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From Litigation to Implementation: Framing Smart Remedies in Rights-based Climate Litigation

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FROM LITIGATION TO IMPLEMENTATION: FRAMING SMART REMEDIES IN RIGHTS-BASED CLIMATE LITIGATION

Bonavero Institute of Human Rights

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Executive **Summary**

Climate litigation has emerged as a transformative force in climate governance in the last decade, with domestic courts and international bodies increasingly recognising climate change impacts as violations of fundamental rights. Legal victories in courts, however, are not always implementation victories for effective climate action. This report maps the emerging landscape of human rights-based climate remedies, analysing implementation barriers, and proposing a framework for "smart remedies" that seeks to close the gap between litigation and implementation in human rights-based climate litigation.

Our analysis identifies four primary categories of human rights-based climate remedies: implementation-forcing remedies (compelling action through already existing legislative frameworks), target-setting remedies (mandating new legislation and policy for specific emissions reductions), oversight mechanisms (creating institutional structures), and procedural access remedies (ensuring meaningful participation of affected communities and individuals). The effectiveness of these types of remedies varies significantly based on institutional context, political will, and remedy design.

Implementation challenges include political resistance, resource constraints, governance fragmentation, tensions between short-term urgency and long-term flexibility, competing policy objectives, and meaningful participation by affected communities and civil society actors in the implementation processes.

The report proposes a framework for crafting 'smart remedies' based on four core principles: balancing specificity with flexibility, incorporating scientific authority while maintaining adaptability, aligning remedies with institutional capacity, and designing for accountability, transparency, and participation. Smart remedies must be tailored to case specifics, with distinct approaches for mitigation and adaptation cases.

Effective implementation mechanisms include supervised implementation processes, expert advisory bodies, and staged implementation with clear benchmarks. These mechanisms can bridge the gap between ambitious judicial mandates and practical climate action by creating sustained accountability while accommodating governance realities.

By addressing the implementation gap, courts can fulfil their emerging role in climate governance. This approach requires moving beyond viewing litigation success as a binary outcome – a win or loss - to understanding implementation as a continuous, adaptive process requiring sustained engagement by courts, litigants, policymakers, and civil society.

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Introduction

The past decade has witnessed a remarkable transformation in climate governance through the emergence of human rights-based climate litigation. Constitutional and regional human rights courts, alongside UN human rights bodies, have evolved from peripheral to central actors in addressing climate change, as individuals and vulnerable groups—as diverse as indigenous peoples, children, farming communities, and persons with disabilities—have increasingly turned to judicial forums when governments have failed to deliver adequate climate action.

This judicial activity has yielded significant developments across jurisdictions and before international courts and bodies. Courts have recognised climate change impacts as coming within the scope of fundamental and human rights, including the right to life,[1] right to family life,[2] rights of children,[3] rights of indigenous peoples,[4] rights of migrants and refugees,[5] amongst others. On many occasions, courts found violations of these rights and ordered remedies. Domestic and international bodies, therefore, have become key sites for obtaining what this report calls 'climate remedies' through human rights-based climate litigation. Most recently, the European Court of Human Rights' landmark ruling in *Verein KlimaSeniorinnen v. Switzerland* (2024) marked a pivotal moment in recognising that climate inaction can constitute a violation of multiple human rights, requiring concrete remedial responses and ongoing monitoring of such responses.[6]

While scholarship has extensively documented the emergence of climate litigation and its theoretical underpinnings,[7] far less attention has been paid to the crucial question of remedy formulation and effectiveness[8]—what happens after courts rule? How are ambitious judicial mandates translated into tangible climate action? What obstacles prevent implementation, and how can they be overcome?

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1 'Urgenda Foundation v. State of the Netherlands' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/urgenda-foundation-v-kingdom-of-the-netherlands/> accessed 7 May 2025.

2 'KlimaSeniorinnen v Switzerland (ECtHR)' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/union-of-swiss-senior-women-for-climate-protection-v-swiss-federal-council-and-others/> accessed 7 May 2025.

3 'Future Generations v. Ministry of the Environment and Others' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/future-generation-v-ministry-environment-others/> accessed 18 October 2024.

4 'Daniel Billy and Others v Australia (Torres Strait Islanders Petition)' (*Global Climate Change Litigation*) <https://climatecasechart.com/non-us-case/petition-of-torres-strait-islanders-to-the-united-nations-human-rights-committee-alleging-violations-stemming-from-australias-inaction-on-climate-change/> accessed 2 April 2024.

5 'UN Human Rights Committee Views Adopted on Teitiota Communication' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/un-human-rights-committee-views-adopted-on-teitiota-communication/> accessed 21 May 2025.

6 'KlimaSeniorinnen v Switzerland (ECtHR)' (n 2).

7 Sam Bookman, 'Catalytic Climate Litigation: Rights and Statutes' (2023) 43 Oxford Journal of Legal Studies 598; Kim Bouwer, 'Lessons from a Distorted Metaphor: The Holy Grail of Climate Litigation' (2020) 9 Transnational environmental law 347; Emma Lees and Emilie Gjaldbæk-Sverdrup, 'Fuzzy Universality in Climate Change Litigation' (2024) 13 Transnational Environmental Law 502; César Rodríguez-Garavito (Ed.), *Litigating the Climate Emergency: How Human Rights, Courts, and Legal Mobilization Can Bolster Climate Action* (Cambridge University Press 2022).

8 With notable exceptions. See Corina Heri, 'Too Big to Remedy? What Climate Cases Tell Us About the Remedial Role of Human Rights' (2024) 5 European Convention on Human Rights Law Review; Helen Keller, Corina Heri and Réka Piskóty, 'Something Ventured, Nothing Gained?—Remedies before the ECtHR and Their Potential for Climate Change Cases' (2022) 22 Human Rights Law Review 1; Kent Roach, 'Judicial Remedies for Climate Change' (2021) 17 Journal of Law & Equality 105.

This report aims to foster reflection about this implementation gap by making three distinct contributions

1. **Mapping the Remedial Landscape:** We offer a typology of climate remedies in rights-based adjudication across domestic and international jurisdictions, identifying four emerging categories of remedies: implementation mandates for existing frameworks, requirements for new targets set in legislation, oversight mechanisms, and procedural requirements. This mapping reveals patterns in judicial approaches while highlighting innovations specific to climate governance.

2. **Implementation Barriers Analysis:** Drawing on empirical evidence from landmark cases, we identify obstacles to effective implementation, including institutional inertia, resource constraints, and governance fragmentation. We move beyond abstract observations to examine concrete examples where implementation has succeeded or faltered, analysing some of the factors that influenced outcomes.

3. **Framing 'Smart' Climate Remedies:** We propose a context-sensitive framework for designing climate remedies that balance ambition with feasibility. This framework offers guidance on overcoming identified barriers through innovative design features, including precise benchmarks, tiered implementation timelines, built-in flexibility mechanisms, and strategic allocation of oversight responsibilities.

For judges, this report offers practical insights for crafting remedies that maintain effectiveness beyond the courtroom. For litigants, it provides strategic considerations for remedy design that anticipates implementation challenges. For policymakers, it illuminates the dynamics of judicial intervention in climate governance and identifies productive pathways for institutional responses. For civil society actors, it underlines the importance of engagement with the monitoring of climate remedies.

By shifting focus from litigation victories to implementation realities, this report aims to advance both scholarship and practice in human rights-based climate governance. It recognises courts' essential role while acknowledging the complex institutional ecosystems in which judicial mandates must operate. Ultimately, the effectiveness of climate remedies depends not only on their legal underpinnings but also on their practical capacity to navigate governance challenges and deliver meaningful climate action.

