavanya Rajamani, *The Issues That Never Die*, 12 CARBON & CLIM. L. REV. 184, 186 (2018).

267. Parties can calibrate the bindingness through their choice of verb, and (a) make a rule legally binding by providing that Parties "shall" act in accordance with it; (b) recommend that Parties use a rule, by providing that Parties "should" follow it; (c) identify a rule but make its use optional, by providing that Parties "may" follow it; or (d) identify a rule and generate an expectation that countries "will" follow it. *See id.* at 186.

268. Parties could, in descending order of prescriptiveness, (a) adopt detailed, precise guidance; (b) identify a number of alternative approaches, among which a Party could choose; (c) prescribe minimum

provide greater consistency, predictability, and international discipline, and lend themselves to assessments of compliance; but clearer rules require greater agreement and thus are more difficult to negotiate. By contrast, less detailed rules may be simpler to agree to and enable the regime to evolve more easily in response to experience and emerging science. Importantly, an absence of detailed or prescriptive provisions will default to national determination by individual Parties[269] or, in the case of international processes such as expert review, determination by the entities charged with implementing those processes.[270]

C. Political Analysis: Negotiating Issues and Party Views on Article 6(2)

1. A Continuum of Views

As the previous Part established, a textual analysis of Article 6(2) including consideration of its context and negotiating history affirms considerable discretion for Parties as they exercise the mandate to adopt guidance on the use of ITMOs. Understanding the relevant views of Parties as expressed in statements and submissions is therefore useful to garner a better sense of how the numerous options still on the table in the latest textual proposal will be decided. Over the course of the negotiations on Article 6(2) guidance, Parties have voiced widely divergent preferences about issues of ambition, environmental integrity, and governance.[271]

Specific positions will be broken down by relevant negotiating issues in the next Part, but overall, Party statements and submissions reveal a distribution of views along a continuum between strong and weak prescriptiveness, oversight at the multilateral level and flexible self-determination at the level of Parties, and a greater or lesser degree of centrally defined criteria related to ambition and environmental integrity.[272] Accordingly, several Parties—including, in particular, the Umbrella Group[273] as well as the Like-Minded Developing

requirements and allow Parties to nationally determine any additional rules; (d) prescribe general standards that national rules must satisfy but allow Parties to develop their own rules; (e) allow Parties to develop their own rules and simply require them to report on their rules; or (f) not adopt any additional guidance at all. *See id.* at 187.

269. This is consistent with the permissive nature of international law more generally, which holds that States retain sovereignty over their actions except where they have expressly consented to limit their sovereignty, be it through a treaty or through customary practice recognized as law. *See* Case of the S.S. Lotus (Fra. v. Tur.), Judgment, 1927 P.C.I.J. (ser. A) No. 10, at 45–47 (Sept. 7).

270. Bodansky & Rajamani, *supra* note 266, at 185–88.

271. Greiner & Michaelowa, *supra* note 33; Obergassel & Asche, *supra* note 113; Andrei Marcu, *Article 6 of the Paris Agreement Reflections on Party Submissions before Marrakech* 4 (2017), https://www.ictsd.org/sites/default/files/research/article_6_of_the_paris_agreement_ii_final_0.

272. WORLD BANK, ECOFYS & VIVID ECONOMICS, STATE AND TRENDS OF CARBON PRICING 2017 39 (2017).

273. The Umbrella Group is a coalition of Parties consisting of Australia, Belarus, Canada, Iceland, Israel, Japan, Kazakhstan, New Zealand, Norway, the Russian Federation, Ukraine, and the United States. *See* UNFCCC, *Party Groupings*, *supra* note 196.

Countries[274]—have taken the view that guidance should be restricted to accounting issues, such as avoidance of double counting,[275] while other groups of Parties—such as the African Group of Negotiators,[276] Brazil,[277] the Environmental Integrity Group,[278] the Least Developed Countries,[279] and Small Island Developing States[280]—have tended to advocate for multilateral rules addressing all aspects of environmental integrity, transparency, sustainable development, and accounting contained in Article 6(2). Meanwhile, the European Union has tended to generally support more detailed rules across all elements of the work program.[281] Still, the dichotomy between Parties advocating more, or less, international oversight is reflected throughout the various versions of draft negotiating text, as this question translates into almost every aspect of guidance.[282]

Commentators have therefore suggested that overall governance of Article 6(2) can follow one of four alternative pathways, with additional variations and nuances: (a) a strongly decentralized governance framework with no multilateral standards or transparency provisions related to ambition and environmental integrity; (b) a mostly decentralized governance framework with minimum standards provided by the CMA in the form of principles or guidelines, but without multilateral oversight or transparency provisions on environmental integrity; (c) a moderately centralized governance framework with mandatory standards and transparency provisions on environmental integrity set out by the

274. The Like-Minded Group of Developing Countries comprises of Algeria, Bangladesh, Bolivia, China, Cuba, Ecuador, Egypt, El Salvador, India, Indonesia, Iran, Iraq, Jordan, Kuwait, Malaysia, Mali, Nicaragua, Pakistan, Saudi Arabia, Sri Lanka, Sudan, Syria, Venezuela, and Vietnam, and thus over 50 percent of the global population. *See id*.

275. Australia, *Submission on the Content of the Guidance for Article 6.2, including the Structure and Areas, Issues and Elements to be Addressed* (Oct. 2017), 3–6, http://https://www4.unfccc.int/sites/SubmissionsStaging/Documents/261_344_131535633096840819-Australia%20Article%206.2%20Submission%20SBSTA%2047.pdf.

276. Republic of Mali, *Submission by the Republic of Mali on behalf of the African Group of Negotiators (AGN) on Guidance on Cooperative Approaches referred to in Article 6, paragraph 2, of the Paris Agreement (Agenda sub-item 10(a))* (2017), 1–3, https://www4.unfccc.int/sites/SubmissionsStaging/Documents/586_344_131531477338494612-AGN%20Submission%20on%20SBSTA%2047%20Art.%206.2.pdf.

