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Jurisdiction Is the Wrong Question: A Functional Model of Climate Responsibility for International Human Rights Law

Wakila Hussain
Lecturer
Department of Law
Faculty of Security and Strategic Studies
Bangladesh University of Professionals, Dhaka

ABSTRACT

International human rights law remains bound to a spatial conception of jurisdiction that allocates responsibility by geography rather than by power. This architecture, designed for post-war occupations, collapses when applied to transboundary climate harm where emissions, finance, and regulation flow across borders but accountability does not. This article argues that *jurisdiction* is the wrong question for the Anthropocene. Drawing on the jurisprudence of the European Court of Human Rights, the UN Human Rights Committee, and the Inter-American Court, it demonstrates how doctrines of due diligence, foresee ability, and proportionality already contain the tools for a functional re-orientation. Original contribution of the paper lies in proposing the *Contribution-Control-Capacity Test (CCT)*, a doctrinally orthodox yet operational framework attaching responsibility where a State (i) materially and foreseeably contributes to rights-relevant climate risk, (ii) exercises effective control over risk-creating activity, and (iii) possesses the capacity to prevent or mitigate harm. The CCT consolidates principles latent in case laws into a coherent model of graduated and shared responsibility. By realigning accountability with functional control rather than territory, the article restores coherence between human rights law's preventive purpose and the global realities of a warming planet, without requiring textual reform or judicial overreach.

Keywords: Jurisdiction; Climate Change; Human Rights Law; Due Diligence; Shared Responsibility

Introduction

Climate change has exposed a fundamental flaw in international human rights law: it still treats jurisdiction as a question of territory rather than responsibility. Entire communities are now being displaced as coastlines erode, ancestral lands become uninhabitable[1], and cultural lives diminish far beyond a state's borders[2]. Yet human rights bodies continue to ask *where* the harm occurs and *where* the victim is located, rather than *who* contributed to the harm and *how*. Under prevailing doctrine, harm occurring abroad remain presumptively beyond reach,

[1] Kate L Ricke, Laurent Drouet, Ken Caldeira and Massimo Tavoni, 'Country-Level Social Cost of Carbon' (2018) 8 *Nature Climate Change* 895–900 <https://www.nature.com/articles/s41558-018-0282-y> accessed 24 October 2025

[2] IPCC, *AR6 WG I Summary for Policymakers* (2021) A.1–A.3; see also Joana Setzer and Cathie Lamb, *Global Trends in Climate Litigation: 2024 Snapshot* (Grantham Research Institute 2024).

even where it is scientifically traceable to identifiable emission sources[3]. The question, then, is whether 'jurisdiction' under human-rights treaties should track territorial control or control over risk-creating activity[4].

The experience of the Torres Strait Islanders illustrates what is at stake. Rising seas have washed away graves and sacred sites despite their negligible contribution to global emissions.[5] When such communities seek protection, adjudicators focus first on whether they fall within the jurisdiction of the State whose policies contributed to their loss. This threshold inquiry rather than any assessment of responsibility determines access to remedy. [6] Consequentially, this deep misalignment between human rights law's jurisdictional logic and the transboundary nature of environmental harm affects the justice system.

This article asks whether the extraterritorial 'jurisdiction' threshold, understood as spatial control over territory or persons remains a coherent basis for allocating human-rights responsibility for climate harms It demonstrates that this threshold no longer provides a principled or practical foundation for accountability. In its place, it proposes a doctrinally orthodox functional model, the *Contribution-Control-Capacity Test (CCT)*, under which responsibility attaches where a State's decisions materially and foreseeably contribute to rights-relevant climate risk, the State exercises regulatory or operational control over the risk-creating activity, and it has the capacity to prevent or mitigate the harm. The analysis proceeds in three steps: Part I shows why spatial tests cannot accommodate emissions-based harms; Part II explains why, even where jurisdiction is assumed, climate harms defeat current remedial design; Part III operationalises a functional model through existing principles of foreseeability, proportionality, and systemic remedies.

I. The Territorial Logic of Jurisdiction: Origins, Consolidation, and Structural Limits

The modern law of human rights was built on a territorial imagination of the State. Jurisdiction clauses were drafted to delimit responsibility, define *where* rights applied and thereby *where* adjudicatory authority stopped. This design reflected the political need to protect sovereignty while introducing supranational review. Its architects sought to internationalise individual protection without dismantling sovereignty, and jurisdiction became the hinge that made this possible. By defining the geographical limits of State obligation, jurisdiction both enabled adjudication and preserved the post-war political order. The resulting architecture was stable, but it was also rigid: a model designed to police Cold-War occupations now governs globalised environmental harm. This section traces how the spatial conception of jurisdiction emerged, how it hardened through case law, and why it remains doctrinally resilient despite the transboundary realities of climate change.

1.1 From Pragmatism to Orthodoxy

Article 1 of the European Convention on Human Rights obliges States to secure the Convention rights 'to everyone within their jurisdiction'[7]. Similar clauses in Article 2(1) of

[3] Myles R Allen, 'Liability for Climate Change' (2003) 421 *Nature* 891; Intergovernmental Panel on Climate Change (IPCC), *Sixth Assessment Report, Working Group I: The Physical Science Basis – Summary for Policymakers* (2021) A.1–A.3

[4] *Banković and Others v Belgium and Others* (Admissibility) (2001) 11 BHRC 435 61–73

[5] *Human Rights Committee, Torres Strait Islanders v Australia* (Views adopted 22 Sept 2022) UN Doc CCPR/C/135/D/3624/2019

[6] *N(4)* 59–61, 67, 71.

[7] European Convention on Human Rights (1953) 213 UNTS 221, art 1

the International Covenant on Civil and Political Rights[8] and Article 1(1) of the American Convention on Human Rights[9] reflect the same drafting compromise that responsibility is tied to territory to assure States that supervision would not extend to colonial or military domains. As Milanovic observes, the territorial clause functioned less as a principle of inclusion than as a 'limiting device,' a means of preventing the new human-rights order from becoming universal[10].

This territorial logic was neither accidental nor purely textual. In the immediate aftermath of the Second World War, international lawyers sought to reconcile the emergence of individual rights with the continuing primacy of state sovereignty. By linking jurisdiction to territory, the new human rights system avoided encroaching upon the law of occupation, decolonisation disputes, and other politically charged forms of extraterritorial governance[11]. The individual-State relationship was imagined as vertical, direct, and local. Territoriality therefore served both a jurisdictional and epistemic function, it reflected a world in which threats to rights were presumed to occur *within* defined borders and to be *immediate* in character.