This report is structured in five parts. Following this introduction, Section 2 examines the distinctive nature of climate remedies and offers a typology of approaches that courts have developed across jurisdictions. Section 3 analyses key implementation challenges, including political resistance, polycentric governance complexities, temporal tensions, and distributional considerations. Section 4 proposes a framework for 'smart remedies' based on core principles and tailored approaches for different categories of climate litigation. Finally, Section 5 concludes with insights for moving from litigation success to governance transformation, offering a pathway for courts to fulfil their emerging role in climate governance while respecting institutional boundaries.

2. RIGHTS-BASED CLIMATE REMEDIES: EXISTING RECORD AND UNIQUE CHALLENGES

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2.1. THE DISTINCTIVE NATURE OF CLIMATE REMEDIES

Human rights-based climate litigation presents unique remedial challenges. This is because climate change litigation often revolves around diffuse, cross-temporal, and collective harms that strain conventional remedial frameworks seeking to redress clearly identifiable harms to specific individuals.[9] This distinctive character manifests in three crucial dimensions that courts must navigate when crafting remedies. First, climate remedies must address an unprecedented temporal complexity. Courts face the challenge of simultaneously addressing present harms (such as intensifying extreme weather events affecting vulnerable communities), imminent risks (such as sea-level rise threatening coastal populations), and future threats to unborn generations.[10] This multi-temporal dimension defies conventional remedial logic, which typically seeks to restore past conditions or prevent harm in the not-so-distant future. As recognised in cases like *Neubauer v. Germany*, climate change has already caused irreversible damage that cannot be undone, while simultaneously requiring preventive action against much larger future risks over longer periods of time.[11]

Second, climate remedies operate under profound scientific contingency. Unlike remedies for discrete human rights violations, climate remedies must incorporate evolving scientific understandings of

Photo by Mika Baumeister on Unsplash

9 César Rodríguez-Garavito, 'Litigating the Climate Emergency: The Global Rise of Human Rights–Based Litigation for Climate Action' in César Rodríguez-Garavito (ed), *Litigating the Climate Emergency How Human Rights, Courts, and Legal Mobilization Can Bolster Climate Action* (Cambridge University Press 2022) 37–8.

10 Dipesh Chakrabarty, *The Climate of History in a Planetary Age* (University of Chicago Press 2021) 9–10.

11 'Neubauer, et al. v. Germany' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/neubauer-et-al-v-germany/> accessed 18 October 2024.

emissions pathways, carbon budgets, and planetary boundaries.[12] This scientific dimension requires courts to design flexible yet precise remedies that can incorporate the latest knowledge without sacrificing enforceability.

Third, effective climate remedies must confront governance fragmentation. Climate harms result from regulatory choices across multiple domains (e.g. energy, transportation, agriculture), thus often requiring remedies that coordinate across fragmented governance structures rather than addressing single legal frameworks. This situation poses implementation challenges for climate remedies, as courts must navigate complex institutional landscapes involving multiple agencies with overlapping jurisdictions.[13]

2.2. BEYOND INDIVIDUAL/COLLECTIVE REMEDY BINARIES: A TYPOLOGY OF CLIMATE REMEDIES

The distinctive challenges of climate litigation have led courts to develop innovative remedial approaches that often transcend traditional individual/collective remedy binaries. Analysis of existing cases reveals four primary remedial types that reflect courts' efforts to address the unique nature of climate-related rights violations:

2.2.1. Implementation-Forcing Remedies

These remedies target the gap between existing climate frameworks and their practical application. Rather than creating new obligations, they focus on overcoming institutional inertia in implementing existing commitments. In *Asghar Leghari v. Pakistan*,[14] the Lahore High Court ordered the implementation of Pakistan's National Climate Change Policy and established a Climate Change Commission to oversee compliance.[15] Similarly, in *PSB et al. v. Brazil*, the Federal Supreme Court mandated the reactivation of the Climate Fund, ensuring allocated funds were used for their intended purpose of addressing climate change.[16]

Two landmark French cases also exemplify this implementation-forcing approach. In *Commune de Grande-Synthe v. France*, the Council of State (France's highest administrative court) ordered the government to "take all necessary measures" by March 2022 to curb greenhouse gas emissions to meet France's legally binding target of a 40% reduction by 2030.[17] The court found that the government's existing measures were insufficient to achieve its own climate goals, and the continuing case involves ongoing judicial supervision of implementation efforts.[18]

Similarly, in *Notre Affaire à Tous and Others v. France* (also known as "L'affaire du siècle" or "Case of the Century"), the Administrative Court of Paris recognised in 2021 that the French state's failure to meet its climate commitments had caused "ecological damage".[19] The court ordered the government to take additional measures to meet its climate targets, focusing particularly on

12 Michael Burger, Jessica Wentz and Daniel J Metzger, 'Climate Science and Human Rights: Using Attribution Science to Frame Government Mitigation and Adaptation Obligations' in César Rodríguez-Garavito (ed), *Litigating the Climate Emergency: How Human Rights, Courts, and Legal Mobilization Can Bolster Climate Action* (Cambridge University Press 2022) 234–8.

13 R Henry Weaver and Douglas A Kysar, 'Courting Disaster: Climate Change and the Adjudication of Catastrophe' (2017) 93 The Notre Dame Law Review 295, 343–4.

14 'Leghari v. Federation of Pakistan' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/ashgar-leghari-v-federation-of-pakistan/> accessed 18 October 2024.

15 Ibid.

16 'PSB et al. v. Brazil (on Climate Fund)' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/psb-et-al-v-federal-union/> accessed 18 October 2024

17 'Commune de Grande-Synthe v. France' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/commune-de-grande-synthe-v-france/> accessed 7 May 2025.

18 ibid.

19 'Notre Affaire à Tous and Others v. France' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/notre-affaire-a-tous-and-others-v-france/> accessed 7 May 2025.

compensation for the "uncompensated share of greenhouse gas emissions" exceeding France's carbon budget.[20]

What distinguishes the French cases is the courts' willingness to maintain oversight through follow-up proceedings, creating a form of continuous judicial supervision that pressures the government to demonstrate concrete progress toward implementation. This approach represents an evolution in implementation-forcing remedies, where courts do not only order compliance with existing frameworks but also establish mechanisms for ongoing accountability.

2.2.2. Target-Setting or Target-Ordering Remedies

Courts increasingly mandate specific, science-based emissions reduction and adaptation targets rather than deferring entirely to executive discretion to mitigate and adapt to climate change. This approach represents one of the most direct judicial interventions in climate governance, with courts sometimes prescribing quantitative benchmarks that governments must achieve within specific timeframes as well as adaptation measures.

The landmark *Urgenda Foundation v. the Netherlands* case established the prototype for this remedial approach.[21] In 2015, the District Court of The Hague ordered the Dutch government to reduce greenhouse gas emissions by at least 25% by the end of 2020 compared to 1990 levels.[22] This decision—upheld through appeals to the Supreme Court of the Netherlands in 2019—represented the first time a court mandated a specific emissions reduction target against a government.[23]

The Urgenda judgment is particularly significant for its translation of broad scientific consensus into a specific, legally binding obligation. The court relied heavily on IPCC reports in determining that developed countries needed to reduce emissions by 25-40% by 2020 to maintain a reasonable chance of staying below 2°C of warming. Rather than deferring to political processes to determine the appropriate emissions target, the court established the lower bound of this range (25%) as the minimum requirement for the Netherlands to meet its duty of care toward its citizens.