277. Brazil, *Views of Brazil on the Guidance referred to in Article 6, paragraph 2, of the Paris Agreement* (2018), 1–2, https://www4.unfccc.int/sites/SubmissionsStaging/Documents/73_344_131520605369417046-BRAZIL%20-%20Article%206.2%20FINAL.pdf.

278. The Environmental Integrity Group, formed in 2000, comprises Mexico, Liechtenstein, Monaco, the Republic of Korea, Switzerland, and Georgia, *see* UNFCCC, *Party Groupings*, *supra* note 189.

279. The Least Developed Countries group comprises of forty-eight Parties, with group membership based on criteria defined by the United Nations, *see* UNFCCC, *Party Groupings*, *supra* note 196.

280. This negotiating group is a coalition of some forty low-lying islands that are particularly vulnerable to sea-level rise. *See id*.

281. European Union, *Submission by Estonia and the European Commission on behalf of the European Union and its Member States* (Oct. 6, 2017), 2, https://www4.unfccc.int/sites/SubmissionsStaging/Documents/783_317_131345685428746919-MT-03-21-EU%20SBSTA%2012a%20b%20and%20c%20EU%20Submission%20Article%206.pdf.

282. Greiner & Michaelowa, *supra* note 33, at 9.

CMA, possibly subject to review by the technical peer review process of the transparency framework under the Paris Agreement, but no centralized approval of ITMO use towards NDCs; and (d) a strongly centralized governance framework, with mandatory standards defined by the CMA, and institutional oversight in the form of an approval requirement for ITMOs or their transfer and use exercised by the CMA, the Secretariat, or a designated body.[283] While a recent textual proposal issued during the Bonn intersessional meeting in June 2019 does not reflect the views of all Parties, it envisioned a governance framework that aligns most closely to the second pathway—a "mostly decentralized governance framework"—described above.[284]

Such convergence around a mostly decentralized governance framework notwithstanding, viewpoints of Parties still display some heterogeneity, echoing the disagreements that already characterized the relevant negotiations leading up to the adoption of the Paris Agreement. Broken down to individual negotiating issues, relevant options that still need to be decided relate to institutional governance, accounting and transparency, and environmental integrity.[285] Options related to environmental integrity can be further broken down into quality restrictions applicable to ITMOs, quantity restrictions applicable to ITMOs, eligibility requirements and responsibilities for cooperating Parties, issues of scope, and standardization—or unitization—of ITMOs (see *infra*, **Table 1**). Not all relevant options may be captured by this attempt at structuring several dozen individual options, and other classifications are conceivable. But for the purpose of mapping Party views and priorities on the main issues of interest in this Article, the proposed categorization should offer an appropriate starting point.

Table 1: Relevant Negotiating Issues (based on the draft decision text of June 26, 2019)[286]

Category	**Options**	**Location in Textual Proposal**
Institutional Governance	Role of CMA, Secretariat, and Technical Expert Review	Section II, Paras. 2–6
Environmental Integrity	ITMO Metric and Definition	Section I, Para. 1
	Participation Responsibilities	Section III, Paras. 7–8
	Overall Mitigation in Global Emissions	Section VIII, Para. 72
	Safeguards and Limits	Section XI, Paras. 59–61

283. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 12.
284. *See* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202.
285. *See id.* ¶¶ 2–6, 7–8, 9–58, and 59–72, respectively.
286. *Id.*

Category	Options	Location in Textual Proposal
Accounting & Transparency	Tracking and Infrastructure	Section IV, Para. 9, and X, Paras. 54-58
	Corresponding Adjustments	Section V, A-B, Paras. 10–28
	Scope of NDC	Section VI, Paras. 29–37
	Reporting	Section VII, A-B, Paras. 38–43
	Review	Section VIII, Paras. 44–47
	Recording of Corresponding Adjustments	Section IX, Paras. 48–53
	ITMO Conversion	Section III, Paras. 10–11

2. Individual Negotiating Issues

a. Institutional Governance

On the question of institutional governance, some Parties have favored a role for the CMA in overseeing and reviewing ITMO transfers, or even endorsed the creation of a designated body.[287] Others, by contrast, prefer leaving such governance decisions to the Parties engaged in the transfer, with little or no central oversight aside from guidance on "robust accounting."[288] Institutional functions fall into several groups. One relates to oversight, which primarily includes the review of cooperative approaches and related information for consistency with Article 6(2) guidance. But this consistency review could also extend to additional functions, such as approving or creating ITMOs, or overseeing a third-party review of the environmental integrity of ITMOs at creation. At one point, six options for such oversight arrangements were reflected in the negotiating draft: (a) establishment of a designated body for governance of Article 6(2) specifically; (b) establishment of a designated body for the governance of Article 6 more generally; (c) Article 13 technical expert review; (d) Article 6 technical expert review; (e) a combination of the above; or (f) no oversight arrangement.[289]

The draft text presented towards the end of the intersessional negotiations in Bonn in June 2019 omits the option of a designated body and entrusts

287. Alliance of Small Island States (AOSIS), *Submission of Views on the Content of Article 6(2) Guidance and Article 6.4 Rules, Modalities and Procedures, presented by the Republic of the Maldives on Behalf of the Alliance of Small Island States* (Nov. 2017), 4, https://www4.unfccc.int/sites/SubmissionsStaging/Documents/167_344_131542508049675849-AOSIS%20Submission%20on%20Art%206.2%20and%20%206.4.Nov.2017.cleandocx.pdf.

288. Japan, *Submission on SBSTA Item 10 (a). Guidance on Cooperative Approaches Referred to in Article 6, Paragraph 2, of the Paris Agreement* (Oct. 2, 2017), 1, https://www4.unfccc.int/sites/SubmissionsStaging/Documents/579_344_131516859040704385-Japan_Submission_6.2_20171002.pdf.

289. *See* UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 187, ¶¶ 15–20.

governance functions to the Secretariat, the CMA, and a technical expert review process.[290] It bears noting, however, that this textual proposal does not reflect a consensus of all Parties, contains several bracketed options, and is therefore likely to evolve further.