Early case law consolidated this pragmatic boundary into doctrine. In *Loizidou v Turkey*, the European Court of Human Rights held that Turkey's 'effective overall control' of Northern Cyprus was sufficient to bring acts committed there within its jurisdiction.[12] The decision transformed factual control into legal authority but preserved the premise that control must be spatial and governmental in character. Later cases such as *Cyprus v Turkey*[7] [13] and *Ilaşcu v Moldova and Russia*[14]reaffirmed the 'effective control' formula, creating the *spatial model* that still structures Article 1.

A parallel development produced the personal model. In *Al-Skeini v United Kingdom*, the Grand Chamber accepted that jurisdiction may also arise through 'authority and control over individuals,' extending the Convention to Iraqi civilians detained by British forces.[15] Earlier cases like *Issa v Turkey*[16] and *Öcalan v Turkey*[17], had already treated physical custody abroad as sufficient to trigger obligations. Together these strands yielded the dual-test framework, *spatial control over territory* and *personal control over individuals* that dominate extraterritorial jurisprudence. Although they expanded the reach of the Convention in certain contexts, both rest on the same structural logic that jurisdiction flows from tangible power exercised beyond borders.

1.2 The Reassertion of Spatial Control

The Grand Chamber's decision in *Banković v Belgium* re-entrenched this orthodoxy. Rejecting claims arising from NATO's aerial bombardment of Belgrade, the Court declared

[8] International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171, art 2(1)
[9] American Convention on Human Rights (adopted 22 November 1969, entered into force 18 July 1978) 1144 UNTS 123, art 1(1)
[10] Marko Milanovic, *Extraterritorial Application of Human Rights Treaties: Law, Principles, and Policy* (Oxford University Press 2011) 5–10
[11] ibid.
[12] *Loizidou v Turkey (Preliminary Objections)* (1995) 20 EHRR 99, 62-64
[13] *Cyprus v Turkey* (2001) 35 EHRR 30 76
[14] *Ilascu and Others v Moldova and Russia* (2004) ECHR 48787/99, 312-317
[15] *Al-Skeini and Others v United Kingdom* (2011) 53 EHRR 18 133-137
[16] *Issa and Others v Turkey* App no 31821/96 (ECtHR, 16 November 2004), 71
[17] *Öcalan v Turkey* (2003) 37 EHRR 10, 93

that the Convention's 'jurisdiction is essentially territorial' and that exceptions 'must remain exceptional and require special justification[18]'. The ruling re-centred Article 1 within a regional, not universal, system and framed the Convention as an instrument of limited reach. Even when the Court later appeared to engage with functional reasoning in *Hirsi Jamaa v Italy*, where jurisdiction was found over migrants intercepted on the high seas[19], the finding still rested on 'continuous and exclusive control' over the persons concerned. Cases such as *Jaloud v Netherlands*[20] and *Hassan v United Kingdom*[21] confirmed this pattern, invoking 'effective control' in military contexts while resisting broader causal or policy-based understandings. The result is a jurisprudence that equates authority with spatial control, even when the harm in question is systemic and delocalised. Thus, the concept of jurisdiction, once a gateway to protection, remain hardened into a doctrinal boundary that filters out most forms of transboundary harm.

Comparable reasoning persists in the United Nations and Inter-American systems. The Human Rights Committee has repeatedly linked a State's obligations under Article 2(1) ICCPR to its 'power or effective control' over territory or persons[22], while the Inter-American Court of Human Rights in its 2017 Advisory Opinion on Environment and Human Rights grounded extraterritorial duties in the foreseeability of *direct* transboundary effects rather than in global environmental interdependence[23]. Across these systems, this convergence suggests a shared epistemology of jurisdiction across systems where responsibility depends on proximity and directness of impact.

1.3 Institutional Self-Limitation and Doctrinal Inertia

The persistence of spatial reasoning cannot be explained by textualism alone. It endures because it protects both State sovereignty and judicial legitimacy. Jurisdiction defines not only the scope of State obligation but also the Court's own mandate. By insisting on spatial control, the ECtHR maintains its identity as a regional, not global, tribunal and avoids accusations of universal supervision[24]. As Milanovic notes, Article 1 has become 'a boundary clause for the Court as much as for the State[25]. This self-limiting logic has produced institutional stability, but at the cost of conceptual compliance.

The result is a doctrinal architecture well suited to the discrete violations of the twentieth century such as detention, occupation, armed conflict but poorly equipped for the distributed harms of the twenty-first. Spatial control presumes a world of borders and bilateral causation, and climate change operates through networks of emission, regulation, and omission. When adjudicators demand proof of territorial control as a condition of responsibility, they exclude precisely the harms that are most foreseeable yet least geographically contained. As the *Duarte Agostinho* litigation demonstrates, even when applicants trace causal pathways from

[18] *N(4)* 59-61, 67, 71
[19] *Hirsi Jamaa and Others v Italy* (2012) 55 EHRR 21 73, 82–86
[20] *Jaloud v Netherlands* App no 47708/08 (ECtHR, 20 November 2014) 139-151
[21] *Hassan v United Kingdom* App no 29750/09 (ECtHR, 16 September 2014) 74-80
[22] Human Rights Committee, *General Comment No 36 on the Right to Life* (30 October 2018) UN Doc CCPR/C/GC/36, 63
[23] Inter-American Court of Human Rights, *Advisory Opinion OC-23/17 on Environment and Human Rights* (15 November 2017) Series A No 23, 74
[24] Eva Brems, 'The European Court of Human Rights as a Regional (Not Universal) Court' (2019) 37 Netherlands QHR 137
[25] N (10), 255

emissions to specific climate impacts, jurisdictional admissibility still turns on geography rather than contribution[26].

1.4 From Historical Logic to Structural Obsolescence

The territorial conception of jurisdiction was a pragmatic innovation in 1950; today it functions as an epistemic constraint. It rests on three assumptions that no longer hold: that power is spatially bounded, that harm is temporally immediate, and that victims are individually locatable. None of these assumptions withstand the realities of climate change. Greenhouse-gas emissions cross borders within days, their effects unfold over generations, and their victims are collective: ecosystems, communities, and future persons. The insistence on 'effective control' reduces a global phenomenon to local snapshots and renders the principal causes of harm legally invisible.

This structural obsolescence is not unique to the European system but most visible there because of its jurisprudential density. What was once a jurisdictional safeguard has become an exclusionary device. The following Part examines how, even when this threshold is crossed, human-rights law still struggles to deliver accountability for climate harm a failure rooted not in geography alone but in the deeper conceptual design of the rights system itself.

II. Beyond Jurisdiction: Structural Barriers to Accountability

Expanding the horizon of jurisdiction is a necessary but ultimately insufficient step for aligning international human rights law with climate change. Even if jurisdictional limits were relaxed, international human-rights law would still struggle to respond coherently to the realities of climate harm. The real challenge lies deeper; as Part I showed, jurisdictional clauses in the post-war treaties were drafted to stabilise sovereignty through spatial boundaries yet the foundational architecture of rights protection remains tethered to models of state power and individual harm that climate change escapes.