Following this groundbreaking precedent, other courts have adopted versions of target-ordering remedies, in which they grant the government some leeway to define the specific targets within the boundaries of their international and domestic legal obligations. In *Neubauer v. Germany*, the Federal Constitutional Court directed the German government to revise its Climate Protection Act to include specific emissions reduction goals for the period after 2030.[24] While the court did not specify exact percentages, it mandated the government to establish a clear pathway aligned with Germany's constitutional obligations and the Paris Agreement's temperature goals.

Similarly, in *Do-Hyun Kim et al. v. South Korea*, the Constitutional Court required the government to develop quantitative climate targets beyond 2030, finding that the existing legal framework lacked sufficient specificity to guarantee constitutional rights.[25] The court applied a suspended declaration of invalidity, allowing the current framework to remain in place while setting a deadline for the government to establish more concrete targets.

Furthermore, in *Verein KlimaSeniorinnen v. Switzerland*, the European Court of Human Rights held that Switzerland needed to enact a new legislation that specifies concrete climate mitigation targets for the period after

20 ibid.

21 'Urgenda Foundation v. State of the Netherlands' (n 1).

22 ibid.

23 ibid; Jaap Spier, "'The 'Strongest' Climate Ruling Yet": The Dutch Supreme Court's Urgenda Judgment' (2020) 67 Netherlands International Law Review 319.

24 'Neubauer, et al. v. Germany' (n 11).

25 'Do-Hyun Kim et al. v. South Korea' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/kim-yujin-et-al-v-south-korea/> accessed 20 September 2024.

2024 and especially between 2024-2030. [26] The Court further required States to quantify greenhouse gas emissions limitations through a carbon budget or otherwise.[27]

Finally, in *Shrestha v Nepal*,[28] the Nepalese Supreme Court ordered the government to draft and implement comprehensive climate policies "as soon as possible", once again combining intervention with deference over the specifics of climate action.

What distinguishes these target-setting remedies is their specificity combined with deference to implementation pathways. Courts typically establish clear quantitative benchmarks for emissions reductions but grant governments significant leeway to decide how to achieve these targets. This approach respects the separation of powers while promoting concrete, measurable goals against which government action can be assessed.

2.2.3. Creating oversight mechanisms to monitor implementation

In other cases, courts have mandated new institutional arrangements to oversee climate action as remedies for climate harms. A remarkable example of this sort is the Climate Change Commission established by the court in *Leghari,* which created an ongoing interface between scientific expertise and policy implementation.[29] Similarly, in *Future Generations v. Ministry of Environment*, the Colombian Supreme Court ordered the creation of "intergenerational guardianship councils" that included youth representatives to oversee implementation of deforestation measures in the Amazon region.[30]

Another interesting example of institutional developments, this time within the judiciary, is the creation of the '*Structural and Complex Processes Center*' (NUPEC in Portuguese) to support Brazil's Federal Supreme Court on structural and complex actions that have significant economic and social impact.[31] Among other specific tasks, NUPEC helps the court identify structural and complex actions, creates 'monitoring rooms' to oversee such actions, and develops indicators for monitoring the effectiveness of measures adopted in such actions. NUPEC illustrates Brazil's Supreme Court efforts to enhance its capacity to adjudicate cases that stand out as particularly intricate, such as climate-related claims.[32]

Overall, it seems that these institutional innovations aim to overcome fragmentation and ensure sustained action beyond the immediate judicial proceedings through ongoing monitoring and review, something that is deemed increasingly necessary in climate-related adjudication.

2.2.4. Procedural Access Remedies

Climate litigation often seeks improved access to judicial and administrative procedures as a necessary component of substantive protection. Thus, courts have mandated procedural guarantees to improve access to justice for those most affected by climate change and climate-related state action. For example, in *Verein KlimaSeniorinnen v. Switzerland* the European Court of Human Rights emphasised that procedural rights were essential components of substantive climate protection, requiring states to ensure access to domestic courts when individuals and groups seek to bring human rights cases due to climate impacts.[33]

26 Para 555-568.

27 Para 550.

28 'Shrestha v. Office of the Prime Minister et Al.' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/shrestha-v-office-of-the-prime-minister-et-al/> accessed 18 October 2024.

29 'Leghari v. Federation of Pakistan' (n 14).

30 'Future Generations v. Ministry of the Environment and Others' (n 3).

31 'Núcleo de Processos Estruturais Complexos - NUPEC | STF' (*Supremo Tribunal Federal*) <https://portal.stf.jus.br/textos/verTexto.asp?servico=cmc&pagina=nupec_apresentacao> accessed 17 July 2025.

32 Ingo Wolfgang Sarlet and Tiago Fensterseifer, 'O Brasil Em Chamas e o STF Como Guardião Climático' (*Consultor Jurídico*, 13 September 2024) <https://www.conjur.com.br/2024-set-13/o-brasil-em-chamas-e-o-stf-como-guardiao-climatico/> accessed 17 July 2025.

33 'KlimaSeniorinnen v Switzerland (ECtHR)' (n 2).

In *Daniel Billy and others v Australia* the United Nations Human Rights Committee also underlined the importance of consultations in the design and review of the remedies. It asked Australia to conduct needs assessments in consultation with indigenous communities of Torres Strait Islands to implement measures necessary to secure the communities' continued safe existence on their respective islands.[34] Similar recommendations were made by the UN Committee on the Rights of the Child in a case concerning the rights of indigenous children of the Sami people, where it requested Finland to adopt children's rights-oriented impact assessments before granting mining permits.[35]

Finally, in *Workers Union of Somarco & Others*, the Chilean Supreme Court ordered the government to implement a plan for the reinsertion into the labour market of of former coal plants workers affected by the country's efforts to decarbonise its economy, thus requiring meaningful stakeholder consultation.[36] These remedies recognize that meaningful climate protection requires broad access to justice for climate victims and continuous engagement by affected communities in decision-making processes.

Photo by Tifenn Degornet, Tromso, Norway on Unsplash

34 'Daniel Billy and Others v Australia (Torres Strait Islanders Petition)' (n 4).

35 M.E.V., S.E.V. and B.I.V. v Finland, Communication No. 172/2022, UN Doc CRC/C/97/D/172/2022 (Committee on the Rights of the Child, 13 September 2024)

36 'Company Workers Union of Maritima & Commercial Somarco Limited and Others v Ministry of Energy' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/company-workers-union-of-maritima-commercial-somarco-limited-and-others-with-ministry-of-energy/> accessed 18 October 2024.

2.3. EMERGING TRENDS IN CLIMATE REMEDIES

Beyond these broad categories, the analysis of existing climate remedies reveals significant trends in remedy design, including:

- **Science-Policy Interfaces:** Courts increasingly construct remedies that institutionalise scientific input into policy implementation, recognising that effective climate governance requires ongoing integration of evolving knowledge. Climate Change Commissions and advisory bodies comprised of both legal and scientific experts represent attempts to bridge the gap between scientific knowledge and policy action.[37]
- **Staged Implementation:** Recognising that climate action requires phased transitions, courts have developed 'tiered' remedies with differentiated timelines. This tiered approach recognises both the urgency of climate action and the need for adaptive governance over time. For example, the German Constitutional Court in *Neubauer* mandated more specific near-term targets while allowing greater flexibility for long-term pathways, balancing immediate action with adaptive governance.
- **Multi-stakeholder Oversight:** Climate remedies often involve oversight mechanisms that bring together state actors, civil society organisations, and affected communities, creating accountability structures that transcend traditional judicial monitoring. The success of these mechanisms often depends significantly on the engagement of civil society in monitoring implementation.