Another institutional function relates to the responsibility for elaborating what constitutes an ITMO used towards achievement of an NDC. This responsibility for elaboration and clarification could rest with the CMA, be assigned to an Article 6 or Article 6(2) body, or be left to Parties participating in the cooperative approach.[291] The latest negotiating text includes a definition—still heavily bracketed—of ITMOs, without assigning any institutional roles.[292]

A final governance function relates to the role of the UNFCCC Secretariat, which could be entrusted with carrying out activities such as reporting on overall mitigation in global emissions. The Secretariat could also report on progress made by Parties participating in cooperative approaches to implement and achieve NDCs.[293] Again, the negotiating text discussed in Bonn in June 2019 only envisions a supporting role for the Secretariat. In general terms, it requires the Secretariat to "carry out the activities relating to it [i.e., the Secretariat] set out in this guidance" and specifies some tasks, such as the compilation of expert review data and Party reports, the maintenance of an Article 6 database, and the establishment of an international registry.[294] Some oversight functions may already be provided at a domestic or regional level,[295] prompting legitimate questions about the appropriate governance level and the need for further elaboration of required governance functions and available governance structures.

b. Environmental Integrity

On the broader issue of environmental integrity, a range of competing views and options for their operationalization have emerged. ADB groups these in three categories: (a) environmental integrity only relates to robust accounting of ITMOs, including corresponding adjustments;[296] (b) environmental integrity relates to both robust accounting and transparency of ITMOs as well as their

290. *See* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶¶ 2–6.

291. *See, e.g.*, UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 187, ¶ 7.

292. *See* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶ 1.

293. *Id.* ¶¶ 31–32.

294. *See id.* ¶¶ 5–6, 48–51, 55–56.

295. Bodansky et al., *supra* note 4, at 963.

296. The Asian Development Bank lists three sets of arguments advanced by Parties: (a) environmental integrity is considered part of the environmental pillar of sustainable development, which is a national prerogative of the Parties; (b) the mandate in Art. 6(2) and Decision 1/CP 21 is limited to developing and recommending guidance on accounting; (c) defining environmental integrity is not feasible given conceptual difficulties and the heterogeneity of NDCs. *See* ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 10.

environmental characteristics, which therefore require some form of multilateral governance, ranging from broad principles applied by Parties to material quality criteria overseen by the CMA or another multilateral institution; and (c) environmental integrity relates to both robust accounting and transparency of ITMOs and their environmental characteristics, requiring their expression through standardized units.[297]

Where Parties have advocated for a need to go beyond mere accounting, they have endorsed various quantitative and qualitative safeguards to ensure the environmental integrity of cooperative approaches. Accordingly, some Parties have suggested including quality or quantity restrictions on the transfer or use of ITMOs, such as additionality requirements,[298] uniformly defined ITMO metrics,[299] and quantitative limits calculated in percentages of Parties' mitigation targets or budgets. They have also suggested considering the actual emissions on the creation, transfer, acquisition, and carry-over of ITMOs[300] or the automatic cancelation or discounting of emission reductions by a set percentage to ensure achievement of an overall mitigation in global emissions (OMGE).[301] A recent textual proposal issued towards the end of the Bonn negotiations in June 2019 contains heavily bracketed language on safeguards and limits,[302] illustrating the divisions between Parties on whether, and how, to provide environmental integrity requirements in guidance on Article 6(2). Parties disagreed on: opting for a sequential approach, whereby such safeguards would be discussed after guidance on Article 6 had been finalized; including safeguards as an integral part of the overall package; or agreeing on the need for safeguards in principle, yet only listing them in an annex and mandating a work program for

297. *Id.*

298. *See, e.g.*, options UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 187 (focusing on options A and C in para. 12); UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶ 1 (noting bracketed elements according to which ITMOs are to be "[real] [verified] [additional] [and permanent]" and have "[a system to [ensure][address] permanence, including addressing reversals]").

299. *Compare* UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 187, ¶¶ 8–11, *with* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶ 1 (providing a more flexible perspective).

300. UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 187, ¶¶ 103–15.

301. *Id.* ¶¶ 116–17. The textual proposal issued at the end of the Bonn negotiations in June 2019 includes four heavily bracketed options: voluntary or mandatory automatic cancellation of ITMOs, voluntary or mandatory discounting of ITMOs, OMGE consistent with the approach used in the context of Article 6(4), or no provision for OMGE. *See* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶ 72. For general details, *see* Howard, *supra* note 2, at 19; La Hoz Theuer et al., *supra* note 31; Kreibich & Hermwille, *supra* note 31.

302. Three options are included in the latest textual proposal, either deferring the definition of safeguards and limits to a later point in time, including them as a catalogue of options in the guidance itself, or setting out a general obligation ("shall") to ensure that "use of Article 6 should not lead to an increase in emissions in and between NDC implementation periods." *See* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶¶ 59–61. The third option, through its language combining "shall" and "should," amounts to a mere obligation of conduct rather than outcome. *See* Benoit Mayer, *Obligations of Conduct in the International Law on Climate Change A Defence*, 27 REV. EUR., COMP. & INT'L ENV. L. 130, 135 (2018).

continued work on their operationalization.[303] Going forward, the discussion about safeguards and limits is therefore likely to remain contentious.[304]

Of these safeguards, the definition of uniform or standardized ITMO metrics—which has also been referred to as "unitization" or "commodification" of ITMOs[305]—is of particular interest because existence of a fungible and well-defined tradable unit can facilitate the creation of larger and more liquid carbon market.[306] It bears noting, however, that the wording of Article 6(2) does not require or mandate such standardization or mention any specific metric (such as metric tons of CO_2 equivalent, or tCO_2e). Absent a uniformly defined metric, ITMOs can potentially be measured in a wide variety of ways, including non-GHG metrics such as megawatt-hours of renewable energy, which then have to be converted before they can be accounted for against inventories.[307] The latest textual proposal seems to opt against mandatory and uniform metrics, stating instead as a variously bracketed option that ITMOs "are [to] . . . [[Be] measured in metric tonnes of carbon dioxide equivalent (tCO_2eq) in accordance with the methodologies and common metrics assessed by the IPCC and adopted by the CMA [and/or in other metrics determined by participating Parties [consistent with the (nationally determined contributions (NDCs) of the participating Parties];]."[308] Even with this highly bracketed text, not all Party views are probably reflected. Brazil, for instance, has indicated that it only considers units with well-defined environmental characteristics and which have emerged from NDCs quantified into a budget to be valid ITMOs.[309] Hence, the question of unitization is still pending resolution in final guidance on Article 6(2), and the consequences of alternative options still need to be better understood.[310]

Several options in the latest negotiating proposals also relate to the definition and expression of NDCs.[311] With the decentralized approach introduced by the Paris Agreement, Parties enjoy significant leeway in defining their NDCs, and they have chosen to exercise this flexibility.[312] NDCs submitted to date display considerable diversity in terms of scope, type, metrics, and time frames,[313] making it harder to compare contributions, assess individual as well

303. *See* IISD Reporting Services, *Summary of the Bonn Climate Change Conference*, *supra* note 201, at 10–11.

