

Probing the hidden depths of climate law: Analysing national climate change legislation

Accepted for publication in Review of European, Comparative and International Environmental Law, 16 August 2018

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National governments that are committed to a social transition in the pursuit of climate policy face a complex legal challenge in evaluating how their legal and regulatory architectures support climate policy and in introducing new legal measures to implement their Paris Agreement commitments. This article sets out a method for appraising how fragmented national climate-relevant laws combine to create an aggregated legal and regulatory landscape that frames and governs national responses to climate change. Appraising this kind of landscape is a methodologically fraught exercise, considering that climate change can intersect with many areas of law and regulation, which are all embedded within the histories, legal doctrines, and governance frameworks of particular legal systems. We propose a tripartite method for this task – identifying ‘direct’ or explicit climate laws, identifying ‘indirect’ or implicit climate laws, and investigating legal cultures that inform and express both types of climate-related law. The article focuses on climate-related legislation in countries with lawmaking assemblies in proposing this approach, arguing that the national scale and legislative processes are both particularly significant in evaluating climate laws. This approach to climate law methodology can support both national climate planning and multilateral processes such as the Paris Agreement’s global stocktake.

1 INTRODUCTION

Much has been now written about the complex, multilevel, multi-scalar, and disruptive nature of climate law and climate governance.¹ Climate change, inevitably, is a problem for which there is no neat jurisdictional home, generating legal issues that cross boundaries and often disrupt established legal norms and doctrines.² This article addresses one well-recognized aspect of this complexity – the difficulty of identifying ‘climate change law’ within legal systems³ – and illustrates that a careful methodology is required to identify and evaluate law relevant to climate policy within national legal systems. We propose the framework for one such methodology, which is rooted in insights from legal scholarship and offers a new approach for policymakers and legislators who are concerned with the role of law in supporting national climate

¹ See, e.g., K Bäckstrand and E Lövbrand (eds), *Research Handbook on Climate Governance* (Edward Elgar 2015); H Bulkeley, *Accomplishing Climate Governance* (Cambridge University Press 2015); J Peel, L Godden and R Keenan, ‘Climate Change Law in an Era of Multi-Level Governance’ (2012) 1 *Transnational Environmental Law* 245; HM Osofsky, ‘The Geography of Climate Change Litigation: Implications for Transnational Regulatory Governance’ (2005) 83 *Washington University Law Quarterly* 1789.

² E Fisher, E Scotford and E Barritt, ‘The Legally Disruptive Nature of Climate Change’ (2017) 80 *Modern Law Review* 173.

³ JB Ruhl and JE Salzman, ‘Climate Change Meets the Law of the Horse’ (2013) 62 *Duke Law Journal* 975; HM Osofsky and J Peel, ‘The Role of Litigation in Multilevel Climate Change Governance: Possibilities for a Lower Carbon Future?’ (2013) 30 *Environmental and Planning Law Journal* 303, 304–305.

policies. The article's analysis demonstrates that climate change is intricately implicated in laws at the national scale and argues that national and legal jurisdictional boundaries have particular significance in defining and evaluating laws relating to climate change. It also argues that legislation is a significant form of 'climate change law' that is worth examining in its own right, particularly in parliamentary systems of government. In the multi-scalar, multi-level architecture of climate governance, national laws – and legislation in particular – are an important but often superficially understood site for the creation and implementation of climate policy.⁴

This article is motivated by a challenging but deeply practical legal task that now faces national governments that are committed to a social transition in the pursuit of climate policy – evaluating, revising and reorienting national legal systems to support climate policy. The role of law, and particularly national law, in the 'delivery' of climate policy has become (even more)⁵ prominent in the wake of the Paris Agreement and its focus on 'nationally determined contributions', as well as adaptation plans and long-term plans, that will be developed and implemented at the national level.⁶ However, law does not simply provide an instrumental architecture for delivering new climate policies within national legal systems. Importantly, legal frameworks within national systems present a legal and social status quo, reflecting deep-seated values about how relationships (between legal persons and between persons and the State) should be legally structured, and reflecting embedded practices and assumptions about social norms and regulatory policy. Furthermore, any new legislative initiatives will need to be absorbed – that is, applied, interpreted and enforced – within such established legal systems. National legal frameworks thus provide an existing legal landscape that is highly relevant to the prospects of any new climate policy that seeks to bring about a socially transformative agenda. They present extant and deeply rooted spheres of regulation, norms, and institutional practice in which increasingly stringent⁷ post-Paris national climate policies must be implemented. This landscape is highly complex legally and requires careful navigation in thinking about implementing or enforcing new national climate policies through law, particularly where this involves designing any new legislation.

This article sets out a method for navigating this legal terrain in national legal systems, seeking to appraise how fragmented and varying sets of climate-relevant laws can combine to create an aggregated legal and regulatory landscape that frames and governs national responses to climate change (for public and private actors alike).

⁴ This importance is recognized in studies of climate governance in particular countries or political blocs that are critical to mitigation efforts or vulnerable to climate change impacts: CP Carlarne, *Climate Change Law and Policy: EU and US Approaches* (Oxford University Press 2010); Bäckstrand and Lövbrand (n 1) section III (studies on climate governance in Brazil, China, the European Union and the United States); D Held, C Roger, EM Nag, *Climate Governance in the Developing World* (Wiley 2013).

⁵ Prior to the Paris Agreement, there was an increasing awareness that national legislation had an important role to play in delivering global climate policy: T Townshend et al, 'Legislating Climate Change on a National Level' (2011) 53 *Environment* 5 ('International commitments have little meaning unless they are underpinned by legislative action at the national level.');

GLOBE International and LSE Grantham Research Institute, *The GLOBE Climate Legislation Study: A Review of Climate Legislation in 66 Countries* (4th edn, 2014) <<http://globelegislators.org/publications/legislation/climate>>.

⁶ Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) 55 ILM 740 art 4(2) ('Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.');

art 7(5) ('adaptation action should follow a country-driven... approach').

⁷ The Agreement requires countries national efforts to deliver climate policies that ratchet up in ambition over time; *ibid* art 4(3).

Developing a method for this appraisal is a complicated but important exercise, considering that climate change can intersect with many areas of law and regulation, which are all embedded within the histories, legal doctrines, and governance frameworks of particular legal systems. In highlighting the methodological complexities of evaluating national climate law, we are showing that climate change law is not simply a new legal category that introduces new and additional forms of legal control in the pursuit of climate policy outcomes. It involves, interconnects with, supplements, and potentially undermines (or may be undermined by) many existing areas of legal control, due to climate change being a cross-sectoral problem that implicates many if not most aspects of social and economic life. Thus a research method that adopts a ‘whole of legal system’ analysis is important – in identifying the overall legal landscape that relates to the delivery of national climate policy and evaluating its coherence, in highlighting the features of national legal culture that inform this landscape, and in preparing the path for any legal reform. When we speak of ‘methodology’, it should be stressed that we are not thinking about a formula or programme for determining or evaluating ideal climate law. We approach methodology for legal scholarship as a pluralistic enterprise that is concerned with adopting ‘systematic procedure[s]’⁸ that are ‘best suited’⁹ to the ‘special kinds of problems that are discovered in the study of laws and legal systems’.¹⁰ Climate change presents particularly challenging legal problems and we address those that relate to national implementation of climate policy by presenting a systemic approach to evaluating intersections between national laws and climate change.

In making our methodological argument, we limit our analysis to climate-related legislation that is applicable within a national context, where such legislation includes laws and regulation established by any formal State-sponsored legal means. By ‘climate-related’, we mean relevant to stated goals of national policy that addresses the problem of climate change, whether focused on mitigation or adaptation or cross-cutting. We deliberately do not restrict our analysis to certain categories of climate-related policies that laws might pursue,¹¹ since climate change issues, and the laws and policies that relate to them, might be formulated or cast in quite different ways in different countries. And whilst the concept of ‘climate change law’ can be much broader in terms of the ‘law’ it covers,¹² our focus is limited to legislation for three reasons. First, national legislative approaches to climate policy have distinct significance and value. Legislation offers a means to adapt law deliberately to changing circumstances and for negotiating the range of issues and disagreement inherent in climate change as a social problem (through the legislative process). Its value is both

⁸ E Fisher et al, ‘Maturity and Methodology: Starting a Debate about Environmental Law Scholarship’ (2009) 21 *Journal of Environmental Law* 213, 226 (defining a scholarly methodology as ‘a systemic procedure that a scholar applies as part of an intellectual enterprise’).

⁹ D Feldman, ‘The Nature of Legal Scholarship’ (1982) 52 *Modern Law Review* 498, 503 (identifying as one of three ‘ideals’ of scholarship ‘a commitment to employing methods of investigation and analysis best suited to satisfying [a scholar’s intellectual] curiosity’).

¹⁰ *ibid* 502.

¹¹ Cf. other studies of climate laws that have restricted the scope of analysis in this way: e.g. M Nachmany et al, ‘Global Trends in Climate Change Legislation and Litigation (2017 Update)’ (2017) 21 (defining climate legislation as that which refers ‘specifically to climate change or that relates to reducing energy demand, promoting low carbon energy supply, tackling deforestation, promoting sustainable land use, sustainable transportation, or adaptation to climate impacts’). The study recognizes that the definition of climate-change legislation is ‘not clear-cut’ but (for now) restricts its Climate Change Laws of the World project to laws that are ‘explicitly climate change-focused’; *ibid* 21–22.