Human-rights adjudication presumes that violations are *discrete* (occurring at a specific time and place), *immediate* (producing contemporaneous injury), and *individualised* (attributable to a defined victim and a single duty-bearer)[27]. Climate change, by contrast, is cumulative, anticipatory, and collective. It unfolds across decades, diffuses responsibility among many States, and affects communities rather than isolated persons.

This mismatch has become the principal fault-line of emerging climate-rights litigation. As Peel and Osofsky note, human-rights frameworks are 'reactive rather than systemic,' constructed to address past violations rather than continuing environmental risk[28]. Even when courts accept jurisdiction, the remedial vocabulary of human rights still assumes a linear relationship between act and harm, breaching and remedy, actor and victim[29]. The very grammar of rights adjudication is ill-suited to a phenomenon that is statistical rather than episodic. The consequence then, is a pattern of partial recognition: climate applicants may establish standing yet rarely obtain substantive accountability.

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[26] *Duarte Agostinho and Others v Portugal and 32 Other States* App no 39371/20 (ECtHR 9 Apr 2024) 140, 190–195

[27] Sarah Cleveland, 'Human Rights and the Territorial State' in E Brems and S Ouald-Chibane (eds), *Human Rights and Extraterritorial Obligations* (Routledge 2023) 19–21; N(10) 252–255

[28] Jacqueline Peel and Hari M Osofsky, *Climate Change Litigation: Regulatory Pathways to Cleaner Energy* (CUP 2015) 33–35

[29] *Verein Klima Seniorinnen Schweiz and Others v Switzerland*, App no 53600/20 (ECtHR, 9 April 2024) 386-395, 537-548

Part II therefore moves beyond jurisdiction to interrogate these structural barriers to accountability. It identifies five interrelated limitations that prevent human-rights law from addressing climate harm even once jurisdiction is assumed: (1) causation and the epistemic limits of proof; (2) temporal asymmetry and the narrow horizon of 'legal time'; (3) the preference for acts over omissions; (4) the individualisation of harm and standing; and (5) the remedial modesty of human-rights institutions. Each reflects a deeper epistemic constraint: a system designed for immediate, personal injustice confronting a crisis that is slow, collective, and planetary.

2.1 Causation and the Epistemic Limits of Proof

Causation is the first and most enduring obstacle to recognising climate harm as a human-rights violation. The law of responsibility traditionally presumes a direct and traceable link between a state's act and an individual injury[30]. Climate change subverts that logic as its harms arise from the aggregation of countless lawful activities dispersed across time, geography, and actors. Although attribution science now isolates the probabilistic contribution of national emissions to specific impacts, courts have been reluctant to treat such probabilistic causation as legally sufficient[31].

The *Duarte Agostinho* judgment epitomises this difficulty. The applicants, six Portuguese youth, alleged that emissions from thirty-three European States violated their rights to life and private life under Articles 2 and 8 ECHR. The Grand Chamber acknowledged that climate change involves 'specificity and complexity' but declared the application inadmissible because the causal link between each respondent's emissions and the applicants' suffering could not be 'sufficiently established[32]'. By demanding a 'clear and direct' connection, the Court effectively applied a nineteenth-century causation model to a twenty-first-century phenomenon.

Scientific progress undermines the premise that climate harm is legally indeterminate. The Intergovernmental Panel on Climate Change (IPCC) now confirms that anthropogenic greenhouse-gas emissions are the 'unequivocal cause' of observed warming and that attribution models can estimate each State's historical and present contribution[33]. Myles Allen's foundational work on fractional contribution[34], and Friederike Otto's event-attribution methodology[35], demonstrate that probabilistic causation is measurable within scientifically defined confidence intervals. Brunnée and Doelle argue that due-diligence obligations under the Paris Agreement already rest on foresee ability and control, not certainty[36]. Translating these thresholds into human-rights reasoning would align the law with contemporary knowledge rather than abandoning evidentiary discipline.

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[30] James Crawford, *State Responsibility: The General Part* (CUP 2013) 273–276
[31] N(28), 79–83
[32] N(26) 182–197.
[33] Intergovernmental Panel on Climate Change, *Sixth Assessment Report, Working Group I: The Physical Science Basis – Summary for Policymakers* (2021) A.1–A.3.
[34] N (3)
[35] Friederike E L Otto, 'Attribution of Weather and Climate Extremes' (2016) 41 *Annual Review of Environment and Resources* 1
[36] Jutta Brunnée and Meinhard Doelle, 'Due Diligence in the Paris Agreement: A Legal Framework for Climate Responsibility' (2016) 66 *University of Toronto Law Journal* 373, 386–390

The *Verein Klima Seniorinnen Schweiz* decision hints at this evolution. The Court accepted that Switzerland's inadequate mitigation policies exposed elderly women to foreseeable and serious heat-wave risk, breaching Article 8[37]. Although the judgment avoided quantifying emissions, it relied on a 'factual likelihood' standard that recognises partial causation as legally actionable. As Peel and Osofsky observe, this signals a shift 'from traceability to accountability[38]'; once a State has regulatory control over a risk, it may be responsible for failing to mitigate it.

Still, most tribunals hesitate to move from statistical attribution to normative responsibility. Mayer warns that without a jurisprudence of collective causation; courts will continue to treat climate harm as 'too diffused for law[39].' Yet insisting on perfect proof perpetuates impunity. A functional model, grounded in due diligence and foreseeability, would accept that when a State's emissions materially increase the probability of rights-relevant harm, its responsibility is engaged even if other contributors exist. Such reasoning would not dilute standards but would restore coherence between scientific reality and legal accountability.

2.2 Temporal Asymmetry and Legal Time

Even where causation can be shown, human-rights law remains trapped within a temporal frame that climate change defies. Rights adjudication presupposes contemporaneity, that a wrong must be both present and proximate to trigger responsibility[40]. Climate change, however, unfolds along an extended temporal axis, its causes lie in decades of accumulated emissions, while its most serious consequences will fall on future generations. The mismatch between *legal time* and *climate time* produces what Karin Mickelson calls the 'temporal blinkers' of human-rights law, harms that are foreseeable but not yet manifest remain outside the reach of protection[41].