These trends suggest that courts are adapting traditional remedial frameworks to address the distinctive challenges of climate governance. Rather than simply applying conventional approaches, they are constructing remedial mechanisms specifically calibrated to the temporal, scientific, and country-specific governance complexities of climate change.

After examining the existing record, it is evident that judicial remedies are not only addressing immediate governance failures but also giving rise to complex interinstitutional dynamics around climate governance and the ongoing monitoring of climate measures by courts. The trends identified here provide critical insights into how courts are shaping climate governance frameworks, setting the stage for discussions on the challenges associated with implementing these remedies, which will be explored in the next section.

37 Weaver and Kysar (n 13) 343–4.

3. IMPLEMENTATION CHALLENGES: BRIDGING JUDICIAL MANDATES AND CLIMATE ACTION

Photo by Mika Baumeister on Unsplash

3.1. POLITICAL RESISTANCE AND IMPLEMENTATION BARRIERS

Climate remedies often encounter systematic political resistance that fundamentally shapes implementation prospects. This resistance operates at multiple levels, reflecting both ideological opposition to climate action and structural misalignments between judicial timelines and political incentives.

Electoral cycle misalignment presents a particularly acute challenge. Climate remedies typically mandate long-term action spanning decades, while elected officials operate within 3-5 years electoral horizons. Officials may resist implementing measures with immediate political costs but distant benefits, even when legally required to do so.[38] Thus, it may require a change in government for climate remedies to be more actively implemented, as exemplified by Urgenda in the Netherlands[39] and the Climate Fund decision in Brazil.[40]

Procedural compliance without substantive action represents another form of political resistance. In *Future Generations v. Ministry of Environment*, Colombia's government has demonstrated this pattern clearly—conducting required consultations with indigenous communities while systematically failing to implement meaningful deforestation measures.[41] This approach allows governments to claim technical compliance while avoiding the political and economic costs of genuine implementation.

Institutional inertia and capacity constraints compound political resistance. Even when political will exists, implementation frequently falters due to mismatches between judicial ambition and institutional capacity. In *Leghari*, Pakistan's Climate Change Commission struggled to overcome entrenched institutional silos between ministries with separate mandates, budgets, and priorities. The original plaintiff, Asghar Leghari, has himself expressed scepticism about the ruling's real-world impact, describing an "exoticized narrative" in academic circles that "takes away from the truth" about implementation shortfalls.[42]

38 Richard J Lazarus, 'Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future' (2009) 94 Cornell Law Review 1153.

39 'Urgenda Two Years on: What Impact Has the Landmark Climate Lawsuit Had?' (*The Wave*, 25 May 2022) <https://www.the-wave.net/urgenda-two-years-on/> accessed 7 May 2025.

40 'Lula revives $1 billion Amazon Fund and environmental protections' (*Climate Home News*, 4 January 2023) <https://www.climatechangenews.com/2023/01/04/first-day-office-lula-revives-1-billion-fund-amazon/> accessed 10 July 2025.

41 'Future Generations v. Ministry of the Environment and Others' (n 3).

42 Isabella Kaminski, '"The Exoticised Narrative Takes Away from the Truth": Leghari Nine Years On' (*The Wave*, 3 April 2024) <https://www.the-wave.net/leghari-pakistan-nine-years-on/> accessed 21 October 2024.

These implementation barriers are particularly pronounced in developing countries —although they are not exclusive to them—, where climate action competes with other urgent social needs and technical expertise in emissions accounting and climate modelling may be limited. The mismatch between ambitious judicial mandates and available resources helps explain why even well-designed oversight mechanisms may struggle to achieve their intended effects. For example, in cases like Colombia's *Future Generations*, where regional authorities lacked both expertise and monitoring capabilities for effective deforestation control.[43]

3.2. POLYCENTRIC GOVERNANCE CHALLENGES

The polycentricity of climate change—its cross-sectoral and multi-level nature—creates distinctive implementation challenges for climate remedies. Climate action typically involves coordination across multiple government ministries with separate mandates, budgets, and institutional priorities, as well as different levels of government with varying degrees of autonomy.

Horizontal fragmentation across ministries was particularly evident in *Leghari*, where Pakistan's Climate Change Commission struggled to overcome entrenched institutional silos between the Ministries of Water Resources, Agriculture, Energy, and Environment. This fragmentation underscores why remedies may falter in implementation—they require coordinated action across institutional boundaries designed for different purposes.

Vertical coordination between national and subnational authorities presents additional challenges. In *Future Generations*, the Colombian Supreme Court directed both national and local governments to develop action plans for Amazon protection, but implementation stalled partly due to misalignment between national directives and local implementation capacity.[44]

These polycentric governance challenges are inherent to climate change's cross-cutting nature. Climate change resists elegant single-sector solutions and requires complex coordination across traditionally separate domains. This polycentric reality helps explain why even ambitious judicial remedies may yield disappointing implementation results—they encounter institutional architectures not designed for the integrated responses climate change demands. This fragmentation underscores the need for remedies that are not only ambitious but also feasible within the complexities of multi-level governance, as well as the need for flexible monitoring mechanisms by courts and other institutions.

43 Dejusticia, '¿Qué le hace falta al Gobierno para implementar la sentencia contra el cambio climático y la deforestación?' (*Dejusticia*, 2 December 2020) <http://dejusticia.org/que-le-hace-falta-al-gobierno-para-implementar-la-sentencia-contra-el-cambio-climatico-y-la-deforestacion/> accessed 22 October 2024.

44 Dejusticia, 'Gobierno está incumpliendo las órdenes de la Corte Suprema sobre la protección de la Amazonía colombiana' (*Dejusticia*, 5 April 2019) <https://www.dejusticia.org/gobierno-esta-incumpliendo-las-ordenes-de-la-corte-suprema-sobre-la-proteccion-de-la-amazonia-colombiana/> accessed 22 October 2024; Dejusticia, '¿Qué le hace falta al Gobierno para implementar la sentencia contra el cambio climático y la deforestación?' (n 40).

3.3. SHORT-TERM URGENCY VERSUS LONG-TERM ADAPTABILITY

Climate remedies must navigate the need for urgent action in the near term and adaptability to adjust approaches over longer time horizons.

In the *Urgenda* case, following the Supreme Court's final ruling in December 2019, the Dutch government was provided only one year to meet the court-ordered 25% emissions reduction target. This short time frame led to emergency measures including coal plant closures and a tax on waste disposal.[45] While the Netherlands ultimately achieved approximately 25.5% emissions reduction by 2020, the court-mandated short-term targets may risk 'shortcut' compliance strategies at the expense of long-term climate goals.[46]

The German Constitutional Court took a different approach in *Neubauer*, deliberately balancing near-term specificity with longer-term flexibility, as the court allowed greater governmental discretion in determining post-2030 pathways. This approach recognises both the urgency of immediate action and the need for adaptive approaches that can incorporate evolving scientific understanding and technological capabilities. South Korea's Constitutional Court adopted a similar balanced approach in *Do-Hyun Kim*. The court required specific targets for post-2030 periods while allowing time for deliberative policy development rather than emergency measures.

