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# Measuring It, Managing It, Fixing It? Data and Rights in Transnational and Local Climate Change Governance

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(First published online 6 February 2024)

## Abstract

The Paris Agreement, related intergovernmental decisions, and transnational climate change governance initiatives mobilize data as a means of measuring, managing, and addressing changing climatic conditions. At the same time, the Paris Agreement formally acknowledges the human rights implications of the unfolding climate crisis. Given the reliance on data and rights in climate change governance, the aim of this article is twofold. Firstly, it analyzes how processes of datafication at transnational and local levels promise, yet struggle, to render the climate governable. Secondly, the article critically reflects on the capacity of human rights to complement datafied governance processes meaningfully – specifically, in what ways rights can (and cannot) alleviate local concerns regarding datafication. Methodologically, the article develops a perspective that foregrounds situated sense-making and experience in place. It is based on an empirical case study of the Global Covenant of Mayors for Climate & Energy, a transnational alliance of cities that have committed to working towards the goals of the Paris Agreement; and it engages with ethnographic literature that conceptualizes rights as lived forms of meaning-making, articulation, struggle, and resistance. Attending to place, the article confronts problematic assumptions about the universality, neutrality, and representativeness of data and rights, raising critical questions about their capacity to ‘govern’ climate change.

**Keywords:** Paris Agreement; Climate change governance; Datafication; Human rights; Cities; Global Covenant of Mayors for Climate & Energy

## 1. Data and Rights in Climate Change Governance

Data is central to the ongoing struggle to govern climate change. As ‘morsels of information’ that have been formatted to allow for efficient processing, comparison, and aggregation,<sup>1</sup> data is being mobilized to give meaning to the unfolding climate crisis. In the context of climate change governance, the term ‘datafication’ denotes processes by which ‘individual, homologous data entries’, as information inputs, are

<sup>1</sup> L. Geitelman & V. Jackson, ‘Introduction’, in L. Geitelman (ed.), *‘Raw Data’ is an Oxymoron* (The MIT Press, 2013), pp. 1–14, at 1. See also R. Kitchin, *The Data Revolution: Big Data, Open Data, Data Infrastructures & Their Consequences* (SAGE, 2014), p. 1.

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assembled into datasets, which provide the basis for political decisions and law-making.<sup>2</sup> Symptoms of datafication include reporting and disclosure obligations. Whether legally mandated or voluntary, reporting and disclosure promise to increase transparency and open up possibilities for holding actors accountable;<sup>3</sup> and they can function as a ‘bonding technology’ that requires actors to engage continuously with relevant governance fora and processes.<sup>4</sup> Importantly, however, in addition to supporting meaning-making, transparency, accountability, and engagement, data itself has been emerging as a central *means* of climate change governance. Rather than merely supporting or being the outputs of governance processes, data, in a very real sense, does governing work: it constitutes and restructures relations between actors, creates and sustains novel forms of power and authority, disrupts existing modes of claiming legitimacy, and ultimately purports to render the climate governable.<sup>5</sup>

The Paris Agreement<sup>6</sup> and related intergovernmental decisions have supported datafication. They have, for instance, endorsed the setting up of public databases that display information about climate commitments and implementation activities.<sup>7</sup> Examples include official registries of states’ climate communications and the Global Climate Action Portal, a platform designed to track voluntary climate commitments of subnational and non-state actors.<sup>8</sup> Further, the Paris Agreement and related intergovernmental decisions require and encourage periodic reporting on climate targets, risks, impacts, and actions,<sup>9</sup> and they have set up institutionalized mechanisms which review, synthesize, and assess data that has been made available.<sup>10</sup>

<sup>2</sup> See *ibid.*, pp. 1, 8. See also V. Mayer-Schönberger & K. Cukier, *Big Data: A Revolution that Will Transform How We Live, Work, and Think* (Mariner Books, 2014), p. 78; U.A. Mejias & N. Couldry, ‘Datafication’ (2019) 8(4) *Internet Policy Review*, available at: <https://policyreview.info/concepts/datafication>.

<sup>3</sup> A. Gupta & H. van Asselt, ‘Transparency in Multilateral Climate Politics: Furthering (or Distracting from) Accountability?’ (2019) 13(1) *Regulation & Governance*, pp. 18–34; E. Webster, ‘Information Disclosure and the Transition to a Low-Carbon Economy: Climate-Related Risk in the UK and France’ (2020) 32(2) *Journal of Environmental Law*, pp. 279–308; M. Bowman & D. Wiseman, ‘Finance Actors and Climate-Related Disclosure Regulation: Logic, Limits and Emerging Accountability’, in C. Holley, L. Phelan & C. Shearing (eds), *Criminology and Climate: Insurance, Finance and the Regulation of Harmscapes* (Routledge, 2022), pp. 153–78.

<sup>4</sup> V. Heyvaert, *Transnational Environmental Regulation and Governance: Purpose, Strategies and Principles* (Cambridge University Press, 2019), pp. 110–1.

<sup>5</sup> L. Mai & J.P. Elsässer, ‘Orchestrating Global Climate Governance through Data: The UNFCCC Secretariat and the Global Climate Action Platform’ (2022) 22(4) *Global Environmental Politics*, pp. 151–71; see also F. Johns, ‘Governance by Data’ (2021) 17(4) *Annual Review of Law and Social Sciences*, pp. 53–71.

<sup>6</sup> Paris (France), 12 Dec. 2015, in force 4 Nov. 2016, available at: [https://unfccc.int/sites/default/files/english\\_paris\\_agreement.pdf](https://unfccc.int/sites/default/files/english_paris_agreement.pdf).

<sup>7</sup> *Ibid.*, Arts 4(12) and 7(12); Decision 1/CP.21, ‘Adoption of the Paris Agreement’, UN Doc. FCCC/CP/2015/10/Add.1, 29 Jan. 2016, paras 117, 133.

<sup>8</sup> See UN Climate Change, ‘NDC Registry’, available at: <https://unfccc.int/NDCREG>; UN Climate Change, ‘Adaptations Communications Registry’, available at: <https://unfccc.int/ACR>; UN Climate Change, ‘Global Climate Action: NAZCA’, available at: <https://climateaction.unfccc.int>.

<sup>9</sup> Paris Agreement, Arts 4(2), 7(10), 9(5), 9(7); Decision 1/CMA.3, ‘Glasgow Climate Pact’, UN Doc. FCCC/PA/CMA/2021/10/Add.1, 8 Mar. 2022, para. 89.

<sup>10</sup> Paris Agreement, Arts 13, 14; Decision 1/CMA.4, ‘Sharm el-Sheikh Implementation Plan’, UN Doc. FCCC/PA/CMA/2022/10/Add.1, 17 Mar. 2023, para. 92.

While endorsing datafication, the Paris Agreement also acknowledges human rights. The Preamble to the treaty explicitly recognizes the human rights implications of climate change, referring (among others) to the right to health, the rights of local communities, and the right to development.<sup>11</sup> In the light of the Paris Agreement's two-pronged mobilization of data and rights as governance technologies, this article engages with two sets of questions. Firstly, how does data participate in climate change governance? Specifically, which logics does datafied climate change governance follow; what does it prioritize; and what is left out of view? Secondly, what role(s) can human rights play in datafied climate change governance? Specifically, how might a human rights-based approach complement datafied climate change governance?

While the first set of research questions has a descriptive-analytical focus, the second takes a normative-evaluative position and asks what datafication means for the epistemic underpinnings of climate change governance. While data has been described as essential for supporting learning and policy integration, developing best practices, and ensuring the credibility of climate commitments,<sup>12</sup> there has been little critical engagement with the assumption that datafication is a technical, a-political, and universal mode of governing in climate crisis. Specifically, questions relating to how datafication determines local capacities to exercise authority, articulate expertise, make sense of local experience, and claim trust have not been broadly discussed. Engaging with these issues, this article analyzes how data and rights shape processes of knowledge production, and how they seek to render the climate governable.

Methodologically, the article turns the gaze from the international to transnational and local settings. This shift in perspective is key given that processes and structures of datafication – such as global databases, reporting systems, and review mechanisms – depend on local data inputs that are curated to align with standardized reporting formats. Many of these standards have been formulated by transnational alliances of sub-national and non-state actors, some of which now officially serve as 'data providers' of global climate data portals.<sup>13</sup> The article develops a case study on one such data provider, the Global Covenant of Mayors for Climate & Energy (GCoM) – a transnational alliance of more than 12,500 local administrations across six continents that have committed to setting climate targets, developing climate programmes, and reporting on local emissions and climate risks.<sup>14</sup> Foregrounding local experiences of how data and rights shape governance processes, the article synthesizes insights from, and adds to, three strands of literature: firstly, perspectives on transnational and urban climate change governance that span the political sciences, law, human geography, and international relations; secondly, critical appraisals of the epistemological work that technologies of datafication, quantification, and digitization do in legal and governance

<sup>11</sup> Paris Agreement, Preamble, para. 10.

