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ARTICLE

In Defence of Environmental Target Laws

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Abstract

This article argues that an emerging body of 'target laws' – legislation that incorporates binding, quantified environmental targets with specified deadlines – represents a crucial evolution in environmental governance. Whereas traditional environmental risk regulation was valuable for managing discrete environmental impacts, it has proven inadequate to address systemic challenges like climate breakdown and ecosystem collapse. Target laws, by contrast, are better equipped to deliver the transformative change needed to respond to systemic threats. Drawing on examples from climate legislation and the European Union's Nature Restoration Law, the analysis demonstrates how target laws can overcome environmental law's persistent vulnerabilities to short-termism, marginalization, and public obscurity. However, targets are paradoxical entities that inject considerable complexity into legal frameworks, creating novel challenges around temporality, legal status, implementation, and enforceability. While acknowledging these formidable difficulties, the article contends that target laws merit vigorous defence as they offer environmental legislation unprecedented dynamism, resilience, and transformative potential.

Keywords: Environmental targets; Climate change law; Risk regulation; Implementation challenges; Binding obligations; Transformative governance

1. Introduction

18 June 2024 saw the adoption of the European Union (EU) Nature Restoration Law (EU NRL).[1] It marked the conclusion of a nail-biting episode in EU lawmaking – until the very last moment, the fate of the EU NRL had hung in the balance as farming communities across the EU had mounted a spirited opposition to its enactment.[2] Their concerns revolved chiefly around the anticipated impacts of the law's most distinguishing feature, namely, its commitment to the achievement of quantified nature restoration targets within the coming five, fifteen, and twenty-five years.[3]

1 Regulation (EU) 2024/1991 on Nature Restoration and amending Regulation (EU) 2022/869, OJ L 2024/119.

2 Z. Weise & L. Guillot, 'How the EU's Flagship Nature Law Became an Electoral Punching Bag', *Politico*, 25 Mar. 2024, available at: https://www.politico.eu/article/nature-restauration-law-european-parliament-election.

3 Ibid.

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The EU NRL forms part of a recently expanded body of environmental legislation that explicitly sets out the environmental preservation, protection or restoration goals in the service of which the instrument has been enacted. It is an approach that has been popularized primarily in the field of climate change, where the incorporation of binding overall greenhouse gas (GHG) emissions reduction targets, to be reached by a set deadline, has become an expected feature of legislation across jurisdictions.[4] Indeed, their occurrence in the climate law context has become so commonplace that it could almost make us forget how unusual it is for a law, even an environmental law, explicitly to commit to a predetermined outcome. Yet target laws represent a major shift from earlier generations of environmental legislation, which instead concentrated on governing the environmental risks associated with economic development but which left the articulation of desirable systemic outcomes to the realm of environmental policy.

This article argues that the integration of binding targets in environmental legislation is both important and positive because targets can help the discipline to overcome several of its most persistent effectiveness challenges. At the same time, however, targets inject a high level of complexity into environmental legal frameworks, a complexity that needs to be carefully considered and negotiated for target laws to deliver on their promise. In developing its argument, the article contributes to the literature, firstly, by identifying and reviewing three key characteristics that have traditionally stunted the capacity of environmental legislation to deliver transformative change. These are, respectively, its vulnerability to short-termism, its relative obscurity, and its risk regulatory framing, which drives law to operate at the margins instead of enabling systemic change. Secondly, to illustrate both the advantages and the challenges that accompany the emergence of binding, overarching targets in environmental law, the article offers an exploration of the paradoxical nature of targets, and connects the uncovered paradoxes to the experienced complexities that attend the successful implementation of environmental target laws. In this manner, the article makes a third contribution to the compact but growing and insightful body of writing on environmental target laws. It offers a fresh perspective on previously identified complexities and introduces others that have received limited attention in the literature. Finally, and most importantly, by highlighting the complexities of environmental target laws, the driving aspiration of this article is better to equip public authorities in their implementation and thus maximize their chance of success.

This article proceeds in five stages. Section 2 traces the evolution of targets in environmental law, charting their journey from the policy periphery to the legislative core and identifying the emergence of 'target laws' as a distinct category of

[4] The Climate Change Laws of the World database reports GHG emissions reduction targets featuring in the climate laws of Andorra, Australia, Brazil, Canada, Chile, Colombia, Denmark, the European Union, Fiji, Finland, France, Gabon, Germany, Greece, Hungary, Iceland, Japan, Liechtenstein, Luxembourg, The Maldives, Mexico, The Netherlands, New Zealand, Nigeria, Norway, Portugal, South Korea, Spain, Sweden, Switzerland, Taiwan, and the United Kingdom. See Climate Change Framework Laws, available at: https://climate-laws.org/framework-laws.

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environmental legislation. Sections 3 and 4 explain why binding targets make an important contribution to environmental law and are worth defending, even in the face of an impending backlash and even when accounting for the various design, implementation, and enforcement challenges that binding targets unleash. Section 4, moreover, unpacks the paradoxical nature of targets themselves, revealing how their apparent simplicity masks a deep conceptual complexity that inevitably permeates the legal frameworks in which they are embedded. Section 5 then confronts the practical challenges that flow from this complexity, examining in turn the difficulties surrounding the temporality, legal status, implementation, and enforceability of environmental target laws. Section 6 concludes by affirming that while these challenges are formidable, they are neither insurmountable nor reason enough to abandon the target law project, provided we approach their resolution with clear-eyed recognition of the complexities involved.

2. The Evolution of Targets in Environmental Law

Pollution control targets have a venerable track record in environmental law and policy. They feature across environmental policy areas, jurisdictions, and decades – from air pollution targets in 1970s United States (US) clean air law[5] and water quality targets in early millennial EU legislation,[6] to recently adopted packaging waste reduction targets in Australia.[7] Nature conservation and restoration targets, too, are old familiars of environmental law and policy. As far back as 1952, the Indian National Forest Policy introduced a national aspiration of having at least one third of the total land area of the country under forestry cover.[8] The 2006 EU Action Plan for Biodiversity set a target of halting biodiversity loss by 2010.[9] Five years later, the successor EU Biodiversity Strategy for 2020 expressed six environmental targets ranging from conserving nature to combating invasive alien species and including a target of at least 15% of degraded ecosystem restoration by 2020.[10]

Notwithstanding the constancy of their presence, over time the expression, role, and prominence of targets in environmental law has been subject to major change. Legislated environmental targets from the 1970s to the early 2000s tended to be

[5] The 1970 US Clean Air Act (42 U.S.C. §7401 et seq. (1970)) pioneered the inclusion of specific pollutant reduction targets in accordance with predetermined timetables; see J.E. Aldy et al., 'Looking Back at 50 Years of the Clean Air Act' (2022) 60(1) *Journal of Economic Literature*, pp. 179–232.

[6] Directive 2000/60/EC establishing a Framework for Community Action in the Field of Water Policy [2000] OJ L 327/1 (EU WFD) (which affirmed qualitative targets of 'good surface water status' and 'good groundwater status' to be achieved for all bodies of surface and groundwater covered by the Directive within a 15-year time frame).

[7] 2018 Australian National Packaging Targets; see explanation by the Australian Packaging Covenant Organisation (APCO), available at: https://apco.org.au/national-packaging-targets.

[8] Government of India, Ministry of Food and Agriculture, 'National Forest Policy' (1952); A.K. Joshi et al., 'National Forest Policy in India: Critique of Targets and Implementation' (2011) 10 *Small-scale Forestry*, pp. 83–96, at 87.

[9] European Commission Communication, 'Halting the Loss of Biodiversity by 2010 – And Beyond, Sustaining Ecosystem Services for Human Well-being', COM(2006) 216 final, 22 May 2006.

[10] European Commission Communication, 'Our Life Insurance, Our Natural Capital: An EU Biodiversity Strategy to 2020', COM(2011) 244 final, 3 May 2011.

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situated at one of two extremes of the standardization spectrum. They were either open-ended and phrased in purposive but vague terms, such as the achievement of 'sustainable outcomes', of a 'high level' of environmental protection, or of 'improved' air and water quality and biodiversity, each of which aspirations remained undefined and unquantified.[11] In the alternative, targets were highly specific, itemized in focus and sectorally delineated. Instruments containing the latter – from California's phase-out of methyl tert-butyl ether (MTBE) from gasoline[12] to the EU's removal of priority hazardous substances from surface waters and groundwater[13] – zeroed in on individual pollutants or select sets of environmental receptors, while leaving questions of cumulative impacts and overall ecosystems balance largely to the side. To the extent that a third category of overarching yet quantified targets did exist, it typically featured in non-binding policy papers and implementation guidelines, rather than in the binding dispositions of environmental law and regulation. This was the case for both the Indian National Forest Policy and the EU's successive biodiversity programmes. Only with rare exception did broad yet quantified targets find their way into the body of environmental legislation. The most famous example of such exception is unquestionably the Kyoto Protocol, which contained quantified overall GHG emissions reduction targets on a country-by-country basis.[14] A further case conceivably could be made for the chlorofluorocarbon (CFC) phase-out requirements of the Montreal Protocol on Substances that Deplete the Ozone Layer,[15] although the range of substances concerned and their commercial applications were specific and limited in number.

With the advent of climate change legislation, the third category of broad yet quantified targets has become a much more familiar sight in environmental law. Nearly one quarter of countries across the world have adopted, or consented to,[16] legally binding overall GHG emissions reduction targets to be achieved by defined deadlines.[17] Beyond the climate change sphere, overarching and quantified targets now also feature in biodiversity legislation, most prominently so in the 2024 EU NRL, which, in Article 1, fixes an overall target for restoration measures to be adopted by 2030, 2040, and 2050. Article 4 details the targets further for terrestrial, coastal, and

[11] Examples range from the US Clean Water Act (33 U.S.C. §1251 et seq. (1972)) to Japan's Basic Environmental Law 1992 (Law No. 91 of 1993).

[12] California Air Resources Board, 'ARB Bans MTBE and Modifies Rules for Cleaner Burning Gasoline', 9 Dec. 1999, Release Nr 99-45, available at: https://ww2.arb.ca.gov/news/arb-bans-mtbe-and-modifies-rules-cleaner-burning-gasoline.