304. Marcu & Rambharos, *supra* note 200, at 19–20.

305. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 16.

306. *Id.*

307. Howard, *supra* note 2, at 185.

308. UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶ 1.

309. *See* Brazil, *Views of Brazil*, *supra* note 277.

310. Yamide Dagnet et al., *Setting the Paris Agreement in Motion Key Requirements for the Implementing Guidelines* 29 (2018), https://www.wri.org/publication/pact-implementing-guidelines.

311. *See, e.g.*, UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 187, ¶ 105; UNFCCC, *The Katowice Texts*, *supra* note 193, ¶¶ 12–17.

312. Kreibich, *supra* note 16, at 12.

313. For instance, some NDCs use a single-year target, while others use multiyear targets. GHG targets in different NDCs variously refer to a base year, intensity, baseline scenario, trajectory, or fixed-

as collective progress, and account for ITMOs.[314] Focusing on the relevance of NDC features for environmental integrity, several Parties have proposed limitations on the scope of eligible mitigation outcomes.[315] Such limitations would affect, for instance, the eligible types of underlying activities (emission reductions, removals, emissions avoided, or a broader spectrum of mitigation outcomes),[316] or restrictions on participation in cooperative approaches based on the properties of NDCs. These latter restrictions could relate to the sectoral coverage of NDCs (economy-wide vs. specific sectors only), their timing (single-year vs. multi-year), or the quantification of emissions and expression of mitigation targets in absolute terms.[317] One option that has been proposed in the negotiations involves a requirement for Parties desiring to transfer ITMOs from sectors that are not covered by their NDC to expand the latter so it encompasses that sector. A similar requirement could be imposed on ITMOs stemming from sectors subject to the conditional part of an NDC, mandating that these transition to the unconditional part of the NDC.[318]

Inclusion of any of these requirements—individually or in combination—in the final guidance document would have considerable implications for the scope of eligible transfers under Article 6(2). While such requirements would reduce risks to environmental integrity,[319] they would also mark a departure from the flexible and decentralized architecture of the Paris Agreement. Quantitative limits to ITMO transfers, especially absolute limits, can be an effective means of limiting transfers of large amounts of "hot air,"[320] but simultaneously curtail the ability to use cooperative approaches and leverage the economic—and, potentially, environmental—benefits they offer.[321] Unsurprisingly, several Parties strongly oppose establishing any type of restrictions on the participation in cooperative approaches and on the use of

level targets. *See* Dagnet et al., *supra* note 310, at 29. *See generally* Jakob Graichen et al., *Categorization of INDCs in the Light of Art. 6 of the Paris Agreement* (2016), 6–14, https://www.dehst.de/SharedDocs/downloads/DE/projektmechanismen/Categorization_of_INDCs_Paris_agreement_discussion_paper.pdf.

314. Christina Hood et al., *GHG or not GHG Accounting for Diverse Mitigation Contributions in the Post-2020 Climate Framework* (2014), https://www.oecd-ilibrary.org/environment/ghg-or-not-ghg_5js1qf652kd3-en; Howard, *supra* note 2, at 191.

315. *See, e.g.*, ASIAN DEVELOPMENT BANK (ADB), *supra* note 209; Greiner & Michaelowa, *supra* note 33; Obergassel & Asche, *supra* note 113.

316. UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 187, ¶ 11. The latest draft omits any such specification, except—as a bracketed option—where the ITMOs originate from activities under Article 6(4) of the Paris Agreement. *See* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶ 1.

317. Brazil, for instance, has suggested limiting eligibility to Parties with quantified absolute reduction targets. *See* Brazil, *Views of Brazil*, *supra* note 277. *See* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶¶ 18–33 (reflecting on such participation requirements and responsibilities in the latest textual proposal).

318. Ahlberg, *supra* note 29, at 25.

319. Kreibich, *supra* note 16.

320. Schneider & La Hoz Theuer, *supra* note 31, at 395.

321. Schneider et al., *supra* note 31.

ITMOs, regardless of the type of NDCs.[322] Requiring that NDCs be quantifiable and quantified has been likened to the creation of carbon budgets, which likewise is rejected by some as a return to the centralized governance approach of the Kyoto Protocol.[323] As evidenced again by the textual proposal discussed during the Bonn intersessional negotiations in June 2019, support for qualitative or quantitative restrictions appears to be limited, with options such as OMGE only set out in highly bracketed draft text.[324] As mentioned earlier, moreover, these textual proposals are not the final expression of Party consensus, and viewpoints and interpretations are likely to evolve even after guidance on Article 6(2) is adopted.

c. Accounting and Transparency

Given the explicit wording of Article 6(2) and the decision accompanying the Paris Agreement, there is no real debate that the mandate to adopt guidance extends, at a minimum, to accounting provisions, including corresponding adjustments, that are needed to avoid double counting. What "robust accounting"—as required under Article 6(2)—entails is a process to reflect any transfer of ITMOs in the accounting of NDCs.[325] In a paper on Article 6, Andrew Howard identifies several elements that are required for robust accounting, and which guidance under Article 6(2) may need to address. Specifically, he lists:

(a) the definition of targets, in particular with regard to the metrics used, the scope of emissions sources, the timeframes covered, and the conditionality of the targets;
(b) the quantification of emission reductions, including relevant features such as baselines, global warming potentials (GWP), and other aspects of MRV, as well as measures to ensure reductions are not issued more than once;
(c) the tracking of transfers of mitigation outcomes, in particular with regard to the metric used, the unique identification of mitigation outcomes,[326] and the systems within which they are transferred and tracked; and
(d) the adjustments made in relation to inventory emissions or emission budgets, in particular how these map on to transfers between countries and across NDC cycles, how they take account of reductions inside and

322. *See* WORLD BANK, ECOFYS, & VIVID ECONOMICS, *supra* note 272, at 39.
323. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 23.
324. *See* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶ 72.
325. Dagnet et al., *supra* note 310, at 29.
326. This may include features such as the location, activity, and vintage year of reduction, and whether the reduction occurred within or outside the scope of an NDC. *See* Howard, *supra* note 16, at 192.

outside the scope of NDCs, and how these address differences between single and multi-year targets.[327]

Corresponding adjustments are a critical element of the accounting system for Article 6(2), as they ensure that an ITMO transfer is reflected accurately on both sides of the transaction,[328] reflecting the double entry bookkeeping approach already deployed under the Kyoto Protocol.[329] Corresponding adjustments are conceptually straightforward and can be effected in various ways, including budget-based, emissions-based, buffer registry based, and emission reduction based approaches.[330] Still, they have prompted challenging questions in the negotiations, for instance regarding ITMO transfers that cannot be readily converted into a budget. Given the diversity of NDCs, the latest textual proposals contain various bracketed options and suggest some flexibility on the part of countries engaged in cooperation under Article 6(2).[331]

Elaboration of rules on accounting for NDCs is also part of the work program under Article 4(13) of the Paris Agreement.[332] As such, rules governing accounting for ITMOs will invariably have a bearing on the enhanced transparency framework being operationalized under Article 13. Proponents of stringent accounting and transparency rules for Article 6 have therefore debated where transparency and reporting rules related to cooperative approaches should be situated.[333] While some argue that these should be drafted and included in the context of guidance for Article 6(2), others contend that such rules should be added to the enhanced transparency framework under Article 13.[334] Support for the latter option has been based on the assumption that Article 6 negotiators may lack the necessary expertise to draft transparency rules themselves and that doing so could endanger the coherence between the different articles in the Paris Agreement.[335] Lacking progress on Article 6 negotiations during the Katowice climate summit appears to have tilted preferences towards the latter option, with the modalities, procedures, and guidelines adopted for Article 13 including minimum reporting requirements on the use of cooperative approaches and corresponding adjustments.[336]

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327. *Id.*

328. Dagnet et al., *supra* note 310, at 29.

329. Howard, *supra* note 16, at 186.

330. UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 187, ¶¶ 58–61; *see also* ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 60; Benito Müller & Axel Michaelowa, *How to Operationalize Accounting under Article 6 Market Mechanisms of the Paris Agreement*, 19 CLIMATE POL'Y 812, 818 (2019).

331. *See* UNFCCC, *Joint Reflections Note Addendum 2*, *supra* note 187, ¶ 70; UNFCCC, *The Katowice Texts*, *supra* note 193, ¶¶ 10–11; UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶¶ 10–17.

332. UNFCCC, Decision 1/CP. 21, *supra* note 6, ¶ 31.

333. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 11.

334. *Id.*

335. *Id.*

336. *See* Modalities, Procedures and Guidelines for the Transparency Framework for Action and Support Referred to in Article 13 of the Paris Agreement, Decision 18/CMA.1, para. 77(d), *in* UNFCCC,

Existence of reporting requirements under Article 13 may also strengthen the view held by some Parties that no additional transparency provisions are required for Article 6(2), given that Parties will hold each other accountable for observing mutually agreed criteria and ensuring transparency in their reciprocal activities, while upholding transparency vis-a-vis the international community through the enhanced transparency framework.[337] Still, it bears noting that the latest negotiating text for guidance on Article 6(2) also proposed detailed reporting obligations for Parties and would have submitted the reports to a dedicated technical expert review,[338] evidencing further political support for stringent transparency requirements where it may be lacking substantive safeguards and limits.

3. Interim Conclusions

With a considerable number of options left unresolved or lacking political support in the latest textual proposals, negotiators face several difficult choices as they progress towards the next climate summit in Santiago, Chile in December 2019. Party statements and submissions ahead of the Katowice climate summit already suggested that the distance between opposing views on issues related to ambition and flexibility in Article 6(2) guidance remained large, and that observed divergence ultimately proved too large to bridge before the end of COP24.[339] As such, insights from scholarly research remain relevant and can offer useful insights for negotiators as they resume their substantive deliberations in pursuit of a more successful outcome than that experienced in Katowice.

One clear insight can be derived from the legal analysis described in the preceding Part: an interpretation of Article 6(2) in its regulatory context and in light of the object and purpose of the Paris Agreement does not support outlier positions on the role of ambition and environmental integrity in operational guidance. That includes any proposals that ambition and environmental integrity be entirely excluded from such guidance, but also suggests that related considerations should not be its main focus. Beyond that, however, the textual interpretation offers few parameters. In that regulatory void, theory and experience with actual carbon markets can offer some broad insights, but only limited guidance on specific options.

These insights were already summarized above in Part II.C, and they can now be translated to the context of Article 6(2). In particular, they caution against shifting what should be deliberation about a political issue—the appropriate level

Report of the Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement on the Third Part of its First Session, Addendum, Pt. Two, 18, FCCC/PA/CMA/2018/3/Add.2 (Mar. 19, 2019); Obergassel et al., *supra* note 192, at 14 (providing details).

337. ASIAN DEVELOPMENT BANK (ADB), *supra* note 209, at 11.

338. *See* UNFCCC, *Draft CMA Decision on Guidance on Cooperative Approaches*, *supra* note 202, ¶¶ 38–47; Streck et al., *supra* note 195, at 4 (providing background).