<sup>12</sup> T. Hale et al., 'Sub- and Non-State Climate Action: A Framework to Assess Progress, Implementation and Impact' (2021) 21(3) *Climate Policy*, pp. 406–20, at 407; see also A. Hsu et al., 'Track Climate Pledges of Cities and Companies' (2016) 532(7599) *Nature*, pp. 303–6.

<sup>13</sup> See UN Climate Change, 'Global Climate Action: NAZCA. About', available at: <https://climateaction.unfccc.int/About>.

<sup>14</sup> Global Covenant of Mayors for Climate & Energy, 'Who We Are', available at: <https://www.globalcovenantofmayors.org/who-we-are>.

processes; and, thirdly, ethnographic research and critical appraisals of human rights, specifically in the context of the unfolding climate crisis.

Section 2 begins by introducing key concepts used in this article, specifically ‘transnational climate change governance’ and ‘place’, and it lays out the methodological implications of working with these concepts. Section 3 introduces the GCoM as the case study of the article, describing its institutional set-up and recounting how it developed the Common Reporting Framework as a global standard for climate data reporting.<sup>15</sup> Section 4 analyzes how nine local administrations in Colombia, Malaysia, and England (United Kingdom (UK)) are struggling, resisting, and seeking to comply with this standard. This analysis shows how data has become implicated in, and how it is reconfiguring climate change governance at the local level. Building on this descriptive-analytical account, Section 5 assesses how a human rights-based approach could meaningfully complement datafied climate change governance. The concluding section (6) summarizes the argument and findings of the article, and reflects on what it means to ‘govern’ in times of climate change.

## 2. Connecting Transnational Climate Change Governance with Place

A burgeoning multi-disciplinary literature has investigated cross-border forms of voluntary climate change governance that fuse private and public domains.<sup>16</sup> The GCoM is a prime example of this type of governance arrangement. It convenes a diverse set of subnational and non-state actors to animate, guide, and support local administrations in their efforts to respond to climate change. Within transnational climate change governance scholarship, cities have received increasing attention. Researchers have assessed the performance of urban climate change governance<sup>17</sup> and described the lawmaking activities of local governments.<sup>18</sup> The bulk of existing research, however, has situated transnational initiatives, such as the GCoM, in relation to processes that take place at the international level.<sup>19</sup> A comparatively small number of

<sup>15</sup> Global Covenant of Mayors for Climate & Energy (GCoM), ‘Common Reporting Framework’, 13 Sept. 2018, available at: [https://www.globalcovenantofmayors.org/wp-content/uploads/2019/04/FINAL\\_Data-TWG\\_Reporting-Framework\\_website\\_FINAL-13-Sept-2018\\_for-translation.pdf](https://www.globalcovenantofmayors.org/wp-content/uploads/2019/04/FINAL_Data-TWG_Reporting-Framework_website_FINAL-13-Sept-2018_for-translation.pdf) (GCoM Framework).

<sup>16</sup> See, e.g., P. Pattberg & J. Stripple, ‘Beyond the Public and Private Divide: Remapping Transnational Climate Governance in the 21<sup>st</sup> Century’ (2008) 8(4) *International Environmental Agreements: Politics, Law and Economics*, pp. 367–88; L.B. Andonova, M.M. Betsill & H. Bulkeley, ‘Transnational Climate Change Governance’ (2009) 9(2) *Global Environmental Politics*, pp. 52–73; H. Bulkeley et al., *Transnational Climate Change Governance* (Cambridge University Press, 2014).

<sup>17</sup> J.S. Bansard, P.H. Pattberg & O. Widerberg, ‘Cities to the Rescue? Assessing the Performance of Transnational Municipal Networks in Global Climate Governance’ (2017) 17(2) *International Environmental Agreements: Politics, Law and Economics*, pp. 229–46.

<sup>18</sup> J. Lin, *Governing Climate Change: Global Cities and Transnational Lawmaking* (Cambridge University Press, 2018).

<sup>19</sup> See generally S. Chan, C. Brandi & S. Bauer, ‘Aligning Transnational Climate Action with International Climate Governance: The Road from Paris’ (2016) 25(2) *Review of European, Comparative and International Environmental Law*, pp. 238–47; L. Mai, ‘The Growing Recognition of Transnational Climate Governance Initiatives in the UN Climate Regime: Implications for Legal Scholarship’ (2018) 8(3–4) *Climate Law*, pp. 183–94; H. Bulkeley et al., ‘Transnational Governance: Charting New Directions Post-Paris’, in A. Jordan et al. (eds), *Governing Climate Change: Polycentricity in Action?* (Cambridge University Press, 2018), pp. 63–80. On cities specifically see H. Bulkeley, ‘Can Cities

contributions have investigated dynamics occurring between transnational and domestic levels.<sup>20</sup> Meanwhile, critical data studies<sup>21</sup> and the literature on indicators<sup>22</sup> have shown how technologies of quantification, standardization, and digital processing transform ‘what counts as known, probable, certain, and in the process’.<sup>23</sup> Key questions when investigating the datafication of climate change governance thus relate to its implications for local capacities to make sense of and articulate experience. From a local perspective, what is at stake when mobilizing data as the primary epistemic infrastructure of climate change governance? How might rights complement data-driven climate change governance at the local level?

To engage with these questions, the article suggests that a turn to ‘place’ is productive. Moving from abstractly conceptualized global spaces of datafication to concrete instances of participation and experience in place allows acknowledging that local contexts, be they urban or otherwise, always hold their own capacities, politics, cultures, and ways of knowing and doing.<sup>24</sup> Importantly, turning to place has methodological implications. It removes the analytical focus from a ‘one-world world’,<sup>25</sup> instead giving resonance to self-determined meaning-making, articulation, and projection. Specifically, a turn to place allows critical questions to be asked about the rationalities that are constitutive of datafied climate change governance and shows how they are made sense of, rendered relevant, practised, and contested in concrete settings. In this sense, the notion of place helps to revalorize ‘situated’, or ‘located’, knowledges.<sup>26</sup> Instead of aiming for generalizable results, attending to place means giving resonance to ‘politics and epistemologies of location, positioning, and situating, where partiality and not universality is the condition of being heard’.<sup>27</sup> Simply put, if the aim is to

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Realise Their Climate Potential? Reflections on COP21 and Beyond’ (2015) 20(11) *Local Environment*, pp. 1405–9.

- <sup>20</sup> See L. Bendlin, *Orchestrating Local Climate Policy in the European Union: Inter-Municipal Coordination and the Covenant of Mayors in Germany and France* (Springer, 2019). See also C.B. Roger, T. Hale & L.B. Andonova, ‘The Comparative Politics of Transnational Climate Governance’ (2017) 43(1) *International Interactions*, pp. 1–25; L.B. Andonova, T. Hale & C. Roger, ‘National Policy and Transnational Governance of Climate Change: Substitutes of Complements’ (2017) 61(2) *International Studies Quarterly*, pp. 253–68.
- <sup>21</sup> For a concise overview see A. Iliadis & F. Russo, ‘Critical Data Studies’ (2016) 3(2) *Big Data and Society*, pp. 1–7, at 1–3. See also C. Dalton & J. Thatcher, ‘What Does a Critical Data Studies Look Like, and Why Do We Care?’ (2014) 29 *Society and Space*, available at: <https://www.societyandspace.org/articles/what-does-a-critical-data-studies-look-like-and-why-do-we-care>.
- <sup>22</sup> See K. Davis et al. (eds), *Governance by Indicators: Global Power through Quantification and Rankings* (Oxford University Press, 2012); R. Rottenburg et al. (eds), *The World of Indicators: The Making of Governmental Knowledge through Quantification* (Cambridge University Press, 2015); S. Engle Merry, K.E. Davis & B. Kingsbury (eds), *The Quiet Power of Indicators: Measuring Governance, Corruption and Rule of Law* (Cambridge University Press, 2015).
- <sup>23</sup> S. Hong, *Technologies of Speculation: The Limits of Knowledge in a Data-Driven Society* (New York University Press, 2020), p. 1.
- <sup>24</sup> A. Escobar, *Territories of Difference: Place, Movement, Life, Redes* (Duke University Press, 2008), p. 30. See also A. Escobar, *Pluriversal Politics: The Real and the Possible* (Duke University Press, 2020).
- <sup>25</sup> J. Law, ‘What’s Wrong with a One-World World?’ (2015) 16(1) *Distinktion: Scandinavian Journal of Social Theory*, pp. 126–39.
- <sup>26</sup> D. Haraway, ‘Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective’ (1988) 14(3) *Feminist Studies*, pp. 575–99, at 583.
- <sup>27</sup> *Ibid.*, p. 589.

foreground the diversity and particularities of local knowledges, practices, and experiences, then any attempt to speak about such knowledges, practices, and experiences in abstract and generalized ways would mean reinscribing the very epistemic move one seeks to critique. The next section further develops this point, detailing the implications of turning to place for research design and methods.