The European Court of Human Rights in *Verein KlimaSeniorinnen* set out key criteria to assess whether states remain within their 'margin of appreciation' when they take climate action. The first criterion is to 'adopt general measures specifying a target timeline for achieving carbon neutrality and the overall remaining carbon budget for the same time frame'.[47] Crucially, the Court held that there must be hard limitations placed on cumulative emissions (which is the determinative factor in respect of States' contributions to global warming), while allowing States discretion in respect of identifying and adopting the specific or sectoral measures required to implement emissions reduction targets.[48] However, the Court left the monitoring the adequacy of how and when such measures are undertaken to the inter-governmental peer review organ of the Council of Europe, the Committee of Ministers, the body in charge of monitoring the implementation of all human rights judgments under the European Convention on Human Rights.[49]

Hadi, CC0, via Wikimedia Commons

45 Benoit Mayer, 'The Contribution of Urgenda to the Mitigation of Climate Change' (2023) 35 Journal of Environmental Law 167, 171

46 ibid 172–9

47 'KlimaSeniorinnen v Switzerland (ECtHR)' para. 550 a)

48 The implications of the ECHR's decision for Switzerland's determination of its fair share and carbon budget are explored in depth in Dennis van Berkel and others, 'Quantifying a 1.5°C Fair Share Carbon Budget: Human Rights Obligations on Climate Change after KlimaSeniorinnen' (2025) German Law Journal (forthcoming).

49 Çalı, 'Watch this space, Take 2: Execution of Strasbourg's Landmark Climate Mitigation Judgment Verein KlimaSeniorinnen v. Switzerland' (2025) EJIL Talk! Date. <https://www.ejiltalk.org/watch-this-space-take-2-execution-of-strasbourgs-landmark-climate-mitigation-judgment-verein-klimaseniorinnen-v-switzerland/> accessed 20 May 2025.

These cases illustrate the challenge of calibrating judicial remedies to address both climate urgency and long-term governance realities. As courts increasingly engage with climate issues, they must develop remedial approaches that create sufficient pressure for meaningful action in the short term while enabling adaptive governance over time.

3.4. DISTRIBUTIONAL CHALLENGES AND COMPETING POLICY OBJECTIVES

Climate remedies inevitably have distributional consequences. They also interact with other legitimate policy objectives, sometimes creating tensions that complicate implementation.

An illustrative example of competing policy objectives comes from India's Supreme Court case regarding the *Great Indian Bustard*. In 2021, the court ordered restrictions on overhead transmission lines across a vast territory and mandated conversion of existing lines to underground power within one year.[50] This remedy, designed to protect endangered birds, directly conflicted with India's renewable energy development goals, as the restricted area contained a large proportion of the country's solar and wind potential.[51] The government petitioned for modification, arguing that the court's well-intentioned order had adverse implications for climate mitigation by hindering the transition away from fossil fuels. In 2024, the Supreme Court modified its judgment, recognising the "intricate interface" between species conservation and climate action.[52]

Original: SVKMBFLY; this edit: MPF, CC BY-SA 4.0 via Wikimedia Commons

This case illustrates a fundamental challenge in climate governance: legitimate objectives may conflict, creating implementation dilemmas. Strong judicial remedies addressing one aspect of environmental protection may inadvertently create 'reverse burdens of inertia' that hinder progress on equally important goals.[53] The three-year delay in modifying the *Great Indian Bustard* judgment represents lost time and resources in India's renewable energy transition.

Just transition considerations further complicate implementation. In Chile's *Workers Union of Somarco* case, the court required decarbonisation plans to include measures supporting affected workers.[54] This remedy recognised that climate action creates both winners and losers, with potentially disproportionate impacts on vulnerable communities. Implementing such requirements demands careful policy design to balance emissions reduction with

50 'MK Ranjitsinh et al. v. Union of India et Al.' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/mk-ranjitsinh-ors-v-union-of-india-ors/> accessed 7 May 2025.

51 ibid.

52 *ibid.*

53 Rosalind Dixon, *Responsive Judicial Review: Democracy and Dysfunction in the Modern Age* (Oxford University Press 2023) 185–94.

54 Maria Antonia Tigre and others, 'JUST TRANSITION LITIGATION IN LATIN AMERICA: AN INITIAL CATEGORIZATION OF CLIMATE LITIGATION CASES AMID THE ENERGY TRANSITION' (Sabin Center for Climate Change Law, Columbia Law School 2023) 23.

rights protection—a challenge that courts are not institutionally equipped to manage in detail.

Community and civil society engagement in remedial processes may help address these distributional concerns. In *Future Generations*, the Colombian court mandated consultation with indigenous communities in developing Amazon protection measures.[55] The UN Human Rights Committee also required consultations with indigenous communities in Torres Straight Islands.[56] In the *Verein KlimaSeniorinnen* case, many civil society and national human rights institutions take part in the monitoring process by making written submissions to the Council of Europe Committee of Ministers. This participatory approach acknowledges that effective remedies must be co-created with affected communities rather than imposed from above and provide access to civil society organisations in the monitoring of implementation.[57] However, meaningful participation requires time and resources that may conflict with the urgency of climate action, creating another implementation tension.

These implementation challenges underscore why climate remedies must be designed with an awareness of institutional, political, scientific, and justice dimensions. The next section builds on these insights to develop a framework for 'smart' climate remedies that can better navigate these complex implementation landscapes.

Photo: Dejusticia.

55 Dejusticia, '¿Qué le hace falta al Gobierno para implementar la sentencia contra el cambio climático y la deforestación?' (n 40).

56 'Daniel Billy and Others v Australia (Torres Strait Islanders Petition)' (n 4).

57 In contrast, there are very limited opportunities for affected communities and civil society organisation to be involved in the monitoring of the implementation of the Paris Agreement. Raiser, Çalı and Flaschsland 'Understanding pledge and review: learning from analogies to the Paris Agreement review mechanisms' (2022) 22 (6) *Climate Policy* 711.

4. SMART REMEDIES FOR CLIMATE LITIGATION

Photo by Mika Baumeister on Unsplash

4.1. PRINCIPLES FOR EFFECTIVE CLIMATE REMEDIES

Drawing on the implementation challenges identified in the previous section, this section proposes a framework for 'smart remedies' in climate litigation. Smart remedies align judicial interventions with the distinctive characteristics of climate change while acknowledging institutional realities and implementation constraints. Four core principles emerge from the analysis of implementation pathways:

4.1.1. Balance Specificity and Adaptability

Effective climate remedies strike a careful balance between specificity of outcomes and adaptability in implementation pathways. Purely abstract declarations of rights may lack practical impact, while excessively detailed implementation orders risk overreaching judicial competence and creating entrenched unintended consequences.

The decision of the German Constitutional Court in *Neubauer* illustrates this balance, as it mandated proportional distribution of mitigation efforts over time without dictating specific sectoral measures. These approaches establish clear benchmarks for compliance while preserving democratic discretion in determining specific measures.

The appropriate balance varies by context and may be limited by the courts' abilities to grant specific remedies (e.g. injunctions). In cases of persistent government inaction or deficient regulatory frameworks, more detailed remedies may be justified to overcome institutional inertia.[58]

Conversely, where existing climate governance structures are relatively more robust, courts should favour remedies that respect and enhance these frameworks rather than displacing them with judicial oversight mechanisms.

58 Dixon (n 55) 120.

4.1.2. Incorporate Scientific Authority While Maintaining Adaptability

Climate remedies must incorporate authoritative scientific understanding while maintaining adaptability as knowledge evolves. Courts should ground remedies in the best available science—particularly assessments from authoritative bodies like the IPCC—while designing oversight mechanisms that can accommodate scientific developments.

Scientific authority supports the legitimacy of judicial interventions in politically contested terrain, while adaptability mechanisms ensure that remedies remain relevant as understandings evolve. Expert advisory processes, periodic reassessment requirements, and staged implementation timelines can help courts navigate this balance between scientific grounding and adaptive capacity.

