Climate Litigation Network

Fair Share and the Legal Obligations of States in an Era of Overshoot

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THE CLIMATE LITIGATION NETWORK

The Climate Litigation Network (CLN) supports communities who use the law to protect our shared future. We provide individuals, organisations and grassroots groups around the world with the legal tools, insights and strategies to push big polluters to develop and implement emissions reductions plans that keep us all safe.

CLN was established by the Urgenda Foundation – the organisation behind the landmark climate case that compelled the Dutch Government to strengthen its emissions targets – to build on that legal strategy, support other cases, and help grow the global movement of climate litigation.

ABOUT THIS REPORT

This report was written by Filippo P. Fantozzi and April Williamson (April 2026).

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Background and context

Despite developments in climate law and policy since the early 1990s, global efforts to mitigate greenhouse gas (GHG) emissions are still falling far short of limiting warming to the 1.5°C threshold set out in the Paris Agreement. Developed nations continue to generate the majority of GHG emissions. Despite their accrued responsibilities, most of these countries are still failing to determine and implement targets in a manner that allows for sufficient collective climate action.

The grave consequences of States' persistent mitigation shortcomings have spurred communities around the world to bring cases before courts. The primary objective of these lawsuits has been to ensure that governments are complying with their obligations under international and national law. This litigation movement has shaped a global legal architecture for climate protection, where courts around the world have established that States should strive to equitably do their part to limit global temperature rise to 1.5°C by the end of the century.

Decades of insufficient emissions reductions now mean that there is a narrowing pathway to contain global warming to 1.5°C and avoid further worsening impacts. As the world moves rapidly towards overshooting this limit, the need for governments to drive ambitious mitigation action has become even more critical. This reality has necessitated litigation against governments to develop and evolve, with a new generation of cases emerging over the last few years.

In first generation government framework cases concerning the ambition of States' mitigation measures, plaintiffs often invoked 'fair share' arguments. Overall, these asked courts to assess whether States are doing their part to fairly and adequately tackle climate change. In the past, some nations may have been able to meet their fair share through domestic emissions mitigation measures alone. In light of the imminent depletion of the remaining global carbon budget for 1.5°C, this is no longer the case for many developed countries. As a result, remedies requested from courts have begun to adapt, to ensure that States cannot evade responsibility for past inaction.

Entering an era of overshoot raises new questions about the scrutiny and enforcement of States' legal duties. With the 1.5°C global carbon budget rapidly shrinking, addressing the global ambition gap will increasingly require effective cooperation, with wealthier countries scaling up support to help meet the collective goals of the Paris Agreement. In particular, the scientific literature, legal scholarship and expert scientific bodies have been converging towards the need to operationalise a dual responsibility for wealthier nations: to pursue domestic emissions reductions that reflect highest possible ambition, and to enhance mitigation abroad where their fair share exceeds national capabilities within the territory.

As such, building on significant legal developments at the international, regional and national level, a 'second generation' of ambition-related framework cases have begun to engage with three key questions:

- What is a State's fair share of mitigation action for 1.5°C?
- How much of a country's fair share can be feasibly achieved through domestic emissions reductions – reflecting the country's highest possible ambition?
- How can the gap between domestic reductions and the country's overall fair share obligation – the mitigation shortfall – be addressed?

This report seeks to provide an overview of developments in law, science and litigation relating to fair share issues.

Part 1 of this report provides an overview of the concept of fair share. This includes the legal and scientific foundations shaping this notion, as well as an overview of how international, regional and national courts have addressed a broad range of fair share arguments in climate cases.

Part 2 provides more forward-looking commentary on how new cases are addressing governments' mitigation obligations in the context of overshoot of 1.5°C, in particular issues concerning domestic feasibility and the mitigation shortfall.

1. An introduction to fair share and the Ambition Gap

The need for States to meaningfully address their individual responsibility to tackle climate change has never been more urgent. In November 2025, the United Nations warned that current global climate plans fall short of what is needed to prevent escalating climate impacts. Without prompt and meaningful action to reduce GHG emissions, global temperatures are projected to rise up to 2.8°C by the end of the century.[1]

The overarching goal under the United Nations Framework Convention on Climate Change (UNFCCC) is to prevent dangerous anthropogenic interference with the climate system.[2] Keeping this in mind, there is a growing misalignment between existing commitments and the efforts required to keep the long-term temperature limit of the Paris Agreement within reach (referred to hereafter as the 'Ambition Gap').[3] This begs the question: how must global efforts be divided amongst national governments?