339. Greiner & Michaelowa, *supra* note 33.

of national mitigation pledges—from political to technical negotiations. As mentioned earlier, any attempt to address insufficient ambition of NDCs with technical restrictions or quantity and quality limits on ITMO transfers may reduce the incidence or probability of transfers with questionable environmental integrity in the short term. By introducing uncertainty and additional transaction costs, however, use of cooperative approaches may also be deterred. Where restrictions take the form of quantity limits, they will proportionally reduce the scope for cost savings. In the long term, as the role of economic cost gains progressive importance, such effects can persist even after matters of ambition have been addressed through processes and rules pertaining to NDCs and the ambition mechanism of the Paris Agreement. Restrictions should therefore be imposed with caution and potentially be limited in scope and duration.

For those same reasons, oversight arrangements included in guidance on Article 6(2) should avoid setting out overly complex procedures and, in particular, an individual approval requirement for ITMOs or their transfer. While a governance framework that ensures robust accounting and prevents fraudulent market behavior is essential to ensure market functioning and credibility for its participants and the broader public, experience with the CDM also suggests that necessary safeguards should be streamlined and, where possible, standardized. In fact, common definitions and metrics, including a pathway towards a uniform understanding of ITMOs as well as a shared infrastructure, could greatly increase the prospects of a global carbon market.[340] As observed under the EU ETS, a mature and liquid market relies on diversity of participation.[341] That argues against excessive restrictions on market access and in favor of a role for private entities—a decision that would also be in line with the expanded recognition of non-Party stakeholders and their contribution to climate action under the Paris Agreement.[342]

As discussed earlier, the overall track record of quality restrictions under the CDM has been, at best, mixed. Over a decade of reforms has still been unable to guarantee the additionality of mitigation projects.[343] Quantity restrictions, meanwhile, have been shown to introduce invariable tradeoffs. All these downsides to quality and quantity restrictions raise a legitimate question as to whether guidance on Article 6(2) should go beyond robust accounting to include rules on environmental integrity. While the textual proposal discussed in Bonn in June 2019 will see continued evolution in ongoing negotiations, the preference for transparency over substantive restrictions reflected therein aligns well with

340. Bodansky et al., *supra* note 4, at 961.

341. *See supra* Part II.B.2.

342. *See*, in particular, Decision 1/CP 21, *supra* note 6, ¶¶ 117–23, 133–36 (noting ¶ 117 "[w]elcomes the efforts of non-Party stakeholders to scale up their climate actions, and *encourages* the registration of those actions in the Non-State Actor Zone for Climate Action platform."); *see generally* Thomas Hale, *"All Hands on Deck" The Paris Agreement and Nonstate Climate Action*, 16 GLOBAL ENVTL. POL. 12 (2016).

343. Cames et al., *supra* note 134.

these insights from theory and previous practice. Such a limited scope is more securely based on the legal mandate contained in Article 6(2), which renders it less likely that Parties would later challenge the validity or applicability of operational guidelines. What is more, the avoidance of excessive substantive restrictions is also better aligned with the facilitative rather than prescriptive nature of the Paris Agreement itself.

Mutual review and scrutiny, facilitated by the enhanced transparency framework and potentially the voluntary initiatives and standards,[344] may offer a more fitting solution that limits environmentally questionable transfers while retaining the flexibility and scale needed to fully leverage the economic benefits of carbon trading. More importantly, the appropriate level of ambition is, ultimately, a political question, and any centrally agreed prescriptions should therefore avoid taking the form of technical guidance if they are to find broad acceptance and eventual practice. That argues for locating questions of adequate baseline definition and avoidance of "hot air" in the PAWP negotiations on matters related to Articles 4 and 14 of the Paris Agreement, rather than in operational details for a specific instrument, namely ITMO transfers under Article 6(2).

IV. RECOMMENDATIONS AND OUTLOOK

This Article set out to analyze the legal and political context of negotiations on operational guidance for Article 6(2) of the Paris Agreement. To this end, it developed an analytical framework based on the theoretical literature and empirical case studies on carbon markets. Insights from this framework were then applied to the options under negotiation by Parties to the Paris Agreement, using both treaty interpretation and a survey of Party views to map the legal and political opportunity space for agreement on Article 6(2) guidance. Central takeaways from the foregoing exercise are summarized in this final Part, which concludes with a series of principles to guide the further operationalization of cooperative approaches under the Paris Agreement.

A. Reducing Flexibility to Enhance Ambition?

Article 6(2) presents climate negotiators with a perplexing challenge. On the one hand, the opportunity to engage in voluntary cooperation involving the transfer of ITMOs promises to reduce the economic cost of Parties striving to achieve their NDCs. As the scale and depth of climate action—and by extension its attendant costs—increase over time, such flexibility offers a potential channel to lower political barriers against greater climate ambition and achieve greater

344. *See generally* International Carbon Reduction & Offset Alliance (ICROA), *Scaling Voluntary Action within the Framework of the Paris Agreement* (2017), https://www.icroa.org/resources/Documents/ICROA_WhitePaper_Final.pdf (noting the role of such voluntary efforts under the Paris Agreement).

abatement with available resources. At the same time, absent essential safeguards, the use of cooperative approaches could undermine rather than bolster overall mitigation efforts. Both theory and experience highlight the importance of governance frameworks to ensure that market instruments for environmental policy function as they should, safeguarding the rights of market participants and stakeholders, ensuring transparency in the market, and preventing abusive behavior.

In the case of carbon markets, however, the role of governance goes well beyond a supporting framework: the very commodity traded in the market is a regulatory artifice, and its value is therefore dependent on the scarcity induced by a political decision to limit GHG emissions. Without robust mitigation targets, carbon markets have proven susceptible to numerous challenges, including price extremes, high volatility, and eroding confidence among market participants and the broader public. A political decision creates the market, in other words, and continued governance is critical to sustain it. Ignoring that important lesson threatens to repeat a series of painful episodes in existing carbon markets that incurred significant reputational damage and destruction of value, while also weakening their environmental performance.

That said, regulation of markets tends to increase transaction costs and can go so far as to compromise the ability of market forces to identify the most efficient allocation of resources. In the case of carbon markets, restrictions that exceed what is needed to ensure efficient and secure market operation can prevent the market from allocating abatement efforts to where they can achieve the greatest mitigation outcome. To the extent that reduced costs can create political and economic leeway for greater ambition, any regulatory intervention that stifles market activity can, conversely, prevent the progression of effort needed to address the climate challenge. Ironically, both a regulatory framework that is too weak and one that is too restrictive will stand in the way of harnessing those very benefits that prompted introduction of a market-based approach in the first place. In some measure, then, the solution to this predicament lies in identifying a reasonable balance between too much and too little regulation.