¹² T Etty et al, ‘Norms, Networks, and Markets: Navigating New Frontiers in Transnational Environmental Law’ (2013) 2 *Transnational Environmental Law* 203.

symbolic – establishing authoritative and visible state-sponsored commitments – and facilitative – providing predictable regulatory environments, including for new investment. The nature of this legislative value deserves some scrutiny. Notably, our analysis is not limited to any particular country or legal jurisdiction but is limited to countries with legislative assemblies empowered to pass laws. Second, a focus on legislation responds to a concern, particularly in light of the Paris Agreement, to identify ideal or ‘best’ models or forms of climate legislation for achieving the nationally determined contributions to which States have committed (or will commit) themselves in order to achieve the long-term temperature goal in Article 2 of the Paris Agreement.¹³ Third, our focus on climate legislation allows us to build an argument and methodology relating to aggregated climate law analysis within identifiable boundaries, with a view ultimately to developing this argument to include other forms of climate governance,¹⁴ such as contracting,¹⁵ industry standards,¹⁶ investment criteria¹⁷ and multi-stakeholder partnerships.¹⁸ Such a widened legal lens is even more methodologically ambitious but would allow an integrated analysis of the total, cumulative normative framework concerning climate change within a given jurisdiction.¹⁹

The national focus of this analysis, as indicated above, reflects the significance of national climate policy commitments under the Paris Agreement’s governance architecture. This development in global climate governance is unsurprising. As Fisher eloquently explains, ‘for good or ill, political and legal imagination is the product of political communities that cluster into nation states’.²⁰ A national focus on climate

¹³ See, e.g., GLOBE International, ‘The Partnership for Climate Legislation’ <<http://globelegislators.org/2gcls-partnership>>; the various initiatives of Climate Parliament in supporting national legislation to promote renewable energy, <<http://www.climateparl.net/>>; United Nations Environment Programme (UNEP) and United Nations Development Programme (UNDP), *The Role of Legal Instruments to Support Green Low-Emission and Climate-Resilient Development: A Guidebook on Assessing, Selecting and Implementing Legal Instruments* (United Nations 2013); UNEP and Pace University, *UNEP Guide for Energy Efficiency and Renewable Energy Laws* (UNEP 2016); P Martin, B Boer and L Slobodian (eds), ‘Framework for Assessing and Improving Law for Sustainability: A Legal Component of a Natural Resource Governance Framework’, IUCN Environmental Policy and Law Paper No 87 (IUCN 2016); and the United Nations- and Commonwealth-sponsored Law and Climate Change Toolkit for developing laws that help implement the Paris Agreement, <<http://thecommonwealth.org/media/press-release/new-law-and-climate-change-toolkit-unveiled-cop23>>.

¹⁴ By governance, we mean the range of public and private institutions and processes that structure how climate change issues are regulated, controlled and directed within and across societies. This extends beyond formal legal structures centred on action by the State to ‘new governance’ approaches to regulation. See O Lobel, ‘The Renew Deal: The Fall of Regulation and the Rise of Governance in Contemporary Legal Thought’ (2004) 89 *Minnesota Law Review* 342.

¹⁵ K Peterkova Mitkidis, ‘Using Private Contracts for Climate Change Mitigation’ (2014) 2 *Groningen Journal of International Law* 54.

¹⁶ N Brunsson and B Jacobsson (eds), *A World of Standards* (Oxford University Press 2000).

¹⁷ M Bowman, *Banking on Climate Change: How Finance Actors and Transnational Regimes Are Responding* (Kluwer Law International 2015).

¹⁸ P Pattberg and O Widerberg, ‘Transnational Multistakeholder Partnerships for Sustainable Development: Conditions for Success’ (2016) 45 *Ambio* 42.

¹⁹ In theory, this would enhance methodological understanding of the interaction between ‘top-down’ and ‘bottom-up’ climate regulation: see, e.g., RB Stewart, M Oppenheimer and B Rudyk, ‘Building a More Effective Global Climate Regime Through a Bottom-Up Approach’ (2013) 14 *Theoretical Inquiries in Law* 273; D Bodansky, ‘Climate Change: Transnational Legal Order or Disorder?’ in TC Halliday and G Shaffer (eds), *Transnational Legal Orders* (Cambridge University Press 2015) 287.

²⁰ E Fisher, *A Very Short Introduction to Environmental Law* (Oxford University Press 2017) 66. From a climate policy perspective, see also A Jordan and D Huijtema, ‘Innovations in Climate Policy: The

legislation does however raises some analytical complexities. Whilst lawmaking powers and legal jurisdictions often operate with a national scope, legislative measures can also derive from subnational and regional lawmaking bodies, and legal jurisdictions can similarly vary across subnational and supranational scales whilst remaining part of the national legal picture. To cater for this, the article takes the nation State as the primary unit of analysis, and any laws that apply within States (whether made applicable through national or subnational parliaments or regional/supranational lawmaking), and any relevant legal jurisdictions within a nation State (such as different sub-national states within a federation), are within its scope of analysis. This multiplicity of 'national' laws is part of what makes legal implementation of national climate commitments so contingent and complex to analyse.

In short, our argument is that carefully analysing national climate legislation is an important exercise in light of international commitments of States to introduce and deliver specific climate policies, and that this requires analysis of all the laws that intersect directly or indirectly with the problem of climate change within their particular social, economic and legal context (which is usually a legal jurisdiction but can also be multiple legal jurisdictions with a nation State). It would present an incomplete picture of national climate legislation to identify (or to count) only those legislative or regulatory instruments that have 'climate change' in the title, or which have been designed as bespoke measures to respond to the problem of climate change. Rather, in appraising a complete regulatory picture relating to climate change in a particular national legal setting, one must take into account all legislative and regulatory measures that intersect with climate policy in some way, and also, importantly, determine ways to understand them within their particular legal context. We acknowledge that this is a significant and ambitious task, but our methodological argument is fundamental. It is only by such an approach that the full gamut of regulatory levers, incentives, and potential legal barriers might be identified within a national legal system in relation to implementing climate policy commitments. Instrumentally, this analytical approach allows the identification of potential regulatory tradeoffs as well as the scope for 'co-benefits'²¹ or 'win-win' regulatory scenarios. It also reflects the reality that climate change is a 'whole of legal system' problem, just as it is a 'whole of economy' and cross-demographic social problem. More normatively, this approach is sensitive to the culture and context of legal systems, including the legal and social factors that determine how law is interpreted, enforced and respected.²² These socio-legal features are often not apparent on the face of legislative or regulatory instruments that relate directly or indirectly to climate change policy, but they are central to the application of such instruments in practice. This in turn exposes the contingency and complexity of national commitments to climate goals as expressed and implemented through any national legal system. In short, analysis of climate legislation in any given legal system

Politics of Invention, Diffusion, and Evaluation' (2014) 23 Environmental Politics 715 (arguing for the importance of climate policymaking at the national level).

²¹ See, e.g., M Younger et al, 'The Built Environment, Climate Change, and Health: Opportunities for Co-Benefits' (2008) 35 American Journal of Preventive Medicine 517; F Creutzig and D He, 'Climate Change Mitigation and Co-benefits of Feasible Transport Demand Policies in Beijing' (2009) 14 Transportation Research 120; GF Nemet, T Holloway and P Meier, 'Implications of Incorporating Air-Quality Co-Benefits into Climate Change Policymaking' (2010) 5 Environmental Research Letters 014007.

²² 'Legal systems do not float in some cultural void, free of space and time and social context': L Friedman, 'Borders: On the Emerging Sociology of Transnational Law' (1996) 32 Stanford Journal of International Law 65, 72. See further Section 5.

is incomplete if we simply count and spot bespoke climate laws,²³ or if we assume that law has an inherently instrumental value in enforcing headline climate policies. Climate change runs much deeper in our legal systems.

This article first examines the methodological challenges involved in evaluating climate change-related law and outlines how we respond to these by developing a rigorous method for analysis focused at the national level. Second, it considers why legislation is worth analysing and evaluating, concluding that, despite the fact that legislation might not always be the most important (and certainly is not the only) aspect of implementing national climate policy, it has significant and inherent value in the climate change context. Third, the article examines ‘direct’ climate legislation,²⁴ exploring laws that explicitly take climate change issues into account and showing how such laws vary greatly across national contexts. Fourth, it examines ‘indirect’ climate legislation, covering laws that intersect with climate change but do not address it explicitly, representing a more hidden aspect of climate legislation landscapes. The distinction we draw between direct and indirect intersections in these sections is not perfect or immutable, particularly where the tools and subjects of climate change regulation are ‘moving targets’, evolving as scientific, technological and regulatory knowledge progresses. However, the distinction is analytically valuable in providing a comprehensive, neutral and flexible categorization for identifying the pervasive intersections between legislation and national climate policy. Fifth, we suggest a framework for identifying and accounting for the unique contextual features of particular jurisdictions that will impact on any appraisal of national legislation and its effectiveness in implementing climate policy. In doing so, we are recognizing that legislation is created, interpreted, enforced and respected within a legal culture, which will fundamentally inform its meaning and role, including developing meaning over time. In the final section, the article concludes by reflecting on how this method of mapping and assessing climate legislation provides a platform for framing, evaluating and comparing climate legislation across different legal, socio-political and environmental contexts, by probing the national ‘scale’ of climate law in more depth.

2 ANALYSING CLIMATE LAW: THE METHODOLOGICAL CHALLENGE

Identifying and addressing methodological issues is fundamentally important in analysing climate legislation robustly since climate change raises significant challenges for adopting a scholarly ‘attitude of mind’ from a legal perspective.²⁵ When it comes to analysing ‘climate change law’, there are (at least) three significant methodological challenges that must be addressed. These arise due to the breadth and depth of laws relating to climate change across and within legal systems, and due to the interaction of national legal culture with this vertically and horizontally differentiated legal landscape.

First, as alluded to in Section 1, this area of law requires an understanding of interrelationships between international, regional, national and local laws (including

²³ See the related argument in E Fisher, ‘Precaution, Precaution Everywhere: Developing a “Common Understanding” of the Precautionary Principle in the European Community’ (2002) 9 *Maastricht Journal of European and Comparative Law* 21.

²⁴ Cf. Peel and Osofsky who analyse ‘direct’ and ‘indirect’ regulatory roles of climate litigation in relation to climate policy: J Peel and HM Osofsky, ‘Climate Change Litigation’s Regulatory Pathways: A Comparative Analysis of the United States and Australia’ (2013) 35 *Law & Policy* 150.

²⁵ Feldman (n 10) 502.

but not limited to environmental laws) relating to climate change.²⁶ Whilst there is an international environmental law architecture for climate change law, principally framed by the United Nations Framework Convention on Climate Change, bolstered most recently by the Paris Agreement and undergirded by customary international law,²⁷ climate change goals and targets are reflected and embedded in laws that cross levels of legal jurisdiction. These layers of multi-level governance are ‘vertically differentiated’ and created through discrete legislative and regulatory processes, but are also focused on the same environmental problem, and there is a considerable challenge in determining both their legal interaction and policy coordination.²⁸ Assessing the cumulative impact of interconnected regulation is a significant motivation for legal scholars concerned with climate change, but there are no clear tools for negotiating these vertically differentiated legal relationships,²⁹ beyond formal doctrines concerning the implementation of public international law within discrete legal systems, and emergent methodologies for assessing transnational governance.³⁰ This position is somewhat assisted by the Paris Agreement, which has been designed to place national action at the heart of the international climate regime, with its requirement for States to communicate nationally determined contributions to reduce greenhouse gas emissions and to follow a country-driven approach for adaptation action,³¹ thereby creating a formal legal interlinkage between national and international climate action. Whilst questions of cumulative policy impact will remain across different countries, the Agreement highlights the need to get to grips with national climate law in informing the multi-level governance of climate change.

