

## **EVALUATING THE PROSPECT OF THE *PARIS AGREEMENT* IN LIGHT OF EXPERIMENTALIST GOVERNANCE**

### ABSTRACT

The theory of experimentalist governance ('EG') emerged to show how stakeholders facing uncertainty may solve a complex governance problem and how they can jointly explore feasible ways to advance their goals in a learning-by-doing process. Given that climate change is characterised by strategic uncertainty and polyarchic distribution of power, EG is claimed to be a potentially attractive model to respond to the multidimensional nature of climate change in comparison to more traditional forms of governance. The *Paris Agreement* brought a new governance structure into the climate change regime by introducing a 'pledge and review' model based on nationally determined contributions as opposed to the traditional legally binding, targets-and-timetables approach adopted by the *Kyoto Protocol*. Against this backdrop, the aim of this article is to assess the explanatory accuracy and evaluative utility of EG theory when applied to the *Paris Agreement*. This article ends by evaluating the prospect of the *Paris Agreement* in light of EG and highlighting the key areas of concern indicated by this theory.

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## I INTRODUCTION

The theory of experimentalist governance ('EG') emerged to show how a complex governance problem can be solved by the joint actions of different stakeholders in a 'learning-by-doing process'.<sup>1</sup> EG entails a bottom-up approach of decomposition and decentralisation of the problem, allowing an iterative process of learning and adjustment of framework goals in response to evolving evidence. The mutual monitoring, reporting and review, and evaluation of collective goals hold central and local actors accountable for their actions. On that account, EG theory can be described as a 'useful heuristic device to capture policymaking and implementation in complex, dynamic, and highly diverse political entities'.<sup>2</sup> In an international order where there is strategic uncertainty and fragmentation of power, EG generally plays a role in the form of 'a recursive process of provisional goal-setting'.<sup>3</sup> These alternative approaches are typically adopted by local actors, of which predominantly includes non-State actors and civil society. EG, in its most developed form, works in a sequence: starting with an agreement on open-ended framework goals, where lower-level units are given wide discretion to advance these goals in their own way considering their local circumstances, subject to regular reporting on their performance and peer review of their efforts; and followed by periodical revision of local plans and central goals.<sup>4</sup> Put simply, EG fosters decomposition of a grand problem, suggests decentralised efforts from the actors, and promotes experimentation and learning.

Given that climate change is characterised by 'strategic uncertainty and polyarchic distribution of power',<sup>5</sup> EG theory is claimed to be a potentially more attractive model to respond to the multidimensional nature of climate change than more traditional forms of governance.<sup>6</sup>

<sup>1</sup> Vanessa C Pinsky, Isak Kruglianskas and David G Victor, 'Experimentalist Governance in Climate Finance: The Case of REDD+ in Brazil' (2019) 19(6) *Climate Policy* 725, 728.

<sup>2</sup> John Erik Fossum, 'Reflections on Experimentalist Governance' (2012) 6(3) *Regulation and Governance* 394, 394.

<sup>3</sup> Charles F Sabel and Jonathan Zeitlin, 'Experimentalism in the EU: Common Ground and Persistent Differences' (2012) 6(3) *Regulation and Governance* 410, 412, quoting *ibid* 394 ('Experimentalism in the EU').

<sup>4</sup> Gráinne De Búrca, Robert O Keohane and Charles Sabel, 'Global Experimentalist Governance' (2014) 44(3) *British Journal of Political Science* 477, 478 ('Global Experimentalist Governance').

<sup>5</sup> Chiara Armeni, 'Global Experimentalist Governance, International Law and Climate Change Technologies' (2015) 64(4) *International and Comparative Law Quarterly* 875, 884. For an explanation of the terms 'strategic uncertainty' and 'polyarchic distribution of power' in the context of experimentalist governance, see Part II(B) below.

<sup>6</sup> Paula Kivimaa et al, 'Experiments in Climate Governance: A Systematic Review of Research on Energy and Built Environment Transitions' (2017) 169(1) *Journal of Cleaner Production* 17, 17; Armeni (n 5) 876.

The *Paris Agreement*<sup>7</sup> of 2015 brought a seismic shift in climate governance by introducing ‘different types of targets, commitments and actions’ that are often characterised as a decentralised and bottom-up process.<sup>8</sup> Instead of imposing the previous strategy of top-down<sup>9</sup> emission reduction targets, the *Paris Agreement* gives parties leeway to develop bottom-up<sup>10</sup> mitigation approaches through a system of nationally determined contributions (‘NDCs’).<sup>11</sup> In order to track progress towards achieving individual pledges, and to identify areas of improvement for States parties,<sup>12</sup> the *Paris Agreement* introduced a new ‘enhanced transparency framework’ under art 13.<sup>13</sup> The *Paris Agreement* also established a key mechanism known as the ‘global stocktake’ in art 14<sup>14</sup> to monitor progress towards collective goals of keeping warming well below 2°C.<sup>15</sup> Moreover, art 15 of the *Paris Agreement* established a committee to ‘facilitate implementation of and promote compliance with the provisions of ... [the] Agreement’.<sup>16</sup> Therefore, multilateral climate governance now consists of a framework goal, NDCs or climate pledges, decentralised implementation, reporting and review, and regular collective assessment of the goals in light of experiences gained.

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<sup>7</sup> *Paris Agreement*, opened for signature 22 April 2016, [2016] ATS 24 (entered into force 4 November 2016) (*‘Paris Agreement’*).

<sup>8</sup> Daniel Bodansky and Lavanya Rajamani, ‘The Evolution and Governance Architecture of the United Nations Climate Change Regime’ in Urs Luterbacher and Detlef F Sprinz (eds), *Global Climate Policy: Actors, Concepts, and Enduring Challenges* (MIT Press, 2018) 13, 59 (*‘The Evolution and Governance Architecture’*).

<sup>9</sup> A top-down approach to an international climate policy agreement is managed by a strong multilateral organisation and based on legally binding commitments for emission reductions or financing. In the climate change regime, the *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, opened for signature 11 December 1997, 2303 UNTS 162 (entered into force 16 February 2005) (*‘Kyoto Protocol’*), is a quintessential example of a standard top-down international treaty that bound only the developed-country parties: Finn Cahill-Webb, ‘International Environmental Governance and the Paris Agreement on Climate Change: The Adoption of the “Pledge and Review” Governance Approach’ (Working Paper No 99/2018, Institute for International Political Economy Berlin, February 2018) 4.

<sup>10</sup> A bottom-up approach to an agreement allows States to define their commitments individually. Within the context of this article, ‘bottom-up refers to the pledge and review system of the *Paris Agreement*’, which offers more flexibility from using nationally determined targets that are chosen and given at the national level: Cahill-Webb (n 9) 4.

<sup>11</sup> *Paris Agreement* (n 7) arts 3, 4. See also Maria L Banda, ‘The Bottom-Up Alternative: The Mitigation Potential of Private Climate Governance after the Paris Agreement’ (2018) 42(2) *Harvard Environmental Law Review* 325, 333 (*‘The Bottom-Up Alternative’*).

<sup>12</sup> *Paris Agreement* (n 7) art 13.12.

<sup>13</sup> *Ibid* art 13.1.

<sup>14</sup> *Ibid* art 14.1.

<sup>15</sup> See *ibid* art 2.1(a).

<sup>16</sup> *Ibid* art 15.1.

In this context, the ‘pledge and review’ approach of the *Paris Agreement* appears to reflect some of the features of EG. The main objective of this article is to examine the provisions of the *Paris Agreement* through the lens of EG in order to better understand the current climate governance structure and its prospects. This is not the first piece of scholarly work to consider EG in the context of climate change and the *Paris Agreement*. Previously, Harro van Asselt, Dave Huitema and Andrew Jordan examined whether and to what extent we can observe an experimentalist turn in global climate governance — focusing on the four elements of global experimentalist governance outlined by Gráinne De Búrca, Robert Keohane and Charles Sabel.<sup>17</sup> Based on their work, this article will contribute to the literature by drawing evaluative lessons from EG theory in order to strengthen the governance mechanisms of the *Paris Agreement* and thereby maximise its prospects.

This article proceeds in four parts. Part II provides an outline of EG. Part III analyses the relevant provisions of the *Paris Agreement* through the four crucial features of EG. Part IV investigates the evaluative implications of applying EG theory to the potential effectiveness of the *Paris Agreement*, highlighting four main areas of concern. Finally, Part V sums up and provides conclusions.

## II OUTLINE OF EXPERIMENTALIST GOVERNANCE

### A *The Meaning of Governance and Different Governance Approaches*

The use of the word ‘governance’ has become widespread since the 1980s.<sup>18</sup> Recent popularity of the term has also led to the proliferation of its meanings and uses.<sup>19</sup> Yet at its core, ‘governance’ refers to ‘all processes of governing, whether undertaken by a government, market, or network’.<sup>20</sup> At the international level, the present period of rapid global change has shifted the ‘loci of authority’ of governance. This means the globalisation of economies, environmental pollution, terrorism, and the growing influence of non-State actors in key areas of international relations have shifted the authority of national government toward sub-national collectivities.

‘Global governance’ thus refers to a system of norms, rules, regulations and structures — established, operated and implemented by a constellation of State and non-State actors — with a view to solving specific ‘denationalized and

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<sup>17</sup> Harro van Asselt, Dave Huitema and Andrew Jordan, ‘Global Climate Governance after Paris: Setting the Stage for Experimentation?’ in Bruno Turnheim, Paula Kivimaa and Frans Berkhout (eds), *Innovating Climate Governance: Moving beyond Experiments* (Cambridge University Press, 2018) 27, 32–43 (‘Global Climate Governance after Paris’).

<sup>18</sup> Mark Bevir, *Governance: A Very Short Introduction* (Oxford University Press, 2012) 1.

<sup>19</sup> *Ibid* 5.