Identifying that balance is not straightforward, however. Not all policy interventions are created equal, and distinguishing those that are necessary to ensure a functioning governance framework from those that are needlessly restrictive is one of the central challenges facing policymakers in the operationalization of Article 6(2). Invariably, decisions will end up requiring a choice between competing priorities, inviting tradeoffs reflective of subjective preferences. This argues for the importance of process over substantive criteria—a process that is fair and transparent and affords all affected stakeholders an opportunity to be heard. For all its undisputed shortcomings, the UNFCCC offers such a process, which, although often intensely deliberative and painfully slow, delivers legitimate and widely accepted outcomes. Negotiations on Article 6(2) have exemplified this core strength of multilateralism, facilitating an inclusive

dialogue that has actively engaged Parties through workshops and other activities and that has also been open to inputs from non-Party stakeholders.

But while the legitimacy of political decisions may stem primarily from their reflection of aggregated consensus or majority opinion and, to a lesser degree, the underlying process, it can also be strengthened when the outcomes are informed by data, research, and empirical evidence. That is also the channel through which this Article seeks to contribute. As shown in the preceding Parts, both theory and practice hold valuable lessons for Parties seeking the right balance between ambition and flexibility in the governance of Article 6(2). Aside from a suitably robust mitigation objective—the indispensable starting point of a functioning carbon market—the applicable governance framework has to protect the rights and enforce the obligations of market participants, ensure transparency of emissions and of market activity, provide the necessary infrastructure for transactions, and offer effective safeguards against fraud and manipulation.

Adoption of a regulatory framework that affords these governance features is thus not a question of "whether," but of "how." Still, government regulation is not free of its own shortcomings. Even just implementing these essential rules and procedures will reveal the government failures that affect all policy making due to information asymmetries, administrative capacity constraints, and regulatory capture. But again, an abundant and growing body of literature on the design and operation of carbon markets offers various lessons for policymakers to consider. What theory and experience likewise confirm is that every additional policy restriction beyond these necessary governance features will increase the incidence of government failure and counteract the benefits of addressing the initial market failure. Perhaps most clearly, this has been in evidence under the CDM, where participation in the carbon market has been dependent on a lengthy and complex approval process, as well as subject to detailed and continuously adjusted—yet ultimately inadequate—rules on the additionality of mitigation projects.[345]

Two insights stand out. First, when the governance framework of carbon markets becomes so complex as to constrain all flexibility of market participants, the market ceases to function as it should, and it begins to resemble the rigid performance and technology standards whose high cost prompted the transition to a market approach in the first place.[346] Second, when the political decision that lies at the foundation of the carbon market—the mitigation objective—lacks necessary ambition, it is both inefficient and, arguably, of doubtful legitimacy to try and secure greater ambition through technical design elements.[347] Faced with such a situation, policymakers may need to ask themselves whether a market

345. *See supra* Part II.B.1.

346. *See, e.g.*, Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1348 (1985).

347. *See supra* Part II.C.

approach is the right instrument for the desired task, and whether the desired task is supported by the body politic. Attempting to circumvent the political process to recalibrate the equation of ambition and flexibility through technical or administrative means is unlikely to lead to a durable outcome.

Applied to Article 6(2) and the guidance being elaborated for its operationalization, there are a number of insights to be garnered from theory and experience. As the legal analysis—including application of the customary rules of treaty interpretation—affirms, the mandate in Article 6(2) neither requires Parties to include aspects related to ambition in future guidance nor prevents them from doing so. Ambition and environmental integrity are sufficiently prevalent throughout the Paris Agreement to be considered part of its object and purpose, supporting calls of Parties and observers for guidance to extend beyond mere aspects of "robust accounting" and the prevention of double counting (which a purely textual interpretation might otherwise sustain). Still, that by no means equates to an obligation to include additional elements in guidance. Parties have considerable latitude when considering the appropriate level of prescription and specificity of operational details. Consistent state practices—as expressed in the negotiations of the CMA and in subsidiary bodies, as well as the decisions flowing from these processes—are therefore the only reliable benchmark of what guidance on Article 6(2) will and will not contain.

In the negotiations to date, Parties have proposed widely divergent and at times irreconcilable options on governance of cooperative approaches under Article 6(2), including as it relates to ambition and environmental integrity.[348] A continuum of views between prescriptiveness and flexibility is apparent from the statements and submissions of Parties, and while the latest textual proposals discussed during the Katowice climate summit greatly reduced the number of options and bracketed text in the interest of achieving a practicable outcome, the fact that the summit failed to secure consensus was evidence that country positions were still too far apart on many central issues for an agreement. As Parties resume their deliberations on Article 6(2) guidance, they will again be considering all options, including their respective implications and tradeoffs. Insights from scholarly research and previous case studies can help inform this process.

While the analysis carried out in this Article does not lend itself to specific recommendations, it allows formulating a set of broader principles that can inform the choice between alternative options. Based on practical experience with carbon markets, for instance, one such recommendation is to keep transaction costs as low as possible by avoiding lengthy procedures and individual approval requirements, opting instead for a more streamlined process and, where material conditions are unavoidable, standardized rather than individual requirements. Consideration should also be given to uniform

348. *See, e.g.*, ASIAN DEVELOPMENT BANK (ADB), *supra* note 209; Greiner & Michaelowa, *supra* note 31; Obergassel & Asche, *supra* note 113.

definitions and metrics for ITMOs which, while perhaps politically unappealing initially for some Parties, could be phased in over time. Such common reference points would increase transparency and comparability and greatly facilitate linkage of domestic climate policies over time by allowing for the transfer of what would then be fungible units.