Second, climate change law is not only vertically differentiated but is also ‘horizontally’ differentiated or fragmented.³² The breadth of law and governance that guides public and private action in relation to climate change at a single scale of governance is now considerable, whether within or across jurisdictions, particularly in light of the role of non-State actors and novel and voluntary forms of regulation that are emerging.³³ By focusing this article on legislation (including all forms of State-centred formal regulation), we consciously avoid some of this complexity and focus squarely on the challenges of identifying climate-related laws in discrete legal contexts. For one thing, climate-related legislation does not necessarily come with the label ‘climate change’ in its title or within its provisions. Addressing the problem of climate change through regulatory intervention implicates a wide range of areas of economic and social regulation, from planning controls and energy regulation to fiscal, agriculture

²⁶ Fisher et al (n 8) 241–242.

²⁷ D Bodansky, J Brunnée and L Rajamani, *International Climate Change Law* (Oxford University Press 2017) 36ff.

²⁸ Peel et al (n 1) 279 (‘multi-level regulatory measures [by default rather than design] generate their own set of complex issues around linkage, measurement and compatibility, including most critically whether disparate efforts in different sectors collectively add up to something that will ensure adequate climate change mitigation and adaptation’).

²⁹ Fisher et al (n 8) 242.

³⁰ F Snyder, ‘Governing Economic Globalisation: Global Legal Pluralism and EU Law’ in F Snyder (ed), *Regional and Global Regulation of International Trade* (Hart Publishing 2002) 1; P Zumbansen, ‘Lochner Disembedded: The Anxieties of Law in a Global Context’ (2013) 20 *Indiana Journal of Global Legal Studies* 29; TC Halliday and G Shaffer, ‘Transnational Legal Orders’ in Halliday and Shaffer (n 19) 3.

³¹ Paris Agreement (n 6) art 4(2) and 7(5).

³² Peel et al (n 1) 278.

³³ *ibid.* See also Megan Bowman, *Banking on Climate Change: How Finance Actors and Transnational Regulatory Regimes Are Responding* (Kluwer Law International 2015); Peterkova Mitkidis (n 15).

and transport measures.³⁴ Regulation in all these domains can both support climate change goals and undermine them, and thus ‘relates’ to climate change in different ways. However, many lawyers – legal scholars and legislators alike – tend to see different regulatory areas in silos of institutional and legal activity. Indeed, climate change law is itself often seen in this way despite its nature as a whole of society and economy problem.³⁵ This regulatory segmentation reflects a problem of ‘issue fragmentation’ that is recognized in environmental law regimes and environmental law scholarship.³⁶ Whilst this fragmented approach can give policy prominence and visibility to the problem of climate change – such as through dedicated governmental departments and ministers responsible for climate change – a legal approach that fails to recognize ‘[interactions] with the rest of the legal ecosystem’ is methodologically flawed,³⁷ as it represents an incomplete legal picture of the laws that relate to climate change within a legal system. Moreover, a silo-based approach runs the risk of overtaxing the limited law creation and enforcement capacities that any jurisdiction, and particularly least developed countries, can devote to climate-related matters. Sections 4 and 5 begin to address this challenge by identifying laws that relate to climate change policy both directly and indirectly within a legal system. Another reason why identifying climate-related laws within different legal systems is challenging is that understanding legislative instruments is not always an easy exercise. Locating, reading and interpreting legislation is a highly context-specific exercise that depends on the quality of drafting, constitutional norms within a legal system, the political context, and relevant interpretive tools,³⁸ as well as how legislation is ‘integrated’ into a legal order over time.³⁹ One might thus see a piece of written legislation that appears to relate to climate change policy, but a range of analytical tools – and often time – will be required to identify its actual meaning and effect.

This relates to the third significant methodological challenge in analysing climate change law: legal culture and background doctrinal frameworks are critical in appreciating the legal meaning and operation of any particular law that relates to climate change.⁴⁰ Thus a statute in one jurisdiction that sets binding mitigation targets might represent a binding norm to which the government can be held accountable through the oversight of the courts, whilst a similar statute in another jurisdiction might represent a goal or target that cannot in practice be enforced against a government. Much depends on the wording and interpretation of the statutes at issue, but the

³⁴ The United Kingdom (UK) government’s 2011 Carbon Plan gives a good overview of the policy mix involved in achieving climate mitigation targets. See HM Government, ‘The Carbon Plan: Delivering our Low Carbon Future’ (December 2011) <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47613/3702-the-carbon-plan-delivering-our-low-carbon-future.pdf>.

³⁵ A classic example of this is seen within European Union (EU) governance, where climate change issues are structurally assigned to a separate Directorate-General (DG) of the European Commission, DG Climate Action, even though increasingly there are joint policy and legislative initiatives with other Directorates-General, most notably through the 2030 Climate and Energy Framework; see <https://ec.europa.eu/clima/policies/strategies/2030_en>.

³⁶ Fisher et al (n 8) 241.

³⁷ *ibid.*

³⁸ D Miers, ‘How to Do Things with Legislation, or “Everything Depends on the Context”’ in U Baxi et al, *Law’s Ethical, Global and Theoretical Contexts: Essays in Honour of William Twining* (Cambridge University Press 2016) 320.

³⁹ Fisher (n 20) 33.

⁴⁰ On the importance of legal culture in relation to environmental law in discrete legal settings, see E Fisher, *Risk Regulation and Administrative Constitutionalism* (Hart Publishing 2010); E Scotford, *Environmental Principles and the Evolution of Environmental Law* (Hart Publishing 2017).

constitutional norms and public law doctrines available for holding governments to account will also be critical, as will understandings of the normative impact of laws more generally.

In this article, in focusing on national legislation (or nationally applicable legislation as in the EU context), we analyse climate law at a scale that is increasingly important in the vertically differentiated but interconnected mix of climate law. National law both informs and in part constitutes a global approach to climate change mitigation and adaptation, particularly in light of the Paris Agreement's nationally determined contributions. National and subnational regulatory action is also increasingly relevant to global climate policy efforts in light of the transnational networks of actors that are coordinating regulatory efforts⁴¹ and the greater effectiveness of localized regulatory efforts.⁴² In analysing climate law at the national level, we must however be sensitive to the challenges of issue fragmentation and legal culture outlined above, which constrain any understanding of how national legislative schemes are approaching climate change as a problem. These challenges are directly addressed in Sections 4 to 6 below. Before turning to these aspects of identifying and understanding national climate legislation, Section 3 considers further why our focus on legislation is justified and important.

3 WHAT IS SO SIGNIFICANT ABOUT CLIMATE LEGISLATION?

Even though scholarly, regulatory and policy attention is turning to national and subnational spheres of governance for the pursuit of climate change goals, this does not mean that legislative efforts need be central to this more localized approach. Policy action in a particular national context does not necessarily *require* legislation.⁴³ Further, in seeking to implement socially ambitious national climate change goals, there may be risks of delay, legislative capture and compromise in relying on a statutory process to pursue and facilitate these.⁴⁴ And even if legislative measures are enacted, there is no guarantee that they will translate into ambitious climate action 'on the ground' at the scale intended or required.⁴⁵ With those caveats in mind, there are at least four reasons

⁴¹ E.g. the Under2 Coalition – a group of subnational and national governments (205 jurisdictions representing 43 countries) committed to combating climate change globally: <<http://under2mou.org/>>.

⁴² On the polycentricity of climate governance and the important role of national laws and action within this, see J Setzer and M Nachmany, 'National Governance: The State's Role in Steering Polycentric Action' in A Jordan et al (eds), *Governing Climate Change: Polycentricity in Action?* (Cambridge University Press 2018) 47. Note also E Ostrom, 'A Polycentric Approach for Coping with Climate Change' (World Bank 2009), arguing that action at a range of scales is needed. Increased regulatory effectiveness can also be a reason for focusing policy initiatives even more locally at city scales. See HM Osofsky, 'Suburban Climate Change Efforts in Minnesota: Implications for Multi-level Mitigation Strategies' in Benjamin J Richardson (ed), *Local Climate Change Law* (Edward Elgar 2012) 105.

⁴³ There are many examples of ambitious national climate policies globally (e.g. EU 2050 Low Carbon Economy Roadmap, see <https://ec.europa.eu/clima/policies/strategies/2050_en>) and in some jurisdictions, notably China, executive policies represent an authoritative version of State climate policies (13th Five-Year Plan currently in force, see <<http://www.lse.ac.uk/GranthamInstitute/law/13th-five-year-plan/>>).

⁴⁴ R Lazarus, 'Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future' (2009) 94 Cornell Law Review 1153, 1179–1187 (describing reasons for why climate change is 'environmental lawmaking's worst nightmare' in the US context).

⁴⁵ Differences between formal law and its implementation are well known and framed in different ways, from effectiveness 'gaps' between law on the books and law in action (see R Abel, 'Law Books and Books about Law' (1973) 26 Stanford Law Review 175) to unproblematic but inevitable deviations between positive law and social practices (see B Tamanaha, *A General Jurisprudence of Law and Society* (Oxford University Press 2001) 132). See further Section 6.

why national legislation seriously matters in the climate change context. These relate to: the nature of climate change as a problem – notably its cross-sectoral, evolving and socially contentious nature – to which legislative processes are well adapted; the role of national institutional and governance structures in addressing climate change; the enforceability of legislation, particularly in meeting international commitments; and the symbolism of legislation, both in projecting an authoritative State-sponsored vision on climate change issues and in facilitating social and economic change. These issues are considered in turn, highlighting the particular value of legislation in the climate change context.

First, legislation is the typical legal response to environmental problems in many parliamentary systems of government, since such problems often do not fit into existing legal categories and typically require bespoke legal approaches that may need updating over time.⁴⁶ This is even more so in the case of climate change, which is defined by characteristics that are disruptive to existing legal frameworks, including its polycentric causes and effects, being characterized by socio-political conflict, and its uncertain and evolving nature.⁴⁷ In terms of socio-political conflict, disagreement is inherent in responding to climate change. This is because climate change brings or threatens widespread social and economic change (whether this is regulated or not) and, inevitably, there will be winners (at least in the short term) and losers,⁴⁸ and also because there are many different narratives around climate change that reflect different framings of the issue and thus different standpoints on how to address it.⁴⁹ As a forum, a legislative assembly is the lawmaking institution best adapted to deal with addressing such social conflict. Jeremy Waldron explains how legislatures are significant lawmaking institutions because they are structurally designed to internalize disagreement, making collective decisions on behalf of society as a whole taking into account competing views and visions.⁵⁰ For a polycentric problem like climate change that impacts on many sectors (and thus many areas of government), in both addressing mitigation and adaptation, responding to this ‘all of society’ problem is a task well suited to legislative assemblies.⁵¹ Similarly, the evolving nature of climate change, particularly in terms of its changing physical manifestations, as well as increasing knowledge about and changing social attitudes to the issue, suggests that legislative decision making is a suitable means of ‘deliberately adapting the rules to changing circumstances, either by eliminating old rules or introducing new ones’.⁵²

Second, legislation can embed climate change planning within the administrative structure of a State, ‘locking in’ a policy direction by tying policy goals into a rule of law framework for governance. This is distinct from government policies that can be more vulnerable to marginalization or revocation,⁵³ as the Trump

⁴⁶ Fisher (n 20) 26.