### 2.1. Implications of Turning to Place: Case Study Design and Methods

Connecting transnational climate change governance to place requires examining concrete practices in specific settings. Accordingly, the case study developed in this article adopts an ‘embedded’ design<sup>28</sup> and analyzes empirical materials collected across multiple levels. Within the case study the GCoM is conceptualized as a datafied transnational space, while nine local administrations across Malaysia, Colombia, and England represent specific local places as ‘embedded units of analysis’.<sup>29</sup> Whereas Malaysia and Colombia represent national-level jurisdictions, England was identified as a suitable sub-national jurisdictional context given the significant differences in how climate change governance is operationalized across the devolved administrations of the UK.<sup>30</sup>

In selecting jurisdictional contexts, care was taken to focus not exclusively on one geographic region but to include diverse perspectives from both the global south and global north. In addition, practical constraints relating to the available research budget and language skills had to be taken into account. Importantly, the nine selected local places do not only comprise ‘global cities’ – major urban centres that have emerged as key sites within the global economy and which assert their place in world politics.<sup>31</sup> Rather, selected local places also include smaller cities and more remote rural towns. Seeking to reflect – albeit in a necessarily limited way – the diversity of places which are affected by datafication processes, the article makes a conscious effort to contribute to making research on local climate change governance more representative of all global regions and contexts. This is urgently needed, as the literature has remained dominated by single and small-n studies that focus primarily on the global north and major metropolitan centres.<sup>32</sup>

<sup>28</sup> R.K. Yin, *Case Study Research* (SAGE, 4<sup>th</sup> edn, 2009), p. 46.

<sup>29</sup> *Ibid.*

<sup>30</sup> E.g., in contrast to Scotland, most local administrations in England do not have direct statutory obligations to address climate change. On climate change governance in the UK and its devolved administrations see T.L. Muinzer, *Climate and Energy Governance for the UK Low Carbon Transition: The Climate Change Act 2008* (Springer, 2019), specifically pp. 99–120. For a recent discussion see Institute for Government, ‘Net Zero and Devolution: The Role of England’s Mayors in the Climate Transition’, Jan. 2023, available at: [https://www.instituteforgovernment.org.uk/sites/default/files/2023-02/net-zero-and-devolution\\_0.pdf](https://www.instituteforgovernment.org.uk/sites/default/files/2023-02/net-zero-and-devolution_0.pdf).

<sup>31</sup> S. Sassen, *The Global City: New York, London, Tokyo* (Princeton University Press, 2<sup>nd</sup> edn, 2001). See also M. Acuto, ‘City Leadership in Global Governance’ (2013) 19(3) *Global Governance*, pp. 481–98; Lin, n. 18 above, pp. 42–69.

<sup>32</sup> J. van der Heijden, ‘Studying Urban Climate Governance: Where to Begin, What to Look for, and How to Make a Meaningful Contribution to Scholarship and Practice’ (2019) 1 *Earth System Governance*, article 100005, pp. 3–4, available at: <https://doi.org/10.1016/j.esg.2019.100005>. See also T. Kumar & M. Stenberg, ‘Why Political Scientists Should Study Smaller Cities’ (2022) 59(6) *Urban Affairs Review*, available at: <https://doi.org/10.1177/10780874221124610>.

Empirical materials comprise 22 semi-structured interviews that were conducted with GCoM staff, partner organizations, and climate data specialists, as well as with officers of local administrations working across the nine selected local places. At local administrations, where climate-related issues were generally allocated to small teams comprising no more than a handful of staff, respondents were easily identifiable. In all other cases, snowball sampling was relied upon to identify respondents. This facilitated access and revealed existing connections between local administrations, external experts, and GCoM staff.<sup>33</sup> To protect the anonymity of respondents, in conformity with the consent modalities under which research interviews were conducted, respondents' names, positions, and places of work are not disclosed. Instead, the article refers to respondents as follows: staff working at the global and regional GCoM secretariats: Respondents 1–10; in-country GCoM partners (such as consultants, data experts, and partner networks): Respondents 11–13; staff, officers, and public servants working at local administrations in Malaysia: Respondents 14–16, Colombia: Respondents 17–19, and England: Respondents 20–22.<sup>34</sup>

Ahead of the interviewing phase, a general interview guide was developed to ensure that relevant issues were covered across all interviews. These include, for instance, how data work was carried out, by whom, how data was used, and which issues were encountered in data collection, curation, and processing. Ahead of each interview, the general guide was adapted as needed, taking into account local specificities and available information, such as reports and website content that were made public by local administrations. During interviews, open-ended questions were used firstly to allow respondents to articulate answers in their own words.<sup>35</sup> The aim was to hear how local experience was framed and what respondents intuitively regarded as relevant. Targeted specifying and probing questions were then used to elicit further information on points that appeared particularly relevant, which were not addressed or which required clarification.<sup>36</sup> The overall rationale of interviews, thus, was to enable respondents to reflect on how processes of datafication implicate local contexts. Foregrounding local knowledges, practices, and experiences, this approach to conducting interviews aligns data collection with the methodological turn to place.

The empirical analysis of how datafication affects the nine local places included in the case study is complemented by a review of human rights literature that has traced

<sup>33</sup> See C. Noy, 'Sampling Knowledge: The Hermeneutics of Snowball Sampling in Qualitative Research' (2008) 11(4) *International Journal of Research Methodology*, pp. 327–44.

<sup>34</sup> While ensuring anonymity, categorizing respondents into clusters means that each interview excerpt or quote remains attributable to a particular jurisdiction and scale of governance, thus retaining relevant contextual information. Removing identifiers, using pseudonyms, and breaking links between data and information that might lead to identification are best practices of empirically grounded socio-legal research; see further Socio-Legal Studies Association, 'Statement of Principles of Ethical Research Practice (2011, revised 2009; 2021)', specifically para. 8.2, available at: [https://slsa.ac.uk/images/slsa-downloads/SLSA\\_Board\\_2021/SLSA\\_Ethics\\_Statement\\_-\\_September\\_2021.pdf](https://slsa.ac.uk/images/slsa-downloads/SLSA_Board_2021/SLSA_Ethics_Statement_-_September_2021.pdf).

<sup>35</sup> J.D. Aberbach & B.A. Rockman, 'Conducting and Coding Elite Interviews' (2002) 35(4) *Political Science and Politics*, pp. 673–6, at 674.

<sup>36</sup> S. Brinkmann & S. Kvale, *InterViews: Learning the Craft of Qualitative Research Interviewing* (SAGE, 2015), pp. 160–4.

how rights play out in local settings. The aim here is to critically explore how human rights might be able to complement data-driven climate change governance and what a centring of rights would mean for local communities. As such, in order to continue to foreground place-based perspectives, the article draws primarily on ethnographic literature and understands human rights as a ‘practice’ that is carried out by a variety of actors who ‘advocate for, criticize, study, legally enact, vernacularize the idea of human rights in its different forms’.<sup>37</sup> Accordingly, rather than seeing rights as abstract normative categories inscribed in treaties and constitutions, the article engages with literature that conceptualizes rights as concrete, lived, and contextualized forms of meaning-making, articulation, struggle, and resistance.<sup>38</sup>

### 3. The GCoM as a Datafied Governance Space

Describing itself as the ‘largest global alliance for city climate leadership’,<sup>39</sup> the GCoM mobilizes data to animate, guide, and support local administrations in their efforts to address climate change. The initiative officially started to operate in January 2017, following the merger of two pre-existing coalitions: the Covenant of Mayors, an alliance focused on Europe and neighbouring regions launched in 2008; and the Compact of Mayors, a global initiative that was first presented at the 2014 United Nations (UN) Leader’s Climate Summit in New York City (United States (US)). While the former was the brainchild of the European Union (EU), the latter initiative was backed by US businessman-turned-politician Michael Bloomberg in his role as the UN Secretary-General’s Special Envoy for Cities and Climate Change.<sup>40</sup> During negotiations over the merger of these two coalitions, questions about the role of local climate data and the form of required information collection and processing mechanisms emerged as sticking points.<sup>41</sup> Even after the merger data politics have remained a contentious issue. Research has detailed how concerns about the commodification of municipal climate data have persisted and how local needs and interests are seen to become subordinated to a technocratic accounting logic.<sup>42</sup> This aligns with earlier descriptions of Michael Bloomberg as the entrepreneurial mayor of New York City who focused on ‘urban problem solving’ through ‘a non-politics of science and numbers’, using ‘mayors around the world and his network of philanthropy to

<sup>37</sup> M. Goodale, ‘Locating Rights, Envisioning Law between the Global and the Local’, in M. Goodale & S. Engle Merry (eds), *The Practice of Human Rights: Tracking Law between the Global and the Local* (Cambridge University Press, 2007), pp. 1–38, at 24.

<sup>38</sup> See S. Engle Merry, *Human Rights and Gender Violence: Translating International Law into Local Justice* (University of Chicago Press, 2006).

<sup>39</sup> GCoM, ‘Who We Are’, available at: <https://www.globalcovenantofmayors.org/who-we-are>.