[13] EU WFD, n. 6 above, and Directive 2008/105/EC on Environmental Quality Standards in the Field of Water Policy, amending and subsequently repealing Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC [2008] OJ L 348/84.

[14] Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto (Japan), 11 Dec. 1997, in force 16 Feb. 2005, available at: https://unfccc.int/resource/docs/convkp/kpeng.pdf.

[15] Montreal, QC (Canada), 16 Sept. 1987, in force 1 Jan. 1989, available at: https://ozone.unep.org/treaties/montreal-protocol.

[16] This is the case for EU Member States that have not adopted domestic net-zero targets but are nonetheless subject to the EU's legal climate change targets and burden-sharing provisions.

[17] See n. 4 above. See also various examples of subnational legislation: e.g., Victoria (Australia): B.J. Preston, 'The Influence of the Paris Agreement on Climate Litigation: Legal Obligations and Norms (Part I)' (2021) 31(1) *Journal of Environmental Law*, pp. 1–32, at 9.

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freshwater ecosystems respectively, and Article 10 calls for an additional three billion trees to be planted in the EU by 2030. These are large-scale, transformative objectives far beyond anything contemplated in nature conservation legislation up to that point. In a similar vein, the United Kingdom (UK) Environment Act 2021 mandates the adoption of legally binding long-term targets in the priority areas of air quality, water, biodiversity, resource efficiency, and waste reduction.[18] Correspondingly, the UK government's 2023 Environmental Improvement Plan commits, among other things, to restore or create more than 500,000 hectares of wildlife-rich habitat by 2042; to increase tree canopy and woodland cover to 16.5% of total land area by 2050; to reduce population exposure to fine particulate matter (PM2.5) by 35% in 2040 compared to 2018 levels; and to halve the waste per person that is sent to residual treatment by 2042.[19]

Hence, whereas targets used to reside either in the policy periphery above environmental legislation or in the implementation layers below it, they are now also found at the centre of environmental legal frameworks. In recent years we have witnessed a proliferation of overtly target-driven environmental legislation; of legal and regulatory frameworks that centre broad, quantified and long-term environmental restoration or improvement objectives, and that organize implementation with reference to and in pursuit of these objectives. This third category of targets comes in a variety of shapes and forms. While all need a degree of longevity to function as a target, timelines may vary from a handful of years to several decades. Some targets are specified in the legislation itself; others are legislatively mandated but effectively adopted by delegation. Some are 'input' targets, focusing on the environmental impacts which are sought to be controlled,[20] others are 'output' targets which quantify a minimum result level,[21] and yet a third group focuses on 'throughput' and specifies a particular level of intervention to be achieved within a set deadline.[22] What they all share in common, however, and what distinguishes them from the previous generations of environmental targets is that they are binding and they eye an overarching, ostensibly measurable and transformative goal. Environmental laws containing this kind of target constitute what, for the purposes of this discussion, will be referred to as 'target laws'.

[18] The Environment Act does not explicitly specify the status of the corresponding targets, but a government communication announcing the adoption of the first wave of targets in 2022 describes them as legally binding; see UK Government, 'New Legally Binding Environment Targets Set Out', 16 Dec. 2022, available at: https://www.gov.uk/government/news/new-legally-binding-environment-targets-set-out.

[19] Available at: https://www.gov.uk/government/publications/environmental-improvement-plan.

[20] As exemplified by the net-zero emissions targets by 2050 adopted by many developed countries; see n. 4 above.

[21] E.g., the target of having 16.5% of the UK land area under tree canopy and woodland cover by 2050 in implementation of the UK Environment Act, n. 18 above.

[22] This was the approach favoured in Arts 4 and 5 EU NRL (n. 1 above), which mandate that, by 2030/2040/2050, respectively 30%, 60% and 90% of all habitat types that are not in good condition must be *covered by measures* that are capable of achieving restoration.

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3. The Contribution of Environmental Target Laws

How meaningful is the emergence of environmental target laws? On one account, their presence could be argued as too sectorally confined to warrant sustained contemplation. Target laws have been adopted, overwhelmingly, in response to the climate change mitigation challenge, which displays singular attributes in how it is framed and represented. In a recursive iteration that evolved and hardened over decades, a globally recognized account coalesced around the proposition that, to avert catastrophe, the world should strive to keep global average temperature change well below 2 degrees Celsius (°C) compared to pre-industrial levels. In the past ten years, a more contested yet equally widespread narrative has consolidated around the premise that, to this end, the more affluent countries in the world as a minimum will have to drastically cut back their net carbon dioxide (CO_2) production over the next 25 years. This unique context lends itself well to the emergence of systemic target-setting strategies. Other environmental challenges, however, from deforestation to plastics in the ocean, are not buttressed by similarly parsimonious, simplified, and globally established narratives.

A second consideration is that, even if target laws were indeed the herald of a more widespread and enduring change in environmental law, they will fail to thrive in the current climate of global economic uncertainty, intense geopolitical volatility and, particularly, the rapid rise of an environmentally regressive rhetoric accompanied by the equally swift normalization of climate change denialism. From the Trump administration's repeat abandonment of the Paris Agreement[23] to the abrupt restyling of the European Green Deal[24] in more business-friendly hues,[25] it is currently difficult to envisage much gusto for any further ambitious environmental target-setting. The near failure of the 2024 EU NRL – the demise of which was averted only after its scope, targets, and timelines were substantially watered down[26] – illustrates the point. In times of heightened scrutiny, laws that overtly broadcast their environmental ambitions might be much more vulnerable to attack than those that only speak of general aspirations or, alternatively, foreground technical minutiae.

It might therefore be tempting to write off environmental target laws as mildly intriguing but ultimately irrelevant flashes-in-the-pan. That is not the position this article adopts. The premises of this article are instead that, firstly, environmental target

[23] Paris (France), 12 Dec. 2015, in force 4 Nov. 2016, available at: https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

[24] European Commission Communication, 'The European Green Deal', COM(2019) 640 final, 11 Dec. 2019.

[25] G. Gratton & J. Edenhofer, 'The Rise and Fall of Technocratic Democracies: Unstable Majorities and Delegation to Technocrats' (2025) *Journal of European Public Policy*, pp. 1–30, available at: https://doi.org/10.1080/13501763.2025.2576160. Cf. Z. Weise & N. Camut, 'Let's Kill the Green Deal Together, Far-Right Leader Urges EU's Conservatives', *Politico*, 27 Jan. 2025, available at: https://www.politico.eu/article/lets-kill-eu-green-deal-together-france-far-right-leader-tells-center-right-jordan-bardella.

[26] I. Agapakis, 'Nature Restoration Regulation: Two Steps Forward, One Step Back?', *EU Law Live*, 23 Jan. 2024, available at: https://eulawlive-com.lse.idm.oclc.org/op-ed-nature-restoration-regulation-two-steps-forward-one-step-back-by-ioannis-agapakis.

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laws have acquired sufficient critical mass to merit further study; secondly, any predictions of their demise are premature and based on excessively myopic assumptions about future developments in environmental law and beyond; and, thirdly, if, contrary to these assumptions, environmental target laws were to come under sustained threat, there is a strong case to be made for defending them. The effectiveness with which such a case can be made hinges on possessing a thorough understanding of how they work, what they contribute to the field of environmental law and regulation, and which new challenges they introduce. That is the core contribution this article hopes to make.

The first point is the most straightforward: even if they were reserved exclusively for the realm of GHG mitigation – which is not the case, as evidenced in both the 2021 UK Environment Act and the EU NRL – this domain by itself is sufficiently weighty to justify close attention to the role of targets in the construction of climate change as a legal and governance challenge. In the same vein, even if the backlash against responsible climate change governance persists, it is highly unlikely that this would result in the demise of all, or even a majority of existing environmental target laws. Laws are sticky and their repeal inevitably comes with high political and opportunity costs attached.[27]

Secondly, even if environmental target laws run into implacable political headwinds in the coming few years, the lessons from this experience will endure. To state but the most obvious points, targets might lose their appeal in the climate mitigation field, but they could emerge in other areas. The more that climate change mitigation targets erode, the more demand might surge for binding adaptation and loss and damage mitigation targets.[28] By the same token, it is not difficult to envisage legally binding systemic targets surfacing in other law and policy areas, from health and migration to housing law.[29] Even if binding targets were temporarily excised from environmental law, their role and potential within public governance more broadly merits further analysis.

Thirdly, it is the contention of this article that, in vogue or not, environmental target laws are worth defending. They have the potential to ramp up the capacity of environmental law to deliver on its promise of effectiveness as a safeguard of environmental sustainability. Unquestionably, this will be a difficult promise to fulfil. As the article will show, targets are complex and, even, paradoxical concepts.

[27] Cf. P. Pierson, 'Increasing Returns, Path Dependence, and the Study of Politics' (2000) 94(2) *American Political Science Review*, pp. 251–67; J.M. Ragusa, 'The Lifecycle of Public Policy: An Event History Analysis of Repeals to Landmark Legislative Enactments, 1951-2006' (2010) 38(6) *American Politics Research*, pp. 1015–51, at 1018.

[28] See T. Chan et al., 'Climate Change Adaptation Laws and Policies. A Review of Trends, Gaps and Opportunities in 35 Countries', Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science, Feb. 2026, available at: https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2026/02/Climate-change-adaptation-laws-and-policies.pdf.

[29] For some examples of pre-existing target laws outside the field of environmental protection see, *inter alia*, the US No Child Left Behind Act 2001 (Pub. L. No. 107–110, 115 Stat. 1425 (2002), 20 U.S.C. § 6301 et seq.), and the US Affordable Care Act 2010 (Pub. L. No. 111–148, 124 Stat. 119 (2010), 42 U.S.C. § 18001 et seq.).

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Consequently, their anchoring role in environmental law opens a variety of traps and creates a wealth of challenges that need to be carefully negotiated to reap the benefits of the dynamism and responsiveness that targets can inject in environmental law. Yet negotiating these difficulties, it is argued, is very much worth the effort because binding targets can help to overcome some of the most intractable obstacles to sound environmental governance, namely, its tendency towards both short-termism and self-marginalization, as well as its reputation for opacity and dullness. The next paragraphs discuss each point in turn.