⁴⁷ Fisher et al (n 1).

⁴⁸ *ibid.*

⁴⁹ M Hulme, *Why We Disagree about Climate Change* (Cambridge University Press 2009).

⁵⁰ ‘The modern legislature is an assembly of the representatives of the main competing views in society, and it conducts its deliberations and makes its decisions in the midst of the competition and controversy among them’; J Waldron, *Law and Disagreement* (Oxford University Press 1999) 23.

⁵¹ Cf Lazarus (n 44) (arguing strongly the contrary view in the US context).

⁵² HLA Hart, *The Concept of Law* (Oxford University Press 1961) 92–93.

⁵³ Although the distinction between law and policy is not always so neat and some policy can have quasi-legal effects and may also be a creature of statutory construction (and thus less vulnerable to change without further statutory change). See E Scotford, ‘The SEA Directive and the Legal Construction and Control of Government Environmental Policy’ in G Jones and E Scotford (eds), *The Strategic Environmental Assessment Directive: A Plan for Success?* (Hart Publishing 2017) 213.

Administration's negation of the US Clean Power Plan, which was enacted by the Obama Administration on the basis of an executive order, exemplifies.⁵⁴ This entrenching function of legislation reflects its role – and the changing concept of law – in the modern administrative State.⁵⁵ Where a government is responsible for managing a wide array of social and economic issues,⁵⁶ legislation often frames executive action – acting as 'a series of directives issues by the legislature to government-implementation mechanisms, primarily administrative agencies, rather than as a set of rules for the governance of human conduct'.⁵⁷ Legislation can thus do a wide range of things, including setting policy objectives, initiating policy programmes, and holding government to account for implementing these.⁵⁸ In relation to climate change policy in particular, legislation can be employed to cement country emissions trajectories, introduce planning requirements, prescribe 'ratchet' and 'review' procedures to facilitate the achievement of medium to long-term climate goals, and create institutional structures to support and deliver climate policy over an extended timeframe, among other important functions.⁵⁹

The UK Climate Change Act 2008 (CCA) is an example of a legislative measure that has been perceived as a major achievement in locking in climate policy targets and requirements in these different ways.⁶⁰ It establishes a legal decarbonization target and trajectory until 2050,⁶¹ setting a framework within which government decisions on economic, industrial and social policy must be made (particularly through the setting of carbon budgets), where this framework must be reviewed periodically and the UK government is held to account for meeting its carbon budgets. It also establishes an independent expert climate change committee, the views of which government is obliged to take into account in setting carbon budgets.⁶² The CCA will sustain this governance process so long as the UK Parliament does not repeal the Act. It should be noted that setting up such processes and legislating for decarbonization or adaptation does not guarantee the desired policy outcome (and it leaves considerable policy flexibility in choosing between decarbonization and adaptation pathways). However, combined with the potential enforcement consequences and authority expressed by

⁵⁴ DA Wirth, 'Cracking the American Climate Negotiators' Hidden Code: United States Law and the Paris Agreement' (2016) 6 *Climate Law* 152; 'Statement by President Trump on the Paris Climate Accord' (1 June 2017) <<https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/>>.

⁵⁵ EL Rubin, 'Law and Legislation in the Administrative State' (1989) 89 *Columbia Law Review* 369.

⁵⁶ Again, not all countries will fit this model (most modern parliamentary systems of government will) and our analysis is limited to this extent.

⁵⁷ Rubin (n 55) 371–372.

⁵⁸ Legislation can 'state very general goals, in a manner that [might be] viewed as illegitimate, or prescribe specific implementation programs, in a manner probably regarded as undignified: Rubin (n 55) 372 (highlighting how this role of legislation is not well recognized by legal theory and scholarship that focuses on judicial expressions of law).

⁵⁹ This could be through creating an expert climate change committee to advise government (as in the UK) or through governmental actors being legally required to integrate efforts of disparate policy arms of government (e.g. Tanzanian Environmental Management Act (2004) art 75). In light of the Paris Agreement's hybrid governance model, which relies on institutionalizing processes of review and accountability in relation to State-level climate ambition, an interesting question is whether States are obliged to create and require such institutional structures at the national level.

⁶⁰ Although it is certainly not a watertight lock on implementing this policy for the long term: M Lockwood, 'The Political Sustainability of Climate Policy: The Case of the UK Climate Change Act' (2013) 23 *Global Environmental Change* 1339.

⁶¹ Climate Change Act 2008 (UK) s 1.

⁶² *ibid* pt 2 and s 9(1).

legislation, discussed below, this formalized policy architecture sets a significant course of travel.

The third reason that national legislation is important for climate policy is instrumental. Laws are usually tied to some kind of enforcement or compliance mechanism,⁶³ linking to a legal apparatus that provides for their implementation. Thus a sanctioning mechanism might be included within the legislation itself, as in legislation that creates offences or avenues for civil enforcement, or it might be generated by the doctrines of a particular legal system, whether through providing private or public law remedies for breach of legislative requirements.⁶⁴ Equally, some accountability mechanisms – such as reporting to parliament – can act as a ‘pathway’ to compliance.⁶⁵ The existence of such avenues of legal enforcement and compliance is an appealing feature of legislation for those concerned primarily with its ability to deliver stated policy goals, particularly within the architecture of the Paris Agreement that requires State Parties to ‘maintain’ successive national contributions and to ‘pursue domestic mitigation measures’ with the aim of achieving the objectives of such contributions.⁶⁶ At the same time, enforcement mechanisms are not necessarily the keystone for effective national action on climate change. As explored further in Section 6, there is a range of reasons why people or institutions respect or implement legislative measures in practice. It can be argued that a legal order operates effectively or ‘validly’ not so much due to the ‘availability of coercive guarantees as to its habituation as “usage” and its “routinization”’.⁶⁷ Thus whilst enforcement mechanisms can be important in operationalizing regulatory measures, they must always be understood within a fuller analysis of the relevant legal culture and how norms are ‘routinized’ within it.

The fourth feature of legislation that makes it important in the climate policy context is its symbolic value as a source of authority.⁶⁸ Legislation publicizes the formally enacted commitment of a government and nation State to a particular policy and set of requirements, and it is accompanied by legitimizing signs of authority that can be traced to the sovereign authority of a State.⁶⁹ The symbolic authority of statute is particularly important in commanding respect for long-term climate change commitments when there is disagreement amongst the community about those

⁶³ Waldron (n 50) 35 (‘the association of law with sanctions is more or less universal’); cf. J Raz, *Practical Reason and Norms* (Oxford University Press 1975) 157 ff.

⁶⁴ How accessible or readily employed such enforcement mechanisms are is another matter.

⁶⁵ SI Karlsson-Vinkhuyzen et al, ‘Entry into Force and Then? The Paris Agreement and State Accountability’ (2018) 18 *Climate Policy* 593.

⁶⁶ Paris Agreement (n 6) art 4(2).

⁶⁷ M Weber, *Max Weber on Law and Economy in Society* (ed M Rheinstein, Harvard University Press 1954) 35.

⁶⁸ N Luhmann, *A Sociological Theory of Law* (Routledge 1985, translated by M Albrow) 159 (‘The function of legislation does not lie in the creation or production of law, but in the selection from and in giving symbolic dignity to norms as binding law.’); cf E Fisher, ‘Climate Change Litigation, Obsession and Expertise: Reflecting on the Scholarly Response to *Massachusetts v EPA*’ (2013) 35(3) *Law & Policy* 236 (identifying a scholarly narrative – a ‘legal reasoning’ narrative – that common law cases concerning climate change have a ‘permanence and authority’ that politically compromised legislation does not).

⁶⁹ T Hobbes, *Leviathan*, Ch 26, 189 (‘Nor is it enough the Law be written and published; but also that there be manifest signs, that it proceedeth from the will of the Sovereign... There is therefore requisite, not only a Declaration of the law, but also sufficient signes of the Author, and Authority.’), as quoted in Waldron (n 50) 39. We acknowledge that sovereign State authority can be invested in non-legislative instruments in some political systems (e.g. China’s Five Year plans), but our analysis is restricted to parliamentary systems.

commitments,⁷⁰ or when long-term plans do not reflect their everyday reality.⁷¹ Both in engendering respect for formally correct legal enactments and in raising awareness of climate change issues, the symbolic function of climate legislation can be very significant, both internally for individuals and interests within a State and externally in sending a signal to other States about a nation's commitments on climate change.

The symbolism of legislation can also be seen in its facilitative or signalling capacity. Due to its more permanent form, legislation can provide greater regulatory certainty for actors who are governed by the relevant law. This is a particular advantage for business investors who are seeking to finance emerging green technologies or other decarbonizing activity, thereby building momentum for a climate policy agenda. This is not to say that legislative measures provide complete regulatory certainty, particularly in relation to emerging markets⁷² and industries where the government may be regulating by trial and error,⁷³ but it remains an important signal for investment and business certainty.⁷⁴

These features and functions of legislation in parliamentary systems of government are particularly salient in supporting and evaluating new legislation to implement national climate change commitments, and they highlight that legislation is likely to be an important aspect of implementing nationally determined contributions under the Paris Agreement. These features are also important in investigating existing national regulatory landscapes, particularly in determining how existing legislation reflects embedded requirements or policy directions that will affect the prospects of any new domestic climate change policy. Sections 4 and 5 explore how pre-existing laws and established regulatory frameworks in national contexts need to be appraised for their relationship to climate change policy, particularly in determining whether this relationship is facilitative or obstructive.⁷⁵ Whilst there can be limits in relying on legislation to deliver climate policy outcomes,⁷⁶ the features of legislation outlined in this section at the very least justify careful analysis of this aspect of positive law in the climate change context.

4 NATIONAL LEGISLATION AND DIRECT CLIMATE INTERSECTIONS

⁷⁰ *ibid.*

⁷¹ Weber argues that a 'belief in legality' can legitimate a formally enacted legal order in the eyes of those subject to it: Weber (n 67) 9.

⁷² In the financial markets, the term 'emerging markets' denotes a national market that exceeds a certain minimum size, but which nevertheless has features distinguishing it from a 'market economy' (e.g. a lower sovereign debt rating, lack of freely tradable currency). Key emerging markets with large economies (beyond China as the largest) are India and Brazil; see S&P Dow Jones Indices, 'Annual Country Classification Review' <<https://us.spindices.com/documents/index-policies/20140729-country-classification-consultation.pdf>>.