4.1.3. Align Remedies with Institutional Capacity

Smart remedies align judicial mandates with the institutional capacity of implementing bodies. Ambitious orders that exceed administrative, technical, or financial capacity are unlikely to achieve their intended effects and may undermine judicial legitimacy through failed implementation.[59]

As demonstrated in *Leghari*, even well-designed oversight bodies like Pakistan's Climate Change Commission face significant capacity constraints. Courts should realistically assess institutional capacity when designing remedies, potentially incorporating capacity-building elements where necessary. This might include phased implementation timelines, technical assistance mechanisms, or transparent and reliable assessments of resource limitations.[60]

Capacity alignment is particularly crucial in developing countries, where administrative and financial constraints may severely limit implementation prospects. In such contexts, courts might design remedies that leverage international support mechanisms, such as climate finance, technology transfer, or capacity-building programmes under the Paris Agreement.[61]

4.1.4. Design for Accountability and Transparency

Finally, smart remedies incorporate robust accountability and transparency mechanisms to support implementation. These mechanisms create ongoing pressure for compliance while providing courts with information to assess implementation progress.

Effective accountability mechanisms include regular reporting requirements, clear compliance metrics, and opportunities for civil society participation in monitoring. For example, in *Notre Affaire à Tous*, the Paris Administrative Court maintained jurisdiction to periodically evaluate government progress toward emissions reduction targets, creating ongoing accountability pressure.

Transparency requirements serve multiple functions—they provide information for ongoing judicial assessment, enable civil society monitoring, and create political costs for non-compliance. When combined with clear compliance metrics, transparency mechanisms help translate abstract judicial mandates into concrete implementation pressure.

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59 Kent Roach (n 8).

60 Notwithstanding, arguments relying on resource limitations to delay or excuse countries' climate commitments should be scrutinised through the lenses of due diligence. See Joeri Rogelj and Julia Katharina Schönfeld, 'Operationalising Highest Possible Ambition in Nationally Determined Contributions under Article 4 of the Paris Agreement' <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5027491> accessed 7 November 2025.

61 Joana Setzer and Lisa Benjamin, 'Climate Litigation in the Global South: Constraints and Innovations' (2020) 9 Transnational Environmental Law 77.

4.2. TAILORING REMEDIES TO CLIMATE LITIGATION CATEGORIES

Smart remedies must be tailored to the specific nature of the climate case at hand. Different categories of climate litigation present distinct remedial challenges requiring context-specific approaches.

4.2.1. Mitigation Cases

In mitigation cases challenging inadequate emissions reduction efforts, smart remedies might establish minimum parameters for legitimate climate action while preserving flexibility in implementation pathways. The 'gold standard' approach emerging from cases like *Urgenda*, *Neubauer*, and *Do-Hyun Kim* involves:

- Establishing clear emissions reduction targets or limitations on cumulative emissions grounded in scientific assessments and consistent with the state's constitutionally required fair share of global mitigation efforts.
- Setting clear compliance procedures and deadlines that balance urgency with implementation feasibility, using staged implementation schemes with interim targets (e.g. in 2030, 2040, 2050).
- Preserving government discretion regarding specific implementation measures.
- Creating ongoing monitoring mechanisms to assess compliance.

Courts should be particularly attentive to the risks of hasty compliance with short-term targets leading to counterproductive measures that undermine long-term mitigation goals. To mitigate this risk, courts should consider longer implementation timelines, interim benchmarks, and explicit acknowledgment of quality considerations in compliance assessment.

In cases where no climate legislation exists, courts may need to adopt more directive remedies to overcome legislative inertia.[62] However, such remedies should still focus on establishing framework obligations rather than prescribing detailed policy design. The Nepal Supreme Court's approach in *Shrestha* exemplifies this balanced approach, requiring the government to adopt comprehensive climate legislation without specifying its detailed content.[63]

4.2.2. Adaptation Cases

Adaptation-focused cases present distinct remedial challenges due to the localised nature of climate impacts and adaptation needs. Smart remedies in this context balance general adaptation planning requirements with specific protections for vulnerable populations.

62 Dixon (n 49) 120.

63 'Shrestha v. Office of the Prime Minister et Al.' (n 28).

In cases like *Leghari*[64] and *Mendoza Bohórquez*,[65] courts have ordered governments to develop comprehensive adaptation strategies while also mandating specific measures to address immediate vulnerabilities. In *Daniel Billy and others v. Australia,* the UNHRC further required specific resilience measures to be undertaken, such as seawalls.[66] These remedies recognize both the systemic and individualized dimensions of climate adaptation, requiring both long-term planning and immediate vulnerability reduction.

Adaptation remedies should therefore incorporate:

- Clear requirements for comprehensive vulnerability assessment and adaptation planning.
- Specific protections for particularly vulnerable communities facing imminent climate risks.
- Recognition of resource constraints and provision for discretion in priority-setting processes.
- Ongoing consultations with affected parties, monitoring, and reassessment as climate impacts evolve.

Courts should also acknowledge limits to adaptation in their remedial design. As recognised by the IPCC, there are both 'soft limits' (potentially surmountable with additional resources or technology) and 'hard limits' (physically impossible to overcome) to climate adaptation.[67] Judicial remedies should realistically acknowledge these limitations, focusing on adaptation measures within institutional and physical possibilities.

Urgenda / Chantal Bekker

64 'Leghari v. Federation of Pakistan' (n 14).

65 'José Noé Mendoza Bohórquez et al. v. Department of Arauca et al. (Climate-Induced Migration as Forced Displacement)' (*Climate Change Litigation*) <https://climatecasechart.com/non-us-case/jose-noe-mendoza-bohorquez-et-al-v-department-of-arauca-et-al-climate-induced-migration-as-forced-displacement/> accessed 30 October 2024.

66 'Daniel Billy and Others v Australia (Torres Strait Islanders Petition)' (n 4).

67 Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2022 – Impacts, Adaptation and Vulnerability: Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press 2023) 2444.

5. CONCLUSION: TOWARDS EFFECTIVE CLIMATE REMEDIES IMPLEMENTATION

Photo by Mika Baumeister on Unsplash

The emergence of rights-based climate litigation represents a profound shift in climate governance. As this report has documented, courts worldwide are increasingly recognising climate change as a human rights issue and developing innovative remedies to address these violations. Yet the path from judicial recognition to practical implementation remains challenging and often uncertain.

5.1. KEY INSIGHTS

Our analysis has yielded several insights that should inform future remedy design and implementation strategies:

First, the distinctive nature of climate change—its temporal complexity, scientific contingency, and governance fragmentation—requires remedial approaches that transcend conventional frameworks. Climate remedies must simultaneously address present harms while preventing future rights violations that may affect generations not yet born. This temporal dimension sets climate remedies apart from traditional human rights adjudication.

Second, implementation barriers are often systemic rather than case specific. Political resistance, resource constraints, governance fragmentation, and competing policy objectives emerge repeatedly across jurisdictions. These patterns suggest the need for remedial strategies that explicitly address these foreseeable obstacles rather than treating them as unexpected implementation failures.

Finally, effective climate remedies increasingly function as governance catalysts rather than final solutions. Remedies that are well-grounded in climate science establish benchmarks for ongoing climate action, create accountability mechanisms, and facilitate institutional learning. This catalytic function aligns with courts' institutional strengths while respecting legitimate policy discretion.

5.2. FROM LITIGATION SUCCESS TO GOVERNANCE TRANSFORMATION

Moving forward, the field must evolve beyond viewing climate litigation in binary terms of victory or defeat. The true measure of success lies not in favourable judgments, but in tangible climate outcomes—reduced emissions, enhanced resilience, and improved protection for rights-holders. This perspective requires a shift towards seeing implementation as an integral part of the litigation process rather than a separate, post-judgment phase.