3.1. Beyond the Horizon

Environmental policy is a field afflicted by the tragedy of the horizon.[30] Environmental protection measures typically come with significant upfront economic and political costs attached, whereas the benefits materialize after longer periods of sustained investment. Hence, environmental regulatory restrictions rarely 'pay off' within one and the same electoral cycle.[31] This drives successive governments to underinvest in environmental quality, a bias that is furthermore exacerbated by the well-documented controversies that accompany the valuation of environmental resources and the costing of environmental damage.[32]

The presence of long-term, binding targets can offer a counterweight against this pull towards environmentally destructive and ultimately inefficient short-termism. Their binding status provides a degree of insulation against the risks of continuous re-litigation and, instead, it may shift the focus of the policy debate towards questions of effective implementation.[33] In times of wavering governmental commitment, the combination of a long-term perspective with a binding status may deliver just enough resilience to safeguard the environmental agenda from excessive erosion.

It goes without saying that these advantages are not absolute. The existence of long-term targets may reduce the risk that too much political capital is squandered on initiatives that are attractive only in the short term, but it does not eliminate the temptation altogether. Nor does bindingness constitute an impenetrable armour

[30] M. Carney, 'Breaking the Tragedy of the Horizon: Climate Change and Financial Stability', Speech given at Lloyd's of London, 29 Sept. 2015, available at: https://www.bankofengland.co.uk/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability.

[31] D. Koutsandreas & I. Keppo, 'How Can Energy System Models Align with the Real-World Tragedy of the Horizon? The Impact of Decision-Makers' Short-Term Biases and Temporally-Inconsistent Preferences', 24 Oct. 2024, available at: https://doi.org/10.2139/ssrn.4997635.

[32] M. Sagoff, *Price, Principle and the Environment* (Cambridge University Press, 2004); G. Atkinson & S. Mourato, 'Environmental Cost-Benefit Analysis' (2008) 33 *The Annual Review of Environment and Resources*, pp. 317–44, at 320; N. Small, M. Munday & I. Durance, 'The Challenge of Valuing Ecosystem Services that Have No Material Benefits' (2017) 44 *Global Environmental Change*, pp. 57–67.

[33] See, e.g., L. Mai, 'Navigating Transformations: Multiple Legality in the Paris Climate Regime' (PhD dissertation, Tilburg University (The Netherlands), 2022), available at: https://research.tilburguniversity.edu/en/publications/ac922389-4bbd-4ff5-8c72-eaf5ff0e7b19 (labelling the Paris Agreement as a shift from negotiation to implementation).

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against the risk of backsliding.[34] However, these factors do unquestionably feed into executive calculations about the relative gains and losses attached to either staying the course or forcing through legal change. The downgrading or undoing of legislated commitments constitutes a much more visible and jarring political act than the massaging of informal policy goals. Consequently, it invites a considerably higher level of public scrutiny.[35] Binding long-term targets may not be a panacea against the lure of short-term, environmentally destructive and ultimately inefficient decision-making, but they certainly boost policy resilience.[36]

3.2. Beyond Risk Regulation

Binding, overarching targets also inject purpose and dynamism into environmental law. Their promise is that, by the end of the stipulated transition period, a substantive result will be delivered that changes the situation *ex ante*. This predisposition towards systemic change signifies a fundamental departure from the ethos of risk regulation, which has dominated environmental legislation since the 1980s. Risk regulation does not map out a predetermined direction of travel; instead it starts from the premise that any industrial, technological or economic development is acceptable *as long as* the accompanying risks generated by such development have been adequately identified, assessed, and managed.[37] In the context of environmental risk regulation, environmental harm therefore is cast as an undesirable by-product of enterprise; its occurrence is acknowledged and duly problematized, yet it is simultaneously marginalized as the unfortunate side-effect of an essentially desirable phenomenon.

The risk regulation paradigm has unquestionably made an enormous contribution to the maturation of environmental legislation. It has normalized the expectation that adverse consequences will at the very least be considered within the regulatory process, that regulatory decisions will be thoroughly informed, and that scientific expertise will play a key role in the construction of this information.[38] The risk regulatory model has helped to professionalize regulatory practice through the introduction of interlinked and recursive decision-making protocols, and it can claim considerable success in

[34] See, e.g., the recent dismantling of US federal environmental protection laws: M. Joselow, 'The Senate Voted Thursday to Overturn an Environmental Protection Agency Rule Limiting the Seven Most Hazardous Air Pollutants', *The Washington Post*, 1 May 2025, available at: https://www.washingtonpost.com/climate-environment/2025/05/01/senate-vote-epa-air-pollution.

[35] Cf. J. Goodwin & M.F. Dahlstrom, 'Communication Strategies for Earning Trust in Climate Change Debates' (2014) 5(1) *WIREs Climate Change*, pp. 151–60, at 154; S. Griggs & D. Howarth, 'A Transformative Political Campaign? The New Rhetoric of Protest against Airport Expansion in the UK' (2004) 9(2) *Journal of Political Ideologies*, pp. 181–201, at 195–6.

[36] Cf. I. Goldin & P. Lamy, 'Overcoming Short-Termism: A Pathway for Global Progress' (2014) 37(2) *The Washington Quarterly*, pp. 7–24; B. Pontin et al., 'Government Reporting on Significant Developments in Environmental Legislation around the World: The Challenges of Symbolic Legislation' (2023) 35(1) *Journal of Environmental Law*, pp. 149–55.

[37] V. Heyvaert, 'Governing Climate Change: Towards a New Paradigm for Risk Regulation' (2011) 74(6) *The Modern Law Review*, pp. 817–44, at 818–27; O. Renn, *Risk Governance: Coping with Uncertainty in a Complex World* (Earthscan, 2008).

[38] See M.P. Vandenbergh & J. A. Gilligan, 'Macro-Risks: The Challenge for Rational Risk Regulation' (2011) 21(2) *Duke Environmental Law & Policy Forum*, pp. 401–31.

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balancing the drive for innovation in novel products and emerging technologies with the imperative of avoiding a new thalidomide or asbestos tragedy.[39]

Yet, with increasing urgency, the question is posed whether risk regulation is the right tool to confront the global, systemic, and potentially cataclysmic environmental threats we face today.[40] Risk regulatory practices channel towards itemization[41] and micro-managerialism, resulting in environmental governance strategies that rely excessively, if not exclusively, on substance-, product- and process-based standardization. Such practices are unresponsive to the cumulative and compound impacts to which a growth-driven economy exposes ecosystems and tests their tolerance limits.[42] In practical terms, three industrial installations that all adhere strictly to Best Available Techniques requirements to manage the risks attached to their exploitation may still pollute more than one emissions-billowing dinosaur.[43] Or, tightening packaging waste treatment standards may still fight a losing battle against rising mountains of landfill if they do not engage with growing levels of packaging production. By the same token, risk regulatory conservation strategies have tended to centre, measure, and monitor individual species and particular components of ecosystems, while paying scant attention to the life scape that needs to support and surround these species for them to survive and thrive.[44] Unless the state of the environment is considered in the round, sectoral and species-specific interventions are unlikely to make a difference and may even backfire as they exacerbate fragmentation in environmental governance, which in turn increases the risk of displacement rather than abatement of environmental pressures.[45]

Related to risk regulation's myopia in the face of systemic and cumulative harm are concerns about its essential permissiveness.[46] Environmental risk regulation is deeply proceduralized and organizes its decision-making process as a product of data-gathering conditions and testing requirements, exposure and public sensitivity measurements, impacts assessments, consultation requirements, and monitoring and review demands. As a result, the regulatory regime assumes the guise of an obstacle

[39] M. Weimer, 'The Origins of "Risk" as an Idea and the Future of Risk Regulation' (2017) 8(1) *European Journal of Risk Regulation*, pp. 10–7, at 11–2.

[40] V. Heyvaert, 'Governing Intersystemic Systemic Risks: Lessons from Covid and Climate Change' (2022) 85(4) *The Modern Law Review*, pp. 938–67; P.-J. Schweizer, 'Systemic Risks: Concepts and Challenges for Risk Governance' (2021) 24(1) *Journal of Risk Research*, pp. 78–93; M.B.A. van Asselt & O. Renn, 'Risk Governance' (2011) 14(4) *Journal of Risk Research*, pp. 431–49.

[41] Van Asselt & Renn, n. 40 above, p. 436. See also G.C. Leonelli, *Transnational Narratives and Regulation of GMO Risks* (Bloomsbury, 2022), p. 17.

[42] Heyvaert, n. 37 above, p. 820.

[43] Cf. S.H. Knudsen, 'Regulating Cumulative Risk' (2017) 101(6) *Minnesota Law Review*, pp. 2313–96.

[44] Cf. H. Doremus, 'Patching the Ark: Improving Legal Protection of Biological Diversity' (1991) 18(2) *Ecology Law Quarterly*, pp. 265–334.

[45] R.E. Kim & K. Bosselmann, 'International Environmental Law in the Anthropocene: Towards a Purposive System of Multilateral Environmental Agreements' (2013) 2(2) *Transnational Environmental Law*, pp. 285–309, at 286–7. Note that Kim and Bosselmann's solution to the perceived hollowness of environmental law relies on the introduction of qualitative goals, such as a legal mandate to protect the integrity of Earth's life support systems, rather than on the adoption of broad quantified targets.

[46] Cf. Pontin et al., n. 36 above, pp. 150–1.