<sup>20</sup> *Ibid* 1.

deregionalized problems or providing transnational common goods'.<sup>21</sup> However, over time the trends of global governance have changed 'to reflect increasing fragmentation, regime complexity, network orchestration and transnational dynamics'.<sup>22</sup> In response to these far-reaching transformations, several governance approaches, such as adaptive governance, anticipatory governance, earth system governance, and experimentalist governance have received considerable attention for offering solutions to emerging challenges.

Adaptive governance 'focuses on the evolution of formal and informal institutions for the management and use of shared assets', such as environmental assets and common pool natural resources in complex adaptive systems.<sup>23</sup> This type of governance facilitates collaboration across diverse sectors, interests, and institutional arrangements. By focusing on collaboration, flexibility and learning, adaptive governance can embrace uncertainty and so is considered efficient to address many challenges of climate change and natural disasters.<sup>24</sup> Even so, adaptive governance remains an underdeveloped concept where it is not clear under which conditions a government should decide to adopt it.<sup>25</sup>

Similarly, anticipatory governance is 'a broad-based capacity extended through society that can act on a variety of inputs to manage emerging knowledge-based technologies while such management is still possible'.<sup>26</sup> It employs foresight, engagement and integration that encourage policy makers to reflect their roles in new technologies.<sup>27</sup> However, no uniform frameworks of anticipatory governance have been developed which can be followed by newcomers. Therefore, diverse

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<sup>21</sup> Michael Zürn, 'Global Governance as Multi-Level Governance' in David Levi-Faur (ed), *The Oxford Handbook of Governance* (Oxford University Press, 2012) 730, 730 (emphasis omitted).

<sup>22</sup> Armeni (n 5) 878. See also Frank Biermann et al, 'The Fragmentation of Global Governance Architectures: A Framework for Analysis' (2009) 9(4) *Global Environmental Politics* 14.

<sup>23</sup> Steve Hatfield-Dodds, Rohan Nelson and David Cook, 'Adaptive Governance: An Introduction, and Implications for Public Policy' (Conference Paper, Annual Conference of the Australian Agricultural and Resource Economics Society, 13–16 February 2007) 1.

<sup>24</sup> Colin Walch, 'Adaptive Governance in the Developing World: Disaster Risk Reduction in the State of Odisha, India' (2019) 11(3) *Climate and Development* 238, 238.

<sup>25</sup> Ibid.

<sup>26</sup> David H Guston, 'Understanding "Anticipatory Governance"' (2014) 44(2) *Social Studies of Science* 218, 219, quoting David H Guston, 'Preface' in Erik Fisher, Cynthia Selin and Jameson M Wetmore (eds), *The Yearbook of Nanotechnology in Society, Volume 1: Presenting Futures* (Springer, 2008) v, vi ('Understanding Anticipatory Governance').

<sup>27</sup> Guston, 'Understanding Anticipatory Governance' (n 26) 219, 234.

frameworks can be found in countries including Finland, Korea, the Netherlands and the United Kingdom.<sup>28</sup>

Apart from those governance systems, in the pursuit of a newly conceptualised notion of earth system law,<sup>29</sup> the concept of earth system governance emerged. This governance is driven by the concept that ‘the Anthropocene invites a holistic perspective on a globally interconnected and reciprocally related Earth system’.<sup>30</sup> Earth system governance may be understood as

the interrelated and increasingly integrated system of formal and informal rules, rule-making systems and actor-networks at all levels of human society (from local to global) that are set up to steer societies towards preventing, mitigating and adapting to global and local environmental change and, in particular, earth system transformation ...<sup>31</sup>

However, researchers believe that more systematic study is needed to understand the contextual conditions within which the earth system governance works such as transformations, inequalities, the Anthropocene and diversity.<sup>32</sup> Particularly, renewed research on the ‘overall architecture of earth system governance ... of the adaptiveness of governance mechanisms ... and of modes of allocation and access in earth system governance’ should be prioritised.<sup>33</sup>

### B *Experimentalist Governance*

Over the past two decades, the world has witnessed the proliferation of EG within and across multiple levels and policy domains in a number of international regulatory regimes. Well-documented examples can be found in many jurisdictions, including

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<sup>28</sup> Kyungmoo Heo and Yongseok Seo, ‘Anticipatory Governance for Newcomers: Lessons Learned from the UK, the Netherlands, Finland and Korea’ (2021) 9(1) *European Journal of Futures Research* 9:1–14, 2.

<sup>29</sup> For a discussion on the concept of ‘earth system law’ see: Marie-Catherine Petersmann, ‘Sympoietic Thinking and Earth System Law: The Earth, Its Subjects and the Law’ (2021) 9 *Earth System Governance* 100114:1–8; Louis J Kotzé et al, ‘Earth System Law: Exploring New Frontiers in Legal Science’ (2022) 11 *Earth System Governance* 100126:1–9.

<sup>30</sup> Louis J Kotzé, ‘Reflections on the Future of Environmental Law Scholarship and Methodology in the Anthropocene’ in Ole W Pedersen (ed), *Perspectives on Environmental Law Scholarship: Essays on Purpose, Shape and Direction* (Cambridge University Press, 2018) 140, 152.

<sup>31</sup> Frank Biermann et al, ‘Navigating the Anthropocene: The Earth System Governance Project Strategy Paper’ (2010) 2(3) *Current Opinion in Environmental Sustainability* 202, 203 (emphasis omitted).

<sup>32</sup> See Sarah Burch et al, ‘New Directions in Earth System Governance Research’ (2019) 1 *Earth System Governance* 100006:1–18.

<sup>33</sup> Frank Biermann et al, ‘Earth System Governance: A Research Framework’ (2010) 10(4) *International Environmental Agreements* 277, 280 (emphasis omitted).

the European Union ('EU') and the United States. In the EU, a broad array of policy domains institutionalised EG architectures including regulation of environmental protection, finance, food, drugs, data privacy, and justice and security.<sup>34</sup> EG with similar properties is found in the regulations of public health and food safety in the United States and other developed countries.<sup>35</sup> Analogous developments are evident at the global or transnational level across a wide range of policy domains including human rights, data privacy, and environmental sustainability.<sup>36</sup> EG seeks to explain how stakeholders facing uncertainty solve highly complex governance problems and how they can jointly explore feasible ways to advance their goals in a learning and doing process.<sup>37</sup> EG, therefore, does not operate through traditional 'command-and-control' mechanisms and it favours "regulatory" approaches which are less rigid, less prescriptive, less committed to uniform outcomes, and less hierarchical in nature.<sup>38</sup> In exploring its contours, De Búrca, Keohane and Sabel have described EG as 'a set of practices involving open participation by a variety of entities (public or private), [which] lack ... formal hierarchy within governance arrangements'.<sup>39</sup>

Charles Sabel and Jonathan Zeitlin posit two conditions for the emergence of EG. The first being a situation of 'strategic uncertainty' — meaning that neither policy-makers nor primary actors know what their particular goal is and how to achieve that goal conveniently.<sup>40</sup> As the official decision-makers acknowledge that they do not know the best governance approach to achieve their aims, they conduct a

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<sup>34</sup> Bernardo Rangoni, 'Architecture and Policy-Making: Comparing Experimentalist and Hierarchical Governance in EU Energy Regulation' (2019) 26(1) *Journal of European Public Policy* 63, 65.

<sup>35</sup> Susanne Wengle, 'When Experimentalist Governance Meets Science-Based Regulations: The Case of Food Safety Regulations' (2016) 10(3) *Regulation and Governance* 262, 262. For example, in the United States, food safety regulations rely on 'a science-based transnational regulatory system known as Hazard Analysis and Critical Control Point' ('HACCP'), which reflect central features of experimentalist governance: at 262.

<sup>36</sup> Christine Overdeest and Jonathan Zeitlin, 'Experimentalism in Transnational Forest Governance: Implementing European Union Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreements in Indonesia and Ghana' (2018) 12(1) *Regulation and Governance* 64, 66; Gráinne de Búrca, 'Human Rights Experimentalism' (2017) 111(2) *American Journal of International Law* 277, 279.

<sup>37</sup> Charles F Sabel and David G Victor, 'Governing Global Problems under Uncertainty: Making Bottom-Up Climate Policy Work' (2017) 144(1) *Climatic Change* 15, 18–19 ('Governing Global Problems').

<sup>38</sup> Gráinne De Búrca and Joanne Scott, 'Introduction: New Governance, Law and Constitutionalism' in Gráinne De Búrca and Joanne Scott (eds), *Law and New Governance in the EU and the US* (Hart Publishing, 2006) 1, 2.

<sup>39</sup> Gráinne de Búrca, Robert O Keohane and Charles Sabel, 'New Modes of Pluralist Global Governance' (2013) 45(3) *New York University Journal of International Law and Politics* 723, 738 (emphasis omitted).

<sup>40</sup> Charles F Sabel and Jonathan Zeitlin, 'Learning from Difference: The New Architecture of Experimentalist Governance in the EU' (2008) 14(3) *European Law Journal* 271, 280 ('Learning from Difference').

joint exploration of prospective problems and solutions.<sup>41</sup> The second condition is ‘multipolar or polyarchic distribution of power’ in which no single actor can impose its solution or undertaking without considering other views.<sup>42</sup> When polyarchy is absent, there will be a struggle for dominance and the powerful prefer to impose decisions on others; in such a situation, pursuing a goal cooperatively with others is unusual.<sup>43</sup> These two conditions open up the opportunity for deliberative problem solving instead of distributive bargaining.<sup>44</sup> In such situations, EG renders a mode of governance that stimulates and promotes learning.