⁷³ For example, if and when renewable subsidy schemes are successful, governments can introduce measures to phase out or reduce feed-in tariff payments for renewable energy production. This can be done abruptly in some cases, leading to legal challenges (e.g. *Secretary of State for Energy & Climate Change v Friends of the Earth* [2012] EWCA Civ 28 (UK)) or be part of a scheme's legislative design (Renewable Energy Act 2011 (Malaysia)).

⁷⁴ E.g. N McCarthy and H Henderson, 'The Role of Renewable Energy Laws in Expanding Energy from Non-Traditional Renewables' (Inter-American Development Bank 2014); UNEP and Pace University (n 13) 34–35.

⁷⁵ Equally one might argue that there could be existing (non-statutory) policies within particular legal contexts that reflect the regulatory status quo and need to be taken into account in appraising constraints and opportunities for climate change policy. Much will depend on the legal doctrines and culture at issue as to the framing power of existing policies.

⁷⁶ See further Section 6.

This section commences a blueprint for this careful analysis of national climate legislation, outlining the first aspect of a rigorous methodology for capturing how climate change interacts with an entire national legal system. We argue that the first step in identifying and evaluating national climate legislation is the most obvious one – identifying that body of climate relevant legislation that *directly* intersects with climate change as a policy issue.⁷⁷ We define such ‘direct legal intersections’ as those national laws that explicitly address or consider climate change causes or impacts within their operative sections. This includes legislation and regulation the primary purpose of which is to achieve climate policy objectives, as well as laws designed for non-climate purposes that explicitly take into account climate change issues or impacts within their legislative framework. By contrast, we define ‘indirect legal intersections’ as those national laws and regulations that have the capacity to affect climate change mitigation or adaptation through their operation, including by providing climate ‘co-benefits’ or by setting up regulatory tensions in policy terms. Such laws do not address climate change issues explicitly but intersect with climate change because of the subject matter that they regulate.

As mentioned in Section 1, this distinction between direct and indirect climate legal intersections is not a bright-line one, particularly as legal regimes can address multiple policy issues and ‘indirect’ links to climate policy can be drawn from many regulatory areas that ultimately impact on the generation of greenhouse gas emissions or adaptation preparedness.⁷⁸ For the purposes of our article, we are not considering all laws that may ultimately affect national greenhouse gas emissions or adaptation prospects in any possible way, but laws that intersect with nationally stated climate policies, directly or indirectly.⁷⁹ Furthermore, legal regimes evolve. Indirect intersections can become direct intersections, particularly with increasing awareness about different regulatory intersections with climate policy and increasing streamlining of climate policy into different regulatory areas, as explored in Section 5. In addition, it is often not possible to put entire categories of laws into the ‘direct’ or ‘indirect’ box. For example, some forestry-related law will directly engage with climate change issues (such as laws implementing nationally led REDD+ – reducing emissions from deforestation and forest degradation – initiatives),⁸⁰ whilst others will have entirely different goals and relate only indirectly to climate change in their operation (such as land clearing laws).⁸¹ The distinction between direct and indirect climate laws is nonetheless valuable in three ways. It is comprehensive – it logically covers all climate-related law. It is neutral in that it casts no judgement on which areas of climate law are the most important to analyse, and makes no assumptions about how they might be framed legally. And it is flexible in that laws can move between categories as legislation evolves, avoiding ossification of the model through redundant classifications. These

⁷⁷ This is the most common approach in studies of climate legislation globally: e.g. LSE Grantham Institute and Sabin Centre for Climate Change Law, ‘Climate Change Laws of the World’ database, accessible at <<http://www.lse.ac.uk/GranthamInstitute/climate-change-laws-of-the-world/>> (see also n 11 for the 2017 report on its recent findings and methodology); Townshend et al (n 5).

⁷⁸ For example, immigration rules will impact on economic activity and the energy intensity of a country (we are grateful to an anonymous reviewer for making this point).

⁷⁹ We recognize this is a fine distinction and there may be methodological choices to make it a workable one in any applied analysis.

⁸⁰ C Ituarte-Lima and CL McDermott, ‘Are More Prescriptive Laws Better? Transforming REDD+ Safeguards into National Legislation’ (2017) 29 *Journal of Environmental Law* 505.

⁸¹ E.g. in Australia, Queensland’s Vegetation Management Act 1999 and New South Wales’ Native Vegetation Act 2003.

features mean that we can identify, in conceptual terms, the full gamut of legislative measures that relate to climate policy in any given jurisdiction.

Turning first to direct legal intersections, the identification of such legislation within a country outlines the explicit contours of national climate legislation and also begins to show how national climate circumstances, and national legal contextual factors, may significantly condition the development of such climate legislation within a given national context. We can identify at least the following direct ‘climate change laws’ that exist in different national jurisdictions:⁸² overarching or framework climate change laws (such as the UK Climate Change Act 2008, discussed further below); laws imposing greenhouse gas emission reporting and accounting obligations (such as India’s Electricity Act 2003); renewable energy and energy market decarbonization measures that pursue climate change goals (such as the Renewable Energy Target scheme, under the Renewable Energy (Electricity) Act 2000 (Cth) (Australia)); certain land use and infrastructure planning regulations (such as the State Planning Policy Framework under the Australian state of Victoria’s Planning and Environment Act 1987);⁸³ climate-specific water and forestry management law (such as Zambia’s Water Resources Management Act 2011);⁸⁴ relevant corporate law duties (such as the UK Companies Act 2006, which requires all UK ‘quoted’ companies to report their greenhouse gas emissions in their Directors’ reports);⁸⁵ subsidy regulation (such as the introduction in Ghana of automatic utility and petroleum price formulae providing for the phasing out of subsidies on utility and petroleum products);⁸⁶ and legislative frameworks related to climate change finance (such as Tuvalu’s Funding Climate Change Adaptation: Climate Change and Disaster Survival Fund Act 2015, discussed further below).

This diverse, non-exhaustive list shows the wide variety of direct legislative intersections with climate change that exist across legal jurisdictions, ranging from framework laws on climate change mitigation to energy regulation to planning laws that take into account climate impacts. This diversity indicates at least two things. First, there are many more laws that directly concern climate change than just framework laws that require economy-wide greenhouse gas emissions reductions, which are typically thought of as ‘climate change laws’. Second, even those laws that directly concern climate change as a regulatory problem do not always mention ‘climate change’ explicitly, even though directly concerned with an aspect of climate regulation. In particular, once more detailed facets of climate change come within regulatory control – such as regulating certain energy sources – their area of nominated regulatory concern often becomes more specialized as well. This diffusion of climate change regulation into different areas of national legal control reflects the polycentric nature of climate change causes and impacts across societies. These two aspects of direct climate intersections show that the first step in identifying national climate legislation is already

⁸² This is a non-exhaustive list. See further E Scotford, Andrew Macintosh, Stephen Minas, ‘Climate Change and National Laws across Commonwealth Countries’ (2017) 43 Commonwealth Law Bulletin 318. See also Nachmany et al (n 11) (acknowledging that explicit climate laws can fall within different bodies of sectoral regulation in different countries).

⁸³ Clause 13.01 of the Framework incorporates planning for ‘coastal inundation and erosion’, e.g. by specifying that for ‘new greenfield development outside of town boundaries, plan for not less than 0.8 metre sea level rise by 2100’.

⁸⁴ E.g. Article 8(2)(b) tasks the Water Resources Management Authority with taking into account climate change in protecting the environment.

⁸⁵ United Kingdom, The Companies Act 2006 (Strategic Report and Directors’ Report) Regulations 2013 SI 2013/1970, reg 7.

⁸⁶ Republic of Ghana, ‘Ghana’s Third National Communication Report to the UNFCCC’ (2015) 11.

not a simple exercise. To assist in this exercise, we can attempt to explain, or identify reasons for, the national diversity of direct climate legislation.

Exploring national examples of direct climate legislation suggests various reasons why different types of direct intersections have been occurring to date in different jurisdictions.⁸⁷ Constitutional underpinnings, political vicissitudes, bureaucratic capacity and regulatory conventions, economic priorities,⁸⁸ international leadership aspirations, and climate vulnerability all emerge as significant but varying influences in determining the nature and operation of climate legislation. As the examples below demonstrate, the divergence of national experiences in developing legislation with direct climate intersections means that the analysis of each legal mechanism requires an appreciation of national legal systems and their legal cultures, varying climate vulnerabilities of different countries, and respective national capacities.

As a first example, we consider the UK Climate Change Act 2008 as a prominent statute that creates overarching legal obligations at the national level with respect to climate change policy. When policymakers or academics discuss national climate legislation, they often focus on ‘flagship’⁸⁹ or ‘framework’⁹⁰ climate legislation. The UK Climate Change Act establishes: a binding target of reducing the ‘net carbon account’ by 80 percent by 2050 against a 1990 baseline and a requirement to set legally binding carbon budgets for five-yearly periods; a Committee on Climate Change to advise government on the setting and achieving of carbon budgets, which reports on progress to Parliament; powers for introducing emissions trading systems; and an obligation on the relevant Minister to report annually to Parliament on national emissions, including net emissions and emissions removals, for the previous year. The Act also institutes mechanisms for national adaptation planning.⁹¹ The Act was one of the first such statutes internationally to introduce overarching climate change obligations and has proved influential as a model for similar framework-setting legislation in other countries.⁹² However, how the Act was created, and how it has since functioned, can be seen as products of the UK’s particular national circumstances. These include: the fact that the UK is a high-income country in a position to dramatically reduce its emissions by the targeted date of 2050;⁹³ the constitutional principle of parliamentary supremacy, which grants Parliament broad scope to introduce laws, including those with significant, long-term impact; and the well-accepted role of independent, expert advisory bodies established by legislation in UK public regulation. Furthermore, the political landscape presented a unique moment

⁸⁷ We are not giving a comprehensive analysis of reasons for the passage of climate legislation. There is a considerable body of political economy analysis of why climate legislation is passed (see Sam Fankhauser, Caterina Gennaioli and Murray Collins, ‘The Political Economy of Passing Climate Change Legislation: Evidence from a Survey’ (2015) 35 *Global Environmental Change* 52), but note this is based on a bounded definition of what constitutes ‘climate legislation’ (mainly restricted to certain policy categories of direct climate legislation, often building on the GLOBE Climate Legislation survey (n 5)).

⁸⁸ Townshend et al (n 5) (noting economic factors as often being the primary motivation for passing climate legislation).

⁸⁹ Townshend et al (n 5); GLOBE International and LSE Grantham Research Institute (n 5).