The Human Rights Committee's decision in *Teitiota v New Zealand* illustrates this temporal blindness. The Committee accepted that climate change could, in principle, violate the right to life under Article 6 ICCPR, but it dismissed the applicant's claim as premature because the risk was not yet 'imminent'[42]. The reasoning presupposes that State responsibility crystallises only when harm is immediate, even where the scientific evidence shows that the danger is cumulative and accelerating. As Brunnée and Doelle note, such insistence on imminence contradicts the *due-diligence principle*, which is preventive rather than reactive[43]. Such wait until harm materialises empties the right of its protective function**.**

European jurisprudence reveals a similar contraction of temporal vision. In*Budayeva v Russia*[44] and *Öneryildiz v Turkey*[45], the Court imposed positive obligations to avert known natural-hazard risks but only where those risks were demonstrably proximate. The *KlimaSeniorinnen Schweiz* judgment modestly extends this logic by recognising that Switzerland's insufficient mitigation policies created a foreseeable risk to the health and lives

[37] N (29)
[38] N (28), 118
[39] Benoît Mayer, *The International Law on Climate Change* (CUP 2018) 150–152
[40] Karin Mickelson, 'The Temporal Dimension of Environmental Law and Human Rights' (2015) 23 *Journal of Environmental Law* 219, 220–223
[41] ibid 221–224
[42] *Teitiota v New Zealand* (Views adopted 24 October 2019) UN Doc CCPR/C/127/D/2728/2016 para 9.11.
[43] N(36), 373, 386–390
[44] *Budayeva and Others v Russia* (2008) 49 EHRR 3 paras 133–136
[45] *Öneryildiz v Turkey* (2005) 41 EHRR 20 paras 89–95

of older women, even absent an immediate event.[46] Yet the Court still confined its order to procedural review, requiring better planning and monitoring rather than substantive emissions reductions. As David Boyd observes, this 'proceduralizing of climate duty' converts a preventive obligation into a bureaucratic exercise, protecting process rather than life[47].

Temporal asymmetry also undermines inter-generational justice. Human-rights treaties speak in the language of living persons; their institutions lack mechanisms for those yet unborn. The applicants in *Duarte Agostinho* framed their claim as inter-generational, arguing that the inaction of present governments endangers their future[48]. The Court's refusal to entertain that temporal horizon underscores how the legal architecture of the Convention, drafted for immediate violations fails to accommodate harms that are *prospective yet inevitable*. A functional reading of positive obligations [49] could bridge this gap by interpreting foreseeability as a temporal, not merely causal, concept where a State knows that its conduct today will predictably endanger lives tomorrow; its duty to prevent arises now.

If law continues to equate protection with immediacy, climate justice will remain perpetually postponed. A rights system bound by linear time cannot govern exponential risk. Recognising the temporal nature of climate harm is therefore not an act of moral innovation but of doctrinal fidelity: it re-aligns the right to life with its original preventive purpose. The next section turns to a related distortion, the preference for acts over omissions, which further weakens accountability for State inaction in the face of known climate risks.

2.3 Acts, Omissions and the Dilution of Duty

Human-rights law has long found it easier to condemn *acts* than *omissions*. The classic violation involves an identifiable action: detention, censorship, assault by State agents[50]. Climate change, by contrast, arises from *collective inaction*; failures to regulate, to reduce emissions, or to shield vulnerable communities from foreseeable impacts. Determining when such inaction becomes a breach of legal duty remains unsettled[51].

Under Articles 2 and 8 ECHR, States must take 'reasonable measures' to protect life and health against known risks[52]. In *Budayeva* and *Öneryildiz*, that principle applied to local natural hazards, but its logic extends to transboundary environmental risk. The Human Rights Committee's *Torres Strait Islanders v Australia* decision marked the first recognition that inaction toward climate threats can violate human rights[53]. Australia's failure to protect Indigenous islanders from rising seas breached Articles 17 and 27 ICCPR because it neglected feasible adaptation measures and allowedcultural loss [54]. The ruling reframed omission as a positive obligation as the right to be free from foreseeable environmental destruction entails a duty to act.

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[46] N (29)
[47] David R Boyd, 'The Human Right to a Healthy Environment: A Cautious Revolution' (2022) 70 *University of Toronto Law Journal* 110, 132–134
[48] N(26), 182–197
[49] Alastair Mowbray, *The Development of Positive Obligations under the European Convention on Human Rights* (2nd edn, Oxford University Press 2021)
[50] Andrew Clapham, *Human Rights Obligations of Non-State Actors* (OUP 2006) 32–35.
[51] N (30), 289–291
[52] *Osman v United Kingdom* (2000) 29 EHRR 245 paras 115–116
[53] *Torres Strait Islanders v Australia* (Views adopted 22 September 2022) UN Doc CCPR/C/135/D/3624/2019 paras 8.12–8.14.
[54] ibid paras 8.3–8.7

Benoît Mayer situates this within a due-diligence framework as responsibility arises when a State, aware of a serious risk, fails to use reasonable means within its control to prevent or reduce it[55]. This approach echoes environmental precedents such as *Trail Smelter*[56] and *Corfu Channel*[57], where States were held liable for failing to prevent foreseeable cross-border harm from activities under their jurisdiction. Transposed to human-rights law, the same reasoning attaches obligations to States that exercise regulatory control over emission-producing industries or extractive projects whose foreseeable effects endanger life or culture abroad.

Still, expansion invites caution. Lea Raible warns that stretching positive obligations to cover every omission risk blurring the line between legal and moral duty and overextending courts beyond their institutional design[58]. Her critique mirrors the ECtHR's hesitation in *Duarte Agostinho*, where the Court's refusal to find jurisdiction reflected concern that recognising transnational omissions would 'blur the limits of judicial supervision[59]. The problem is one of calibration, how to impose a duty to act without transforming human-rights tribunals into global climate regulators.

A functional reading of due diligence offers that calibration. It holds States accountable where four elements converge: (i) knowledge of a serious, foreseeable risk; (ii) regulatory or operational control over the activity creating it; (iii) capacity to mitigate or adapt; and (iv) failure to take proportionate preventive measures. This standard, already implicit in human-rights jurisprudence, grounds responsibility in control and foreseeability rather than in abstract blame. It neither absolves States nor demands the impossible. Properly framed, omission is not the absence of wrongdoing but a distinct mode of it, a failure of stewardship within a shared planetary system.

2.4 Individualisation of Harm and the Limits of Standing

Even where causation and duty are acknowledged, claimants still confront the procedural gatekeeping of *victim status*. Human-rights adjudication evolved to address discrete violations by identifiable individuals, not cumulative environmental degradation shared by entire populations[60]. Climate change therefore exposes a structural blind spot, the more universal a harm becomes, the less visible it is in law.

The European Court's reasoning in *Duarte Agostinho* illustrates this paradox. Youth applicants alleged that thirty-three States' emissions endangered their lives and health, but the Court found the harm 'too diffuse' to satisfy the requirement of being 'directly and personally affected[61]'. The effect is circular. Because climate injury is collective and transboundary, the very scale that makes it urgent also renders it inadmissible. As Raible observes, this individualised procedural logic 'filters out precisely those victims whose vulnerability is systemic[62].'