Though there is no universally recognised model for EG, the proponents of EG identify four crucial features of this type of governance.<sup>45</sup> The first is the establishment of open-ended framework goals with metrics to measure progress and overall achievement (‘first element’).<sup>46</sup> EG suggests that the goals of governance have a provisional character which can be adjusted to an evolving context and can be shaped by new technological and scientific knowledge.<sup>47</sup> Typically, a central authority takes the responsibility of articulating such goals. The existence of such a central authority indicates that EG does not wholly resemble purely bottom-up governance.<sup>48</sup> To some extent, experiments are managed within ‘a set of overarching rules’ intended to meet the declared goals.<sup>49</sup>

The second feature is autonomy of lower-level units (either individuals, cities, non-government organisations (‘NGOs’), or nation-States) in the implementation of the framework goals (‘second element’).<sup>50</sup> EG accords multiple actors considerable discretion to pursue their goals as a form of ‘experiment’.<sup>51</sup> The opportunity to ‘experiment’ offers flexibility to develop novel policy options or to initiate new practice on a limited scale. Experiments by lower-level actors are expected to

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<sup>41</sup> Ibid; Sabel and Zeitlin, ‘Experimentalism in the EU’ (n 3) 412.

<sup>42</sup> Sabel and Zeitlin, ‘Learning from Difference’ (n 40) 280. See also Sabel and Zeitlin, ‘Experimentalism in the EU’ (n 3) 412.

<sup>43</sup> Sabel and Zeitlin, ‘Experimentalism in the EU’ (n 3) 412.

<sup>44</sup> Sabel and Zeitlin, ‘Learning from Difference’ (n 40) 280.

<sup>45</sup> De Búrca, Keohane and Sabel, ‘Global Experimentalist Governance’ (n 4) 478; *ibid* 273–4.

<sup>46</sup> De Búrca, Keohane and Sabel, ‘Global Experimentalist Governance’ (n 4) 478.

<sup>47</sup> See, eg, van Asselt, Huitema and Jordan (n 17) 34.

<sup>48</sup> *Ibid* 33.

<sup>49</sup> *Ibid*.

<sup>50</sup> De Búrca, Keohane and Sabel, ‘Global Experimentalist Governance’ (n 4) 478; Tanja A Börzel, ‘Experimentalist Governance in the EU: The Emperor’s New Clothes?’ (2012) 6(3) *Regulation and Governance* 378, 379.

<sup>51</sup> De Búrca, Keohane and Sabel, ‘Global Experimentalist Governance’ (n 4) 478.



demonstrate how a technology or a policy works in the real world. Therefore, the essential justification of allowing experiments is to enable learning.<sup>52</sup>

The third feature is regular reporting on performance and peer review ('third element').<sup>53</sup> Therefore, national and sub-national governments are to provide feedback to the central authority.<sup>54</sup> Additionally, the outcome of the activities of the experimenting governance units is subject to peer review.<sup>55</sup>

Lastly, EG includes the periodical revision of framework goals, measures, and procedures by a circle of actors ('fourth element').<sup>56</sup> According to De Búrca, Keohane and Sabel, when all these elements proceed together, 'they can constitute a form of governance that fosters a normatively desirable form of deliberative and participatory problem solving'.<sup>57</sup>

It is generally thought that EG, as a mode of governance, is likely to flourish under four interconnected conditions. First, governments must be unable to devise a 'comprehensive set of rules and efficiently monitor compliance with them'.<sup>58</sup> This condition is well suited to uncertain and diverse environments where central actors are typically unable to 'foresee the local effects of [their] rules'.<sup>59</sup> The ambiguity, complexity or constant development of those diverse environments can even undermine rules which were thought to be effective.<sup>60</sup> Therefore, the increases in diversity and uncertainty contribute to the emergence of EG, but do not make it inevitable.

Second, governments must not disagree on basic principles.<sup>61</sup> EG is unlikely to thrive '[w]hen there is substantial distributive conflict, penalty defaults are ... [absent]', and the probable costs of substandard responses are high.<sup>62</sup> A penalty default is a sanction imposed by a central authority as a disincentive for the violation

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<sup>52</sup> For a discussion of the lessons learned from policy experiments in the context of Experimental Technology Incentives Program devised by the White House in the United States, see Gregory Tasse, 'Innovation in Innovation Policy Management: The Experimental Technology Incentives Program and the Policy Experiment' (2014) 41(4) *Science and Public Policy* 419, 422. See also Kivimaa et al (n 6) 18.

<sup>53</sup> De Búrca, Keohane and Sabel, 'Global Experimentalist Governance' (n 4) 478.

<sup>54</sup> van Asselt, Huitema and Jordan (n 17) 33.

<sup>55</sup> Charles F Sabel and Jonathan Zeitlin, 'Experimentalist Governance' in David Levi-Faur (ed), *The Oxford Handbook of Governance* (Oxford University Press, 2012) 169, 170.

<sup>56</sup> Ibid.

<sup>57</sup> De Búrca, Keohane and Sabel, 'Global Experimentalist Governance' (n 4) 478.

<sup>58</sup> Ibid 483.

<sup>59</sup> Ibid.

<sup>60</sup> Ibid.

<sup>61</sup> Ibid 484.

<sup>62</sup> Ibid.

of a regime's norms.<sup>63</sup> In summary, EG develops where there is a balance between too much and too little agreement.

Third, EG works best in a situation where key actors are eager to cooperate.<sup>64</sup> Therefore, cooperation amongst decision-makers is crucial. In other words, EG will not be effectual where veto powers are exercised to block consensus and to save established interests or to advance hidden agendas.<sup>65</sup> Considering the importance of cooperation, EG 'frequently operates ... in the shadow of a "penalty default" that induces appreciation of the relative benefits of joint efforts by sanctioning non-co-operation'.<sup>66</sup> A well-documented example of penalty defaults can be found in international trade where they are used to bring environmentally-oriented collaboration.<sup>67</sup> The threat of penalty defaults is significant in global climate governance where securing multi-actor cooperation is challenging due to diverse political and economic interests.

Finally, the participation of non-State actors (eg NGOs, business groups, civil society organisations, the scientific community, international organisations, and collaborative groupings) is a must for successful EG regimes.<sup>68</sup> Non-State actors can play a crucial role as agenda-setters, expert advisers, implementation partners, lobbyists and enforcers in an environmental agreement. Peter Spiro states that non-State actors can act in the 'before' (setting the agenda and events), 'during' (taking part in negotiations), and 'after' (monitoring, review and implementation) stages.<sup>69</sup> In the *Montreal Protocol on Substances That Deplete the Ozone Layer* ('*Montreal Protocol*'),<sup>70</sup> NGOs played a critical role in raising public awareness of ozone depleting substances, and put pressure on governments for a regulatory response. Eventually,

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<sup>63</sup> Robert O Keohane and David G Victor, 'After the Failure of Top-Down Mandates: The Role of Experimental Governance in Climate Change Policy' in Scott Barrett, Carlo Carraro and Jaime de Melo (eds), *Towards a Workable and Effective Climate Regime* (CEPR Press, 2015) 201, 207.

<sup>64</sup> De Búrca, Keohane and Sabel, 'Global Experimentalist Governance' (n 4) 484. See also *ibid.*

<sup>65</sup> De Búrca, Keohane and Sabel, 'Global Experimentalist Governance' (n 4) 484.

<sup>66</sup> *Ibid.*

<sup>67</sup> See: Richard W Parker, 'The Use and Abuse of Trade Leverage To Protect the Global Commons: What We Can Learn from the Tuna-Dolphin Conflict' (1999) 12(1) *Georgetown International Environmental Law Review* 1, 112–22. See also Muhammad Luqman et al, 'Rewards and Penalties in an Evolutionary Game Theoretic Model of International Environmental Agreements' (2022) 35(1) *Economic Research-Ekonomska Istraživanja* 602, 605.

<sup>68</sup> De Búrca, Keohane and Sabel, 'Global Experimentalist Governance' (n 4) 484.

<sup>69</sup> Peter J Spiro, 'Non-Governmental Organizations and Civil Society' in Daniel Bodansky, Jutta Brunnée and Ellen Hey (eds), *The Oxford Handbook of International Environmental Law* (Oxford University Press, 2007) 771, 774.

<sup>70</sup> *Montreal Protocol on Substances That Deplete the Ozone Layer*, opened for signature 16 September 1987, 1522 UNTS 28 (entered into force 1 January 1989) ('*Montreal Protocol*').

firms became proponents of reform and they, as central participants in the sectoral working group, proposed alternatives to ozone depleting substances.<sup>71</sup> The success of the *Montreal Protocol* suggests that EG processes can effectively be operated under a wide range of institutional and political background conditions in solving global environmental problems.<sup>72</sup>

### III ANALYSIS OF RELEVANT PROVISIONS OF THE *PARIS AGREEMENT* THROUGH THE FOUR ‘CRUCIAL FEATURES’ OF EG

Climate change has always been a viable candidate for the application of EG having been marked by two intertwined sets of characteristics: (1) strategic uncertainty; and (2) polyarchic distribution of power. In the climate regime, uncertainty stems from the ‘fragmentation of power’ in the international system and the ‘absence of a hegemon to impose order on actors’ with varying interests.<sup>73</sup> Additionally, there is ‘uncertainty about the feasibility of achieving policy outcomes’.<sup>74</sup> As a result, any given country is unable to identify what regulatory, technological, and behavioural commitments will be most effective.

At the time of bargaining, if the actors do not know which commitments can be fulfilled, bargaining among actors will be complex, and ‘[r]isk-averse players will prefer deadlock to codifying ambitions that may prove too costly or simply unattainable’.<sup>75</sup> In a situation like this, integrated, purposeful and comprehensive efforts to coordinate key players — that is the top-down approach of global coordination — is ill-suited. The top-down approach works best only if the key actors know, *ex ante*, their interests and capabilities, and ‘where uncertainty is low — prior knowledge of means, ends, and preferences is reasonably complete — and bargaining costs are correspondingly low’.<sup>76</sup>

Regrettably, over the last 25 years, analysts and diplomats have adopted a top-down strategy of legally binding agreements to tackle the climate change problem.<sup>77</sup> This strategy treats the *United Nations Framework Convention on Climate Change*

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<sup>71</sup> Dave Toke, ‘Epistemic Communities and Environmental Groups’ (1999) 19(2) *Politics* 97, 99–102.