⁹⁰ Nachmany et al (n 11) 22 (defining framework laws as ‘the overarching laws that create a unifying basis for climate policy in many countries’ and also refining their approach to such laws).

⁹¹ Climate Change Act 2008 (UK) pt 4.

⁹² D Torney, ‘If at First You Don’t Succeed: The Development of Climate Change Legislation in Ireland’ (2017) 32 *Irish Political Studies* 247.

⁹³ The Stern Review was influential at the time of introducing the Act in arguing that there were economic benefits in combating climate change; N Stern, *The Economics of Climate Change: The Stern Review* (Cambridge University Press 2006).

when there was bipartisan parliamentary support for prioritizing climate change as a policy issue.

A contrasting example of national legislation that intersects directly with climate change is Tuvalu's Funding Climate Change Adaptation: Climate Change and Disaster Survival Fund Act 2015, which is a legal framework established to facilitate climate finance. Like the UK Climate Change Act, this statute sits at the centre of 'climate change' legislation in Tuvalu, but has a very different focus and provides for very different obligations. In particular, it is an example of a legal framework created by a climate-vulnerable, small island developing State, which has limited capacity to adapt to climate change from its own resources and must prioritize the mobilization of external finance for this purpose. The Act establishes the Tuvalu Climate Change and Survival Fund to support responses to natural disasters and to facilitate climate adaptation, and much of the statute addresses how the Fund should operate. 'Requests for Assistance' are assessed by the Climate Change and Disaster Survival Fund Committee, which prepares assessment reports on the requests for approval by the Climate Change and Disaster Survival Fund Board. The Board can approve or reject the Committee's recommendations. The Tuvaluan Government is required to contribute AU\$5 million to the Fund. All donations to assist Tuvalu in its recovery from Tropical Cyclone Pam, including any funding from the Global Environment Facility, Adaptation Fund and Green Climate Fund, are also required to be deposited in the Fund. The statute specifies at sub-section 12(4) that 'the fund may be augmented by grants through Multilateral Environmental Agreements, Bilateral contributions, and donations from foreign governments, foreign organisations, Tuvaluan communities and other individual donations'.

As a third, again quite different, example of contingent national laws that intersect directly with climate change, the frameworks for renewable energy in EU Member States exemplify how national lawmaking with respect to climate change is embedded within particular governance frameworks, in this case within the supranational lawmaking structure of the EU. The Treaty on the Functioning of the European Union enshrines the goal of 'promot[ing] energy efficiency and energy saving and the development of new and renewable forms of energy'.⁹⁴ The EU's Renewable Energy Directive of 2009 sets an overall EU renewable energy target for 2020, in addition to specifying differentiated national targets.⁹⁵ The Directive is binding not just on EU Member States, but also on the non-EU members of the Energy Community.⁹⁶ These predominantly Eastern European States have, through a decision of the Energy Community's Ministerial Council, adopted the Directive to determine binding national renewable targets.⁹⁷ The Directive is implemented in national legislation across the EU and Energy Community, with broadly diverging national experiences.⁹⁸ Given both the widely acknowledged leadership of the EU and its Member States in developing and implementing climate change and renewable energy

⁹⁴ Consolidated Version of the Treaty on the Functioning of the European Union [2008] OJ C115/47 (TFEU) art 194(1)(c).

⁹⁵ Directive 2009/28/EC of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC [2009] OJ L140/16.

⁹⁶ See S Minas, 'Towards the East: The Energy Community and the Extension of EU Climate Governance' in S Minas and V Ntousas (eds), *EU Climate Diplomacy: Politics, Law and Negotiations* (Routledge 2018) 86.

⁹⁷ Energy Community, 'Decision D/2012/04/MC-EnC on the implementation of Directive 2009/28/EC and amending Article 20 of the Energy Community Treaty' (2012).

⁹⁸ See, e.g., CE Delft et al, 'Mid-term Evaluation of the Renewable Energy Directive: A Study in the Context of the REFIT Programme' (CE Delft 2015).

laws⁹⁹ and the unique nature of the EU as a supranational legal project,¹⁰⁰ the EU is a particularly striking example of the need to pay heed to the particular constitutional and governance circumstances of climate legislation in a given jurisdiction.

These examples of lawmaking that directly addresses climate change illustrate the complexity of appraising the development of aggregated legal responses to climate change at national level. They indicate that a ‘whole of legal system’ analysis should have regard to a wide range of legislative instruments that can directly intersect with climate change. Further, identifying and evaluating this legislation requires an appreciation of various contextual factors, including national circumstances with respect to climate change (particularly whether a State contributes to climate change and/or feels its effects), governance frameworks that constrain or enable lawmaking (including relationships with supranational entities), political and economic realities, international policy leadership, and national administrative culture. The salience of these factors is such that different legislative instruments are likely to be developed in, and relevant for, different countries, both in relation to their physical and economic needs and in light of the constraints and priorities of their political processes. Furthermore, as explored further in Section 6, similar legislative provisions may have dramatically different impacts and outcomes in different countries, depending on their legal cultures. These conclusions underscore the need for caution on the part of both researchers of climate-relevant legislation and policymakers in relation to the production and dissemination of model acts or ideal provisions for promoting climate policy, or when considering the legal transplantation¹⁰¹ of ‘direct’ climate legislation from one jurisdiction to another.

5 NATIONAL LEGISLATION AND INDIRECT CLIMATE INTERSECTIONS

The second – and to date less well examined – step in analysing and evaluating national climate legislation in order to capture the full scope of regulatory connections between climate change policy and national legal frameworks is to identify those laws and regulations that impact on climate change indirectly. Indirect climate laws occur because climate change is a pervasive, polycentric social problem. It thus intersects with many sectoral issues that are subject to specific regulation, where legislators have not yet, or not yet fully, turned their minds to aligning that regulation with climate change policies. Such indirect climate intersections draw the researcher into the full range of laws relating to climate policy and also deeper into the particularities of a national legal system. This is because the areas of legislation that significantly affect climate outcomes will differ from country to country and will not always be obvious. For example, a limited or inadequately implemented waste regulation regime may leave greenhouse gas emissions largely untouched, while a stringent and rigorously enforced regime may make a significant contribution to climate mitigation.¹⁰² One particular

⁹⁹ RKW Wurzel, J Connelly and D Liefferink (eds), *The European Union in International Climate Change Politics: Still Taking a Lead?* (Routledge 2017).

¹⁰⁰ EU law is ‘not only a new legal order but also a novel one in the sense that it has no historical precedent or indeed contemporary equivalent’; T Tridimas, *The General Principles of EU Law* (2nd edn, Oxford University Press 2016) 18.

¹⁰¹ A Watson, *Legal Transplants: An Approach to Comparative Law* (University of Georgia Press 1974).

¹⁰² This is because methane emissions from landfill are significant greenhouse gases and may be well controlled by a waste regime even if not directly addressed in its regulatory scheme (or they may be inadequately addressed). For example, the EU Landfill Directive requires EU Member States to reduce the amount of biodegradable waste sent to landfill over time, indirectly supporting climate change policy

feature of indirect climate laws is that they can, and often do, develop into direct legal intersections over time, as scientific knowledge and regulatory experience progresses, including through conscious streamlining of climate policies in different regulatory areas.

Examples of indirect legal intersections with climate change can be found in certain legislation regarding: air pollution (discussed below); stratospheric ozone layer protection (discussed below); waste management;¹⁰³ vegetation management;¹⁰⁴ and refugees.¹⁰⁵ These forms of indirect legal intersection often involve sectoral regulation of some kind. As such, they are often the product of legislative processes that are deeply embedded in sector-specific communities of interest, expertise, power structures, normative contests and economic rationales. These factors may have been little influenced by climate-related concerns, if they are influenced at all.

Of these sectoral bodies of regulation, the regulation of air pollution is of particular significance for climate mitigation. This is particularly so in urban areas where key drivers of air pollution, such as heavy industry and transport, are also responsible for the release of greenhouse gases into the atmosphere. However, different combustion pollutants can have varying impacts as greenhouse gases and as contributors to ambient air pollution, making it particularly important to design air pollution regulation carefully so that it generates positive synergies with climate policy. Laws directed at reducing air pollution may have climate ‘co-benefits’,¹⁰⁶ but they can also set up tensions with climate policy. For example, the UK, similar to other European countries, cut Fuel Duty for diesel in its 2001 Budget,¹⁰⁷ seeking to promote the use of diesel cars due to their lower carbon dioxide emissions relative to petrol cars. The unintended result of this climate measure was a significant increase in polluting nitrogen dioxide and particulate matter emitted into the ambient air,¹⁰⁸ creating real challenges for EU Member States in complying with the EU Ambient Air Quality Directive,¹⁰⁹ which sets air pollution exposure limits under EU air quality law.¹¹⁰ By contrast, the EU National Emissions Ceiling (NEC) Directive – another central plank of EU air quality regulation – was revised in 2016 with explicit sensitivity to the policy intersections with climate change.¹¹¹ The Directive implements the updated Gothenburg Protocol of the Convention on Long-Range Transboundary Air Pollution and sets reduction commitments for each EU Member State for emissions of the

through reducing net methane emissions; Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste [1999] OJ L182/1.

¹⁰³ *ibid.*

¹⁰⁴ See n 81.

¹⁰⁵ See further Scotford et al (n 82).

¹⁰⁶ Particularly if air pollution regimes can regulate greenhouse gases as ‘air pollutants’. This issue was notoriously litigated in *Massachusetts v EPA* (2007) 127 SC 1438 (deciding that carbon dioxide legally qualified as an air pollutant under the US Clean Air Act).

¹⁰⁷ HM Treasury, *Budget 2001, Investing for the Long Term: Building Opportunity and Prosperity for All* (The Stationery Office Limited 2001).

¹⁰⁸ Since diesel engines produce more of these air pollutants. See A Cavoski, ‘The Unintended Consequences of EU Law and Policy on Air Pollution’ (2017) 26 *Review of European, Comparative and International Environmental Law* 255.

¹⁰⁹ Parliament and Council Directive 2008/50/EC on ambient air quality and cleaner air for Europe [2008] OJ L152/1.

¹¹⁰ This was exacerbated by the failure of emissions testing of diesel vehicles to capture realistic polluting emissions, both in the EU and the US; D Carrington, ‘Wide Range of Cars Emit More Pollution in Realistic Driving Tests, Data Shows’ (The Guardian, 30 September 2015).