[55] N (39) 155–158
[56] *Trail Smelter (United States v Canada)* (Arbitral Tribunal, 1938 and 1941) 3 RIAA 1905
[57] *Corfu Channel (UK v Albania)* (Merits) [1949] ICJ Rep 4 22–23.
[58] Lea Raible, 'Expanding Human Rights Obligations to Facilitate Climate Justice: A Note on Shortcomings and Risks' (EJIL: Talk!, 2021) https://www.ejiltalk.org/ accessed 25 October 2025.
[59] N(26), 190–195
[60] Alan Boyle, 'Human Rights and the Environment: Where Next?' (2012) 23 *EJIL* 613, 617–618
[61] N(26), 178–183, 190–195
[62] N (58)

Other jurisdictions have begun to loosen that grip. Similar to *Torres Strait Islanders*, the African Commission in *SERAC v Nigeria* accepted collective standing for communities affected by oil extraction[63]. These precedents show that the concept of 'victim' is not fixed but responsive to the nature of harm. Where threats are relational like eroding ecosystems, livelihoods, or cultural continuity, group representation is a condition of effective protection, not a procedural indulgence**.**

In *KlimaSeniorinnen Schweiz*, when the Court accepted that elderly women as a demographic faced particular climate risk, thereby treating collective vulnerability as legally cognisable, the same evolution is visible[64]. Extending that reasoning transnationally would not collapse standing into *actio popularis*, it would align procedure with the empirical structure of exposure. Standing could rest on three indicators: (i) *distinct exposure* of an identifiable group; (ii) *causal linkage* to the respondent State's conduct or omissions; and (iii) *infeasibility of individual vindication.* This framework respects the adversarial model while recognising that, in the climate context, harm is rarely atomised.

A functional approach to standing would therefore treat representation as an evidentiary device, not an exception. Groups may articulate collective rights where individual claimants cannot isolate their harm without abstraction. In this way, the doctrine of victimhood becomes an extension of due diligence: the more foreseeable and group-specific the risk, the broader the procedural doorway must be. Without this adjustment, human-rights law risks protecting only those whosesuffering can be neatly individuated[65], an ever-shrinking category in the Anthropocene**.**

2.5 The Architecture of Accountability under Strain

Taken together, the preceding analysis shows that expanding jurisdictional reach cannot, by itself, deliver climate accountability. The deeper deficiency lies in law's conceptual design where Human-rights law still imagines harm as discrete, proximate, and immediately remediable. Its evidentiary standards presuppose linear causation; its temporal logic expects imminence; its duty structure privileges act over omissions; and its procedures individualise injury. Climate change subverts each of these premises. It unfolds through cumulative processes, over time horizons longer than a litigation cycle, and through networks of responsibility that no single State either wholly controls or escapes.

If the system is to remain credible, it must shift its organising principle from *where power is exercised* to *how it is exercised*. Responsibility should track control over risk-creating activity rather than control over victims. This requires neither new treaties nor judicial adventurism, only the interpretive courage to read existing duties of prevention, proportionality, and participation considering the world they now govern. Part III develops this reorientation by outlining a doctrinally orthodox but functionally grounded model of responsibility, *the Contribution-Control-Capacity Test (CCT)* capable of restoring coherence between human-rights law and the realities of a warming planet.

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[63] *Social and Economic Rights Action Center and Center for Economic and Social Rights v Nigeria* (2001) ACHPR Comm No 155/96 paras 54–58

[64] N (29)

[65] Olga Medvedieva and Andrii Bilotskiy, 'Extraterritoriality in Human Rights Litigation: Emerging Lessons from Climate Cases' (2025) 7(1) *Journal of Human Rights Practice* 69

III. From Spatial to Functional Responsibility: Re-imagining the Architecture of Accountability

If climate harms now spill across borders while law remains fenced in by them, the question for international human rights law is no longer whether it can respond, but how it should rethink the very foundations of responsibility. The preceding analysis exposed a doctrinal paradox: human-rights law recognises transboundary climate risk yet still allocates responsibility by geography. Part III reconstructs that architecture. It argues that the very principles that once tied obligations to territory, due diligence, prevention, and proportionality can sustain a *functional* conception of responsibility grounded in contribution, control, and capacity. This is not a departure from orthodoxy but its recalibration.

The point of departure is the tradition of functional reasoning running from Higgins's insight that international law follows *functions, not frontiers*[66], to Wolfrum's articulation of due diligence as the measure of a State's preventive power[67]. Building on that lineage, this Part proposes *the* ***Contribution-Control-Capacity Test (CCT)***, a doctrinal framework attaching responsibility where a State (i) exercises effective control over risk-creating activity, (ii) makes a material and foreseeable contribution to rights-relevant harm, and (iii) possesses the institutional capacity to prevent or mitigate it. The CCT consolidates principles already latent in international law, from *Trail Smelter* to *KlimaSeniorinnen Schweiz* into a single, testable standard capable of translating climate interdependence into legal accountability.

3.1 The Contribution-Control-Capacity Test (CCT): A Functional Framework for Climate Accountability

The *Contribution-Control-Capacity Test (CCT)* offers a doctrinal method for translating climate interdependence into human-rights responsibility. It rests on a simple proposition where a State's actions or omissions materially and foreseeably contribute to rights-relevant harm, fall within its effective regulatory or operational control, and lie within its capacity to prevent or mitigate, responsibility shall follow irrespective of the harm's geographic location. Each element of the test derives from established principles of international law and is already latent in existing jurisprudence.

(1) Contribution: Material and Foreseeable Participation in Risk

The first element addresses *causal participation*. It recognises that the collective and cumulative nature of climate harm frustrates linear causation but does not erase it. Under the law of State responsibility and the due-diligence principle, liability does not require exclusive causation, only a *material and foreseeable contribution* to the risk of harm[68].

The *Contribution* prong translates the scientific capacity for source-attribution (already noted earlier) into a legal threshold. Rather than demanding singular causation, it asks whether the respondent State's conduct made a *material and foreseeable* contribution to a rights-relevant climate risk, consistent with due-diligence responsibility in transboundary harm. On this view, foreseeability is satisfied where contemporary attribution methods can *probabilistically* link a non-trivial share of risk (or damage) to identifiable emission sources or policies under

[66] Rosalyn Higgins, *Problems and Process: International Law and How We Use It* (Clarendon 1994) 219
[67] Rüdiger Wolfrum, 'Obligation of Due Diligence' in *Max Planck Encyclopedia of Public International Law* (OUP 2010).
[68] N (56); *Pulp Mills on the River Uruguay (Argentina v Uruguay)* (Judgment) [2010] ICJ Rep 14 [197].

the State's authority; materiality is satisfied by a de minimis floor that excludes vanishingly small contributions while not insisting on dominance[69].