Experience to date has also shown that mature and liquid carbon markets rely on diversity of participation. Article 6(2) guidance should therefore avoid excessive restrictions on participation in cooperative approaches, and instead consider including opportunities for market access by non-Party Stakeholders, including the private sector. Quantity limits, while effective as safeguards against transfers of "hot air," impose a commensurate limit on the economic—and, potentially, mitigation—benefits that can be leveraged through use of cooperative approaches, and should therefore be used with caution or, alternatively, as a transition mechanism for a limited time period. Likewise, given the experience with additionality rules under the CDM, quality restrictions may add transaction costs without necessarily achieving the desired outcome. In particular, technical safeguards should not to be thought of as an opportunity to make up for weak NDCs or insufficient collective ambition under the Paris Agreement. If anything, such questions call for a political decision under the respective elements of the PAWP, such as the work on matters related to Articles 4 and 14.

As shown in the theoretical discussion in Part II.A.3, imperfect information and regulatory capture tend to contribute to regulatory failure. Theory and case studies further illustrate that restrictive procedures and substantive requirements come with inevitable tradeoffs. Future guidance on Article 6(2) might therefore achieve a stronger environmental outcome in the end if it focuses on providing common metrics and definitions, elaborating a robust accounting framework, and ensuring the transparency and integrity of ITMO transfers. Such essential rules should ideally be formulated in precise and mandatory terms.[349] Where questions of ambition are not otherwise dealt with by the Parties, for instance in further guidance related to mitigation under Article 4, they may be better addressed through optional or soft guidance. They may even be left altogether to the Parties engaged in an ITMO transfer, who will then agree among themselves on the balance between flexibility and ambition they are most comfortable with. Other channels of quality assurance and scrutiny—including voluntary standards and review by non-Party stakeholders—are certain to emerge, adding to the incentive of acquiring parties to avoid the acquisition of evidently flawed mitigation outcomes. The resulting distribution of technical and political questions, and the attendant balance of flexible determination and multilateral prescription, may best reflect the delicate equilibrium that also defines the Paris Agreement. It would, finally, also find a solid basis in the legal mandate set out

349. Bodansky et al., *supra* note 4, at 965.

in Article 6(2), and thereby offer greater resilience against any future challenges that the guidance exceeds that mandate or is otherwise not aligned with the Paris Agreement.

In sum, the foregoing analysis affirms that: (a) ambition can feature as a consideration in the guidance, even if the language of the Paris Agreement in Article 6(2) does not dictate a specific threshold or material outcome; (b) the Paris Agreement pursues ambition as a goal, and is at the same time committed to a decentralized architecture that favors national determination by sovereign Parties; (c) it is up to Parties negotiating operational details for Article 6(2) to agree on the appropriate balance between more prescriptive guidance that promotes ambition and more flexible guidance that seeks to contain transaction costs and allow access for a greater number of participants; (d) any acceptable compromise will fall somewhere between prescriptiveness and flexibility, reflecting the same balance that defines the Paris Agreement and also the observation that neither completely unregulated nor excessively regulated markets are efficient, or indeed conducive, to greater ambition; and (e) the elements of such a compromise should be negotiated in the appropriate forum, and guidance elaborated under the auspices of a more technical body (such as SBSTA) should not seek to supplant or correct political decisions on ambition and flexibility reached in a political forum (such as the CMA or APA).

B. Common Principles for Guidance on Article 6(2)

As Parties narrow down remaining options and finalize the negotiations on operational guidance for Article 6(2) of the Paris Agreement, they can draw on the analytical insights reflected in the following common principles:

1. Carbon trading theory and experience affirm the need for robust governance in certain matters, such as transparency of emissions, accurate accounting of transfers, and avoidance of market power and abuse;
2. Theory and experience also highlight the need to avoid an overly restrictive governance framework with high transaction costs, investor risk, and uncertain benefits, such as individual approval of ITMOs and transfers;
3. Caution should be exercised when seeking to regulate environmental integrity risks, as different governance responses have suffered from their own failures, such as information asymmetries, capacity constraints, or regulatory capture;
4. Some issues may defy a regulatory solution. Additionality tests, for instance, have failed to guarantee the additionality of mitigation projects despite a decade of attempts at reform, and yet contribute to transaction costs and project risk;

5. Other restrictions, such as quantity limits on transfers, will proportionally curtail the economic benefits of trading, and thus impose commensurate limits on any potential cost savings and increased ambition these might allow;
6. Some concerns may also be misplaced, such as those about a dynamic incentive of Parties to weaken future mitigation pledges, where empirical data confirm that domestic politics and institutional power structures are the decisive factors;
7. Hence, guidance should focus on essential governance aspects such as common definitions, accounting, and oversight of market integrity, employing precise language and—where appropriate—mandatory terms;
8. For other issues that merely might benefit from coordination, optional and aspirational terms may be preferable to safeguard the flexibility of Parties and ensure that markets can allocate resources efficiently;
9. This includes participation or eligibility requirements, where allowing access to private entities can greatly increase market activity, liquidity, and efficient price discovery, as shown by the experiences with existing carbon markets;
10. Standardization of metrics and other parameters of ITMOs may help streamline cooperative approaches and increase fungibility of traded units, potentially accelerating the emergence of a global carbon market with greater cost savings;
11. Although ambition is not mentioned in Article 6(2), the broader context of that provision as well as the object and purpose of the Paris Agreement allow for its consideration in Article 6(2) guidance;
12. Still, lacking ambition of NDCs should not be compensated with greater restrictions on cooperative approaches, as this may impede their future uptake even if NDCs are eventually strengthened;
13. Instead, political questions related to overall ambition and ambition of individual NDCs require political deliberation at the appropriate level and in relevant elements of the PAWP to secure enduring acceptance and legitimacy;
14. Guidance that thus reflects the multiple balancing acts struck in the Paris Agreement will also find a solid basis in the negotiating mandate of Article 6(2) and offer greater resilience against any future legal challenges.

These principles encapsulate the takeaways of a thorough review of the theoretical and empirical literature on carbon markets, as well as a legal and political analysis of the negotiating mandate contained in the Paris Agreement itself and in relevant decisions of the Parties. While the decision on an appropriate regulatory balance for Article 6(2) will ultimately be determined by politics, Parties should heed the lessons of theory and practice as they negotiate the boundaries of political opportunity. If they succeed, the final outcome will

facilitate rather than undermine greater ambition as Parties strengthen their domestic climate efforts under the Paris Agreement.