Several promising pathways can enhance implementation prospects:

- **Enhanced remedial design**: Litigants should proactively propose remedies that anticipate implementation challenges and incorporate mechanisms to address them. This might include phased implementation timelines, built-in flexibility, and robust monitoring provisions. Courts should similarly design remedies with implementation realities in mind, drawing on successful approaches from diverse jurisdictions.
- **Multi-stakeholder implementation**: Effective implementation often demands the involvement of diverse actors beyond courts and governments. Civil society organisations, scientific bodies, affected communities, and international institutions can all play crucial roles in translating judicial mandates into practical action. Smart remedies should explicitly recognize and empower these actors in implementation processes.
- **Institutional capacity building**: Implementation frequently falters due to capacity constraints rather than lack of political will. Future remedial strategies should incorporate capacity-building elements, particularly in developing countries. This might include leveraging international climate finance, technology transfer mechanisms, or technical assistance provisions within remedy designs.
- **Remedial learning and adaptation**: The field should develop stronger mechanisms for cross-jurisdictional learning about implementation successes and failures. This could involve structured dialogues between courts, comparative implementation assessment, and the development of principles for effective climate remedies based on practical experience rather than purely formal legal considerations.

5.3. THE EVOLVING ROLE OF COURTS IN CLIMATE GOVERNANCE

Domestic and international courts and bodies are navigating complex institutional terrain as they address climate issues. Their emerging role in climate governance requires a fine balance—providing effective rights protection while respecting separation of powers and governmental discretion. It demands establishing the contours of climate action while leaving flexibility for political determination of specific measures. It also means designing remedies that accommodate uncertainty, iteration, and adaptation as knowledge evolves, and conditions change.

As climate litigation continues to expand, courts will increasingly face implementation challenges that test the boundaries of their institutional capacity. The framework for smart remedies proposed in this report offers a pathway to navigate these challenges—designing remedies that are ambitious enough to protect fundamental rights while practical enough to achieve real-world implementation.

5.4. LOOKING FORWARD

Human rights-based climate litigation represents an evolving field with significant potential to bolster climate action. While the implementation gaps identified in this report present real challenges, they also highlight opportunities for innovation and improvement. By learning from implementation experiences across jurisdictions, courts and litigants can develop increasingly effective remedial strategies that bridge judicial mandates and climate action.

The future of climate remedies lies in approaches that combine clear outcome requirements with flexible implementation pathways, robust accountability mechanisms with respect for democratic processes, and immediate action with long-term adaptability. Such approaches can harness the unique strengths of courts—their capacity to protect fundamental rights, ensure procedural fairness, and overcome political inertia—while acknowledging the complex institutional ecosystems in which judicial mandates must operate.

Ultimately, effective climate remedies require sustained engagement from multiple actors—courts that remain attentive to implementation realities, governments that fulfil their obligations in good faith, civil society organisations that monitor compliance, and affected communities that participate meaningfully in implementation processes. This collaborative approach offers the best prospect for translating rights recognition into material climate justice. As climate impacts intensify and the window for effective action narrows, the stakes of this implementation challenge grow ever higher. By focusing on bridging the implementation gap, courts can fulfil their emerging role in climate governance while helping to safeguard the fundamental rights of current and future generations.

TABLE 1: KEY CLIMATE CASES REFERENCED IN THE REPORT

Case Name	Court/Body	Year	Type of Remedy	Key Remedy Features	Implementation Status
Asghar Leghari v. Pakistan	Lahore High Court	2015	Implementation-forcing & Oversight	Implementation of National Climate Change Policy; Climate Change Commission	Mixed implementation - Climate Change Commission reported 66% of priority actions completed by 2017, but original plaintiff and legal experts question real-world impact.
Commune de Grande-Synthe v. France	French Council of State	2021	Implementation-forcing	"All necessary measures" to meet 40% reduction target by 2030	Ongoing monitoring through follow-up proceedings
Daniel Billy v. Australia	UN Human Rights Committee	2022	Procedural access	Consultation with indigenous communities; needs assessments; adaptation measures	Limited implementation - Australia rejected compensation recommendations; some infrastructure measures (seawalls) committed but claimants report insufficient funding
Do-Hyun Kim v. South Korea	Korean Constitutional Court	2024	Target-ordering	Specific quantitative climate targets beyond 2030	Pending - deadline set for February 2026
Future Generations v. Ministry of Environment	Colombian Supreme Court	2018	Oversight mechanism	Creation of "intergenerational guardianship councils"; action plans to halt deforestation	Limited implementation - procedural compliance without substantive action

Case Name	Court/Body	Year	Type of Remedy	Key Remedy Features	Implementation Status
Mendoza Bohórquez et al v Department of Arauca et al	Colombian Constitutional Court	2024	Target-ordering	Specific orders for displaced individuals (food, water, housing, medical care. Additionally, the court mandated the legislature to develop a comprehensive legal framework for forced displacement caused by environmental factors.	Recent decision – implementation pending
M.E.V., S.E.V. and B.I.V. v. Finland (Sami children)	UN Committee on the Rights of the Child	2024	Procedural access	Children's rights-oriented impact assessments before mining permits are granted	Recent decision - implementation pending
MK Ranjitsinh et al. v. Union of India et Al. (Great Indian Bustard)	Indian Supreme Court	2021/ 2024	Target-ordering & Implementation-forcing	Restrictions on overhead transmission lines to protect Great Indian Bustard; conversion of existing lines to underground power within one year (modified in 2024)	Modified in 2024 after government petition citing conflict with renewable energy goals; court recognised "intricate interface" between species conservation and climate action
Neubauer v. Germany	German Federal Constitutional Court	2021	Target-ordering	Revision of Climate Protection Act to include specific post-2030 emissions reduction goals	Swift legislative implementation within 3 months (2021 Climate Change Act amendment)
Notre Affaire à Tous v. France	Administrative Court of Paris	2021	Implementation-forcing	Additional measures to meet climate targets; compensation for excess emissions	Ongoing judicial supervision
PSB et al. v. Brazil (Climate Fund)	Brazilian Federal Supreme Court	2022	Implementation-forcing	Reactivation of Climate Fund	Implemented after 13 months with fund reactivation in 2023

Case Name	Court/Body	Year	Type of Remedy	Key Remedy Features	Implementation Status
Shrestha v. Office of the Prime Minister et al.	Nepal Supreme Court	2018	Implementation-forcing & Target-ordering	Writ of mandamus ordering enactment of new climate change law; interim implementation of existing climate policies	Nepal's government passed the Environment Protection Act and Forests Act in 2019. Yet, the government is still reluctant to adopt a Climate Change Law as requested by the decision.
Urgenda Foundation v. Netherlands	Dutch Supreme Court	2019	Target-setting	25% GHG emissions reduction by 2020 compared to 1990 levels	Achieved 25.5% reduction, though implementation criticised as involving emission shifting rather than genuine reduction
Verein KlimaSeniorinnen v. Switzerland	European Court of Human Rights	2024	Target-ordering & Procedural access	New legislation with concrete climate targets for post-2024 period; access to domestic courts	Ongoing - As of March 2025, Switzerland found non-compliant with judgment requirements by the Committee of Ministers.
Workers Union of Somarco v. Chile	Chilean Supreme Court	2021	Procedural access	Plan for labour market reinsertion for workers affected by decarbonisation	Limited information on implementation

Glossary of Terms for Climate Litigation

1.5°C Target The goal of limiting global warming to 1.5 degrees Celsius above pre-industrial levels, as set out in the Paris Agreement (2015). This target is based on scientific evidence that limiting warming to 1.5°C would significantly reduce the risks of severe climate impacts compared to 2°C or higher.[68]

Adaptation Actions taken to adjust to the actual or expected impacts of climate change, such as building flood defences, developing drought-resistant crops, or relocating communities away from vulnerable areas.[69]

Anthropogenic Climate Change A long-term change in the climate, additional to natural climate variability, resulting from anthropogenic greenhouse gas emissions and aerosol emissions.[70]

Carbon Budget The total amount of carbon dioxide (CO_2) that can be emitted globally or by a specific entity (e.g., a country) while still keeping global warming below a certain temperature threshold, such as 1.5°C or 2°C.[71]

Carbon Neutrality vs. Net Zero

Carbon Neutrality Achieving a balance between emitting carbon and absorbing carbon from the atmosphere through carbon sinks (e.g., forests) or offsets (e.g., carbon credits).