¹¹¹ Directive 2016/2284/EU of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC [2016] OJ L344/1.

pollutants responsible for ground-level ozone pollution, acidification and eutrophication, including black carbon, which is both an air pollutant (comprising part of fine particulate matter or PM_{2.5}) and a substance that warms the atmosphere. The Directive now requires Member States to prioritize reduction of black carbon when meeting PM_{2.5} reduction commitments to coordinate this regulation with EU climate policy goals.¹¹² These examples show that national and supranational laws that address air pollution should be recognized as interacting with the regulation of climate change within national legal systems in significant ways. This is particularly the case in large emerging economies such as India, where the sustained economic growth of recent decades has resulted in severe urban air pollution,¹¹³ and where these countries are major global greenhouse gas emitters. In short, the nature of any linkages or tensions between sectoral legislation (such as those concerning pollution) and climate policy are highly relevant in evaluating national climate law.

Furthermore, the boundaries between direct and indirect legal intersections with climate change are not immutable. This was illustrated in the revision to the EU NEC Directive above and is also illustrated through the experience of ozone regulation. Efforts to reverse depletion of the ozone layer through implementation of the 1987 Montreal Protocol on reducing Ozone Depleting Substances, including chlorofluorocarbons (CFCs) and other chemicals, led to the emissions of substitute chemicals that were powerful greenhouse gases. In particular, hydrofluorocarbons (HFCs) emerged as a fast-growing greenhouse gas, making a significant (unintended) contribution to anthropogenic climate change, whilst assisting in resolving the ozone problem. In 2016, the Meeting of the Parties to the Montreal Protocol in Kigali agreed to amend the Protocol with the explicit purpose of reducing emissions from HFCs.¹¹⁴ Both parties and the secretariat to the Protocol linked the agreement to the previous year's Paris Agreement in furthering climate action.¹¹⁵ For many parties to the Protocol, domestic implementation of the amendment will require legislation.¹¹⁶ As the Kigali Amendment is implemented through domestic legal systems, ozone regulation should go from having an inadvertent and negative effect on climate change to a deliberate and positive effect. Consequently, national ozone legislation is in a process of changing from indirectly intersecting with climate change (having an inadvertent, albeit widely understood, effect on the climate problem) to directly intersecting with climate change (through targeted phasing-out of a greenhouse gas as a climate mitigation measure). This is an illustration of the ongoing horizontal differentiation of climate-related legislation within jurisdictions, as the Kigali Amendment finds effect through existing national processes to implement the Montreal Protocol. It is also an example of how – with increasing scientific knowledge and its application through international and domestic legal reform – previously hidden aspects of climate-related law may be

¹¹² *ibid* art 6(2)(c).

¹¹³ M Safi, 'Indian Government declares Delhi Air Pollution an Emergency' (The Guardian, 6 November 2016).

¹¹⁴ 'Further Amendment of the Montreal Protocol: Submitted by the Contact group on HFCs' UN Doc UNEP/OzL.Pro.28/CRP/10 (14 October 2016).

¹¹⁵ UNEP, 'Countries Agree to Curb Powerful Greenhouse Gases in Largest Climate Breakthrough since Paris' (15 October 2016).

¹¹⁶ UN Environment, 'Next Steps: Legislation and Administration', OzonAction Kigali Fact Sheet 7 <http://www.unep.fr/ozonaction/information/mmcfiles/7882-e-Kigali_FS07_Legislation.pdf>. Many developing countries included examination of policy/legislative options in their UNEP funding requests for enabling activities for the Kigali Amendment: Multilateral Fund for the Implementation of the Montreal Protocol 'Addendum: UNEP Work Programme Amendments for 2017' UN Doc UNEP/OzL.Pro/ExCom/80/25/Add.1 (26 October 2017).

uncovered and made explicit, reducing tensions and strengthening co-benefits between different bodies of law.

As can be seen, indirect climate intersections are qualitatively different to direct climate intersections. Whereas national legislation with direct climate intersections has grown out of efforts to apply technological, financial and regulatory tools to the climate problem, or to take climate change into greater account in a range of regulatory areas, indirect climate intersections have developed largely as a result of other factors. Moreover, indirect climate legal intersections may not be readily apparent and may remain hidden until advances in scientific or sectoral knowledge uncover their salience to climate change. These qualitative differences mean that indirect climate intersections pose distinct challenges for the researcher and policymaker alike in assessing and evaluating the complete landscape of national climate change law.

6 LEGAL CONTEXTUAL FACTORS: UNPACKING INFLUENCES OF NATIONAL LEGAL CULTURES

The third key methodological step in analysing national climate legislation is appreciating the legal context and culture in which legal intersections with climate policy take place. This is important because, whilst legislation can play a vital role in implementing (or obstructing) climate policy, understanding the nature of that role requires a deeply nuanced understanding of how law is developed, interpreted, enforced and respected within a particular legal culture. Climate policy poses a particular challenge – and also displays a distinct need – for this kind of contextual analysis in light of the fact that 194 different parties are signatories to the Paris Agreement, and it is their combined efforts on mitigation, adaptation and support mechanisms that will determine the effectiveness of the Agreement. To the extent that those efforts employ and rely on legislation (particularly for the reasons set out in Section 3 above), a diversity of legal cultures will be at play in implementing nationally driven climate commitments under the Agreement. It is not enough to say that law and legislation are important in implementing those climate policy commitments; we need a framework for evaluating how that law will operate in practice. This section draws on socio-legal analysis of ‘legal culture’ to develop such a framework, highlighting the internal and external features of legal cultures that can explain how legislative instruments are created, interpreted, and received within particular jurisdictions.

The motivation for identifying these sociological aspects of legal norms is to acknowledge and account for the ‘gaps’ that exist between: what laws say in written form; the actual practices of lawyers and judges; and what people in the community (government, private actors, civil society) actually do. Such gaps mean there is no guarantee that legislative measures will translate into ambitious climate action ‘on the ground’ at the scale intended or required, even if this is suggested on the face of a particular legislative measure. These differences between formal law and its implementation are well known to socio-legal scholars and they can be framed in different ways – as problematic ‘effectiveness gaps’ between law on the books and law in action,¹¹⁷ as reflections of legal practice more broadly understood,¹¹⁸ or as unproblematic but inevitable deviations between positive law and social practices.¹¹⁹ As mentioned in Section 3,¹²⁰ Weberian analysis highlights that ‘coercive guarantees’

¹¹⁷ Abel (n 45).

¹¹⁸ See the discussion below on ‘internal legal culture’.

¹¹⁹ Tamanaha (n 45) 132.

¹²⁰ See n 67 and accompanying text.

of positive law may be less important than the usage, custom and ‘routinization’ of law when identifying social practices that implement legal provisions.¹²¹ Furthermore, deviations between formal law and social practice vary in nature and scale across jurisdictions and cultures.¹²² In short, one needs to be sensitive to legal context, culture and practice in appreciating the role of law in society and thus its relationship to the effectiveness of the climate policy that any legislative measure seeks to implement.

The socio-legal concept of ‘legal culture’ provides a helpful conceptual frame for this kind of contextual analysis since, at its core, it seeks to account for how legal systems can be understood as social phenomena. Whilst legal culture is a heavily debated concept,¹²³ it is taken for present purposes as an explanatory idea that seeks to capture ‘one way of describing relatively stable patterns of legally-oriented social behaviour and attitudes’.¹²⁴ It is an idea that crucially highlights the ‘cultural variation in how law is thought about and [in] its ascribed and actual role in social life’.¹²⁵ Lawrence Friedman helpfully developed a distinction between *internal* legal culture and *external* legal culture, which differently account for the kinds of gaps identified above between written law and its implementation in society.¹²⁶ ‘Internal legal culture’ for present purposes refers to the institutional, jurisdictional, constitutional, and localized doctrinal factors that filter and constrain how law is created, interpreted and enforced within a legal system. The existence of an internal legal culture means that how legislation is created and applied will fundamentally depend on a range of factors that characterize the legal system at issue (usually but not always a legal jurisdiction).¹²⁷ These factors include, but are not limited to: existing legal doctrines; norms of statutory interpretation;¹²⁸ judicial decisions and styles of reasoning;¹²⁹ the jurisdiction, accessibility, constitutional role and culture of national or subnational courts;¹³⁰ the supply of dispute resolution processes as against the demand for them;¹³¹ the existence

¹²¹ Norms of usage and custom that support, supplement, or undermine legal provisions can also be understood as a manifestation of legal pluralism, reflecting that ‘there are many “legal” orders operative in society, of which state law is just one, and often not the most powerful one’: Tamanaha (n 45) 116. See also David Nelken on the prescriptive understanding of legal culture as a ‘culture of legality’ that is sought to be inculcated in places where ‘state rules are systematically evaded or avoided’: D Nelken, ‘Defining and Using the Concept of Legal Culture’ in E Örüçü and D Nelken, *Comparative Law: A Handbook* (Hart Publishing 2007) 111.

¹²² As Brian Tamanaha puts it starkly, ‘state law is often powerless – ignored or ineffectual – with regard to the governance of lived social relations in non-Western countries, and perhaps even in certain contexts in Western countries. This weakness is obvious in the rural areas of many non-Western countries, where the legal apparatus is nowhere to be seen’; Tamanaha (n 45) 117.

¹²³ There is a fundamental challenge in isolating whether descriptions of legal systems in terms of their ‘culture’ are an effect of our descriptions or an explanation for them; HP Glenn, ‘Legal Cultures and Legal Traditions’ in M van Hoeck (ed), *Epistemology and Methodology of Comparative Law* (Hart Publishing 2004) 7.

¹²⁴ Adopting David Nelken’s definition: D Nelken, ‘Using the Concept of Legal Culture’ (2004) 29 *Australian Journal of Legal Philosophy* 1, 1.

¹²⁵ Nelken (n 121) 127.

¹²⁶ L Friedman, ‘The Place of Legal Culture in the Sociology of Law’ in M Freeman (ed), *Law and Sociology* (Oxford University Press 2006) 185.

¹²⁷ See Nelken (n 124) 5-6.

¹²⁸ Nelken (n 121).

¹²⁹ Miers (n 38).

¹³⁰ As a prominent example, *Massachusetts v EPA* (n 106) transformed the way in which the US regulators could and were required to use the Clean Air Act to regulate for climate change policy, which was not obvious on the face of the legislation.

¹³¹ Scotford (n 40).