That standard is now *administrable*. Event- and impact-attribution has matured to the point where tribunals can rely on probabilistic evidence to quantify the State's share of risk or harm. The National Academies' synthesis confirms robust attribution for heat and heavy precipitation and a growing evidentiary base for other perils; the IPCC AR6 ties global warming *unequivocally* to anthropogenic emissions and recognises the near-linear link between cumulative CO_2 and temperature[70]. Building on this, several strands of peer-reviewed work enable *allocation*: (a) national shares of observed warming and damages[71], (b) corporate/sectoral shares of warming and ocean acidification[72] and (c) litigation-oriented syntheses on using attribution evidence to satisfy legal proof standards[73]. In short, foreseeability and contribution are no longer abstract; they are quantifiable with methods accepted by leading scientific authorities.

Doctrinally, this converts the impasse identified in spatial frameworks into a workable evidentiary test. A court need not isolate a single causal pathway. It asks instead whether the respondent's decisions (approval of extraction, regulatory delay, export licensing, emissions standards) make a non-trivial, foreseeable addition to a risk of heat-mortality, flooding, displacement, or cultural loss that is protected under Articles 2 or 8 (or cognate provisions) *and* traceable to that State's sphere of authority? If yes, the *Contribution* prong is met. The remaining prongs, *Control* and *Capacity* then perform the normative and equity work (authority and feasibility), ensuring that probabilistic proof translates into *bounded* responsibility rather than unmoored liability.

(2) Control: Regulatory and Operational Authority over Risk-Creating Activity

The second element concerns *power*. Human-rights responsibility has always followed control; the question is what kind. The CCT distinguishes between *spatial* control i.e. physical authority over territory or persons and *functional* control i.e the ability to govern risk-creating activity through law, policy, or regulation.

As climate harms are produced through complex global systems rather than discrete physical acts, control must be understood *functionally*, as the capacity to govern risk-creating activity through law, policy, or regulation. This conception aligns with the broader due-diligence principle that defines obligation by a state's *ability to prevent foreseeable harm within its authority*, not by physical custody[74].

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[69] Christopher W Callahan and Justin S Mankin, 'National Attribution of Historical Climate Damages' (2022) 172 *Climatic Change* 40

[70] National Academies of Sciences, *Attribution of Extreme Weather Events in the Context of Climate Change* (2016); IPCC AR6 WG I, *Summary for Policymakers* (2021) A.1–A.3

[71] H Damon Matthews et al, 'National Contributions to Observed Global Warming' (2014) 9 *Environ Res Lett* 014010; Kate Ricke et al, 'Country-Level Social Cost of Carbon' (2018) 8 *Nat Clim Change* 895; Christopher Callahan and Justin Mankin, 'National Attribution of Historical Climate Damages' (2022) 172 *Climatic Change* 4

[72] Brenda Ekwurzel et al, 'The Rise in Global Atmospheric CO_2, Surface Temperature, and Sea Level from Emissions Traced to Major Carbon Producers' (2017) 144 *Climatic Change* 579; Peter Frumhoff et al, 'The Climate Responsibilities of Industrial Carbon Producers' (2015) 132 *Climatic Change* 157.

[73] Rupert Stuart-Smith, Friederike Otto and Thom Wetzer, 'Liability for Climate Change Impacts: the Role of Climate Attribution Science' (2022) SSRN Working Paper; Rupert Stuart-Smith et al, 'Attribution Science and Litigation' (Smith School, 2021).

[74] Rüdiger Wolfrum, 'Obligation of Due Diligence' in *Max Planck Encyclopedia of Public International Law* (OUP 2010).

Under this functional reading, a State holds control when it can regulate or influence the activities that generate rights-relevant risks such as fossil-fuel extraction, subsidies to high-emission industries, or permitting export projects. This corresponds to the structure of due-diligence obligations: as Rajamani explains, for climate governance the duty of care is commensurate to the State's *ability to influence* risk-creating processes[75]. From a public-law perspective, the link between authority and obligation is well-established, preventive obligations under the Convention derive from '*knowledge and means*' rather than geography.

Jurisprudence confirms this orientation. In domestic environmental cases before the European Court of Human Rights, liability for failing to regulate hazards turned on the State's control of the source (e.g., *Budayeva v Russia*; *Öneryildiz v Turkey*[76]). Similar stances seen in cases like *Torres Strait* or *Sacchi*, where International human-rights bodies have assessed a State's regulatory authority over adaptation or emissions, rather than whether victims were within its borders.

Empirical evidence further confirms that functional control is not an abstract moral claim but a verifiable criterion rooted in measurable governance authority. Global carbon accounting now permits attribution of specific shares of historical and ongoing emissions to individual States. The Global Carbon Project and PRIMAP-hist datasets quantify each State's material share of global emissions,[77]. while policy indices such as the CCPI and OECD Stringency Index map the regulatory capacity to influence those outcomes-energy mandates directly determine national and transboundary pollution outcomes[78]. Empirical studies on export-credit agencies and fossil-fuel finance further show that high-income States exercise functional control over up to sixty per cent of new hydrocarbon projects in the Global South, underscoring the extraterritorial reach of regulatory and financial authority[79]. Attribution research now translates this influence into quantifiable fractions of global temperature rise, making contribution and control legally cognisable through probabilistic apportionment[80]. Read together, these data confirm that functional control, defined as the ability to regulate or materially influence emission-producing activity is empirically identifiable and therefore suitable as a jurisdictional threshold within a *Contribution-Control-Capacity* framework.

By anchoring control in governance-power, the CCT shifts the focus from *where* to *how*: jurisdiction attaches where a State, through law or policy, materially shapes the causal chain of harm. This framing allows human-rights adjudication to track climate risks generated beyond geographic territory while remaining anchored in the State's regulatory sphere.