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course that slows down but does not stop the players.[47] Where concentrated economic interests are at stake, and the stakeholders have plenty of funding, procedural hurdles can typically be overcome or negotiated. Even within the most exacting and 'environmentally progressive' of regulatory frameworks – such as the plan and project development conditions under Article 6 of the EU Habitats Directive[48] or the authorization conditions for the use of substances of very high concern under the EU REACH Regulation[49] – risk regulation offers an escape hatch through the contextualization of hazards with reference to alleged socio-economic benefits.[50]

In sum, risk-oriented environmental law and regulation have often been criticized for being too focused on the means while overlooking the ends. As Michael Vandenbergh put it, 'there is no there there'.[51] Target laws look this criticism square in the face. They signal an acknowledgement that environmental law should not just operate at the margins but that it needs to drive change.[52] Target laws are an overt admission that the mission of environmental law is at least in part transformative.[53]

[47] See, e.g., S. Bell et al., *Environmental Law* (Oxford University Press, 10th edn, 2024), Ch. 13 on environmental impact assessment and strategic environmental assessment (illustrating the procedural nature of the legal obligations). Cf. J. Steffek, 'The Limits of Proceduralism: Critical Remarks on the Rise of "Throughput Legitimacy"' (2019) 97(4) *Public Administration*, pp. 784–96.

[48] Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora [1992] OJ L 206/7 (Habitats Directive).

[49] Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Regulation (EEC) No. 793/93 and Regulation (EC) No. 1488/94 as well as Directive 76/769/EEC and Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC [2006] OJ L 396/1.

[50] Habitats Directive, n. 48 above, Art. 6(4): 'If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, *a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature*, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted'. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations that may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to *other imperative reasons of overriding public interest*' (emphasis added). REACH Regulation, n. 49 above, Art. 60(4): '4. If an authorisation cannot be granted under paragraph 2 [if the risks are shown to be adequately controlled] or for substances listed in paragraph 3 [substances for which no safe threshold can be determined and persistent, bioaccumulative and toxic substances], an authorisation may only be granted if it is shown *that socio-economic benefits outweigh the risk* to human health or the environment arising from the use of the substance and if there are no suitable alternative substances or technologies' (emphasis added).

[51] M.P. Vandenbergh, 'An Alternative to Ready, Fire, Aim: A New Framework to Link Environmental Targets in Environmental Law' (1996) 85(4) *Kentucky Law Journal*, pp. 803–918, at 806.

[52] B.J. Richardson, 'Restoring Layered Geographies: Ecology, Society and Time' (2017) 26(2) *Griffith Law Review*, pp. 154–77, at 155.

[53] L. Mai, 'Navigating Transformations: Climate Change and International Law' (2024) 37(3) *Leiden Journal of International Law*, pp. 535–56, at 536 and fn. 5; P. Minnerop, 'The "Advance Interference-Like Effect" of Climate Targets: Fundamental Rights, Intergenerational Equity and the German Federal Constitutional Court' (2022) 34(1) *Journal of Environmental Law*, pp. 135–62, at 137; Bell et al., n. 47 above, p. 23. See also B.C. Chaffin et al., 'Transformative Environmental Governance' (2016) 41 *Annual Review of Environment and Resources*, pp. 399–416.

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3.3. Beyond Obscurity

The third key contribution that target laws can make to environmental governance is that they liberate environmental legislation from its dominant connotations with technicality, obscurity and, even, dullness. Binding, overarching targets that are expressed in a simplified, catchy form – 20-20 by 2020; net zero by 2050; halving waste production by 2060 – engage the public imagination in a way that the heavily proceduralized legislative frameworks of the 1980s and 1990s could not hope to match.[54] The UK legal provisions for the remediation of contaminated land – which regulate the conduct of clean-up activities but do not mandate their execution beyond a vague exhortation that 'every local authority shall cause its area to be inspected from time to time'[55] – will not get pulses racing in the same way as the EU NRL's commitment to the planting of 3 billion trees by 2030. As Eloise Scotford observed, the legislation-heavy discipline of environmental law has been traditionally underserved by academic and scholarly attention, a neglect attributable at least in part to its reputed dullness.[56] In a similar vein, newspapers and social media tend to reserve their interest in environmental legal developments for litigation rather than new legislative or regulatory developments.

The stronger curb appeal of environmental target laws may seem a frivolous quality to marshal in their defence, yet it is anything but. Law and regulation need public support to thrive, and such support cannot be fostered in ignorance of their existence or purpose. In the absence of a clear message about the public good in the pursuit of which they are enacted, environmental legislative requirements too easily fall victim to the caricature of pointless red tape, which serves nothing but the sense of self-importance of its administrators. The higher profile of environmental target laws does, undeniably, expose them to correspondingly higher levels of scrutiny and even attack, as illustrated in the recent attempts by the Reform party in the UK to discredit net zero in their campaigning,[57] but it is argued that the virtues of stronger public awareness outweigh the side-effects. Moreover, recent and successful attempts to water down the provisions of the EU Corporate Sustainability Reporting Directive (CSRD)[58] and the

[54] Cf. B.A. Ackerman & R.B. Stewart, 'Reforming Environmental Law: The Democratic Case for Market Incentives' (1988) 13(2) *Columbia Journal of Environmental Law*, pp. 171–200, at 189–90. See also L.H. Ford, 'The Power of Technocracy: A Critical Analysis of the Global Environmental Governance of the Toxic Waste Trade', in A.K. Haugestad & J.D. Wulfhorst (eds), *Future as Fairness: Ecological Justice and Global Citizenship* (Rodopi Press, 2004), pp. 105–20, at 105; E. Lees & O.W. Pedersen, 'Performative Environmental Law' (2025) 88(1) *The Modern Law Review*, pp. 124–54, at 132.

[55] S. 78B(1) UK Environmental Protection Act 1990, Part 2A, implemented by the Contaminated Land (England) Regulations 2000 (SI 2000/227) and the Defra Contaminated Land Statutory Guidance, Apr. 2012, available at: https://www.gov.uk/government/publications/contaminated-land-statutory-guidance.

[56] E. Scotford, 'Legislation and the Stress of Environmental Problems' (2021) 74(1) *Current Legal Problems*, pp. 299–327, at 305–6.

[57] See ReformUK, 'Scrap Net Zero to Cut Energy Bills' among Reform UK's list of policies, available at: https://www.reformparty.uk/policies#policies-section.

[58] Directive (EU) 2022/2464 amending Regulation (EU) No. 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards Corporate Sustainability Reporting [2022] OJ L 322/15 (CSRD).

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Corporate Sustainability Due Diligence Directive (CSDDD)[59] affirm that the absence of targets does not insulate environmental laws from attack.[60] Indeed, it could plausibly be argued that, instead, their absence reduces the legal framework's capacity to withstand attack.

4. Understanding the Complexity of Targets in Environmental Law

Targets bestow upon environmental legislation several eminent virtues; virtues which, this article argues, warrant their championing in the face of a gathering backlash against environmentally ambitious lawmaking. At the same time, it is essential that the advocates of environmental target laws remain clear-eyed about the difficulties that accompany their design and successful implementation. Targets are complex, even paradoxical entities. This complexity bleeds into the legal instruments in which they are incorporated and provokes new questions about environmental law's resilience, its status, its implementation, and its enforceability. Relatedly, the integration of binding and overarching targets in environmental legislation exposes the field to various vulnerabilities which, unless carefully considered and negotiated, could not only strip the measures themselves of their transformative potential, but also corrode the already precarious reputation of environmental law as a meaningful contributor to the pursuit of environmental sustainability. Mindful of these cautionary reflections, the following sections unpack the paradoxical nature of targets and explore its connections with legal and regulatory challenges.

4.1. The Paradoxical Nature of Targets

A target can be defined as 'a meaningful reference value that expresses a desired operational policy outcome'.[61] Targets are, therefore, outcome-oriented concepts, directing the reader's attention to the end goal to be achieved. The inclusion of a 'meaningful reference value' furthermore affirms an expectation of quantifiability; whereas goals typically convey general aspirations ('improved health'), targets are expressed with at least a degree of measurability ('walking at least 10,000 steps per day'; 'losing five pounds by Christmas').

This combination of aspiration and measurability constitutes a first strand of the complexity of meaning conveyed by the term. It positions targets as concepts that straddle the realms of scientific analysis and policy prescription; they are ideas the expression and realisation of which owe as much to political will as to scientific

[59] Directive (EU) 2024/1760 on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859, OJ L 2024/1760 (CSDDD).

[60] See European Commission, 'Proposal for a Directive amending Directives (EU) 2022/2464 and (EU) 2024/1760 as regards the Dates from which Member States Are to Apply Certain Corporate Sustainability Reporting and Due Dilligence Requirements – Omnibus I', COM(2025) 80, 26 Feb. 2025.

[61] P. Morseletto, F. Biermann & P. Pattberg, 'Governing by Targets: Reductio ad Unum and Evolution of the Two-Degree Climate Target' (2016) 17 *International Environmental Agreements: Politics, Law and Economics*, pp. 655–76, at 657. See also C. Hilson, '"Hitting the Target"? Analysing the Use of Targets in Climate Law' (2020) 32(2) *Journal of Environmental Law*, pp. 195–220, at 196.

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assessment. Piero Morseletto and co-authors correspondingly refer to targets as hybrids and 'nested concepts',[62] terms which both have great affinity with David Guston's 'boundary objects',[63] situated between two different social worlds and available for use by denizens of either. Just like their predecessor notion of risk – the lynchpin around which the preceding generation of environmental law and regulation was organized – targets as legal and regulatory objects tap into distinctive and competitive sources of legitimation, delivering yet another iteration of the 'fact and value' dilemma that pulsates through environmental decision-making.[64]

A second prominent feature of targets is their temporality; they reference an implicit or expressly stated point in the future at which the outcome is intended to materialize. Targets, therefore, are a call to action; they embody the assumption that the required processes and activities will be set in motion to realize the end result. Yet, equally, they constitute an explicit affirmation that this result is *not yet* due. Paradoxically, targets simultaneously justify action and inaction. In a similar vein, targets may promise longevity while at the same time hinting at their finality, since no target functions without a presumed endpoint beyond which obsolescence beckons.

Thirdly, targets are distinguished by their counter-intuitive simplicity. Considering the enormous technical complexity and the pervasive uncertainty that surrounds the development of credible predictions of how ecosystems will respond to a near-endless variety of combinations of behavioural choices and changes,[65] the fact that such assessments almost invariably result in nice round numbers, to be achieved by readily memorable deadlines, is almost magically serendipitous. Indeed, just like we rarely resolve to lose 2.7 pounds by 6 November, we would be hard-pressed to find environmental policy targets that seek to reduce pollutant emissions by 17.46% by 21 April 2034. Some instruments do account for uncertainty by indicating a target range rather than a target date – most (in)famously the Paris Agreement,[66] which allows the global achievement of net zero within no less than a 50-year time span – however, even here, the flexibility is expressed in simple and easily recollected terms, namely, 'in the second half of this century'.[67] Moreover, this approach is the exception to the more common profile of environmental targets aiming for a set end-of-year or end-of-decade completion point. Typically, we aim for '20-20 by 2020'; 20% of land and sea areas covered by restoration measures by 2030; net zero by 2050.