<sup>72</sup> ‘David Victor: “An Experimentalist Approach to Governing Global Climate Change”’, *Colloquium* (Ostrom Workshop, Indiana University, 16 October 2017) <<https://www.youtube.com/watch?v=CiRyDQjDfiU>>.

<sup>73</sup> Sabel and Victor, ‘Governing Global Problems’ (n 37) 18.

<sup>74</sup> *Ibid.*

<sup>75</sup> *Ibid.*

<sup>76</sup> Charles F Sabel and David G Victor, ‘Making the Paris Process More Effective: A New Approach to Policy Coordination on Global Climate Change’ (Policy Analysis Brief, The Stanley Foundation, February 2016) 3 <<https://stanleycenter.org/publications/pab/Sabel-VictorPAB216.pdf>> (‘Making the Paris Process More Effective’).

<sup>77</sup> *Ibid.*

(‘UNFCCC’)<sup>78</sup> as the ‘exclusive’ venue for diplomacy.<sup>79</sup> In 1994, the *UNFCCC* entered into force with the aim of ‘stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system’.<sup>80</sup> In the absence of any precise solution and strategies for implementation in the *UNFCCC*, negotiations have continued to strengthen international action, resulting in the *Kyoto Protocol*<sup>81</sup> in 1997.<sup>82</sup> The *Kyoto Protocol* imposed legally binding obligations on Annex I countries to meet set emission reduction targets — greenhouse gas (‘GHG’) emission reduction by at least 5% below their 1990 levels between the period 2008 and 2012.<sup>83</sup> The timetables and country-specific targets of the *Kyoto Protocol* were multilaterally negotiated and a result of political bargaining.<sup>84</sup> The failure of the top-down approach of the *Kyoto Protocol* became conspicuous in 2005 when further commitments and targets for the subsequent period had to be negotiated.<sup>85</sup>

With the adoption of the *Paris Agreement*, analysts and diplomats officially moved away from integrated, top-down bargaining strategies followed under the *Kyoto Protocol*, and captured a hybrid approach that combines a top-down and bottom-up process.<sup>86</sup> The components of the *Paris Agreement’s* accountability framework have been described above as: (1) the NDCs; (2) the transparency framework; (3) the global stocktake; and (4) the implementation and compliance mechanism.<sup>87</sup> The NDCs are bottom-up in substance whereas the provisions relating to transparency, stocktake and compliance reflect top-down oversight elements.<sup>88</sup> Now it should be of interest to see the extent to which this governance architecture of the *Paris Agreement* features the elements of EG.

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<sup>78</sup> *United Nations Framework Convention on Climate Change*, opened for signature 20 June 1992, 1771 UNTS 107 (entered into force 21 March 1994) (‘UNFCCC’).

<sup>79</sup> Sabel and Victor, ‘Making the Paris Process More Effective’ (n 76) 3.

<sup>80</sup> *UNFCCC* (n 78) art 2.

<sup>81</sup> *Kyoto Protocol* (n 9).

<sup>82</sup> Georgia Piggot et al, ‘Swimming Upstream: Addressing Fossil Fuel Supply under the UNFCCC’ (2018) 18(9) *Climate Policy* 1189, 1190.

<sup>83</sup> *Kyoto Protocol* (n 9) art 3.1; Nikhil R Ullal, ‘A Successor for the Kyoto Protocol: Challenges and Options’ (2013) 17(17) *New Zealand Journal of Environmental Law* 81, 91.

<sup>84</sup> Annalisa Savaresi, ‘The Paris Agreement: Reflections on an International Law Odyssey’ (Conference Paper, ESIL Annual Conference, 8–10 September 2016) 7.

<sup>85</sup> Sharaban Tahura Zaman, ‘The “Bottom-up Pledge and Review” Approach of Nationally Determined Contributions (NDCs) in the Paris Agreement: A Historical Breakthrough or a Setback in New Climate Governance’ (2018) 5(2) *IALS Student Law Review* 3, 5.

<sup>86</sup> See Bodansky and Rajamani, ‘The Evolution and Governance Architecture’ (n 8) 29.

<sup>87</sup> See Banda (n 11) 334–5.

<sup>88</sup> Zaman (n 85) 8.

A *The NDCs, Open-Ended Framework Goals with Metrics and Decentralised Actions*

The *Paris Agreement* sets a global temperature goal of ‘[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’.<sup>89</sup> To reach these objectives, parties further agreed to ‘reach global peaking of greenhouse gas emissions as soon as possible’ in order to achieve a climate neutral world by the second half of this century.<sup>90</sup> To realise the goals and to build a new climate agreement, the parties have agreed to put forward their contributions to address climate change in the form of NDCs.<sup>91</sup> Parties’ NDCs may embody adaptation actions and support, but mitigation NDCs are expected to play a significant role.<sup>92</sup>

Examining the *Paris Agreement* goal and NDCs through the lens of EG reveals that the objectives of the *Paris Agreement* and the provisions relating to NDCs embody the first two essential features of EG theory. Put simply, the first element of EG is the establishment of open-ended framework goals with metrics to measure progress and overall achievement.<sup>93</sup> For EG to be functional, there must be a ‘thin consensus’ among actors regarding a problem and the need to address it through specified goals and associated metrics.<sup>94</sup> ‘Thin consensus’ implies that a comprehensive plan of action may not be appropriate to address the problem. Importantly, ‘thin consensus’ also entails that there must not exist any sharp disagreement over fundamentals issues (ie that a specific problem exists, and it is urgent).<sup>95</sup>

From this perspective, the core objective of the *Paris Agreement* — ‘[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’<sup>96</sup> — and the inclusion of the goal to achieve net zero carbon

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<sup>89</sup> *Paris Agreement* (n 7) art 2.1(a).

<sup>90</sup> *Ibid* art 4.1.

<sup>91</sup> Xunzhang Pan et al, ‘Exploring Fair and Ambitious Mitigation Contributions under the Paris Agreement Goals’ (2017) 74(1) *Environmental Science and Policy* 49, 49. See *ibid* arts 4.2–3.

<sup>92</sup> *Paris Agreement* (n 7) art 4.7. A distinctive feature of the *Paris Agreement* is an expectation of individual and collective progression in relation to mitigation. Article 3 of the *Paris Agreement* establishes an overarching expectation that ‘[t]he efforts of all Parties will represent a progression over time’. A complementary expectation is enshrined in art 4.3 which says that each party’s successive NDC will ‘reflect its highest possible ambition’ and represent a progression beyond the existing one. Thus, the party’s existing NDCs are a self-referential baseline for the reference of future NDCs.

<sup>93</sup> See Part II(B) above.

<sup>94</sup> Armeni (n 5) 880–1.

<sup>95</sup> De Búrca, Keohane and Sabel, ‘Global Experimentalist Governance’ (n 4) 484.

<sup>96</sup> *Paris Agreement* (n 7) art 2.1(a).

emissions in the second half of this century<sup>97</sup> — can be cited as a manifestation of ‘the presence of a thin (or even “medium thick”) consensus among nation states’.<sup>98</sup> Over time, through intergovernmental bargaining as well as scientific insights, the objective has taken the form of a long-term temperature goal such as the gradual embrace of the 2°C aim. For example, the ‘ultimate objective’ of the *UNFCCC* is to ‘prevent dangerous anthropogenic interference with the climate system’.<sup>99</sup> This objective constituted the framework goal of climate governance. The Intergovernmental Panel on Climate Change (‘IPCC’) First Assessment Report from 1990<sup>100</sup> played a vital role in framing the goal.<sup>101</sup>

The issue of metrics is associated with the goals of governing, but metrics do not define goals and policy.<sup>102</sup> In respect of climate change, a metric is a climate parameter that measures effects: for example, radiative forcing and temperature response.<sup>103</sup> The key metric used for climate governance is a tonne of carbon dioxide emissions, known as carbon dioxide equivalent (‘CO<sub>2</sub>-eq’).<sup>104</sup> The modalities, procedures and guidelines (‘MPGs’) for the transparency framework under art 13 of the *Paris Agreement*<sup>105</sup> provide two ways for parties to report aggregate emissions and removals of GHGs expressed in CO<sub>2</sub>-eq: (1) use of the 100-year time-horizon global warming potential values from the IPCC Fifth Assessment Report<sup>106</sup>; or (2) the 100-year time-horizon potential values from a subsequent IPCC assessment report as agreed upon by the Conference of the Parties (‘COP’) serving as the meeting of the parties to the *Paris Agreement*.<sup>107</sup> Additionally, parties may use other metrics

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<sup>97</sup> Ibid art 4.1.

<sup>98</sup> van Asselt, Huitema and Jordan (n 17) 35.

<sup>99</sup> *UNFCCC* (n 78) art 2.

<sup>100</sup> See Intergovernmental Panel on Climate Change, *Climate Change: The IPCC 1990 and 1992 Assessments* (Report, June 1992).

<sup>101</sup> van Asselt, Huitema and Jordan (n 17) 34.

<sup>102</sup> Gunnar Myhre et al, ‘Anthropogenic and Natural Radiative Forcing’ in Thomas Stocker et al (eds), *Climate Change 2013: The Physical Science Basis* (Cambridge University Press, 2013) 659, 710.

<sup>103</sup> Ibid.

<sup>104</sup> Ibid.

<sup>105</sup> United Nations Framework Convention on Climate Change, *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, Held in Katowice from 2 to 15 December 2018*, UNFCCC Dec 18/CMA.1, UN Doc FCCC/PA/CMA/2018/3/Add.2 (19 March 2019).