(3) Capacity: Calibrating Obligation to Ability

The third pillar of the *Contribution-Control-Capacity Test (CCT)* recognises that responsibility must reflect not only what a State does, but what it can reasonably prevent. The principle that diligence scales with means is already well established in human-rights

[75] Lavanya Rajamani, *Due Diligence in International Climate Change Law* (Oxford UP 2020) chapter X
[76] N (44), 133-137; N (45), 90-98
[77] Pierre Friedlingstein et al, 'Global Carbon Budget 2023' (2023) 20 *Earth System Science Data* 1; Johannes Gütschow et al, 'PRIMAP-hist National Historical Emissions Time Series' (v2.4, PIK 2023).
[78] OECD, *Environmental Policy Stringency Index 2022*; Germanwatch and NewClimate Institute, *Climate Change Performance Index 2024*.
[79] M Bastos-Lima and A Gupta, 'The Global South's Fossil Fuel Future and the Export Credit Nexus' (2021) 21(3) *Global Environmental Politics* 101; OECD and IEA, *Fossil Fuel Support Database 2023* (Paris 2023).
[80] Myles R Allen et al, 'Quantifying National Responsibility for Climate Warming' (2022) 605 *Nature* 743

jurisprudence from *Osman* through *Budayeva* to *Torres Strait Islanders* each recognising that obligations depend on the resources and capacities available to the State[81]. The analytical task now is to convert that qualitative insight into a functional measure of capacity within the CCT framework. Empirical governance data and differentiated-responsibility principles in environmental law supply that measure, allowing courts to evaluate whether a State acted proportionally with its demonstrated capability rather than its territorial proximity.

In functional terms, capacity operates as a *scaling mechanism* within due diligence. It determines the scope and intensity of a State's preventive duties in proportion to its institutional, technological and fiscal means. Environmental law has long embedded this idea in the principle of '*common but differentiated responsibilities and respective capabilities*' (CBDR-RC), now codified in Rio Principle 7 and Article 2(2) of the Paris Agreement[82]. As Rajamani argues, differentiation is a juridical expression of fairness and states must exercise the level of diligence their capacities permit[83]. This reasoning can be transposed into human-rights adjudication without textual amendment, ensuring that richer and more capable States bear heightened preventive duties while maintaining feasible expectations for those with limited resources.

Capacity is also empirically measurable. Governance and performance indices such as the *World Bank's Worldwide Governance Indicators*, the *Climate Change Performance Index*, and the *OECD Environmental Policy Stringency Index* quantify States' administrative and regulatory capability[84]. These data allow courts to anchor capacity assessments in objective evidence rather than moral judgment. A State's ability to enact or enforce climate-related regulation, fund adaptation, or provide transparency becomes a demonstrable fact, one that informs how far its human-rights obligations extend. By integrating such evidence, the CCT test provides a defensible method for calibrating diligence to capability and avoids the charge of arbitrary differentiation.

Recognising capacity in this way enhances both fairness and feasibility. It prevents functional responsibility from devolving into a one-size-fits-all standard, while maintaining pressure on capable States to act proportionately to their means. It also aligns human-rights law with distributive-justice reasoning in global environmental governance, ensuring that equity operates through calibrated responsibility rather than exemption. The next section extends this logic into a model of *graduated and shared responsibility*, where capacity determines not immunity but proportion the measure of what justice, in an interdependent world, requires.

3.2 Graduated and Shared Responsibility

If capacity defines what a state *can* do, justice demands that law define what it *must* do in proportion to that capacity. The final dimension of the *Contribution-Control-Capacity Test (CCT)* translates functional responsibility into a distributive framework of *graduated and shared obligations*. This approach reflects a central lesson from environmental law that responsibility in a shared-risk system cannot be binary. Climate change, like most

[81] *Osman v United Kingdom* (2000) 29 EHRR 245 [116]; *Budayeva and Others v Russia* (2008) ECHR 2008-I [133]–[137]; N(53*)* 8.12-8.14

[82] Rio Declaration on Environment and Development (1992) Principle 7; Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) UNTS 54113 art 2(2).

[83] Lavanya Rajamani, 'Differentiated Responsibilities and Capacities in International Climate Change Law' (2021) 115 *AJIL* 583, 588–90

[84] World Bank, *Worldwide Governance Indicators 2023*; Germanwatch and NewClimate Institute, *Climate Change Performance Index 2024*; OECD, *Environmental Policy Stringency Index 2022*

transboundary harms, is produced collectively but preventable only through differentiated action. A functional model must therefore accommodate both commonality and gradation, each State's duty arising from its own contribution, control, and capacity.

Under a *graduated* model, obligations scale along a continuum. High-capacity, high-emission States bear enhanced duties of mitigation, disclosure, and international cooperation, while lower-capacity States assume procedural and participatory duties proportionate to their means. The Paris Agreement and the UN climate regime already distribute mitigation burdens in this way; human-rights law can mirror that structure by requiring that diligence be exercised 'to the maximum of available resources' where rights-relevant harm is foreseeable[85]. Graduated responsibility thus institutionalises proportionality rather than imposing moral asymmetry.

The *shared* aspect follows naturally from the transboundary nature of the harm. Where several States contribute to a collective injury, each bears responsibility commensurate with its causal and regulatory role. As Nollkaemper and Jacobs note, shared responsibility 'acknowledges interdependence without dissolving individual accountability[86].' Applied to human-rights law, this means that one State's compliance cannot exculpate another's omission; each remains bound by its own diligence standard as defined by contribution, control, and capacity. A functional approach therefore transforms the logic of exclusion under jurisdictional doctrines into a logic of inclusion where the greater a state's participation in the causal chain, the stronger its duty to prevent or redress harm.

Ultimately, the virtue of the CCT framework lies in its ability to re-map fairness within human-rights law without altering its text. Graduated and shared responsibility transforms climate justice from a political aspiration into a doctrinal method. It demands of each State only what it can and should deliver yet ensures that those with greater power to prevent harm cannot plead neutrality. In an era where emissions cross every border, equity must do the same.

3.3 Counter-Voices and Institutional Consequences

Every proposal to expand extraterritorial responsibility invites familiar objections that it stretches judicial competence beyond design, diffuses accountability among too many actors, or risks transforming human-rights bodies into climate regulators. These concerns carry weight, but they misconceive the functional turn as a jurisdictional expansion rather than a doctrinal realignment. The CCT framework operates within existing legal grammar; it re-specifies *how* jurisdiction is recognised, not *where* it applies.

The first concern is *judicial overreach*. Critics such as Milanovic warn that functional tests could authorise courts to assume global supervisory powers inconsistent with treaty design[87]. Yet the principle of *subsidiarity* and the *margin of appreciation* already supply institutional safeguards against overextension. The ECtHR routinely calibrates its review to the seriousness of interference, the quality of domestic reasoning, and the degree of democratic

[85] International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3 art 2(1)
[86] André Nollkaemper and Dov Jacobs, 'Shared Responsibility in International Law: A Conceptual Framework' (2013) 34(2) *Michigan JIL* 359, 366–70.
[87] Marko Milanovic, *Extraterritorial Application of Human Rights Treaties* (OUP 2011) 255–58

deliberation[88]. The same technique can govern climate litigation. Where a State demonstrates transparent, evidence-based policy, the Court can defer; where it offers only aspirational plans or ignores foreseeable risks, stricter scrutiny is justified. This proportional, procedural control does not usurp legislative competence but ensures that governmental discretion operates within the bounds of reasoned justification.