Net Zero CO_2 / GHGs A point when any number of anthropogenic emissions of greenhouse gases are balanced by an equal amount of anthropogenic removals.[72]

Carbon Sink A natural or artificial reservoir that absorbs and stores carbon dioxide from the atmosphere, such as forests, oceans, or soil.[73]

Carbon Trading A market-based system that allows entities to buy and sell carbon credits, enabling them to meet emissions reduction targets more cost-effectively. Each credit represents the right to emit a certain amount of CO_2 or other greenhouse gases.[74]

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68 Matthews, J.B.R., 'Annex I: Glossary' in Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (ed), *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (Cambridge University Press 2018) 542.

69 Matthews, J.B.R., V. Möller, R. van Diemen, J.S. Fuglestvedt, V. Masson-Delmotte, C. Méndez, S. Semenov, A. Reisinger, 'Annex VII: Glossary' in Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (ed), *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press 2021) 2216.

70 ibid 2222.

71 ibid 2220.

72 ibid 2221.

ibid 2249.

74 UNDP Climate Promise, 'What Are Carbon Markets and Why Are They Important?' (30 June 2022) <https://climatepromise.undp.org/news-and-stories/what-are-carbon-markets-and-why-are-they-important> accessed 30 January 2025.

Climate Litigation Legal action taken to address climate change, typically involving claims against governments or corporations for failing to mitigate or adapt to climate impacts.[75] However, recent literature also underscores the existence of 'backlash' litigation, or simply litigation not aligned with climate goals.[76]

Climate Risk The potential for adverse consequences resulting from climate change, including physical risks (e.g., costs to assets resulting from extreme weather events) and transition risks from human responses to climate change.[77] The magnitude of physical and transition risks, and their distribution between entities, can be affected substantially by legal action.[78]

Common But Differentiated Responsibilities (CBDR) A principle in international environmental law indicating that all states have a shared responsibility to address climate change, but developed countries should take the lead in reducing emissions and providing financial and technological support to developing countries.[79] This principle is expressly recognised and operationalised in multiple provisions of the Paris Agreement.[80]

Fair Share The portion of global emissions reductions that a country or entity should contribute. While there is no single accepted definition of 'fair share', it commonly reflects the idea that the emissions reduction burden should be divided among States in a manner that reflects legal principles such as equity, equality, common but differentiated responsibilities and respective capabilities, often assessed based on factors such as historical emissions, current emissions, and capacity to act. Although there are no agreed guidelines or methodologies for these calculations, groups of experts have developed robust methodologies reflecting the best available science.[81]

Global Warming The increase in global surface temperature compared to a baseline reference period - typically 1850-1900.[82]

Government Framework Litigation A type of climate litigation where plaintiffs challenge the adequacy of a government's overall framework for addressing climate change, rather than specific policies or projects.[83]

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75 Joana Setzer and Catherine Higham, 'Global Trends in Climate Change Litigation: 2025 Snapshot' (2025).

76 United Nations Environment Programme, 'Global Climate Litigation Report: 2023 Status Review' (2023) 70–72; Joana Setzer and Catherine Higham, 'Global Trends in Climate Change Litigation: 2024 Snapshot' (The Grantham Research Institute on Climate Change and the Environment 2024) 40–44 <https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-litigation-2024-snapshot/> accessed 25 May 2025.

77 Matthews, J.B.R., V. Möller, R. van Diemen, J.S. Fuglestvedt, V. Masson-Delmotte, C. Méndez, S. Semenov, A. Reisinger (n 69) 2246.

78 Thom Wetzer, Rupert Stuart-Smith and Arjuna Dibley, 'Climate Risk Assessments Must Engage with the Law' (2024) 383 Science 152.

79 United Nations Framework Convention on Climate Change (UNFCCC) of 1992 art 3.

80 Arts. 2.2, 4.3, 4.19, and preamble.

81 See, e.g. Climate Action Tracker, 'Fair Share' <https://climateactiontracker.org/methodology/cat-rating-methodology/fair-share/> accessed 30 January 2025; Climate Equity Reference Calculator, 'Glossary' <https://calculator.climateequityreference.org/glossary.php#gloss_fair> accessed 30 January 2025; Lavanya Rajamani and others, 'National "Fair Shares" in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law' (2021) 21 Climate Policy 983..

82 Matthews, J.B.R., V. Möller, R. van Diemen, J.S. Fuglestvedt, V. Masson-Delmotte, C. Méndez, S. Semenov, A. Reisinger (n 69) 2232.

83 Lucy Maxwell, Sarah Mead and Dennis van Berkel, 'Standards for Adjudicating the next Generation of Urgenda-Style Climate Cases' (2022) 13 Journal of Human Rights and the Environment 35.

Greenhouse gases (GHG) Gases of natural or anthropogenic origin that trap heat in the Earth's atmosphere. The most common GHGs include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and water vapour (H2O).[84]

Intergenerational Equity The principle that present generations have a responsibility to ensure that future generations inherit a healthy and sustainable environment.[85]

Just Transition A framework for ensuring that the transition to a low-carbon economy is fair and inclusive, protecting workers and communities dependent on fossil fuel industries.[86]

Loss and Damage The impacts of climate change that cannot be avoided through mitigation or adaptation, including economic losses (e.g., property damage) and non-economic losses (e.g., loss of cultural heritage).[87]

Mitigation Actions taken to reduce or prevent the emission of greenhouse gases, or enhance carbon sinks, such as transitioning to renewable energy, improving energy efficiency, or protecting forests.[88]

Structural Injunction A judicial remedy that requires systemic changes to government policies, institutions, or practices, often involving ongoing oversight by the court.[89]

Tipping Points Critical thresholds in the climate system where a small change can lead to significant and often irreversible shifts, such as the collapse of ice sheets or the dieback of the Amazon rainforest.90

84 Matthews, J.B.R., V. Möller, R. van Diemen, J.S. Fuglestvedt, V. Masson-Delmotte, C. Méndez, S. Semenov, A. Reisinger (n 69) 2233.

85 Edith Brown Weiss, 'Intergenerational Equity' (*Oxford Public International Law*, April 2021) <https://opil.ouplaw.com/display/10.1093/law:epil/9780199231690/law-9780199231690-e1421> accessed 30 January 2025.

86 UNDP Climate Promise, 'What Is Just Transition? And Why Is It Important?' (11 March 2022) <https://climatepromise.undp.org/news-and-stories/what-just-transition-and-why-it-important> accessed 30 January 2025.

87 United Nations Environment Programme, 'About Loss and Damage' (31 October 2023) <https://www.unep.org/topics/climate-action/loss-and-damage/about-loss-and-damage> accessed 30 January 2025.

88 Matthews, J.B.R., V. Möller, R. van Diemen, J.S. Fuglestvedt, V. Masson-Delmotte, C. Méndez, S. Semenov, A. Reisinger (n 69) 2239.

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