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62 Morseletto, Biermann & Pattberg, ibid., p. 658. See also C. Miller, 'Hybrid Management: Boundary Organizations, Science Policy, and Environmental Governance in the Climate Regime' (2001) 26(4) *Science, Technology, & Human Values*, pp. 478–500, at 480.

63 D.H. Guston, 'Boundary Organizations in Environmental Policy and Science: An Introduction' (2001) 26(4) *Science, Technology, & Human Values*, pp. 399–408, at 400. See also G. Ganguly, 'Towards a Transnational Law of Climate Change: Transnational Litigation at the Boundaries of Science and Law' (PhD dissertation, London School of Economics (UK), 2019), available at: http://etheses.lse.ac.uk/4224.

64 K.S. Schrader-Frechette, *Risk and Rationality: Philosophical Foundations for Populist Reforms* (University of California Press, 1991).

65 Cf. C. Jaeger & J. Jaeger, 'Three Views of Two Degrees' (2010) 1(3) *Climate Change Economics*, pp. 145–66, at 162.

66 N. 23 above.

67 Ibid., Art. 4(1).

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Simplicity undoubtedly aids communication and thereby vitally helps to lodge the target in the public consciousness which is, in turn, key to its acceptance.[68] Incorporated within an authoritative text such as a legal document, the target fulfils what Emma Lees and Ole Pedersen would qualify as a 'performative' function; it serves as a rallying point around which support for the law can be marshalled and organized.[69] Yet this accessibility, too, has a paradoxical quality. The roundness of the numbers helps diffusion but simultaneously elevates the target to a level of abstraction that disconnects or 'disembeds' it from the intensely specific and material reality on which it seeks purchase. Commentators have alluded to this disconnection when qualifying the 'well below 2°C' target of the Paris Agreement as a 'disembedded object'.[70] By the same token, the smoothness of round-number targets gives them a degree of impenetrability and, even, opacity. It is an invitation to internalize, yet simultaneously works as a thinly veiled reference to the chasm between those 'in the know', who were part of the intricate, messy, and often fractious interplay of science and policy that fed into the practice of target-setting, and those on the outside, the externalized public, which is but a passive recipient of a smooth, sanitized end product that deflects interrogation and defies deconstruction.[71] From this vantage point, the simplicity of the target could undermine its benchmarking role and instead deliver an implicit justification for the exercise of executive discretion in its interpretation, in its pursuit and its achievement.[72]

4.2. What Does This Mean for Target Laws?

Catalytic yet also permissive of procrastination, bestowing while rationing time, in equal measures accessible and impenetrable; even on the briefest of reflections the conceptual complexity of targets rushes into view, as do the many paradoxes fuelled by their duality. Consequently, when environmental legal frameworks incorporate targets and centre them as the focal point of the regulatory enterprise, they inescapably import a high degree of complexity and a potential for dysfunction into the legal system. To reap the benefits of targets, it is therefore essential to be alert to the possible pitfalls and challenges their operationalization will entail. The following section identifies several of the key challenges, some of which have already manifested in our

[68] See M. Wadhwa & K. Zhang, 'When Numbers Make You Feel: Impact of Round versus Precise Numbers on Preventive Health Behaviors' (2019) 150 *Organizational Behavior and Human Decision Processes*, pp. 101–11.

[69] Lees & Pedersen, n. 54 above. See also M. Lee, 'Politics and Expertise: New Environmental Targets in English Environmental Law', in J. van Zeben & C. Hilson (eds), *A Research Agenda for Environmental Law* (Edward Elgar, 2025), pp. 89–102, at 93.

[70] Morseletto, Biermann & Pattberg, n. 61 above.

[71] P. Robinson, 'Government Accountability and Performance Measurement' (2003) 14(1–2) *Critical Perspectives on Accounting*, pp. 171–86.

[72] Cf. S.S. Jasanoff, 'Contested Boundaries in Policy-Relevant Science' (1987) 17(2) *Social Studies of Science*, pp. 195–230, at 198 ('Emphasizing the indeterminacy in science also gives regulators a better chance of withstanding judicial review, since courts have traditionally been more deferential towards decisions based on discretionary judgements ("policy") than to those based on empirical findings ("science")').

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experience with target laws, and others which can be anticipated in the light of the paradoxical dynamics that accompany the determination and pursuit of targets.

5. Confronting the Challenge of Environmental Target Laws

In the light of their complexity and paradoxical qualities, the effective deployment of targets in environmental law requires careful consideration of the temporality, the legal status, the implementation, and the enforceability of target laws. The next paragraphs discuss each in turn.

5.1. The Temporality of Environmental Target Laws

The first challenge to the effectiveness of target laws flows from their temporality. As illustrated earlier, environmental target laws typically set medium- to long-term deadlines, which offer a welcome promise of steadfastness and a commitment to the mission beyond single electoral cycles and towards future generations.[73] Yet, every deadline is also the herald of an ending. Target laws broadcast their finality – the point beyond which, for all intents and purposes, they will become obsolete. This finality becomes even more prominent where legislation mandates the adoption of interim targets as stepping stones towards the overall outcome, as in the case of, for instance, EU and UK climate change mitigation law. The perspective may be long-term but in practice legislation is experienced as a rapidly changing sequence of short-term aims and deadlines.

The long-term yet time-limited character of target laws poses an obvious governance challenge. Once the deadline hovers into view, target laws either need to be amended and restocked with new, possibly more advanced objectives and deadlines, or they will obsolesce. The turbulent history of the Kyoto Protocol[74] offers an apt illustration of the distinctive pressures introduced by target laws: its incorporation of a 2012 deadline immediately channelled the attention of the international community towards the need for its eventual replacement.[75] The subsequent failure to adopt a follow-up 'Kyoto II-style' document at the 2009 Copenhagen climate summit created an imminent legal crisis,[76] which was patched up only when the signatory countries to the Kyoto Protocol met in Doha (Qatar) in December 2012, and *in extremis* agreed to effectively extend the Protocol until 2020 by means of a new round of emissions reduction targets.[77] Since then, the Protocol has

[73] Cf. R.J. Lazarus, 'Climate Change Law in and over Time' (2010) 2(1) *San Diego Journal of Climate & Energy Law*, pp. 29–44, at 34.

[74] N. 14 above.

[75] J. Gupta, *The History of Global Climate Governance* (Cambridge University Press, 2014).

[76] A. Macey, 'The Road to Durban and Beyond: The Progress of International Climate Change Negotiations' (2012) 8(2) *Policy Quarterly*, pp. 23–8, at 27.

[77] L. Fuhr & L. Schalatek, 'The "Doha Climate Gateway": Will the Camel Go through the Eye of the Needle? An Analysis of the Outcome of the UN Climate Change Conference (COP18) in Doha, Qatar', Heinrich Böll Stiftung, Dec. 2012, available at: https://www.boell.de/sites/default/files/assets/boell.de/images/download_de/HBF_Doha_Outcome_Analysis(1).pdf.

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been practically superseded by the 2015 Paris Agreement,[78] which arguably got around the deadline problem by replacing a fixed completion point with a performance objective (global peaking as soon as possible) combined with a longer-term, more flexible achievement period spanning 50 years (global net zero in the second half of this century). However, this more flexible framing offers but a short-lived reprieve from the temporality of target laws. Once the end of the century draws into view – or less optimistically, once it becomes irrefutable that the 'well below 2°C' benchmark has been consummately missed – the Paris Agreement, too, will need to confront its temporality.

5.2. The Legal Status of Environmental Target Laws

Having a firm or semi-fixed deadline within legislation poses a continuity problem, but it is arguably a manageable one. Provided the target date is set far enough into the future, updating, transition, and renewal plans can be devised ahead the deadline and legal limbo may be averted. Most contemporary environmental target laws – including the EU's European Climate Law[79] and similar legislation in jurisdictions ranging from Canada to Aotearoa New Zealand[80] – have a time horizon of 2050 or beyond, affording enough space to anticipate and act upon the need for updating. The long-term perspective of most environmental target laws, however, invites a countervailing set of legal controversies. It significantly raises the stakes in the consideration of the legal validity of target laws, elevating them to a quasi-constitutional legal status while at the same time – and, again, paradoxically – jeopardizing their legitimacy. Here is how that works.

Target laws explicitly intend to bind future governments. Indeed, their ability to do so is considered one of their greatest strengths. Yet the future-oriented nature of target laws equally creates a 'dead hand' dilemma. Questions have been asked, in countries including the UK and the US,[81] about the appropriateness of the government of the day using its legislative influence to bind the hands of its democratically elected successors. The stock response to such objections is that dead-hand concerns typically should arise only over constitutional provisions,[82] not in the context of legislative acts which may be overturned through the same processes and by virtue of the same authority as those that gave them life. If a successor government wants to change course from the targets and timelines set out in pre-existing legislation, it is at liberty to propose the

[78] N. 23 above. The Kyoto Protocol has not been formally repealed but is described in United Nations (UN) statements as being 'effectively replaced'; see the announcement in UN Climate Action, 'Marking the Kyoto Protocol's 25th Anniversary', 11 Dec, 2022, available at: https://www.un.org/en/climatechange/marking-kyoto-protocol's-25th-anniversary.

[79] Regulation (EU) 2021/1119 establishing the Framework for Achieving Climate Neutrality and amending Regulations (EC) No. 401/2009 and (EU) 2018/1999 ('European Climate Law') [2021] OJ L 243/1.

[80] Canadian Net-Zero Emissions Accountability Act 2021 (S.C. 2021, c. 22.); Aotearoa New Zealand Climate Change Response (Zero Carbon) Amendment Act, Nov. 2019 (Public Act 2019 No. 61).