<sup>106</sup> See International Panel on Climate Change, *Climate Change 2014: Synthesis Report* (Report, 2015).

<sup>107</sup> United Nations Framework Convention on Climate Change, *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, Held in Katowice from 2 to 15 December 2018*, UNFCCC Dec 18/CMA.1, UN Doc FCCC/PA/CMA/2018/3/Add.2 (19 March 2019) annex para 37.

such as the Global Temperature Potential ‘to report supplemental information on aggregate emissions and removals of GHGs, expressed in CO<sub>2</sub> eq’.<sup>108</sup>

The second element of EG is decentralised actions allowing lower-level units such as cities, civil-society groups, research organisations, businesses, and sub-national authorities, a significant discretion to give effect to the commitments undertaken by States. The *Paris Agreement* has tried to ensure effective cooperation by decomposition of the grand problem of climate change into smaller units. To that end, the negotiators have shifted away from the top-down regulatory approach of the *Kyoto Protocol* and focused on a decentralised, bottom-up process of voluntary pledges, or NDCs. By embracing a bottom-up approach, the agreement and COP decision not only encourage governments but also make a solid foundation to integrate non-State actors into the treaty-based climate regime so that all stakeholders can contribute to reaching ambitious climate goals.<sup>109</sup> For example, the *Paris Agreement* has emphasised the role of non-State actors in achieving the 1.5°C global warming target. The preamble of the *Paris Agreement* recognises ‘the importance of the engagements of all levels of government and various actors, in accordance with respective national legislations of Parties, in addressing climate change’.<sup>110</sup> The decisions adopted in the Paris COP appreciate the efforts of party stakeholders including civil society, the private sector, and financial institutions to scale up their climate actions, and encourages the registration of those actions in the Non-State Actor Zone for Climate Action (‘NAZCA’) platform.<sup>111</sup> The importance of non-State actors was initially underlined at the Durban COP in 2011.<sup>112</sup> In 2014, the NAZCA platform, a central tool for the Lima-Paris Action Agenda, was launched with a view of bringing together the ‘commitments to action by companies, cities, sub-national regions, investors and civil society organizations’.<sup>113</sup> As of August 2022, 11,355 cities, 270 sub-national regions, 12,957 companies, 1,529 investors, and

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<sup>108</sup> Ibid.

<sup>109</sup> Charlotte Streck, ‘Filling in for Governments? The Role of the Private Actors in the International Climate Regime’ (2020) 17(1) *Journal for European Environmental and Planning Law* 5, 7.

<sup>110</sup> *Paris Agreement* (n 7) Preamble para 15.

<sup>111</sup> Ibid; United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Twenty-First Session, Held in Paris from 30 November to 13 December 2015*, UNFCCC Dec 1/CP.21, UN Doc FCCC/CP/2015/10/Add.1 (29 January 2016) paras 118, 135. For an overview of the non-State actor zone for climate action, see ‘Global Climate Action Portal’, *Global Climate Action NAZCA* (Web Page) <<http://climateaction.unfccc.int>>.

<sup>112</sup> United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Seventeenth Session, Held in Durban from 28 November to 11 December 2011*, UN Doc FCCC/CP/2011/9 (15 March 2012).

<sup>113</sup> Paolo Bertoldi et al, ‘Towards a Global Comprehensive and Transparent Framework for Cities and Local Governments Enabling an Effective Contribution to the Paris Climate Agreement’ (2018) 30(1) *Current Opinion in Environmental Sustainability* 67, 67.

3,349 organisations were registered.<sup>114</sup> Furthermore, in recent years, transnational initiatives such as the GHG Protocol,<sup>115</sup> C40 Cities Network,<sup>116</sup> and the Verified Carbon Standard<sup>117</sup> have also increased.<sup>118</sup> Though the States are still in the driver's seat, these various initiatives significantly expand the universe of experiments in global climate governance,<sup>119</sup> manifesting that climate governance is no longer in the exclusive domain of national governments.<sup>120</sup> The bottom-up architecture of the *Paris Agreement* has enabled an increasing number of private initiatives and networks to fulfil leadership roles.<sup>121</sup>

### B *The Enhanced Transparency Initiative*

To assess parties' contribution and their actual performance, transparency in the form of reporting and review is crucial. The 1992 *UNFCCC* requires Annex I parties to submit annual GHG inventories and national communications every four years, both of which are subject to 'in-depth review'.<sup>122</sup> Non-Annex I parties may also submit these reports with more flexibility in reporting format and method, but they are not subject to review.<sup>123</sup> The 2010 Cancun COP decision<sup>124</sup> introduced a new reporting and review process. The Cancun COP decision specified that Annex I parties are required to prepare new biennial reports ('BRs'), either independently or with national communications.<sup>125</sup> These reports are subject to a process of

<sup>114</sup> 'Global Climate Action Portal', *Global Climate Action NAZCA* (Web Page) <<https://climateaction.unfccc.int/>>.

<sup>115</sup> 'About Us', *Greenhouse Gas Protocol* (Web Page) <<https://ghgprotocol.org/about-us>>.

<sup>116</sup> 'About C40', *C40 Cities* (Web Page) <<https://www.c40.org/about-c40/>>.

<sup>117</sup> 'Verified Carbon Standard', *Verra* (Web Page) <<https://verra.org/project/vcs-program/>>.

<sup>118</sup> Katharina Michaelowa and Axel Michaelowa, 'Transnational Climate Governance Initiatives: Designed for Effective Climate Change Mitigation?' (2017) 43(1) *International Interactions* 129, 130.

<sup>119</sup> Thomas Hale and Charles Roger, 'Orchestration and Transnational Climate Governance' (2014) 9(1) *Review of International Organizations* 59, 60.

<sup>120</sup> Bertoldi et al (n 113) 67.

<sup>121</sup> Streck (n 109) 7.

<sup>122</sup> Romain Weikmans, Harro van Asselt and J Timmons Roberts, 'Transparency Requirements under the Paris Agreement and Their (Un)Likely Impact on Strengthening the Ambition of Nationally Determined Contributions (NDCs)' (2020) 20(4) *Climate Policy* 2021511, 516.

<sup>123</sup> *UNFCCC* (n 78) art 4.1(g).

<sup>124</sup> United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Sixteenth Session, Held in Cancun from 29 November to 10 December 2010*, UNFCCC Dec 1/CP. 16, UN Doc FCCC/CP/2010/7/Add.1 (15 March 2011).

<sup>125</sup> *Ibid* paras 40(a), 60(c). See also United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Fifteenth Session, Held in Copenhagen from 7 December to 19 December 2009*, UNFCCC Dec 2/CP.15, UN Doc FCCC/CP/2009/11/Add.1 (30 March 2010) paras 4–5.



international assessment and review which combines a technical expert review and multilateral assessment.<sup>126</sup> The latter is a peer-to-peer process. The *Cancun COP* decision also specified new obligations and processes for developing countries who are required to submit biennial update reports that need to undergo an ‘international consultation ... and analysis’.<sup>127</sup> This analysis resembles the International Assessment and Review, however the latter process is to be non-confrontational, non-intrusive, and respectful of national sovereignty.

The transparency initiative introduced by the *Paris Agreement* in art 13 will supersede the *Cancun Agreements* transparency framework. The initiative applies to all parties but offers ‘built-in flexibility’ that takes into account parties’ different capacities.<sup>128</sup> The initiative will lead to a reporting and review system through which parties are obliged to report on emission inventories, as well as their progress in implementing and achieving NDCs. Furthermore, the developed countries also have to report support provided to developing countries.<sup>129</sup>

Looking at the transparency initiative through the lens of EG discloses that it embodies the third element of EG that requires mechanisms for reporting and review. The *Paris Agreement* introduced a transparency initiative, applicable to all parties, designed to report and review parties’ progress made in implementing and achieving NDCs, as well as to gather information on parties’ GHG emissions, their adaptation actions, and the financial, technological and capacity-building support provided and received by individual parties in the context of climate change. The Katowice COP adopted a detailed set of MPGs to make this transparency framework operational.<sup>130</sup>

### C *The Global Stocktake*

While the transparency initiative focuses on individual parties’ progress towards their NDCs, the global stocktake is a mechanism to monitor collective performance

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<sup>126</sup> United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Seventeenth Session, Held in Durban from 28 November to 11 December 2011*, UNFCCC Dec 2/CP.17, UN Doc FCCC/CP/2011/9 (15 March 2012) para 23. See also United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Fifteenth Session, Held in Copenhagen from 7 December to 19 December 2009*, UNFCCC Dec 2/CP.15, UN Doc FCCC/CP/2009/11/Add.1 (30 March 2010).

<sup>127</sup> United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Sixteenth Session, Held in Cancun from 29 November to 10 December 2010*, UNFCCC Dec 1/CP. 16, UN Doc FCCC/CP/2010/7/Add.1 (15 March 2011) para 63.

<sup>128</sup> *Paris Agreement* (n 7) arts 13.1–2.

<sup>129</sup> *Ibid* art 11.4.