<sup>40</sup> European Commission, ‘EU Covenant of Mayors and Compact of Mayors Launch Largest Global Coalition of Cities Committed to Fighting Climate Change’, 22 June 2016, available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_16\\_2247](https://ec.europa.eu/commission/presscorner/detail/en/IP_16_2247).

<sup>41</sup> F. Gesing, ‘Transnational Municipal Climate Network and the Politics of Standardisation: The Contested Role of Climate Data in the New Global Covenant of Mayors for Climate and Energy’ (2018) 6(3) *Politics and Governance*, pp. 126–35, at 129.

<sup>42</sup> *Ibid.*, pp. 120–31.



produce ... the beginnings of an international infrastructure that can promote a level of change that is hard to fathom'.<sup>43</sup>

In practice, the Common Reporting Framework developed by the GCoM requires local administrations to work through a specified sequence of steps. Within two years of joining the GCoM, municipalities have to submit greenhouse gas (GHG) emissions inventories,<sup>44</sup> develop local risk and vulnerability assessments,<sup>45</sup> and set mitigation and adaptation targets.<sup>46</sup> After three years, GCoM members are expected to have developed 'climate action plans': local climate programmes which cover three issue areas – mitigation, adaptation, and access to energy.<sup>47</sup> Following submission of the action plan, members are required to report on their implementation progress at two-year intervals via designated data portals.<sup>48</sup> With its focus on standardizing metrics and aligning reporting cycles, the Framework plays a critical role in facilitating datafication. Respondent 10, a climate data expert who was involved in drawing up the Framework, explained:

The Framework explicitly and very clearly specifies what type of data [GCoM] members are required to collect, within which timeframes, in what format and through which platforms they have to report.

Setting out ground rules on measurement and reporting is an essential pre-requisite for operationalizing datafied climate change governance: '[T]o datafy, we need to know how to measure and how to record what we measure'.<sup>49</sup> Thus, by specifying how and when local administrations are to calculate emissions, assess risks, and submit reports, the Framework enables datafication.

In a 2014 tweet, Michael Bloomberg himself described the rationale of datafied climate change governance as follows: 'If you can't measure it, you can't manage it, and you can't fix it'.<sup>50</sup> According to this logic, data allows taking stock ('measuring it'), to render climate change governable ('managing it'), and find solutions ('fixing it').<sup>51</sup> Within a datafied governance space, data is thus seen to hold the key to solving problems. Respondent 10 explained:

You can only do your analysis when you have relevant data, including on emissions per year, per sector, per energy carrier and so on. Data plays a crucial role. You need data to

<sup>43</sup> B. Barber, *If Mayors Ruled the World: Dysfunctional Nations, Rising Cities* (Yale University Press, 2013), pp. 25–6.

<sup>44</sup> GCoM Framework, n. 15 above, para. 3.

<sup>45</sup> *Ibid.*, para. 5.

<sup>46</sup> *Ibid.*, para. 4.

<sup>47</sup> *Ibid.*, para. 6.1.

<sup>48</sup> *Ibid.*, paras 6.2, 7 and Annexes B, C, D, E and F.

<sup>49</sup> Mayer-Schönberger & Cukier, n. 2 above, p. 78.

<sup>50</sup> Tweet released on 21 Jan. 2014, available at: <https://twitter.com/mikebloomberg/status/425738442803511296?lang=en>.

<sup>51</sup> See also A. Oels, 'Rendering Climate Change Governable: From Biopower to Advanced Liberal Government?' (2005) 7(3) *Journal of Environmental Policy and Planning*, pp. 185–207; W. Boyd, 'Ways of Seeing in Environmental Law: How Deforestation Became an Object of Climate Governance' (2010) 37(3) *Ecology Law Quarterly*, pp. 843–916.

run the analysis, you need the data to do the monitoring and you need the data to report. You need data also when you want to know where your programmes, the ones that you are planning to do, where they are going to get you.

This account of the ‘crucial role’ of data reveals how the logic of datafied climate change governance, as endorsed by the GCoM, is premised on the assumption that all that is necessary to know, and that can be known, about climate change is ultimately reducible to data. In this sense, datafication promises an ‘epistemic purity’ and completeness; it is seen to provide a ‘raw and untampered representation of empirical reality’.<sup>52</sup> In other words, data is perceived to have the capacity to translate complex and messy real-world phenomena, even something as difficult to grasp as the climate crisis,<sup>53</sup> into discrete, stable, and manageable truths. The next section critically engages with this logic. Detailing how datafication has affected local governance structures and processes, it shows how the assumptions on which datafication is built play out in place.

#### 4. ‘All They Want Is Your Data’: Local Perspectives on Datafied Climate Change Governance

Respondents’ accounts bring to the fore the very quotidian and practical limits of local capacity, the struggles to make data relevant and useful in place, and the exclusionary effects of standardized measuring and reporting requirements. Recounting local experience, this section identifies four distinct, but nevertheless related, stories that convey how datafication, as promoted by the GCoM, jars with what is happening in place. The narrative which connects these four stories is that datafication itself is becoming the primary aim of the GCoM’s governance efforts. Respondents across all three jurisdictions described how data work risks taking precedence over reducing local emissions and preparing communities for climate impacts. As Respondent 17, a public servant working for a Colombian local administration, succinctly remarked: ‘All they [the GCoM] want is your data’.

##### 4.1. Datafication Can Be Impracticable: On Costs and Local Capacity

In practice, many local administrations do not have capacity to comply with the Framework. Across all three jurisdictions respondents spoke openly about lacking resources, in terms of funding, technical know-how, and staff. Respondent 12, who was working for a partner organization of the GCoM in Colombia, explained: ‘[T]he problem is that cities do not have the financial resources ... You would really need professionals working on data in every city – big and small’. Lacking capacity and resources tended to be a greater issue for small and medium-sized cities, in particular, in jurisdictions where local authorities are not formally required to consider climate change. In England, for instance, where most local administrations are not under an

<sup>52</sup> Hong, n. 23 above, p. 8.

<sup>53</sup> T. Morton, *Hyperobjects: Philosophy and Ecology after the End of the World* (University of Minnesota Press, 2013).

explicit statutory obligation to work on climate change,<sup>54</sup> respondents were clear that if a direct legal requirement existed, resources for data work would be made available. Well-connected cities with ties to multiple transnational networks expressed more confidence in their ability to complete required data work, including by mobilizing external expertise through collaborating with consultancies and local universities. It was only capital and major cities that had developed and were able to retain in-house capacity for data work. Meanwhile, many smaller and less well-connected cities explained that they could not justify the expense of hiring external expertise when needed, let alone paying for dedicated data specialists on a permanent basis.

Interviews with GCoM staff made clear that the initiative is aware of these practical constraints and has sought to address them in various ways. For one, the Framework itself recognizes, as Respondent 6 explained, ‘three levels of reporting’: ‘a minimum standard that all signatory cities are expected to follow’, and ‘additional recommended and optional steps for cities that have the capacity to go further’. Respondent 1 described how this tiered system of reporting was designed to make initial compliance easier for new GCoM members, while ‘indicating the direction of travel of what is expected of them in the long run’. To provide members with a first point of call, the GCoM has set up regional helpdesks to answer technical questions about reporting requirements in local languages. Further, in collaboration with international and local partners, the GCoM provides intensive training through in-country workshops for new members in some regions. Respondents from Malaysia, for instance, described these workshops as ‘incredibly important’ in understanding data work. In addition to these institutionalized capacity-building efforts, respondents across all three jurisdictions gave examples of how local administrations themselves are proactively seeking to find ways for rendering data work more manageable, including by pooling expertise (Colombia), developing best practices and shared data tools (England), and by setting up informal in-country city networks (Malaysia). To avoid duplication of data collection and processing work at the local level, the GCoM has set up a process for adapting the Framework to domestic reporting requirements. As a result, the Framework consists of a set of, what Respondent 1 referred to as, ‘regionalized versions’, which aim to take into account local or regional specificities.

Despite these efforts to make data work less burdensome, respondents working at the local level described data collection and reporting as complex, labour- and time-intensive. From the local perspective, the GCoM’s highly technical and sophisticated data collection and processing requirements risk detracting scarce resources from planning and operationalizing local projects that would directly address climate impacts and reduce emissions. For instance, Respondent 20, a senior local sustainability officer in England, explained:

<sup>54</sup> Under s. 1 of the Localism Act 2011 local authorities in England have a ‘general power of competence’ under which they can address climate change. For a discussion see Climate Change Committee, ‘Local Authorities and the Sixth Carbon Budget’, Dec. 2020, p. 22, available at: <http://www.theccc.org.uk/wp-content/uploads/2020/12/Local-Authorities-and-the-Sixth-Carbon-Budget.pdf>. Some administrations, such as the Greater London Authority, are explicitly required to consider climate change. See Greater London Authority Act 1999, s. 30(4)(c).

Our priority in the city is not filling in tables, it is delivering projects that will reduce emissions and improve resilience. And with the best will in the world, filling in lots of data will not do that ... I would love to just say to them [the GCoM]: 'Well, just go out and find the data you want. Don't ask us to keep on presenting information in a format to suit you ... Most of our data is public, just go and find it'.