[81] Lee, n. 69 above, p. 92; Lazarus, n. 73 above, p. 34.

[82] See, e.g., A.R. Brown, *The Dead Hand's Grip: How Long Constitutions Bind States* (Oxford University Press, 2022).

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amendment or repeal of the offending law. Still, laws are undeniably resilient. The time, resources, opportunity costs and political costs involved in scaling back environmental protection targets may act as persuasive deterrents to change, even if under clean-slate conditions the government of the day would have signed up to a very different set of commitments from those adopted by its predecessor. The endurance of the 2008 UK Climate Change Act,[83] adopted under a Labour government and a frequent thorn in the side during the subsequent 14 years of Conservative rule,[84] is a case in point.[85] Hence, notwithstanding the formalist rebuttal, long-term target laws remain vulnerable to allegations of democratic illegitimacy.

The future-oriented character of target laws thus courts controversy, but equally we see it used as a justification to harness and elevate their status above that of 'ordinary' law. Commentators such as Aileen McHarg assert that legal measures which are specific about what must be achieved into the future might qualify as constitutional.[86] Whether this position is persuasive and what would be its ramifications – issues that are further complicated in the UK context by the absence of a codified constitution – are both questions that need and deserve much more detailed investigation and debate than can be afforded within the confines of this article. The intention here is not to delve into this discussion, but simply to underline that target laws invite these new and challenging lines of inquiry. Similarly, the long-term perspective of target laws raises the question of whom should be considered as their intended beneficiaries. Laws such as the EU NRL[87] set out to achieve goals that are relevant for present but even more so for future generations. A case could be construed that their existence represents an implicit acknowledgement that the state has a responsibility not only towards present but also towards future generations.[88] Conceivably, target laws could therefore be a conduit towards firming up future generation-based claims in the context of state responsibility in environmental and climate litigation. Where states fail to achieve their

[83] Climate Change Act 2008 (CCA (UK)), as amended by the Climate Change Act 2008 (2050 Target Amendment) Order 2019 (SI 2019/1056).

[84] R. Vaughan, 'Cutting the "Green Crap" and Ditching Net Zero Policies Won't Save the Tories', *The i Paper*, 26 July 2023, available at: https://inews.co.uk/news/politics/cutting-green-crap-ditching-net-zero-policies-wont-save-tories-pollsters-warn-2504261.

[85] Counter-examples do exist, e.g., the 2010 UK Child Poverty Act (which set binding targets for the proportion of children living in relative and absolute poverty by 2020) was repealed in 2016; see P. Vizard, P. Obolenskaya & K. Treebhoohun, 'Going Backwards? The Slowdown, Stalling and Reversal of Progress in Reducing Child Poverty in Britain during the Second Decade of the 21st Century, and the Groups of Children that Were Affected', Centre for Analysis of Social Exclusion, Social Policies and Distributional Outcomes Research Paper 14, Mar. 2023, p. 24, available at: https://sticerd.lse.ac.uk/dps/case/spdo/spdorp14.pdf.

[86] A. McHarg, 'Climate Change Constitutionalism: Lessons from the United Kingdom' (2011) 2(4) *Climate Law*, pp. 469–84.

[87] N. 1 above.

[88] This connection was made explicit in the case of the Well-being of Future Generations (Wales) Act 2015; see H. Davies, 'The Well-being of Future Generations (Wales) Act 2015: Duties or Aspirations?' (2016) 18(1) *Environmental Law Review*, pp. 41–56. For a critical take on the recognition of legal duties owed to future generation see S. Humphreys, 'Against Future Generations' (2022) 33(4) *European Journal of International Law*, pp. 1061–92.

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long-term binding targets, the parties most aggrieved, and most entitled to judicial vindication, may be yet unborn.

To conclude, the temporality of target laws invites a wealth of questions about their legal status, ranging from the residual legal validity of binding instruments that have exceeded the deadline to the legal quality of target laws as potentially constitutional, and the controversies this entails. Each of these questions requires careful consideration and management for environmental target laws to achieve the requisite resilience, clarity, and predictability in support of their claims to legitimacy.

5.3. The Implementation of Environmental Target Laws

The duality of targets as both catalyzing and potentially paralyzing mechanisms challenges the effectiveness of target laws. Maria Lee, for one, has displayed a keen awareness of the dangerous lure of targets as an alternative for instead of a call to action, or, as she beautifully put it, the 'rhetorical elision of things to which we aspire with things that we have already achieved'.[89] Along similar lines, Emma Lees and Ole Pedersen have highlighted the flipside of the symbolic resonance of legislation that explicitly commits itself to a formally binding target: if targets are not operationalized, the laws in which they are embedded are reduced to empty gestures that conjure up a promise of action never to be fulfilled.[90] Instead of fuelling action, performative deadlines serve to suspend governmental accountability and become a justification for inaction, leaving environmental governance in a more precarious state than before their enactment. At worst, they function as a smokescreen behind which administrative capacity is consciously eroded and dismantled.[91]

The risk that long-term targets may inspire purely performative behaviour becomes all the greater when the legislation itself requires that future generations of implementation become progressively more ambitious. In such circumstances, distant deadlines easily become convenient hosts for hubristic expectations of future ingenuity. We have seen this risk materialize in the context of climate change law.[92] For example, the initial carbon budgets set out in the German Federal Climate Protection Act,[93] in compliance with the EU's 2050 net zero target, reflected an arguably excessive faith in exit velocity, as it anticipated the lion's share of mitigation efforts to be made in the 2030–2050 period. The backloading was so pronounced that the Act was deemed to infringe Article 20A of the German Basic Law (Grundgezetz), which requires the state to protect 'the natural foundations of life and animals' while being 'mindful of its responsibility towards future generations'. According to the Bundesverfassungsgericht, the German Federal Constitutional Court, Germany's relatively relaxed emissions reduction target of 55% by 2030, as enshrined in

[89] Lee, n. 69 above, p. 99.
[90] Lees & Pedersen, n. 54 above, p. 130.
[91] Cf. J. Freeman & S. Jacobs, 'Structural Deregulation' (2021) 135(2) *Harvard Law Review*, pp. 586–665.
[92] See R. Haynes & L. Benjamin, 'Ambition-Raising and Ambition-Reducing Features of the Paris Agreement', in A. Zahar (ed.), *Research Handbook on the Law of the Paris Agreement* (Edward Elgar, 2024), pp. 126–42.
[93] Bundes-Klimaschutzgesetz, Act of 12 Dec. 2019, *Federal Law Gazette I*, No. 235.

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legislation, constituted a form of 'advance interference' with the ability of future generations to exercise their fundamental rights, and was therefore unconstitutional.[94]

In sum, to avoid environmental target laws devolving into performative grandstanding, they need to be supported by a developed, well-organized and functional infrastructure of implementing and supporting measures.[95] As a consequence, although they are often presented as gratifyingly straightforward alternatives to the dense technicality of risk-oriented environmental legislation, target laws stimulate a voracious appetite for proceduralization and technocratic governance. Lavanya Rajamani affirms as much when she describes the 2015 Paris Agreement – in many regards the epitome of an environmental target law – as a development in which 'the climate regime took a decisive turn towards procedural obligations'.[96]

The more general the target, the more extensive the fleet of procedural requirements and detailed, technical prescriptions that must follow in its wake.[97] To be operationalized, long-term and systemic targets need to be disarticulated into a near-endless combination of sectoral objectives, plotted across a variety of shorter and medium-term timelines, and linked together into a sprawling network of implementing laws, regulations, and administrative provisions. These, in turn, need to be buttressed by funding mechanisms, capacity-building initiatives, public–private cooperative agreements and guidelines, to name but a few components of the gargantuan governance infrastructure that is required to bridge the distance between the target and its achievement.[98] Every single one of these steps relies on the specification of standards and procedures.[99]

Target laws, therefore, are no antidote to technocracy or bureaucracy. In fact, their presence invites ever denser layers of proceduralization. To generate the cumulative data that will enable an assessment of progress towards the overall end goal, target laws require the development and normalization of data-gathering and measurement methodologies and practices, as well as assessment, reporting, and verification protocols.[100] Each of these protocols and practices are, again, expressed by means of technical and procedural requirements. If an environmental target is set at a

[94] *Neubauer et al.* v. *Germany*, Bundesverfassungsgericht (BVerfG), Case Nos BvR 2656/18/1, BvR 78/20/1, BvR 96/20/1, BvR 288/20, 24 Mar. 2021, available at: http://www.bverfg.de/e/rs20210324_1bvr26561 8en.html. See P. Minnerop, 'The "Advance Interference-Like Effect" of Climate Targets: Fundamental Rights, Intergenerational Equity and the German Federal Constitutional Court' (2022) 34(1) *Journal of Environmental Law*, pp. 135–62.

[95] On the challenges to effective implementation see, e.g., N.J.L. Rogers, V.M. Adams & J.A. Byrne, 'Moving Beyond the Plan: Exploring the Opportunities to Accelerate the Implementation of Municipal Climate Change Adaptation Policies and Plans' (2025) 35(2) *Environmental Policy and Governance*, pp. 276–91.

[96] L. Rajamani, 'Due Diligence in International Climate Change Law', in H. Krieger, A. Peters & L. Kreuzer (eds), *Due Diligence in the International Legal Order* (Oxford University Press, 2020), pp. 164–80, at 168.

[97] Cf. O.W. Pedersen, 'Legislative Overreach, Adaptation and Administrative Re-regulation in Environmental Law' (2022) 42(3) *Oxford Journal of Legal* Studies, pp. 818–42, at 830.

[98] Cf. Mai, n. 33 above (labelling the Paris Agreement as a shift from negotiation to implementation).

[99] Cf. Vandenbergh, n. 51 above, p. 874.