<sup>130</sup> United Nations Framework Convention on Climate Change, *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, Held in Katowice from 2 to 15 December 2018*, UNFCCC Dec 18/CMA.1, UN Doc FCCC/PA/CMA/2018/3/Add.2 (19 March 2019).

vis-à-vis the shared global goal. According to art 14 of the *Paris Agreement*, a ‘global stocktake’ is a mechanism to ‘assess ... collective progress’ and is necessary to generate the level of required ambition towards the agreed collective goals.<sup>131</sup> The global stocktake is crucial to gauge whether States, as a whole, are contributing as much as they should. Article 14.1 stresses the ‘comprehensive and facilitative’ manner of the global stocktake.<sup>132</sup> The word ‘comprehensive’ reinforces the idea that the *Paris Agreement* addresses not only mitigation but also adaptation and support.<sup>133</sup> The word ‘facilitative’ indicates that the global stocktake should be a process that assists parties in enhancing their actions and support.<sup>134</sup> Previously, the *UNFCCC*, under which the *Paris Agreement* was negotiated, contained a provision that mandated such type of revision. Article 7.2(a) of the *UNFCCC* instructs the COP to ‘[p]eriodically examine the obligations of the Parties and the institutional arrangements under the Convention ... [and] the experience gained in its implementation’.<sup>135</sup> In 2010, the parties to the *UNFCCC* decided to establish a new review process to periodically review: (1) the adequacy of the temperature goal in the light of the ultimate objective of the *UNFCCC*; and (2) the progress towards achieving the long-term global goal, including collective implementation of the commitments made under the *UNFCCC*.<sup>136</sup> This periodic review serves as precedent for the global stocktake. The first periodic review was conducted between 2013 and 2015.<sup>137</sup> The second periodic review was to be conducted between 2020 and 2022. The first stocktake will take place in 2023 and will be repeated every five years. The COP will consider the continuation of the periodic review at its 29<sup>th</sup> session in 2024, in the light of experiences from first and second periodic reviews as well as from the first global stocktake.

From the viewpoint of the fourth element of EG, the global stocktake under art 14 of the *Paris Agreement* offers an opportunity for periodical revision of parties’ collective progress towards achieving their global climate change goals. Undoubtedly, the central challenge of the *Paris Agreement* is to generate the level of ambition required to reach collective goals.<sup>138</sup> The *Paris Agreement* adds a core element to the toolbox for enhancing ambition as well as for periodical revision of framework goals

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<sup>131</sup> *Paris Agreement* (n 7) art 14.1.

<sup>132</sup> *Ibid.*

<sup>133</sup> *Ibid.*

<sup>134</sup> *Ibid.*

<sup>135</sup> *UNFCCC* (n 78) art 7.2(a).

<sup>136</sup> United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Sixteenth Session, Held in Cancun from 29 November to 10 December 2010*, UNFCCC Dec 1/CP. 16, UN Doc FCCC/CP/2010/7/Add.1 (15 March 2011) para 138.

<sup>137</sup> United Nations Framework Convention on Climate Change, *Report on the Structured Expert Dialogue on the 2013–2015 Review: Note by the Co-Facilitators of the Structured Expert Dialogue*, UN Doc FCCC/SB/2015/INF.1 (4 May 2015).

<sup>138</sup> Jürgen Friedrich, ‘Global Stocktake (Article 14)’ in Daniel Klein et al, *The Paris Agreement on Climate Change: Analysis and Commentary* (Oxford University Press, 2017) 319, 320.

by establishing the global stocktake.<sup>139</sup> According to the decision adopted at the Katowice COP, the global stocktake process will be divided into three stages: (1) information collection; (2) technical assessment; and (3) consideration of outputs.<sup>140</sup> The yardstick for new action is the gap between action to date and the goals of the *Paris Agreement*. In this sense, the stocktake represents a procedural innovation which helps parties to understand how far they have advanced in achieving their goals, and ‘realize what is still required collectively to reach them and be informed about possible options on how to enhance their actions both nationally and internationally and thereby hopefully be motivated to do more’.<sup>141</sup>

#### D *The Implementation and Compliance Mechanism*

With a view to preventing non-compliance, the *Paris Agreement* establishes a mechanism to facilitate implementation and promote compliance. To that end, art 15.2 of the *Paris Agreement* establishes an expert-based committee.<sup>142</sup> The committee shall be facilitative in nature and ‘function in a manner that is transparent, non-adversarial and non-punitive’.<sup>143</sup> The committee is charged with paying ‘particular attention to the respective national capabilities and circumstances of Parties’.<sup>144</sup>

Viewing the implementation and compliance mechanism through the lens of EG reveals that the *Paris Agreement* does not have a strong compliance mechanism as required by EG theory. Typically, the fear of penalty defaults is considered as a significant driving force for parties to engage in EG.<sup>145</sup> In the case of non-compliance, penalty defaults are perceived as sanctions.<sup>146</sup> True, the *Paris Agreement* does not allow parties to use legal sanctions such as trade measures in the case of non-participation or non-compliance.<sup>147</sup> However, there are other ways to materialise penalty defaults including through naming and shaming by environmental groups.<sup>148</sup> The *Paris Agreement* enables environmental campaign groups and civil society organisations to assess the commitments made by States. This scrutiny may happen

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<sup>139</sup> Ibid.

<sup>140</sup> United Nations Framework Convention on Climate Change, *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, Held in Katowice from 2 to 15 December 2018*, UNFCCC Dec 19/CMA.1, UN Doc FCCC/PA/CMA/2018/3/Add.2 (19 March 2019).

<sup>141</sup> Friedrich (n 138) 320.

<sup>142</sup> *Paris Agreement* (n 7) art 15.2.

<sup>143</sup> Ibid.

<sup>144</sup> Ibid.

<sup>145</sup> See generally Cahill-Webb (n 9) 5–6.

<sup>146</sup> Keohane and Victor (n 63) 207.

<sup>147</sup> Ibid 202–3.

<sup>148</sup> Cahill-Webb (n 9) 5.

in a domestic context.<sup>149</sup> It can also be exercised by non-State actors operating transnationally.<sup>150</sup> Some governments also expose themselves to more systematic scrutiny through courts and parliaments by incorporating international pledges in domestic legislation.<sup>151</sup> Furthermore, the five-yearly review sessions are a central tool for driving up States' ambition.<sup>152</sup> Robert Falkner rightly observed that instead of sanctions, the peer pressure among States and the formalised review process 'will create regular moments for "naming and shaming" strategies to be deployed against those countries that fall short of international expectations'.<sup>153</sup>

The foregoing analysis suggests that the 'pledge and review' approach of the *Paris Agreement* embodies essential features of EG. Typically, the drafters of an agreement do not tend to think about the suitability of a particular governance model when they embark on drafting a treaty. That is why drafters of the *Paris Agreement* did not seem to have had EG in mind. However, the embodiment of experimentation, iterative learning and responsiveness in the *Paris Agreement* are the hallmarks of EG. Importantly, it is useful to examine the relevant provisions of the *Paris Agreement* through the lens of EG. Lessons from EG could help transform the *Paris Agreement* into a more adaptive, proactive and effective governance framework. In Part IV below, the article identifies five major challenges that might prevent the proper generation of intelligible, comparable, and complete information. Those challenges can pose barriers in ensuring credible review processes and proper revision of goals and thereby hinder the *Paris Agreement's* effectiveness. This article suggests that the following concerns must be addressed if an EG arrangement can contribute to creating a process of learning and problem-solving. If these concerns are left unaddressed, the experimentalist character of *Paris Agreement* will remain underdeveloped and may skew its evolution in unproductive directions.

#### IV IMPLICATIONS OF APPLYING EXPERIMENTALIST GOVERNANCE TO THE *PARIS AGREEMENT*

##### A *Inclusive Metrics?*

The first element of EG is the establishment of open-ended framework goals with metrics to measure the progress and overall achievement. As stated earlier, EG provides an effective atmosphere of learning from differences and revising stakeholders' practices and goals. This atmosphere of learning substantially requires evaluating and comparing domestic efforts to mitigate global climate change.<sup>154</sup>

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<sup>149</sup> Robert Falkner, 'The Paris Agreement and the New Logic of International Climate Politics' (2016) 92(5) *International Affairs* 1107, 1122.

<sup>150</sup> *Ibid.*

<sup>151</sup> *Ibid.*

<sup>152</sup> *Ibid.* 1121.

<sup>153</sup> *Ibid.*

<sup>154</sup> Joseph E Aldy and William A Pizer, 'Alternative Metrics for Comparing Domestic Climate Change Mitigation Efforts and Emerging International Climate Policy Architecture' (2016) 10(1) *Review of Environmental Economics and Policy* 1, 2.

The issue of metrics has a vital role to play in measuring and comparing effort among countries in the global climate governance.<sup>155</sup> An ideal metric should be comprehensive, measurable, less complex and universal.<sup>156</sup> Therefore, an effective metric should capture and reflect the entire effort and all climate related measures undertaken by a country in mitigating emissions.<sup>157</sup>

The CO<sub>2</sub>-eq metric is used to compare the emissions from various GHGs on the basis of their global warming potential. However, the CO<sub>2</sub>-eq metric used to consider the radiative effects<sup>158</sup> of emissions is not all-inclusive. As metrics are used for gauging the achievement and contribution of the central and local level units to climate change goals, it should be inclusive, in the sense that all types of developmental activities contributing to the upholding the intended goals should be evaluated and counted.<sup>159</sup> The existing climate regime uses one metric, namely the 100-year time-horizon global warming potential values expressed in CO<sub>2</sub>-eq. However, there is controversy about the appropriateness of this metric. This CO<sub>2</sub>-eq metric ‘is a best guess estimate of the *concentration* of CO<sub>2</sub> required to achieve a specific level of radiative forcing’ and suitable for climate change mitigation domain.<sup>160</sup> Radiative forcing is ‘one of the most widely used metrics’.<sup>161</sup> It is used to show ‘the net change in the energy balance of the Earth system due to some imposed perturbation’.<sup>162</sup> There are many other activities that are necessary for effective climate action, but they are not measurable in terms of climate change mitigation. For example, the outcome of capacity building, sharing best practices, adaptation and information sharing cannot be captured in term of emission reduction.<sup>163</sup> Similarly, regulations supporting renewable energy might represent significant effort to mitigate emissions but cannot be reflected in CO<sub>2</sub>-eq. In such cases, energy price metrics or cost metrics can capture some of the effects of non-price regulations. Reductionists like David Frame criticize this metric, arguing that CO<sub>2</sub>-related metrics could potentially distract or even undermine the achievement of other development goals.<sup>164</sup> Frame urges to use ‘the global temperature potential’ as a substitute method of evaluating emissions.<sup>165</sup> As no single metric is fully capable of capturing all types of mitigation

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<sup>155</sup> Ibid 4.