In Malaysia and Colombia, distributive justice concerns and increased levels of vulnerability added to this frustration. Respondent 19, for instance, pointed to Colombia's low historical emissions before stating:

We are among the 20 countries worldwide that are most vulnerable to climate change. And so, with our limited financial resources, we have to focus on risk and adaptation. We need to make sure that our communities are prepared for whatever happens, and so we really cannot spend the money on other things.

#### *4.2. Datafication Is Not Always Useful: On Simplification and Imperfection*

While practical difficulties of data work were acknowledged across all nine local places included in the case study, respondents told a more complex story about the usefulness of data. In this story the value of municipal climate data is couched in ambiguity. While respondents clearly identified three main benefits of having municipal climate data at hand, some articulated an uneasiness that data is often incomplete and difficult to understand. In terms of benefits, respondents across all nine local administrations explained that collecting, sorting, and presenting municipal climate data in the way prescribed by the Framework allowed them to organize information meaningfully, such that applying for funding and preparing project proposals was significantly simplified. Respondent 22, a staff member of a local administration in England, explained how the Framework 'gives clarity on how to present local information' such that it is in the 'right format'. A second identified advantage of aligning with the Framework is benchmarking. Data enables municipalities to compare where they stand vis-à-vis others, be it at the domestic or the global level. Respondent 17, a climate officer with a local administration in Colombia, explained the importance of comparison for peer-to-peer learning and replication:

[W]hen you compare yourself to other parts of the world, you see what can be done and you see where you need to go. It is the common reporting that allows us to compare ourselves to other cities. We have taken part in many calls for financing, for example, but we have not been successful. So, we need to look to other cities and see what they have done and learn.

Thirdly, municipal authorities, as lower units in hierarchically structured public administrative systems, use local climate data to demonstrate to policy- and lawmakers at higher levels of governance what is needed, what has worked elsewhere, and what could be made possible in place. Several respondents described how they relied on

local climate data to lobby regional and national decision makers. For instance, Respondent 15, a senior officer with a Malaysian municipality, explained:

We have to really convince our councillors and our state government to buy into climate change and support what we are doing at the city level. When we want to do things locally, we need to invest more. So how can we convince them to make this happen? We can use the GCoM for that because it is an international agenda and we can educate them and show them what we are doing and what others are doing.

The three perceived benefits of complying with the measuring and reporting requirements of the GCoM evidence how the usefulness of data is intimately connected to the perception that data provides an evidence base which tells the unembellished truth about what is happening in place. Importantly, however, some respondents expressed concerns that data was often complex and difficult to understand, such that it was impossible to scrutinize and extract what it was actually revealing. Respondent 20, for instance, explained how ‘there are sometimes doubts about what has been done and what it is that we are actually measuring’. These concerns specifically ring true in places that do not have in-house analytical capacity and have to rely on external experts to carry out data work (see Section 4.1). Crucially, what data collection and curation involves varies from place to place: while in some jurisdictions central government data is downscaled to the local level, in others local authorities and their partners run primary data collection processes themselves. Respondents’ contradicting assessments of the usefulness of local climate data can be explained by unpacking what technology scholar Sun-ha Hong refers to as data’s ‘promise of revelation’. Given its complexity, it becomes impossible for ordinary data users to subject information to in-depth scrutiny. Paradoxically, it is this inscrutability that ‘communicates a certain sense of objective authority’: as data ‘translate[s] credibility across people and things’, it provides a sense of assurance, reliability, and trustworthiness.<sup>55</sup>

While datafication seemingly promises to yield an authoritative account of how places become implicated in the climate crisis, beneath the veil of objectivity, which is wrapped around numbers and figures, lie technologies of approximation, estimation, extrapolation, cutting away, and boundary drawing. The Framework, together with accompanying technical guidance, for instance, specifies which emissions ‘count’ in terms of the type of source (which sectors are covered?), their geographic location (where do emissions occur?), and spheres of influence (does the municipality have the competence to regulate the emissions in question?).<sup>56</sup> It is thus an illusion to conceive of data as something that is ‘collected’. Data does not exist ‘prior to observation’; rather it is ‘something to be “achieved” through a concerted process of production’.<sup>57</sup>

<sup>55</sup> Hong, n. 23 above, pp. 34–5.

<sup>56</sup> Framework, n. 15 above, paras 2, 3.3, 3.4; GCoM, ‘Guidance Note: Explanatory Note Accompanying the Global Covenant of Mayors Common Reporting Framework’, version 9, 12 Apr. 2019, pp. 13–37, available at: [https://www.globalcovenantofmayors.org/wp-content/uploads/2019/04/Data-TWG\\_Reporting-Framework\\_GUIDANCE-NOTE.pdf](https://www.globalcovenantofmayors.org/wp-content/uploads/2019/04/Data-TWG_Reporting-Framework_GUIDANCE-NOTE.pdf) (GCoM Guidance Note).

<sup>57</sup> Hong, n. 23 above, p. 19.

In order to measure and record, choices have to be made. Messy and complex real-world processes have to be translated into pre-defined categories to then be turned into authoritative numbers. From this perspective, it becomes evident why the commonly mobilized phrase ‘raw data’ is, quite literally, an oxymoron: ‘Data need to be imagined *as* data to exist and function as such ... Like *events* are imagined and enunciated against the continuity of time, *data* are imagined against the seamlessness of phenomena’.<sup>58</sup> In this way, the promise to render complex things knowable and manageable is foundational for both the usefulness and limitations of data. By reducing complexity, data opens up concrete possibilities for action: applying for funding, formulating local climate plans and programmes, and convincing policy- and lawmakers at higher levels of governance. At the same time, however, the simplifying which is always and already involved in data production risks only partially and inadequately accounting for the messiness, complexities, and the politics of the climate crisis as they play out in place. As a result, as Respondent 20 put it, ‘data sometimes are not actually very helpful, in terms of deciding what we [local administrations] want to do’.

#### 4.3. *Datafication Is ‘Not Enough’: On Follow-up Work and Contextualization*

Respondents’ ambiguous and contradictory accounts of the usefulness of local climate data are related to a third narrative which surfaced during interviews: namely, that data, in itself, is ‘not enough’. As Respondent 14 explained, data ‘give you an idea where you currently stand, but they do not tell you what to do’. Datafication essentially entails measuring and recording what happened in the past in order to project into the future. From the local perspective, data leaves unanswered central questions of how to decide and how to act in the ‘here and now’. Respondent 15, working with a local administration in Malaysia, explained:

For example, with flooding, once our local data is there, I can’t necessarily see how I can form a set of policies or projects relating to the figures that are provided ... It does not give you any recommendations, a set of plans or something like that.

What is needed in addition to data, therefore, are modalities that enable local authorities to scrutinize, interpret, and contextualize data, rendering available information meaningful for local decision-making and planning purposes. Having described their troubles to make available data relevant for planning local anti-flooding measures, Respondent 15 proposed: ‘My suggestion would be to have the Framework, but also have something else ... that gives you some analysis on what you can do’.

In addition to follow-up work to help in making sense of local climate data, there is a need to contextualize insights. Respondent 12, an in-country GCoM partner in Colombia, explained:

If you start taking data on a project from this big city – for example, on a new bicycle route – and try to translate these numbers such that they ‘fit’ with the smaller city, that will simply

<sup>58</sup> Geitelman & Jackson, n. 1 above, p. 3 (emphasis in the original).

not work. But if you tell a story about what you did, provide background and explain the ‘what?’, ‘why?’ and ‘how?’, smaller cities will be able to understand the context of the project and tailor it according to their own needs.

Respondents’ accounts reveal how, despite their promise of seemingly increasing the knowability of climate change in place, there is a need to follow up and contextualize municipal data. Under the European regionalized version of the Framework, relevant modalities have been institutionalized. The EU Joint Research Centre, which describes itself as the EU Commission’s ‘science and knowledge service’,<sup>59</sup> provides local administrations with context-specific recommendations and feedback after having reviewed local data submissions and climate action plans. Respondent 10 recounted how this review and feedback mechanism originated under the EU Covenant of Mayors, the European predecessor to the GCoM. Firmly rooted within the EU institutional architecture, this review and feedback mechanism, according to Respondent 1, was never intended to be introduced beyond the European regional context of the post-merger initiative. Nevertheless, Respondent 11 acknowledged that many cities find themselves in an information environment that requires follow-up work: ‘Cities have too much information. In fact, they do not know what to do with that information’. In practice, the availability of data may indeed add new pressures on local administrations. Respondent 22 explained that once data has been produced, local authorities are expected to ‘know for themselves’. This leads to an erosion of difference between the technically skilled data expert, on the one hand, and the public bureaucrat working at a local authority, on the other, thus risking the shifting of responsibility to the local level despite limited available resources and capacity. In the worst-case scenario, the lack of modalities that support meaning-making and contextualization could lead to obfuscation and delay. In the absence of required follow-up work, the reporting of climate data risks becoming a performance that produces the appearance of ‘something being done’. Respondent 20, for instance, pointed out how a nod to municipal climate data can help local leaders in confronting the demands of climate campaigns – even in cases where measuring and reporting fail to lead to concrete programmes and plans that actually reduce emissions and increase resilience in place.