¹³² See Erhard Blankenburg examining lower litigation rates in The Netherlands, concluding that the reason for this was the ‘supply’ of more Dutch dispute resolution mechanisms; E Blankenburg. ‘Judicial

of a culture of litigiousness;¹³² the openness of legal doctrine to external legal influences.¹³³

Taken together, these various factors of internal legal culture importantly shift the analysis of climate legislation beyond ‘spotting’ or ‘writing’ climate laws across a range of legal contexts,¹³⁴ to focusing on particular institutional settings and interpretive communities within legal cultures and jurisdictions. To take one factor as an example, in common law systems, existing public law doctrine will inform any regulatory schemes created through legislation with a body of legal rules concerning how public power authorised under such schemes should be exercised and held to account.¹³⁵ To complicate matters, such doctrine may be challenging to apply in a climate change context. Thus there is uncertainty in the UK around the operation and legal justiciability of the Climate Change Act 2008 despite its clear provisions requiring a low-carbon policy trajectory until 2050.¹³⁶ The Act’s provisions are different from many regulatory schemes that authorize specific kinds of decision making or focus on more discrete aspects of regulatory action. In light of the Act’s temporal and sectoral breadth, it is more difficult to see how government actors would be held to account for actions that affect the operation of the Act, but public law principles will be fundamental in arguing and resolving any legal challenge brought under the Act.¹³⁷

The concept of ‘external legal culture’ adds another layer of nuance in appreciating how climate legislation might be created, implemented or respected within a particular legal culture. ‘External legal culture’ can be understood as the range of broader social, political and economic forces that affect law’s development, relevance and implementation in a particular jurisdiction, beyond those factors that are related to the legal system itself, that is, beyond the structures, professionals, institutions, and internal norms of the legal system at issue. Such factors include: the ‘legal consciousness’ of those subject to the law;¹³⁸ the level of public trust in legal institutions; enforcement practices;¹³⁹ other modes of social ordering outside formal legal system, including soft law,¹⁴⁰ ‘non-law’ or customary practices;¹⁴¹ the nature of

Systems in Western Europe: Comparative Indicators of Legal Professionals, Courts, Litigation, and Budgets in the 1990s’ in EG Jensen and TC Heller (eds), *Beyond Common Knowledge: Empirical Approaches to the Rule of Law* (Stanford University Press 2003) 63.

¹³² L Friedman, *Total Justice* (Russel Sage 1985).

¹³³ Scotford (n 40) Chapters 4 and 5.

¹³⁴ Fisher (n 23).

¹³⁵ More generally, legislation does not operate in a legal vacuum and its application and interpretation will often be influenced by the range of public and private law doctrines and norms that exist within a given body of legal principle, depending on the whether the system is one of common law or civil law and on the constitutional traditions that define the legal status of legislative measures within a body of law.

¹³⁶ CT Reid, ‘A New Sort of Duty? The Significance of “Outcome” Duties in the Climate Change and Child Poverty Acts’ (2012) 4 *Public Law* 749.

¹³⁷ This is a good example of how climate change is legally disruptive of legal doctrine but still must be accommodated within the existing legal order; Fisher et al (n 2).

¹³⁸ By ‘legal consciousness’, David Nelken refers to a ‘variable having to do with attitudes, opinions and behaviour towards the law’, including whether people choose to use the legal system; Nelken (n 121) 124–125 (highlighting this is a variable that can both explain and call for explanation).

¹³⁹ K Hawkins, *Environment and Enforcement* (Clarendon Press 1984).

¹⁴⁰ D Shelton, ‘Soft Law’ in D Armstrong (ed), *Routledge Handbook of International Law* (Routledge 2009) 68.

¹⁴¹ For example, ‘customary law systems derived from traditional resource management’ can hold great significant for Payments for Ecosystem Services and REDD+ projects: C Ituarte-Lima et al, ‘Biodiversity Financing and Safeguards: Lessons Learned and Proposed Guidelines’ in ‘Biodiversity Financing and Safeguards: Lessons Learned and Proposed Guidelines, Note by the Executive Secretary, Convention on

political processes relevant to creating laws;¹⁴² economic forces that affect legal development and implementation; and, importantly, the environmental context and politics that shape the development of law and policy. In relation to the final factor, climate vulnerability of States is a particularly relevant contextual concern, as highlighted in Section 4 in relation to direct climate intersections. This may also be seen in, for example, the integration of climate change adaptation with disaster risk reduction in development planning in the Philippines,¹⁴³ a country which is highly vulnerable to extreme weather events, which scientists and policymakers believe will be exacerbated by climate change.¹⁴⁴

Accounting for these external legal culture factors in an analysis of national climate legislation is challenging for two reasons. First, most if not all of these factors require empirical research in order to understand how they operate, and to what extent, in any given legal culture. Second, it ‘can prove surprisingly difficult to decide which of these factors is crucial’ in any given context.¹⁴⁵ Both of these reasons are an argument for significant and specialized ‘in-country’ expert input in evaluating the social, political and economic terrain in which any climate-related legislation might be introduced or exist, and how this landscape might influence its operation. Nevertheless, our main argument here is to highlight that these legal culture factors – internal and external alike – need to be carefully considered, and appropriate questions about them need to be asked, whenever climate-relevant legislation is relied on or suggested as part of a policy solution for achieving climate mitigation or adaptation goals. Equally, these factors need to be considered in assessing how existing legislation interacts with climate policy. In practical terms, explicit identification of legal contextual factors may prevent erroneous assumptions about the development and implementation of superficially similar climate-relevant legislation across different jurisdictions, whilst opening up relevant lines of inquiry in investigating how legal systems intersect with climate policy initiatives.

7 A PLATFORM FOR EVALUATING AND DEVELOPING NATIONAL CLIMATE LEGISLATION: CONCLUDING REFLECTIONS

Ruhl and Salzman have suggested that, when trying to identify ‘climate change law’, we may be in the territory of the ‘law of the horse’ in seeking (wrongly) to think about

Biological Diversity’ UN Doc UNEP/CBD/COP/12/INF/27 (29 September 2014) 23. Unclear customary tenure – or tensions between customary and legislated regimes – can be fatal to the success of such projects; see IAP Resosudarmo et al, ‘Does Tenure Security Lead to REDD+ Project Effectiveness? Reflections from Five Emerging Sites in Indonesia’ (2014) 55 *World Development* 68. Note more localized legal cultures may be identifiable at subnational levels – in the Indonesia/REDD+ context, the particular legal, historical and cultural factors in Aceh province are an example: see RA Clarke, ‘Moving the REDD Debate from Theory to Practice: Lessons Learned from the Ulu Masen Project’ (2010) 6 *Law, Environment and Development Journal* 36.

¹⁴² Miers (n 38).

¹⁴³ J Tio, ‘Integrating Disaster Risk Reduction and Climate Change Adaptation in Development Planning and Decision-making Processes: The Philippines Experience’, Paper Presented at the UNFCCC Workshop on the Identification of Gaps and Challenges in the Implementation of Risk Management Approaches to the Adverse Effects of Climate Change, 10–12 October 2011 <http://unfccc.int/files/adaptation/application/pdf/philippines_workshop_lima.pdf>.

¹⁴⁴ Republic of the Philippines, ‘Intended Nationally Determined Contribution’ (October 2015) <<http://www4.unfccc.int/submissions/INDC/Published%20Documents/Philippines/1/Philippines%20-%20Final%20INDC%20submission.pdf>>.

¹⁴⁵ Nelken (n 121) 127. The same can be said for ‘internal legal culture’ factors.

all laws that relate to climate change in a single conceptual sweep.¹⁴⁶ The ‘super wicked’ problem of climate change¹⁴⁷ inevitably defies legal boundaries and established frames of legal analysis. The argument and analysis of this article confirms that climate laws are diffuse, variable and contingent within established legal systems. Nonetheless, there are good reasons for seeking to conceptualize and frame laws that relate to climate change, particularly at the national level. One might be interested in the disruptive impacts that climate change presents for law and legal systems.¹⁴⁸ Or one might want to undertake a comparative study of certain approaches to climate change regulation in different national legal settings, and thus to understand how similar or related regulatory approaches to climate change have developed or are applied. Or one might want to know what different national legal efforts add up to – how they aggregate – in constituting a legal response to climate change.¹⁴⁹ This final ambition is particularly demanding but also important in light of the new international governance framework for climate change with the coming into force of the Paris Agreement, which requires nationally driven action to drive forward a global ambition on controlling and adapting to climate change. In particular, the method proposed in this article is important to consider in the process of the five-yearly global stocktake prescribed by Article 14 of the Paris Agreement, which calls for examination of mitigation, adaptation and support measures in order to ‘assess the collective progress’ of parties. A comprehensive assessment of legal measures to implement nationally determined contributions in national legal contexts, as part of the global stocktake, would also assist parties as they ‘[update and enhance], in a nationally determined manner’, their actions and support in light of each global stocktake, and ‘[enhance] international cooperation’.¹⁵⁰

In this article, we have provided a methodological blueprint for analysing national climate change-related legislation, broadly understood, so as to provide an analytical guide for this work and particularly to highlight how climate change-relevant law is both partly hidden and heavily contextualized within legal systems and cultures. In doing so, we have focused on climate-relevant legislation in countries with lawmaking legislatures, both to highlight the significance of such legislation in the climate context and to maintain the rigour of our methodological approach.

We have argued that a three-part approach to analysing climate legislation is important in accommodating the methodological challenges that beset this area of law. First, national legislation that directly intersects with climate change should be identified and evaluated, appreciating that its form and existence will be affected by contextual factors such as political, constitutional and administrative frameworks, and national climate vulnerability. Second, laws and regulations that indirectly intersect with climate change should be identified and evaluated. This complements the examination of direct intersections by accounting for legislation which, while relevant to climate change, is produced and implemented as a result of other policy motivations, within different regulatory traditions. The identification of any linkages or tensions between direct and indirect climate legislation is an important component of this inquiry. Third, examination of such aggregated national climate legislation requires an appreciation of the legal context and culture in which legal intersections with climate

¹⁴⁶ Ruhl and Salzman (n 3).

¹⁴⁷ Lazarus (n 44).

¹⁴⁸ Fisher et al (n 2).

¹⁴⁹ The failure to be able to do this is one of the limits of the ‘multi-level governance’ model of climate change; see Lee et al (n 1).

¹⁵⁰ Paris Agreement (n 6) art 14(3).

policy occur. Close attention to these legal contextual factors is particularly salient in identifying important differences in relevant legal doctrines, processes, and effects between jurisdictions, even where apparently similar legislative or regulatory approaches to climate policy are adopted.

In presenting this methodological approach, we are not intentionally making life difficult for scholars or policymakers interested in climate law. Rather, we are illuminating the complex reality of legal systems as they relate to climate change, thereby highlighting that law cannot be understood solely as an instrument for the delivery of climate policy, nor can certain legal areas be cordoned off as the primary domain of ‘climate change law’. Contingent national architectures, legal processes, the legal status quo and legal culture are inevitably critical parts of the role that law will play in implementing climate policy. This is even more so under the governance approach of the Paris Agreement, which puts primary responsibility on national laws and administrations to deliver ambitious climate outcomes.

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Part of the research and writing of this article took place whilst the authors were at The Dickson Poon School of Law, King’s College London.