[100] Cf. Lavanya Rajamani and Jacob Werksman on the role of the global stocktake as performance assessment in the context of international climate change law: L. Rajamani & J. Werksman, 'The Legal

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transnational level and its achievement requires contributions from various jurisdictions, as is the case for the EU climate change and nature restoration targets, such data-gathering, monitoring, verification and assessment procedures, moreover, must be replicated across different governance levels.[101] Thirdly, any successful achievement of systemic environmental targets is premised on the support delivered by procedural prescriptions to ensure that considerations pertaining to the target are integrated into all aspects of economic decision-making.[102] Fourthly, the level of public buy-in required to safeguard the continuous and sustained pursuit of targets necessitates the introduction and maintenance of robust procedural entitlements that keep open lines of communication with the public.[103] Taken together, the preconditions for the successful pursuit of environmental targets thus demand an extraordinary investment in standard-setting and proceduralization.

To get a sense of the procedural density of target laws, we need look no further than the 2024 EU NRL.[104] The substantive targets – at least 90% of European land and marine habitats currently not in good condition to be covered by restoration measures by 2050, with intermediate targets of 30% by 2030 and 60% by 2040;[105] 'no net loss' of urban green space by 2030, and an increasing green urban trend from then onward;[106] a reversal of the decline of pollinators by 2030 followed by an upward trend thereafter;[107] three billion additional trees by 2030[108] – receive pride of place in Chapter II of the EU NRL. Yet procedural and technical requirements swiftly follow in their wake. For example, Article 4(8) of Chapter II requires that Member States make determinations about the areas most suitable for restoration on the basis of 'the best available knowledge and the latest scientific evidence of the condition of the habitat types' and 'making use of information reported under Article 17 of [the Habitats Directive[109]] and Article 12 of [the Birds Directive[110]]',[111] thus mapping the procedures through which Member States develop their restoration plans. Article 4 further stipulates that Member States need to ensure, by 2030, that the condition of at least 90% of relevant habitats is known, rising to 100% by 2040. This injects data production, collection and reporting requirements into the context of Chapter II. So, too, does Article 9, which requires Member States to 'make an inventory of artificial barriers to the connectivity of surface waters and, taking into account the

Character and Operational Relevance of the Paris Agreement's Temperature Goal' (2018) 376(2119) *Philosophical Transactions of the Royal Society A*, article 20160458, p. 9.

101 As illustrated by M. Peeters, 'The Global Stocktake', in G. Van Calster & L. Reins (eds), *The Paris Agreement on Climate Change: A Commentary* (Edward Elgar, 2021), pp. 326–47.

102 A. Bleby & A. Foerster, 'A Conceptual Model for Climate Change Mainstreaming in Government' (2023) 12(3) *Transnational Environmental Law*, pp. 623–48, at 626, 628.

103 Lee, n. 69 above, pp. 93–4.

104 EU NRL, n. 1 above.

105 Ibid., Arts 4, 5.

106 Ibid., Art. 8.

107 Ibid., Art. 10.

108 Ibid., Art. 13.

109 N. 48 above.

110 Directive 2009/147/EC on the Conservation of Wild Birds (codified version) [2010] OJ L 20/7.

111 Art. 4(8) EU NRL, n. 1 above.

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socio-economic functions of the artificial barriers, identify the barriers that need to be removed to contribute to meeting the restoration targets set out in Article 4'. Article 10 on the restoration of pollinators, in turn, reminds us that meaningful data-gathering is itself premised on methodological standardization, as it empowers the European Commission to adopt binding measures to establish and update 'a science-based method for monitoring pollinator diversity and pollinator populations', which method will become the standardized approach for annual data collection. Article 6 requires that decisions on derogations from the restoration obligations set out in Chapter II[112] are made in the light of either a strategic environmental assessment or an environmental impact assessment, further linking substantive goals to an extensive procedural infrastructure.[113]

The markers of intense proceduralization are all the more striking because they are found in Chapter II, the very section of the EU NRL that is intended to be dedicated to the substantive goals of restoration. Subsequent chapters only add to the procedural and technical density of the NRL. Moreover, EU-level procedural and technical requirements are but the tip of the implementation iceberg as every Member State, in turn, will need to develop an extensive regulatory and supporting infrastructure to keep the EU NRL's mission on track. The assembled image forcefully drives home the message that preventing environmental target laws from devolving into performative grandstanding will be a deeply labour- and resource-intensive task that will summon all the regulatory, technical, and coordinative capacity that governance can muster.

5.4. The Enforceability of Environmental Target Laws

Arguably, the strongest appeal of target laws is that they deliver an accessible and measurable benchmark against which performance over time can be assessed: if, by 2050, Canada has achieved a balance between its GHG emissions and removals, then it may be assumed that the state has lived up to its responsibilities under its Net-Zero Emissions Accountability Act.[114] Successful achievement of the target, or the lack thereof, could be said to constitute a much more meaningful indicator of the effectiveness of environmental legislation than more commonly used alternative yardsticks, such as the number of environmental licences issued, the number of infractions recorded or the severity of the penalties imposed; exercises which, according to Vandenbergh, amount to little more than 'bean counting'.[115] Relatedly, provided they are sufficiently ambitious and transformative, target laws should eliminate the possibility of combining a solid track record for legal and regulatory compliance with continuing environmental degradation, a prospect that remains

[112] Such derogations may be admissible when the restoration of habitats conflicts with the planning, construction, and operation of renewable energy plants.

[113] Impact assessments perform both data-gathering and public consultation functions; see J. Holder, *Environmental Assessment: The Regulation of Decision Making* (Oxford University Press, 2004).

[114] S.C. 2021, c. 22.

[115] Vandenbergh, n. 51 above, p. 814.

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plausible for laws that reflect a purely risk-oriented approach to environmental regulation.

Although the deadlines in many contemporary environmental target laws are still some years off, we have already witnessed some encouraging cases of interim targets shaping enforceability and governmental accountability.[116] In the UK, for example, the requirement to determine five-yearly mitigation targets and accompanying carbon budgets in pursuit of net zero by 2050 emboldened its famously deferential judiciary[117] to determine in 2021 that the sixth carbon budget of the (then) Department for Business, Energy and Industrial Strategy (BEIS) was unlawful as BEIS had failed fully to quantify the contribution of each policy and proposal towards the budget.[118]

In the light of enhanced measurability of state performance afforded by quantified targets with identifiable deadlines, the possibility has moreover been mooted that the adoption of legally binding targets alters the very nature of state responsibility for climate action and environmental protection. Arguably, the obligation to meet the target could be construed as an obligation of result, rather than as one of effort.[119] After all, what is the point of having a legal target if it is not to be used as a benchmark against which can be assessed whether the state has met or has failed to comply with its legal obligations?[120] From this vantage point, target laws could bypass the need for knotty considerations of what constitutes a lawful level of effort in pursuit of public policy goals, and from which combinations of deliberations and actions such effort can be inferred. Instead, all that is required is an objective assessment of performance at the deadline, delivering a binary result.

Binding targets therefore promise better enforceability and state accountability for the performance of environmental law and regulation. However, here too the superficial simplicity of the target belies the complexity of the challenges that must be overcome to ensure that the virtues of target laws are effectively harnessed. A first

[116] See, e.g., the annual 'snapshot' reports on global climate litigation produced by Joana Setzer, Rebecca Byrnes and Catherine Higham and issued by the Grantham Research Institute, available at: https://www.lse.ac.uk/granthaminstitute/publication-type/policy-publications. Cf. L. Wegener, 'Can the Paris Agreement Help Climate Change Litigation and Vice Versa?' (2020) 9(1) *Transnational Environmental Law*, pp. 17–36, at 27–31 (anticipation). See also Lee (n. 69 above) on the enforceability of the targets in the UK 2021 Environment Act, and J. Ambrose, 'UK's Clean Electricity Growing Too Slowly to Meet Climate Targets, Report Says', *The Guardian*, 14 July 2025, available at: https://www.theguardian.com/environment/2025/jul/14/uks-clean-electricity-growing-too-slowly-to-meet-climate-targets (as an illustration of targets facilitating media reporting on governmental performance with regard to climate change).

[117] Cf. J. Bell & E. Fisher, 'The Heathrow Case in the Supreme Court: Climate Change Legislation and Administrative Adjudication' (2023) 86(1) *The Modern Law Review*, pp. 226–37, at 236.

[118] *R (Friends of the Earth Ltd and Others)* v. *Secretary of State for Business, Energy and Industrial Strategy* [2022] EWHC 1841 (Admin); but see *Friends of the Earth* v. *Secretary of State for Environment, Food and Rural Affairs* [2024] EWHC 2707 (Admin) (in which the High Court of England and Wales indicated that a 5-year national plan for adaptation to climate change may fall short of what is needed, yet still be lawful).

[119] Hilson, n. 61 above, p. 210 and fn. 82.

[120] Cf. Teresa Kramarz and Susan Park on widespread public calls for 'output accountability', i.e., 'the demand that those governing be answerable and responsible for not delivering on their aim': T. Kramarz & S. Park, 'Accountability in Global Environmental Governance: A Meaningful Tool for Action?' (2016) 16(2) *Global Environmental Politics*, pp. 1–21, at 5.

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qualifier is that an outcome is an effective performance gauge only if it is genuinely, rather than only presumably, measurable.[121] As suggested earlier, the 'round number' quality of environmental targets fosters a sense of straightforwardness and ease of application that rarely bears out in practice. The Indian National Forestry Policy offers a telling example. The target of having one third of the country under forest cover was adopted in 1952.[122] Yet only in the 1990s was sufficient information available to determine with a high degree of reliability how much of the country actually *was* under forest cover. Until then, it could not be said with certainty whether and to what extent achieving the forestry target would require afforestation, a maintenance of the status quo, or instead might still permit further deforestation.[123] By the same token, any expectation that it will be self-evident whether, for instance, Japan has hit net zero by 2050, or whether the EU is three billion trees richer by 2030,[124] is bound to prove devastatingly naïve as the ascertainment of these outputs inevitably will be beset by uncertainty and controversy.[125]

Secondly, even if the output proves measurable, the proposition that this transforms state responsibilities from conduct- to result-based is contested. A result-based interpretation may align with the quantifiability of targets but conversely is difficult to square with their quintessentially aspirational character. The 2024 *KlimaSeniorinnen* judgment aptly illustrates the dilemma. In its decision, the European Court of Human Rights (ECtHR) unequivocally affirmed that Member States to the European Convention on Human Rights (ECHR)[126] have a legal responsibility to adopt binding emissions reduction targets. This responsibility falls beyond the margin of appreciation afforded under Article 8 ECHR (right to privacy).[127] Yet the Court continued that determinations whether Member States have complied with the obligation should be steered by, *inter alia*, '[whether] domestic authorities have had *due regard to the need to* adopt … a target timeline' and '[to] act in good time and in an appropriate and consistent manner when devising and implementing the relevant legislation and measures'.[128] The reference to 'due regard' suggests that, according to the ECtHR at least, compliance assessments are to be guided by effort rather than result.