#### *4.4. Datafication is Exclusionary: On Re-inscribing Dominance and Marginalization*

The fourth story that emerged during interviews with local staff is that datafication re-inscribes the dominance of certain knowledge and sense-making practices while marginalizing others. As argued in Section 4.2, data fabricates truth claims – always on certain conditions and with certain aims. In so doing, data sets epistemic guardrails that determine whose testimony is trusted, what becomes available, how experience can be expressed, what becomes an option, and what appears as outrageous, bizarre, or

<sup>59</sup> See European Commission, ‘Joint Research Centre’, available at: <https://ec.europa.eu/info/departments/joint-research-centre>.

outrightly naïve.<sup>60</sup> In addition to this boundary-drawing on the epistemic level, the reporting infrastructures on which datafied climate change governance relies determine, in material and aesthetic ways, what types of information can be fed into governance processes. Online platforms and forms, questionnaires, value fields and drop-down menus, notation keys and tables essentially function as stencils. In datafied climate change governance it is their design which affects what can, and what cannot, be represented as a ‘fact’. What does not fit the template or comply with the required format is necessarily left out of view. For instance, quantitative data on emissions reductions, on its own, cannot communicate the extent to which mitigation measures have an impact on food and water security in place, how they affect access to energy and local air quality, and what they mean for minorities and marginalized groups. By opening up and foreclosing possibilities for representing local realities, datafication has a gatekeeping function. It has the power to render things unsaid and unseen while imbuing certain ‘truths’ with credibility and authority. In this way, data powerfully shapes how individuals and collectives relate themselves to the climate crisis, and ultimately also how local climate responses are designed, perceived, and evaluated.

The capacity of datafication to determine selectively and authoritatively what counts is deeply problematic given that transnational governance spaces, including the GCoM, tend to be dominated by interests of powerful players from the global north. In these spaces, democratic processes are largely absent. Critical researchers have shown how global philanthropists – such as Michael Bloomberg, Bill Gates, and others – have leveraged their position to claim authority and shape governance processes across a range of issue areas, including sustainability, food, education, and health.<sup>61</sup> In line with developments across these issue areas, research has shown that the GCoM embraces a managerial ethos, which is seen to favour innovation and solutionism over local knowledge and bottom-up participation.<sup>62</sup> As such, rather than building a transnational governance space that acknowledges plural modes of relating to and understanding places, datafication tends to re-inscribe the ‘neoliberal globalizing project of constructing One World’.<sup>63</sup> Local authorities across all three jurisdictions articulated a sense of the Framework being imposed on them. Respondent 19, an officer working for a local administration in Colombia, explained: ‘I think they [the GCoM] come here,

<sup>60</sup> For a theoretical account see M. Fricker, *Epistemic Injustice: Power and the Ethics of Knowing* (Oxford University Press, 2007). For an applied discussion see S.P. de Souza, *Designing Indicators for a Plural Legal World* (Cambridge University Press, 2022), pp. 112–63.

<sup>61</sup> For an overview see S. Haydon, T. Jung & S. Russell, ‘“You’ve been Framed”: A Critical Review of Academic Discourse on Philanthrocapitalism’ (2019) 23(3) *International Journal of Management Reviews*, pp. 353–75. See also S. Montero, ‘Leveraging Bogotá: Sustainable Development, Global Philanthropy and the Rise of Urban Solutionism’ (2020) 57(11) *Urban Studies*, pp. 2263–81; M. Canfield, ‘The Ideology of Innovation: Philanthropy and Racial Capitalism in Global Food Governance’ (2022) 50(6) *Journal of Peasant Studies*, pp. 2381–2405; M.P. Baltodano, ‘The Power Brokers of Neoliberalism: Philanthrocapitalists and Public Education’ (2017) 15(2) *Policy Futures in Education*, pp. 141–56; S. King, ‘Philanthrocapitalism and the Healthification of Everything’ (2013) 7(1) *International Political Sociology*, pp. 96–8.

<sup>62</sup> Gesing, n. 41 above.

<sup>63</sup> A. Escobar, ‘Thinking-Feeling with the Earth: Territorial Struggles and the Ontological Dimension of the Epistemologies of the South’ (2016) 11(1) *Revista de Antropología Iberoamericana*, pp. 11–32, at 20.



they want us to adopt their methodologies and work with their experts. So they provide knowledge and expertise and we have to follow’.

While, according to Respondent 1, the GCoM attempted to have local perspectives shape the post-merger Framework through a consultation process,<sup>64</sup> from a place-based perspective local voices did not find resonance and are not adequately represented. Across all three jurisdictions included in the case study, local staff expressed a feeling that the Framework was designed by technical experts who lack an understanding of realities in place.<sup>65</sup> Foreclosing local knowledges not only raises concerns regarding the legitimacy of datafied climate governance and feeds frustration, withdrawal, and contestation at the local level, it is also counter-productive for effectiveness. Research has shown that climate responses ‘at the community level should be locally driven, with external institutions, governments and private investors acting in facilitation roles, rather than imposing initiatives in a top-down manner’.<sup>66</sup> With local experiences and knowledges marginalized, datafication prevents place-based perspectives from enriching climate change governance processes.

## 5. Human Rights and Datafication

Having laid out the mismatch between the transnational logic of datafication and what is happening in place, this section reflects on how local concerns described in Section 4 could, at least partly, be addressed by incorporating human rights perspectives in relevant governance processes. Whereas the Paris Agreement formally recognizes human rights, the GCoM – while portraying itself as contributing to the implementation of the treaty – has remained silent on this point. Rights language is absent from key documents of the initiative, specifically the Framework and accompanying guidance materials. Nevertheless, rights could help to alleviate some of the concerns described by respondents.

For one, a human rights-based approach could meaningfully supplement datafied climate change governance at the local level by placing centre stage the interests, needs, capacities, and concerns of affected communities. Specifically, rights can provide a salient discourse to articulate local experience and make available hermeneutical resources to make sense of and communicate about what is happening at the local level. Moreover, rights can serve as a shared frame of reference that gives credibility to, and which supports, local struggles across geographically distributed places, including through transnational alliances that amplify local concerns and show solidarity.<sup>67</sup> In a recent

<sup>64</sup> See also GCoM Framework, n. 15 above, paras 1.3, 1.4.

<sup>65</sup> See also GCoM Framework, n. 15 above, Annex A (listing various expert groups who developed the Framework).

<sup>66</sup> T. Chung Tiam Fook, ‘Transformational Processes for Community-focused Adaptation and Social Change: A Synthesis’ (2018) 9(1) *Climate and Development*, pp. 5–21, at 15. See also Van der Heijden, n. 32 above, p. 5.

<sup>67</sup> See, e.g., J.K. Cowan, ‘Ambiguities of an Emancipatory Discourse: The Making of a Macedonia Minority in Greece’, in J.K. Cowan, B.M. Dembour & R.A. Wilson (eds), *Culture and Rights: Anthropological Perspectives* (Cambridge University Press, 2001), pp. 152–76; A.L. Cabezas, ‘Tourism, Sex Work, and Women’s Rights in the Dominican Republic’, in A. Brysk (ed.), *Globalization and Human Rights*

ethnographic study, for instance, Hanschel and co-authors recount how local communities in Mongolia invoke environmental rights in everyday and informal ways to assert themselves vis-à-vis powerful public and corporate actors.<sup>68</sup> In other places, rights are mobilized in formal institutionalized contexts, including in court proceedings,<sup>69</sup> to gain access to information, and in public consultations.<sup>70</sup> Whether in everyday encounters or as part of formalized governance mechanisms, rights can offer an alternative frame for making sense of and communicating about climate change from place.

Secondly, by refocusing on people and communities, human rights have the potential to disrupt the temporality of datafied climate change governance. As described in Sections 2 and 3, datafication involves ascertaining, measuring, and recording what has happened to produce a representation of the past in the present and formulate predictions as to what lies ahead. Reminiscent of notions of ‘progression’ that have begun to emerge in international and transnational climate change law,<sup>71</sup> the temporality of datafication is thus inherently singular, linear, and forward-looking. Within this temporal architecture, recourse to the past is only a means for rendering the status quo knowable, and from there extrapolate into the future. The past itself, however, is not problematized. Rather, it is ‘black-boxed’ as something that is done and which need not be reopened. Simultaneously, the future is seen as a placeholder of better times and emerges as a space where solutions will be found and applied. Within the singular, linear, and forward-looking temporality of datafication, a temporal hierarchy emerges: data is portrayed as a necessary prerequisite – the *sine qua non* – of responding to climate change. As technical guidance supplementing the Framework makes clear: ‘[t]o effectively reduce emissions, respond to current climate impacts and plan for the future, cities require data and information’.<sup>72</sup> According to this logic, action to address climate change may be deferred until relevant data has been collected. If there was a maxim of datafied climate change governance, it would read along the following lines: ‘Now we

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(University of California Press, 2002), pp. 201–29; M. Mills, ‘This Turbulent Priest: Contesting Religious Rights and the State in the Tibetan Shugden Controversy’, in R. Wilson & J.P. Mitchell (eds), *Human Rights in Global Perspective: Anthropological Studies of Rights, Claims, and Entitlements* (Routledge, 2003), pp. 54–70.