The second objection concerns *causal indeterminacy*, the fear that diffuse global harms will blur responsibility into abstraction. But attribution science and probabilistic apportionment now make causal links legally tractable[89]. As Rajamani and Peel note, modern climate governance already relies on fractional contribution and differentiated capability to allocate mitigation burdens[90]. Courts have long applied analogous reasoning in complex causation cases, from toxic-exposure litigation to systemic social-rights claims. The evidentiary standard remains one of reasonable inference, not absolute proof[91]. Functional responsibility therefore refines, rather than dissolves, the causal threshold.

A third objection invokes *institutional limits*, that human-rights tribunals lack the tools to manage polycentric policy problems. Yet the ECtHR's *pilot-judgment* procedure and the Inter-American Court's structural orders demonstrate that process-based remedies can address systemic issues without dictating policy outcomes[92]. Such orders transform human-rights remedies from instruments of redress into frameworks of prevention, aligning them with the anticipatory logic of climate protection[93].

Finally, some may caution that functional responsibility risks *normalising inequality* by institutionalising differentiated duties. The concern misunderstands the role of capacity within the CCT framework. Differentiation does not excuse weaker States; it contextualises diligence. All States remain bound by a core duty of cooperation and transparency, while those with greater control and resources shoulder proportionate preventive obligations. This symmetry preserves universality while operationalising fairness, the equilibrium long recognised in international environmental law[94].

The Contribution-Control-Capacity (CCT) framework also sustains clear jurisdictional limits through four internal constraints. First, *foreseeability* confines responsibility to risks that are scientifically demonstrable and reasonably knowable, excluding speculative or unforeseeable effects. Second, the *control nexus* requires evidence of regulatory or operational authority over the relevant activity, preventing attribution where States lack actual influence. Third, a *de minimis floor* filters out negligible contributions, ensuring that only material participation in risk-creation engages responsibility. Finally, *subsidiarity* reserves primary decision-making to domestic authorities and positions international review as corrective rather than supervisory. Together, these guardrails ensure that the CCT operates within existing human-rights principles, broadening accountability without collapsing it into universal reach.

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[88] Janneke Gerards, 'The Margin of Appreciation Doctrine, the Principle of Proportionality and the Protection of Human Rights' (2013) 11 *International Journal of Constitutional Law* 466–495
[89] N (80), 743
[90] N (83) ; N (28)
[91] Sandra Fredman, 'Positive Obligations and the Structural Approach to Human Rights' (2021) 37 *NQHR* 180-199
[92] Laurence Burgorgue-Larsen, 'Structural Remedies before the Inter-American Court of Human Rights' (2016) 17 *HRLR* 327
[93] Jorge E Viñuales, 'The Inter-American Court's Advisory Opinion OC-23/17 on the Environment and Human Rights: Significance and Limits' (2018) *Questions of International Law (QIL, Zoom-in)* 11–20
[94] Christina Voigt and Lavanya Rajamani, *Differentiation in the Paris Agreement* (OUP 2022) 1–5

If adopted, the functional model would not transform human-rights courts into global carbon auditors but would allow them to speak meaningfully to the defining justice issue of this century. Jurisdiction would evolve from a gatekeeping device into an analytical spectrum, enabling courts to identify, calibrate, and supervise responsibility rather than deny it. Remedies would prioritise participation, planning, and disclosure, tools already within judicial competence. The institutional consequence is not expansion but restoration: aligning human-rights adjudication with its preventive purpose in a world where harm crosses every border.

Conclusion

International human rights law was never designed for a warming planet. Its doctrines of jurisdiction, designed in an era of territorial threats, have become increasingly ill-suited to harms that travel through atmosphere, ocean, and time. Climate change collapses the distinction between domestic and foreign, making visible the limits of a spatial conception of responsibility. This article has argued that human rights law must evolve from guarding borders to tracing control, holding States answerable for the risks they generate, not just for the spaces they govern.

At its core, this analysis has shown how a framework once crafted to confine power now constrains justice. The European Court's spatial reading of jurisdiction, inherited from *Banković* and refined through *Al-Skeini*, has turned what was meant to delineate responsibility into a doctrine of exclusion. The problem is not judicial conservatism alone but the conceptual inertia of a system that equates authority with territory. If the law continues to ask where harm occurs rather than who makes it likely, it will remain structurally blind to the defining crisis of this century. Recognising *functional responsibility* does not expand human rights law; it restores its coherence by aligning its reach with the realities of global interdependence.

The functional model advanced here, grounded in control, contribution, and capacity does not abandon sovereignty but recalibrates it. As Voigt and Rajamani note, differentiation and cooperation are not opposites but complementary logics of fairness in a shared-risk regime[95]. A model of graduated and shared responsibility reflects that same equilibrium: high-emitting, high-capacity States bear intensified duties of prevention and mitigation; those less able bear duties of participation, adaptation, and procedural cooperation. This balance preserves equity without eroding accountability and allows human-rights law to internalise the distributive logic already familiar to international environmental law.

Nor does this approach overstep judicial function. As Keller and Leach have demonstrated, the ECtHR already manages polycentric harms through dialogic, process-based remedies i.e pilot judgments, structural orders, and iterative supervision that respect democratic space while demanding effective governance[96]. The Court's decision in *KlimaSeniorinnen Schweiz* marks the first judicial recognition that climate inaction can violate the Convention where State capability and foreseeability converge. The step that remains is interpretive, not

[95] Christina Voigt, 'State Responsibility for Climate Change Damages' (2008) 77(1) *Nordic Journal of International Law* 1; Lavanya Rajamani, 'Differentiation in the Emerging Climate Regime' (2016) 17(2) *Theoretical Inquiries in Law* 151.

[96] Hélène Keller, 'Remedies before the European Court of Human Rights and Their Potential for Climate Protection' (2022) 22(1) *Human Rights Law Review* ngab030; Philip Leach, Anna Paraskeva and Srdjan Stojanovic, 'Systemic Human Rights Violations in Europe and the Court's Response' (2010) 10(4) *Human Rights Law Review* 529.

institutional: to recognise that responsibility attaches wherever a State's power to prevent harm is real, even if its victims stand beyond its borders.

Ultimately, this is less a proposal for reform than for remembrance. Jurisdiction was never meant to exclude the powerless; it was meant to locate power. When that power operates through emissions, finance, and trade, human rights law must follow it there. The evolution from spatial to functional responsibility does not enlarge law's domain, it reclaims its moral compass. To treat climate harm as beyond its reach is to accept that rights end where borders begin. To reject that premise is to restore what human rights were always for: ensuring that where power has effect, responsibility does too.