<sup>156</sup> Ibid 4–5.

<sup>157</sup> Ibid.

<sup>158</sup> Radiative effects are the physical and chemical property changes of materials due to radiation.

<sup>159</sup> van Asselt, Huitema and Jordan (n 17) 35.

<sup>160</sup> David J Frame, ‘The Problems of Markets: Science, Norms and the Commodification of Carbon’ (2011) 177(2) *Geographical Journal* 138, 142 (emphasis in original).

<sup>161</sup> Gunnar Myhre and Drew Shindell, ‘Anthropogenic and Natural Radiative Forcing’ in Thomas F Stocker et al (eds), *Climate Change 2013: The Physical Science Basis* (Cambridge University Press, 2013) 659, 664.

<sup>162</sup> Ibid.

<sup>163</sup> van Asselt, Huitema and Jordan (n 17) 35.

<sup>164</sup> Frame (n 160) 142.

<sup>165</sup> Ibid.

efforts across countries, researchers predict that a suite of metrics (which provides a richer characterisation of countries' efforts) or further metrics may be required to capture the diversity of national and local actions.<sup>166</sup>

### B *A Common Format and Guidance?*

One of the key characteristics of EG is that it allows continuous feedback with outcomes provided from local contexts that are subject to peer review. Currently, parties enjoy wide discretion in formulating NDCs. The absence of a common format and guidance vis-à-vis type, timing and coverage of NDCs creates difficulties for experts to assess, review and compare the commitments made.<sup>167</sup> Variance and complexity among NDCs make it difficult to compare and review what pledges really mean in emission and temperature terms.<sup>168</sup>

For example, of the 147 NDCs, about 80% of parties (such as New Zealand and India) submitted targets upon conditions such as access to international finance and cooperation.<sup>169</sup> While some NDCs reflect economy-wide GHG mitigation targets, few display a 'deviation from business as usual', and few consider emissions intensity targets.<sup>170</sup> Significant differences between NDCs are also found in the scope and coverage of GHGs. Most countries include CO<sub>2</sub> while many include methane ('CH<sub>4</sub>'); some countries exclude CH<sub>4</sub> and nitrous oxide ('N<sub>2</sub>O'), though these gases constitute a notable portion of aggregate national emissions. The choice of base year also varies. For example, Russia aims to reduce emissions by 25% compared to 1990, while Australia committed to a '26%–28% reduction relative to 2005'.<sup>171</sup> If we compare both to 2015 emissions, we will see a 9% emission drop in the case of Australia and 13% increase in the case of Russia.<sup>172</sup> Therefore, each parties' level

<sup>166</sup> Aldy and Pizer (n 154) 5.

<sup>167</sup> Lewis C King and Jeroen CJM van den Bergh, 'Normalisation of Paris Agreement NDCs to Enhance Transparency and Ambition' (2019) 14(8) *Environmental Research Letters* 084008:1–14, 2–3.

<sup>168</sup> *Ibid* 7.

<sup>169</sup> *Ibid* 2.

<sup>170</sup> Of the 169 NDCs submitted through 4 April 2016, about one third are found to have absolute economy-wide GHG mitigation targets, 45% reflect a deviation from business as usual, 20% display policies and actions, and 4% represent emissions intensity targets. See Lavanya Rajamani and Daniel Bodansky, 'The Paris Rulebook: Balancing International Prescriptiveness with National Discretion' (2019) 68(4) *International and Comparative Law Quarterly* 1023, 1028 ('The Paris Rulebook').

<sup>171</sup> King and van den Bergh (n 167) 5. See also: Commonwealth, *Australia's Intended Nationally Determined Contribution to a New Climate Change Agreement* (August 2015) <<https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Australia/1/Australias%20Intended%20Nationally%20Determined%20Contribution%20to%20a%20new%20Climate%20Change%20Agreement%20-%20August%202015.pdf>>; Commonwealth, *Australia's Nationally Determined Contribution: Communication 2022* (2022) 3.

<sup>172</sup> King and van den Bergh (n 167) 5.

of ambition is not necessarily displayed by their NDCs. These variations in individual pledges make it difficult to aggregate the efforts of countries and compare them to each other. The *Paris Agreement* rules seek to strengthen informational requirements by including annex I to facilitate clarity, transparency and understanding of NDCs as required by the *Paris Agreement*.<sup>173</sup> Annex I requires that parties need to provide quantifiable information on the reference years, periods for implementation, scope and coverage and planning process etc.<sup>174</sup> However, although annex I has brought greater specificity of the informational requirements in submitting NDCs, it also allows further discretion by stating that ‘Parties shall provide the information necessary for clarity, transparency and understanding contained in annex I *as applicable* to their nationally determined contributions’.<sup>175</sup> This ‘as applicable’ qualification allows parties to decide their informational requirements through their choice of NDC.<sup>176</sup> Without addressing the existing variations relating to types of information that must accompany an NDC — correct evaluation of those NDCs will be unlikely. Experimentation without proper evaluation will hamper the learning process that is one of the main themes of EG.

### C *Effective Decentralised Action?*

The third concern is that though a defining element of EG are decentralised actions allowing lower-level units — either individuals, cities, NGOs, or nation-States — wide discretion in the implementation of the framework goals, the *Paris Agreement* does not explicitly allow non-State actors a defined role in the process of its implementation. The *Paris Agreement* also allows the autonomy of non-State actors to give effect to the pledges made by the States. By this time, enough of the MPGs of the enhanced transparency framework have been adopted that it is difficult to envision where and how a non-State actor would be allowed to participate in the three most important processes of the *Paris Agreement*, namely: (1) the transparency framework to review mitigation and adaptation action; (2) the global stocktake; and (3) the mechanism to facilitate implementation and promote compliance. For example, the review process under the transparency framework of the *Paris Agreement* does not specify a role for non-State actors. Technical expert review teams conduct reviews of national reports submitted by parties. As the technical experts shall be nominated to the *UNFCCC* roster of experts by parties, they do not have an interest to consider the ideas or concerns from non-State actors.<sup>177</sup>

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<sup>173</sup> Rajamani and Bodansky, ‘The Paris Rulebook’ (n 170) 1029–30.

<sup>174</sup> United Nations Framework Convention on Climate Change, *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, Held in Katowice from 2 to 15 December 2018*, UNFCCC Dec 4/CMA.1, UN Doc FCCC/PA/CMA/2018/3/Add.1 (19 March 2019) annex I.

<sup>175</sup> *Ibid* annex I para 7 (emphasis added).

<sup>176</sup> Rajamani and Bodansky, ‘The Paris Rulebook’ (n 170) 1030.

<sup>177</sup> Eric Dannenmaier, ‘The Role of Non-State Actors in Climate Compliance’ in Jutta Brunnée, Meinhard Doelle and Lavanya Rajamani (eds), *Promoting Compliance in an Evolving Climate Regime* (Cambridge University Press, 2012) 149, 162.

As to the global stocktake, the Katowice COP decision suggests that the global stocktake will be conducted with the participation of non-party stakeholders.<sup>178</sup> The Katowice COP also decided the sources of input for the global stocktake, including ‘the overall effect of nationally determined contributions communicated by Parties’,<sup>179</sup> ‘[t]he state of adaptation efforts, support, experience and priorities’,<sup>180</sup> the latest reports of the IPCC,<sup>181</sup> and the reports of the *UNFCCC* subsidiary bodies.<sup>182</sup> Non-State actors could make a valuable contribution by offering relevant inputs into the global stocktake, in at least two ways.<sup>183</sup> First, scientific insights can be incorporated through the IPCC process.<sup>184</sup> Second, the decision adopting the *Paris Agreement* states that the inputs mentioned are not exhaustive.<sup>185</sup> This decision implies that other inputs from non-State actors might be received. For example, the annual Emissions Gap Reports<sup>186</sup> prepared by the United Nations Environment Programme is one of the possible inputs that may be considered.<sup>187</sup>

With respect to the implementation and compliance mechanism, art 15 of the *Paris Agreement* creates ‘a committee that shall be expert-based and facilitative in nature and function in a manner that is transparent’.<sup>188</sup> Non-State actors can potentially play a role in this mechanism.<sup>189</sup> However, the phrases ‘facilitative in nature’ and ‘non-adversarial and non-punitive’ signify that non-State actors cannot play an adversarial role such as triggering a compliance process by filing a complaint or challenging any information submitted by the parties.<sup>190</sup> Nonetheless, there exist possibilities to consider inputs from non-State actors. The compliance mechanism

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<sup>178</sup> United Nations Framework Convention on Climate Change, *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, Held in Katowice from 2 to 15 December 2018*, UNFCCC Dec 19/CMA.1, UN Doc FCCC/PA/CMA/2018/3/Add.2 (19 March 2019).

<sup>179</sup> *Ibid* para 23(c).

<sup>180</sup> *Ibid* para 36(c).

<sup>181</sup> *Ibid* para 37(b).

<sup>182</sup> *Ibid* para 37(c).

<sup>183</sup> Harro van Asselt, ‘The Role of Non-State Actors in Reviewing Ambition, Implementation, and Compliance under the Paris Agreement’ (2016) 6(1–2) *Climate Law* 91, 99.

<sup>184</sup> *Ibid*.

<sup>185</sup> *Ibid*. See United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Twenty-First Session, Held in Paris from 30 November to 13 December 2015*, UNFCCC Dec 1/CP.21, UN Doc FCCC/CP/2015/10/Add.1 (29 January 2016).

<sup>186</sup> See, eg, United Nations Environment Programme, *The Heat Is On: A World of Climate Promises Not yet Delivered* (Emissions Gap Report, 2021).