<sup>68</sup> D. Hanschel et al., ‘Environmental Rights between Constitutional Law and Local Context: Reflections on a Moving Target’ (2022) 23(7) *German Law Journal*, pp. 1012–28, at 1017–9.

<sup>69</sup> *The State of the Netherlands (Ministry of Infrastructure and the Environment) v. Stichting Urgenda*, Hoge Raad [Supreme Court], 20 Dec. 2019, ECLI:NL:HR:2019:2007; German Federal Constitutional Court, Order of the First Senate of 24 Mar. 2021, 1 BvR 2656/18, available at: [https://www.bverfg.de/ers20210324\\_1bvr265618en.html](https://www.bverfg.de/ers20210324_1bvr265618en.html); *Milieudefensie et al. v. Royal Dutch Shell*, Rechtbank Den Haag [District Court of the Hague], 26 May 2021, ECLI:NL:RBDHA:2021:5339 (while the latter case was brought under Dutch tort law, the court did consider human rights to determine whether Shell had complied with its standard of care; see further C. Macchi & J. van Zeven, ‘Business and Human Rights Implications of Climate Change Litigation: *Milieudefensie et al. v Royal Dutch Shell*’ (2021) 30(3) *Review of European, Comparative & International Environmental Law*, pp. 409–15.

<sup>70</sup> See, e.g., B. Peters, ‘Unpacking the Diversity of Procedural Environmental Rights: The European Convention on Human Rights and the Aarhus Convention’ (2018) 30(1) *Journal of Environmental Law*, pp. 1–27.

<sup>71</sup> See L. Rajamani & E. Guérin, ‘Central Concepts in the Paris Agreement and How They Evolved’, in D. Klein et al. (eds), *The Paris Agreement on Climate Change: Analysis and Commentary* (Oxford University Press, 2017), pp. 74–90, at 77–8; Heyvaert, n. 4 above, pp. 128, 248–9.

<sup>72</sup> GCoM Guidance Note, n. 56 above, p. 8.

measure and record, and *then* we take action'. From the local perspective, rights provide a discursive framework to disrupt this temporal structuring. They allow the naming of actions and omissions – past and present – which have led or will lead to concrete violations and instances of harm, creating legal obligations to remedy and address such harm. In this way rights focus not exclusively on the 'what is yet to come'. Instead, they give credence and visibility to articulations of unjust climate pasts and presents.<sup>73</sup>

A third way in which human rights could meaningfully supplement datafied governance in place is by diversifying how climate change is rendered knowable. As a technology of governance, datafication circumscribes the space for local mobilization, organization, and intervention. Data has the power to present certain issues as salient and important, while ignoring others. Reminiscent of other technocratic modes of doing governance – such as impact assessments, auditing, accounting, and indicators – datafication privileges certain knowledges and interests while marginalizing others.<sup>74</sup> Arguably, from a technical perspective, it is easier to stipulate how to calculate local GHG emissions than developing a methodology for measuring the extent to which local energy services meet GCoM requirements of being 'secure', 'sustainable', and 'affordable'.<sup>75</sup> In addition to the inherent technical limitations of representing issues that are not easily quantifiable, datafication leaves little room for 'epistemic difference', in the sense that it crowds out 'attempts at thinking other thoughts for other world constructions'.<sup>76</sup> Rather than seeing climate change governance as a technical endeavour of measuring, reporting, decision making, and implementation, rights have the capacity to support, at least to some extent, the inclusion of other ways of thinking and doing in governance processes.<sup>77</sup>

Finally, human rights can help to render visible connections between interdependent governance issues in place. As argued in Section 4, for datafication to work, there is a need to simplify and cut away. As a result, taken on its own, datafied governance tends to portray climate change as an independent problem. Figures on local emissions reductions, for instance, do not necessarily reveal how mitigation measures interact with livelihoods, community interests, and other local concerns. Data slices reality in such a way that climate risks and impacts appear bounded. However, in place, risks and impacts

<sup>73</sup> See S. Riley Case, 'Looking to the Horizon: The Meaning of Reparations for Unbearable Crises' (2023) 117 *AJIL Unbound*, pp. 49–54; S. Mason-Case & J. Dehm, 'Redressing Historical Responsibility for the Unjust Precarities of Climate Change in the Present', in B. Mayer & A. Zahar (eds), *Debating Climate Law* (Cambridge University Press, 2021), pp. 170–89.

<sup>74</sup> See E. Lövbrand & J. Stripple, 'Making Climate Change Governable: Accounting for Carbon as Sinks, Credits and Personal Budgets' (2011) 5(2) *Critical Policy Studies*, pp. 187–200. See also M. Strathern (ed.), *Audit Cultures: Anthropological Studies in Accountability, Ethics and the Academy* (Routledge, 2000); F. Li, *Unearthing Conflict: Corporate Mining, Activism, and Expertise in Peru* (Duke University Press, 2015); S.L.M. Davis, *The Uncounted: Politics of Data in Global Health* (Cambridge University Press, 2020).

<sup>75</sup> GCoM Framework, n. 15 above, para. 6.3.

<sup>76</sup> Escobar (2008), n. 24 above, pp. 169–70.

<sup>77</sup> C. Iorns Magallanes, 'Indigenous Political Representation: Latin America and International Human Rights Law' (2011) 11(11) *Journal of New Zealand Studies*, pp. 93–108; C.J. Iorns Magallanes, 'Reflecting on Cosmology and Environmental Protection: Maori Cultural Rights in Aotearoa New Zealand', in A. Grear & L.J. Kotzé (eds), *Research Handbook on Human Rights and the Environment* (Edward Elgar, 2015), pp. 274–308.

are intimately connected. They interact with, and are embedded within, local social, political, economic, and ecological contexts. Human rights help to tell those stories that data cannot tell and, in so doing, show trade-offs and synergies between demands that are made on local governance processes. For instance, researchers have argued that human rights are central to designing climate projects which require land, not only to safeguard the interests of affected local communities but also to ensure the effectiveness of mitigation and adaptation measures.<sup>78</sup> Rights have also been found to help in drawing attention to climate-forcing pollutants, such as black carbon, which to date largely escape mainstream governance efforts.<sup>79</sup> In this sense, human rights could help to communicate the complexity that needs to be taken into account when designing local climate policies and programmes.

Despite their capacity to alleviate some of the local concerns described in Section 4, it is important to acknowledge the limitations and in-built biases of human rights themselves. For one, while having the potential to counteract the technocratic logic of datafication and refocus on lived experiences in place, human rights can be understood to reproduce ideologies of neoliberalism and anthropocentrism which have led to the very injustices that they seek to prevent and remedy.<sup>80</sup> Further, while human rights have the potential to disrupt the singular, linear, and forward-looking temporality of datafication, as legal forms they tend to reproduce the promise of a better future. The ‘macro-temporality’ of human rights is premised on the narrative of a linear movement ‘from a neglectful past, through an improved present and on to a brighter human rights future’,<sup>81</sup> without fully and adequately addressing past injustices and acknowledging how present realities are shaping times to come.<sup>82</sup>

Moreover, human rights themselves, as a technology of governance, are beset with struggles over inclusion and exclusion, representation and ‘politics of difference and identity’.<sup>83</sup> Even where rights are intended to be framed in terms of place-based

<sup>78</sup> K. Dooley, ‘Human Rights and Land-Based Carbon Mitigation’, in S. Duyck, S. Jodoin & A. Johl (eds), *The Routledge Handbook of Human Rights and Climate Governance* (Routledge, 2018), pp. 372–9.

<sup>79</sup> S.A. Kahn, ‘Connecting Human Rights and Short-Lived Climate Pollutants: An Arctic Angle’, in Duyck, Jodoin & Johl, n. 78 above, pp. 339–46; S. Jodoin, K. Hansen & C. Hong, ‘Displacement Due to Responses to Climate Change: The Role of a Rights-based Approach’, in B. Mayer & F. Crépeau (eds), *Research Handbook on Climate Change, Migration and the Law* (Edward Elgar, 2017), pp. 205–37.

<sup>80</sup> See B. Golder, ‘Beyond Redemption? Problematising the Critique of Human Rights in Contemporary International Legal Thought’ (2014) 2(1) *London Review of International Law*, pp. 77–114; P.D. Burdon, ‘Environmental Human Rights: A Constructive Critique’, in Gear & Kotzé, n. 77 above, pp. 61–78; S. Moyn, ‘A Powerless Companion: Human Rights in the Age of Neoliberalism’ (2014) 77(4) *Law and Contemporary Problems*, pp. 147–69.