[121] Cf. C. Coglianese & S. Lazer, 'Management-based Regulation: Prescribing Private Management to Achieve Public Goals' (2003) 37(4) *Law & Society Review*, pp. 691–730, at 705 (Figure 2, showing the relation between performance-based regulation and high capacity to assess outputs).

[122] See n. 8 above.

[123] Joshi et al., n. 8 above, pp. 86–93. In the same vein see E. Lees & O.W. Pedersen, 'Restoring the Regulated: The EU's Nature Restoration Law' (2025) 37(1) *Journal of Environmental Law*, pp. 75–96, at 90–2.

[124] See, e.g., X. Zajmi, 'Commission's Forest Monitoring Proposals Met with Little Enthusiasm, but States See Potential', *Euractiv*, 30 Sept. 2024, available at: https://www.euractiv.com/news/commissions-forest-monitoring-proposals-met-with-little-enthusiasm-but-states-see-potential.

[125] See, e.g., E. Biber, 'The Challenge of Collecting and Using Environmental Monitoring Data' (2013) 18(4) *Ecology and Society*, article 68; Pontin et al., n. 36 above, p. 152.

[126] *Verein KlimaSeniorinnen Schweiz and Others* v. *Switzerland*, ECtHR, Appl. No. 53600/20, Judgment, 9 Apr. 2024, para. 549 (*KlimaSeniorinnen*).

[127] Rome (Italy), 4 Nov. 1950, in force 3 Sept. 1953, available at: http://www.echr.coe.int/Documents/Convention_ENG.pdf.

[128] *KlimaSeniorinnen*, n. 126 above, para. 550 (emphasis added).

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Beyond the ECHR's treatment of climate mitigation targets, a review of national and European environmental target laws does little to settle the matter. Some legislation, such as the 2022 Australian Climate Change Act,[129] bypasses the question by omitting any reference to state responsibility: 'Australia's [GHG] reduction targets *are as follows* . . . '.[130] Other measures allude more overtly to either an effort- or result-based framing. The EU NRL, we recall, does not bind EU Member States to achieving restoration of 90% of habitats by 2050, but merely to *putting in place the measures required* towards this goal.[131] On the target of three billion trees, Article 13(1) NRL provides that 'Member States *shall aim to contribute* to the commitment of planting at least three billion additional trees by 2030 at Union level'.[132] Yet, on the other hand, Article 8(1) NRL requires Member States to '[*ensure] that there is no net loss* in the total national area of urban greenspace and of urban tree canopy cover in urban ecosystem areas',[133] and Article 10 stipulates that 'Member States *shall*, by putting in place in a timely manner appropriate and effective measures, *improve pollinator diversity* . . . at the latest by 2030'.[134] The latter phrasing suggests that the efforts, which take centre stage in Article 4, are to be viewed as subordinate relative to the result to be achieved; however, they do so with insufficient resolve to dispel ambivalence.

Even where state responsibility is couched in explicitly result-oriented terms – as in the UK Climate Change Act, which affirms that '[it] is the duty of the Secretary of State to ensure that the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline'[135] – different views persist on the quality of this obligation.[136] In his written evidence to the Parliamentary Joint Committee on the Draft Climate Change Bill, Christopher Forsyth asserted that the duty in the (then) Climate Change Bill to reduce GHG emissions with 60% from a 1990 baseline by 2050 was not 'owed to any particular person or class of individual or body or class of body'.[137] He continued that '[s]uch duties, notwithstanding their appearance in statutes, should be seen as imposing political not legal duties' and, for good measure, referred to his own textbook, which stated on the matter of legislated targets that '[o]nly in the unlikely event of its making total default would [an authority] be at risk of legal compulsion in

[129] Climate Change Act 2022 (Cth), available at: https://www.austlii.edu.au/cgi-bin/viewdb/au/legis/cth/consol_act/cca2022109/#longtitle.
[130] Ibid., Art. 10 (emphasis added).
[131] Art. 4 EU NRL, n. 1 above.
[132] Emphasis added.
[133] Emphasis added.
[134] Emphasis added.
[135] Art. 1 CCA (UK), n. 83 above.
[136] Similarly, with regard to the Paris Agreement's targets, see Rajamani and Werksman's discussion of the text couching the Agreement's target as establishing a purpose rather than an obligation and, consequently, introducing a 'robust procedural obligation of conduct': Rajamani & Werksman, n. 100 above, pp. 3–4.
[137] UK House of Lords and House of Commons Joint Committee on the Draft Climate Change Bill, 'Draft Climate Change Bill, Report of Session 2006-02', Vol. II (HL Paper 170-II, HC 542-II, 22 Aug. 2007), Ev. 238, available at: https://publications.parliament.uk/pa/jt200607/jtselect/jtclimate/170/170ii.pdf.

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respect of its general duties'.[138] At most, the presence of a binding target could be interpretated as requiring the Secretary of State to use their best endeavours.[139] Colin Reid, on the other hand, argued that one of the main innovations of the Climate Change Act was its introduction of so-called 'outcome duties', which go beyond the responsibility to endeavour to achieve a particular result.[140] At the same time, however, he acknowledged that UK courts have been reluctant to recognize outcome duties as imposing absolute obligations and that such duties 'are unlikely to be amenable to direct enforcement'.[141] Hence, a formal recognition of legislated targets as engendering an obligation of result may not necessarily guarantee their justiciability.

To recap, targets may not be as measurable as assumed and, even if they are, this measurability may not translate into effective result-based accountability. Thirdly and finally, it is not a foregone conclusion that a full-throated endorsement of targets as binding obligations of result, even if it were feasible, would be desirable. Doing so might drive down the level of ambition to which governments are willing to commit. Trade-offs between high ambition and broad acceptability are a staple of environmental law and policy, and it remains an open question which pathway delivers the highest level of environmental quality in the long run.[142] Moreover, lessons from New Public Management remind us that single-minded dedication to the target often comes at a price because other public values may be sacrificed for its achievement.[143] In a context of decarbonization and environmental restoration, opportunities for tunnel vision and short-sighted trade-offs are rife. For example, the pressure to hit the target could push policymakers towards faster but less environmentally sustainable carbon mitigation options. Or, a target of three billion trees might steer public authorities towards hardier, low-maintenance varieties that contribute less to biodiversity. Relatedly, we might question whether conservative targets should be treated as accommodating the same margin of error in their achievement as ambitious ones, or whether there is cause for differentiation. In the latter case, how should the cut-off point between ambitious and conservative be determined? Each of these questions adds a further layer of complexity and will require careful reflection for enhanced measurability to become a stepping stone rather than a stumbling block on the path to state responsibility for climate change.

[138] Ibid.

[139] Ibid.

[140] C.T. Reid, 'A New Sort of Duty? The Significance of "Outcome" Duties in the Climate Change and Child Poverty Acts' (2012) 4 *Public Law*, pp. 749–67, at 753 ('On the face of it, Ministers are responsible not just for doing what they can to achieve the target, but simply for ensuring that it is reached'). See also Preston, n. 17 above, p. 8.

[141] Reid, n. 140 above, p. 754. See also Pontin et al., n. 36 above, p. 151.

[142] Cf. Joshi et al, n. 8 above, pp. 88–93 (arguing in favour of realistic but achievable over-ambitious but vulnerable targets). Cf. A. Tukker & P. Ekins, 'Concepts Fostering Resource Efficiency: A Trade-off Between Ambitions and Viability' (2019) 155 *Ecological Economics*, pp. 36–45, at 37.

[143] See V. Lapuente & S. Van de Walle, 'The Effects of New Public Management on the Quality of Public Services' (2020) 33(3) *Governance*, pp. 461–75, at 465; C. Coglianese, 'The Limits of Performance-based Regulation' (2017) 50(3) *University of Michigan Journal of Law Reform*, pp. 525–63, at 560–1.

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6. Conclusion

Considering the litany of challenges that have been identified, readers might be forgiven for thinking that this article has come to bury environmental target laws, not to praise them. To capitalize on their transformative potential and safeguard target laws from sliding into performative emptiness, a deep and sustained investment in supporting and implementing infrastructure will be essential. Moreover, their successful operationalization will hinge on legislative bodies diligently planning ahead of anticipated deadlines to secure their effective endurance or renewal. By the same token, legal, regulatory, and judicial authorities will need to arrive at a considered position on the legal status of and the state's accountability for binding targets so that target laws maintain an acceptable balance between environmental effectiveness and democratic legitimacy.

Yet to conclude on this basis that environmental target laws are not worth the effort, and that the energy required to champion them in the face of a growing backlash is better spent elsewhere, would be a grave mistake. For all their vulnerability to dysfunction, binding targets offer to environmental legislation a level of drive, resilience, and visibility that traditional risk regulatory instruments cannot match. In the face of accelerating climate breakdown and impending ecosystem collapse, and in the absence of ready alternatives that would somehow enjoy all the qualities of target laws without inviting any of their drawbacks, sacrificing potential on the altar of perfection would be a strategic calamity.

Furthermore, even if target laws are likely to reconfigure rather than fix problems, there is hope in this very act of reconfiguration. The reconfiguration of problems through the filter of target laws allows for the identification and reframing of issues that may otherwise remain hidden or ignored. In this sense, environmental target laws can create space for new forms of dialogue and reflection that may yet lead to more nuanced, adaptive approaches to environmental governance. Hence, while the paradoxes surrounding targets highlight the complexities involved, they also provide a critical opportunity for reassessing and recalibrating the paths forward in the face of pressing environmental crises. It is up to legal communities to take up the gauntlet, work through the difficulties, and keep the quest for imperfect improvement going.

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