<sup>187</sup> van Asselt (n 183) 97.

<sup>188</sup> *Paris Agreement* (n 7) art 15.2.

<sup>189</sup> Harro van Asselt and Thomas Hale, *How Non-State Actors Can Contribute to More Effective Review Processes under the Paris Agreement* (Policy Brief, Stockholm Environment Institute, 2016) 3.

<sup>190</sup> *Ibid*.



under the *Kyoto Protocol* allowed the submission of relevant data from international and non-governmental organisations.<sup>191</sup> The *Paris Agreement* could follow the *Kyoto Protocol* approach. Apart from such measures, non-State actors could also help parties enhance capacity building and technical knowledge.<sup>192</sup>

On the other hand, the *Kyoto Protocol* included an effective measure to address cases of non-compliance by establishing an enforcement branch under art 18 of the *Kyoto Protocol* to impose sanctions.<sup>193</sup> The *Paris Agreement* needs to establish a robust review mechanism. Furthermore, at present, the role of non-State actors in the formal review process is also extremely limited as the role for non-State actors is not specified in the *Paris Agreement*. Therefore, like the reporting and reviewing of the *UNFCCC* and *Kyoto Protocol*, non-State actors are not allowed to ‘file complaints, initiate investigations, challenge compliance data they believe to be incomplete or inaccurate, or request compliance documentation beyond pro forma submissions’.<sup>194</sup> In this respect, the *Paris Agreement* could draw inspiration from the *Aarhus Convention*<sup>195</sup> that allows non-State actors to trigger applicable compliance procedures.<sup>196</sup> Furthermore, NGOs could also play a vital role in the review mechanism. Many NGOs are now involved in monitoring key areas of climate policy such as Forest Law Enforcement, Governance and Trade initiatives and Reducing Emissions from Deforestation and Forest Degradation on land use and forestry.<sup>197</sup>

#### D *The Prospect of Penalty Default*

Though penalty defaults are characteristics of traditional modes of governance, EG frequently operates ‘in the shadow of penalty defaults, as a threat of less favourable default rules’.<sup>198</sup> Penalty defaults are applied when parties refuse to sign up to or cooperate with a proposed governance system.<sup>199</sup> Examples of penalty defaults such as trade sanctions or trade restrictions are seen in the global governance context.<sup>200</sup> For example, under the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (‘*CITES*’),<sup>201</sup> a persistent failure to provide annual

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<sup>191</sup> Ibid.

<sup>192</sup> Ibid.

<sup>193</sup> *Kyoto Protocol* (n 9) art 18.

<sup>194</sup> See generally Dannenmaier (n 177) 159–60.

<sup>195</sup> *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*, opened for signature 25 June 1998, 2161 UNTS 447 (entered into force 30 October 2001) (‘*Aarhus Convention*’).

<sup>196</sup> van Asselt (n 183) 104.

<sup>197</sup> Sabel and Victor, ‘Governing Global Problems’ (n 37) 24.

<sup>198</sup> Armeni (n 5) 901.

<sup>199</sup> Ibid.

<sup>200</sup> Ibid.

<sup>201</sup> *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, opened for signature 3 March 1973, 993 UNTS 243 (entered into force 1 July 1975) (‘*CITES*’).

reports on parties' *CITES*-related trade for three consecutive years would justify the suspension of all trade in all *CITES* species.<sup>202</sup> However, penalty default rules are absent or at least less obvious in the *Paris Agreement*. Instead, the *Paris Agreement* relies on 'naming and shaming' strategies and peer pressure between States to encourage expected collaborative participation and performance. Time and again, the world witnessed that major emitters, for example, the United States and Canada, were willing to accept a loss in international reputation when domestic economic interests had been at stake.<sup>203</sup> Thus, more pronounced penalty defaults will be necessary. Border tariff adjustments and trade sanctions can be considered as they are important incentives to encourage deeper cooperation and discourage free riding. The experiment can be conducted to identify practical ways to use trade measures. Margaret Young has shown how existing trade law would enable the use of trade measures.<sup>204</sup> Charles Sabel and David Victor said that

a central challenge in developing and implementing practical trade measures will be to take advantage of the ability to sanction in small groups, which can create an incentive for climate clubs to deepen their efforts, while also tempering the risks of unilateralism.<sup>205</sup>

In this respect, the experience of the *Montreal Protocol* can be of use.<sup>206</sup>

One lesson from the *Montreal Protocol* experience is the need to link trade measures to practical technical assistance according to the principle of common but differentiated responsibilities — to offer carrots to countries that want to cooperate and stick to those that refuse.<sup>207</sup>

At the same time, future pledges of action should be made stronger, and a system of imposing cost can be considered on those that do not make equivalent or significant efforts at abatement. In this respect, the *Paris Agreement* allows too much leeway to the parties in tailoring their ambitions. Such latitude can potentially challenge the implementation of the aim and objectives of the *Paris Agreement*. For example, the core mechanism for ratcheting reads: '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'.<sup>208</sup> The legal wording in this art is imprecise. The use of 'will' instead of 'shall' indicates

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<sup>202</sup> See Rosalind Reeve, 'Wildlife Trade, Sanctions and Compliance: Lessons from the *CITES* Regime' (2006) 82(5) *International Affairs* 881, 887.

<sup>203</sup> Falkner (n 149) 1125.

<sup>204</sup> Margaret A Young, 'Trade Measures To Address Environmental Concerns in Faraway Places: Jurisdictional Issues' (2014) 23(3) *Review of European Comparative and International Environmental Law* 302, 303, 316.

<sup>205</sup> Sabel and Victor, 'Governing Global Problems' (n 37) 24.

<sup>206</sup> *Montreal Protocol* (n 70).

<sup>207</sup> Sabel and Victor, 'Governing Global Problems' (n 37) 24.

<sup>208</sup> *Paris Agreement* (n 7) art 4.3.

that ratchet-up mechanism is an expectation rather than an obligation. Again, the word ‘progression’ can include any trivial adjustment that might not influence the temperature goal at all. Luke Kemp gives an example in this context,<sup>209</sup> where previously the Australian pledge to reduce emissions to 26–8% below 2005 levels by 2030 has now been updated to 43% by 2030.<sup>210</sup> Therefore, a progression on this target could be 29–30% by 2035. According to Kemp, it would not be a progression in terms of the rate of emissions reductions but would be an increase in absolute terms.<sup>211</sup> In order to constrain States’ behaviour, a stronger system of pledging should be developed.

## V CONCLUSION

The important insight of EG theory is that it allows actors facing uncertainty to jointly explore potential and practical solutions to reach their overarching goals. Therefore, though developed in other settings, EG is valuable to climate change governance — which inherently combines uncertainty regarding policy formulation with administrative and political challenges. EG is seen as emerging in climate change governance. Consequently, EG may not provide an immediate cure to the climate change problem, but it provides a new way of extending cooperation among actors. Essentially, the features of EG have contributed to making climate governance flexible, as goals are adjusted in light of evidence and experiences. Stakeholders, not bound by complex regulations, can now adapt and implement self-regulation to uphold climate change goals. However, the mutual monitoring, reporting and review, and evaluation of collective goals establish accountability.<sup>212</sup> Viewing the key provisions of the *Paris Agreement* through the lens of EG provides a valuable insight into the governance structure of the *Paris Agreement* and its limitations and effectiveness.

This article has identified four major limitations of the ‘pledge and review’ approach to the *Paris Agreement*. Firstly, the CO<sub>2</sub>-eq metric, which is used to assess how well central and local level units are doing in achieving climate change goals, is not inclusive in the sense that all forms of developmental activities that support the intended goals cannot be assessed and quantified by this metric. For instance, it is impossible to measure the results of capacity building, sharing best practices, adaptation, and information sharing in terms of emission reduction. Secondly, the lack of a standard framework and guidelines regarding the nature, timing, and scope

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<sup>209</sup> Luke Kemp, ‘A Systems Critique of the 2015 Paris Agreement on Climate’ in Moazzem Hossain, Robert Hales and Tapan Sarker (eds), *Pathways to a Sustainable Economy: Bridging the Gap between Paris Climate Change Commitments and Net Zero Emissions* (Springer, 2018) 25, 28.

<sup>210</sup> Commonwealth, *Australia’s Nationally Determined Contribution: Communication 2022* (2022) 3.

<sup>211</sup> Kemp (n 209) 28.

<sup>212</sup> De Búrca, Keohane and Sabel, ‘Global Experimentalist Governance’ (n 4) 484; Armeni (n 5) 882, 903.

of NDCs makes it challenging for specialists to evaluate, scrutinise, and contrast the pledges made. It is challenging to evaluate and analyse what promises actually signify in terms of emissions and temperature due to the diversity and complexity of NDCs. Thirdly, in the context of its implementation, the *Paris Agreement* does not expressly grant non-State actors a specific role. It is now difficult to envision where and how a non-State actor would be permitted to take part in the three most crucial processes of the *Paris Agreement*, namely: (1) the transparency framework to review mitigation and adaptation action; (2) the global stocktake; and (3) the mechanism to facilitate implementation and promote compliance. Finally, the *Paris Agreement* uses ‘naming and shaming’ strategies as a penalty for noncompliance, which are a relatively weak type of sanction and might not work for the climate change regime.

By employing EG theory, this article has shown that the *Paris Agreement* has the potential to engage non-State actors in the transparency framework and review mechanisms for bringing greater policy coherence. At the same time, non-State actors have the potential to contribute to the framework goals through supplying scientific insights and through bottom-up incorporation of local level knowledge and practices. This article also shows that a re-examination of the metrics — used for gauging the achievement and contribution of the actors — is crucial. Finally, this article has suggested that besides ensuring strong penalty defaults, reforms might be required to ensure proper reporting standards and submission of comparable information by the parties to enable better aggregation and comparison of national efforts.