<sup>81</sup> P. O’Connell, ‘Human Rights Futures’, in K. McNeilly & B. Warwick (eds), *The Times and Temporalities of International Human Rights Law* (Bloomsbury, 2022), pp. 211–28, at 211.

<sup>82</sup> J. Dehm, ‘The Temporalities of Environmental Human Rights’, in McNeilly & Warwick, n. 81 above, pp. 33–66.

<sup>83</sup> U. Baxi, ‘Voices of Suffering and the Future of Human Rights’ (1988) 8 *Transnational Law and Contemporary Problems*, pp. 125–70, at 127, 141–6. See also C. Rodríguez-Garavito, ‘Ethnicity.gov: Global Governance, Indigenous Peoples, and the Right to Prior Consultation in Social Minefields’ (2011) 18(1) *Indiana Journal of Global Legal Studies*, pp. 263–305.

traditional knowledge, they struggle to be recognized as such in their operationalization in the juridical machinery.<sup>84</sup>

Finally, despite their capacity to find connections between climate-related issues in place, human rights can also divide. Research has shown how rights have been strategically mobilized by social groups with the result that local efforts to address climate change were delayed.<sup>85</sup> Given these limitations, human rights are no panacea for rendering datafied climate change governance more effective, legitimate, and inclusive. It therefore remains key to engage critically with rights as a specific form of legal technique that is intimately dependent on modern law and its problematic assumptions, biases, and blind spots. As Usha Natarajan succinctly put it: ‘Human rights have been a popular and acceptable way of articulating justice claims precisely because they are structured not to make revolutionary demands’.<sup>86</sup>

In sum, then, both data and rights mobilize techniques of standardization and, to some extent, reproduce universalizing narratives. As such, they risk losing touch with the very contexts they are intended to represent, communicate about, and help to make sense of. Yet, as the reflections in this section suggest, compared with datafication and as a supplementary governance technology, rights could help to create space for articulating local experience and expertise in a way that reflects realities in place more meaningfully. As Donna Haraway might put it, while datafied climate change governance relies on a totalizing ‘gaze’ that ‘sees everything from nowhere’,<sup>87</sup> rights allow – to some extent – to know in, and articulate from, place. Specifically, rights involve less rigorous cutting away and artificial boundary drawing and, as a result, they are able to stay somewhat closer to local settings. As the foregoing discussion has shown, rights can help to articulate what remains absent from datafied climate change governance, and they can add nuance, communicate context, and diversify which knowledges find resonance. At the same time, as a shared frame of reference, rights can bolster the credibility of local concerns and help them to travel across place. Rights are thus one – albeit an imperfect – means to make sense of and articulate local experience in climate crisis.

## 6. Where To Go from Here? The Future of (Data and Rights in) Climate Change ‘Governance’

The aim of this article was not to discount outright the contributions that data and rights can make to transnational and local climate change governance. As the accounts of respondents reveal, data is essential when applying for funding, it can help to generate buy-in from central government, and facilitate peer-to-peer learning; and human rights create specific obligations that are intended to shape governance choices and

<sup>84</sup> Hanschel et al., n. 68 above, p. 1023.

<sup>85</sup> T. Kalt, ‘Jobs vs. Climate Justice? Contentious Narratives of Labor and Climate Movements in the Coal Transition in Germany’ (2021) 30(7) *Environmental Politics*, pp. 1134–54.

<sup>86</sup> U. Natarajan, ‘Who Do We Think We Are?’, in U. Natarajan & J. Dehm (eds), *Locating Nature: Making and Unmaking International Law* (Cambridge University Press, 2022), pp. 200–28, at 215.

<sup>87</sup> Haraway, n. 26 above, p. 581.

allow the articulation of justice claims.<sup>88</sup> Taking a critical approach, however, the article has confronted problematic assumptions commonly held about data and rights, specifically those relating to their objectivity, neutrality, and universality. To recount how datafication plays out in concrete places as they are struggling to respond to the climate crisis, the article combined original interview materials with insights from climate change governance scholarship, critical data studies, and ethnographic research. It revealed how local experiences do not necessarily align with the linear logic of datafication. Rather than recounting a seamless movement from data collection and processing ('measuring it') to knowledge production ('managing it') and finally application ('fixing it'), the article showed how data is never just 'given' – as the etymology of the term suggests. Rather, data always comes from and goes somewhere. In its production, data is always and already politically, culturally, materially, and otherwise situated; and in its application it continues to be contingent on this situatedness.

What emerges, then, are unsettling questions. If data is not objective, where should we turn to figure out how to 'govern' climate change? On which 'truths' and 'facts' are we to base our decisions? The article suggested that rights can help, at least to some extent, in addressing some of the limitations of datafication. Further, it insisted on acknowledging the situatedness and partiality of knowledges. This opens up alternative possibilities. If current ways of thinking and knowing produce certain kinds of opportunity for action, then by consequence it becomes possible to open up alternatives by thinking and knowing differently. The article will therefore end by making two observations about how it might be possible to shift thinking about data, justice, rights and, ultimately, climate change 'governance'.

The first observation returns to the notion of 'place'. The article has shown how local perspectives allow cutting through abstractions and claims of universality and objectivity to foreground exactly those partial, yet firmly grounded, perspectives that resonate in place. Methodologically, the case study presented in this article was therefore deliberately not designed to produce generalizable insights about how datafication plays out across local contexts. Any such claim would mean re-inscribing the very epistemic move that the article set out to engage critically with. Beyond implications for research design and method, conceptually speaking, turning to place unsettles categories of the 'global' and the 'international', which have often taken centre stage in thinking about climate change governance. Accordingly, critical questions no longer relate to 'translating' knowledge, notions of justice, and rights from one 'level' to the next, but pertain to how modes and logics of knowledge production, justice, and governance are picked up, appropriated, and rejected in place. In these processes, who and what counts as inside and outside? What is seen as relevant and what is left out of view? Ultimately, how is knowing, justice, and decision making, quite literally, taking place?

<sup>88</sup> However, see K. Engle, 'Human Rights Consciousness and Critique', in D. Fassin & B.E. Harcourt (eds), *A Time for Critique* (Columbia University Press, 2019), pp. 91–113, at 93 ('human rights discourse is no longer necessarily the lingua franca of emancipatory political struggles. Not only have other discourses emerged to address issues like economic inequality and climate change, but human rights language itself is often deployed—and, some would say, co-opted—by powerful state and nonstate entities for antiemancipatory ends').

The second observation is more radical. It suggests that the very notion of ‘governance’ may no longer be adequate to describe what it is that data and rights can do in relation to climate crisis. The term ‘governance’ – while having multiple meanings – is commonly associated with modalities of institutionalized steering that presuppose agency to ‘intervene’ and change course.<sup>89</sup> Yet, in climate crisis, it is likely that we will live through and be confronted with change as much as proactively instilling it. As human geographer Leslie Head writes, ‘[w]e do not yet know how much transformation will proceed deliberately and how much will be forced on us, but it is likely that we will be forced as much as governed’.<sup>90</sup> Thus, just like the quest for objective knowledge is bound to fail,<sup>91</sup> efforts to ‘govern’ climate change – whether through data, rights, or both – is in some sense a battle we cannot ‘win’. Perhaps the aim, then, ought to be to ‘learn’ to ‘live with’ climate change.<sup>92</sup> As the contours of the space for navigating the climate crisis are being redrawn, questions about the extent to which data and rights can(not) render the climate governable warrant further scholarly attention.

**Acknowledgements.** I presented core ideas developed in this article at a workshop on ‘Multistakeholder Governance and Human Rights’ at the Asser Institute, The Hague (The Netherlands) in April 2022, co-organized by Phillip Paiement and Matthew Canfield. I thank both for thoughtfully framing workshop discussions as well as the participants for valuable feedback. I also thank the anonymous *TEL* peer reviewers for their comments.

**Funding statement.** The empirical research for this article was funded by the UK Economic and Social Research Council.

**Competing interests.** The author declares none.

<sup>89</sup> See Johns, n. 5 above, p. 54. See also D. Levi-Faur, ‘From “Big Government” to “Big Governance?”’, in D. Levi-Faur (ed.), *The Oxford Handbook of Governance* (Oxford University Press, 2012), pp. 3–18, at 8.

<sup>90</sup> L. Head, *Hope and Grief in the Anthropocene: Reconceptualising Human-Nature Relations* (Routledge, 2016), p. 3.

<sup>91</sup> Haraway, n. 26 above.

<sup>92</sup> B. Verlie, *Learning to Live with Climate Change: From Anxiety to Transformation* (Routledge, 2022).

**Cite this article:** L. Mai, ‘Measuring It, Managing It, Fixing It? Data and Rights in Transnational and Local Climate Change Governance’ (2024) 13(1) *Transnational Environmental Law*, pp. 111–133. <https://doi.org/10.1017/S2047102523000213>