This consideration forms the foundation of the academic literature concerning 'effort sharing' and 'fair share'. The Intergovernmental Panel on Climate Change (IPCC) defined 'effort sharing' (also known as 'burden sharing') in its Special Report on Global Warming of 1.5°C as "sharing the effort of reducing the sources or enhancing the sinks of greenhouse gases (GHGs) from historical or projected levels, usually allocated by some criteria, as well as sharing the cost burden across countries."[4] 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 international legal principles such as equity, equality, common but differentiated responsibilities and respective capabilities (CBDR-RC).[5]

1 United Nations Environment Programme (UNEP), 'Emissions Gap Report 2025: Off target' (2025), Executive summary: "a continuation of the mitigation effort implied by current policies only limits warming below 2.8°C (range: 2.1–3.9) over the century, with a 66 per cent chance."

2 United Nations Framework Convention on Climate Change (UNFCCC) (1992), Art. 2.

3 The 'Ambition Gap' refers to "the difference between the emissions reductions expected from a government's planned policies and pledges, and those required to meet the long-term temperature goals of the Paris Agreement, in line with best available science". See L. Maxwell, A. Williamson, S. Mead, 'Future Trends in Climate Litigation Against Governments' (2024), Climate Law: a Sabin Center Blog.

4 Intergovernmental Panel on Climate Change (IPCC), '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' (2018), Annex I: Glossary [Matthews, J.B.R. (ed.)].

5 For example, see L. Rajamani et al, 'National 'fair shares' in reducing greenhouse gas emissions within the principled framework of international environmental law' (2021), Climate Policy, Vol. 21, No. 8, 983–1004, '1. Introduction'; see also the definition of 'equity' and 'fairness' by the IPCC in, Annex I: Glossary (n.4).

Despite most States describing their mitigation efforts as "fair and ambitious",[6] global emissions trends indicate otherwise. For example, G20 countries are responsible for three quarters of current global emissions and have "an outsized impact on when global emissions reach net zero".[7] The United Nations Environment Programme (UNEP) has found that most of the G20's "long-term strategies and other net-zero plans do not robustly justify their targets in light of fairness and equity".[8] Accordingly, UNEP found that they have a "key responsibility" in accelerating mitigation efforts, and that it is "fair for the G20 to reduce emissions faster than the global average".[9]

In the context of the Ambition Gap, communities around the world are increasingly raising the adequacy of States' mitigation actions in litigation proceedings. Fair share arguments raised in these cases have asserted that each country has a legal duty to "do their part" to contribute to global emissions reductions.[10] Plaintiffs have sought to reflect fair share in their requests for remedies[11] by considering factors such as equal per capita contributions to emissions reductions, as well as the defendant country's historical emissions, capability to take action, and level of development.

The ruling in the landmark *Urgenda* climate case in the Netherlands was the first to establish that a State may be in breach of its legal duties under human rights law and tort law if it fails to adopt climate targets reflecting both best available science and the principles of equity and CBDR-RC. It was also the first case to legally mandate a State to strengthen its mitigation efforts.[12] Since the first judgment in the *Urgenda* case was issued in 2015, plaintiffs worldwide have sought to establish and invoke the legal duty to fairly contribute to global mitigation in a growing number of government framework climate cases (i.e. lawsuits challenging a State's overall failure to adequately reduce GHG emissions).[13] Although the legal foundations of these cases vary across jurisdictions – e.g. drawing from tort, constitutional, and administrative law – arguments on fair share are fundamentally rooted in a common framework shaped by international law and best available science.

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6 UNFCCC Secretariat, 'Nationally determined contributions under the Paris Agreement. Synthesis report by the secretariat' (2024), p. 25 at [123]: "98 per cent of Parties explained, using different metrics, how they consider their NDCs to be fair and ambitious".

7 UNEP, 'Emissions Gap Report 2023: Broken Record - Temperatures hit new highs, yet world fails to cut emissions (again)' (2023), p. 9 at [3.4.2].

8 ibid. See also UNEP, 'Emissions Gap Report 2024: No more hot air ... please! With a massive gap between rhetoric and reality, countries draft new climate commitments' (2024), p. 2 at [1.1].

9 ibid.

10 For example, see: Dutch Supreme Court, State of the Netherlands v Urgenda Foundation, ECLI:NL:HR:2019:2007 [2019], notably 'Summary of the Decision' and [5.7.1.]; and European Court of Human Rights, Grand Chamber (ECtHR), Verein KlimaSeniorinnen Schweiz and Others v Switzerland, App no 53600/20 [2024] at [545]: "the State's obligation under Article 8 is to do its part to ensure such protection [from the harmful effects and risks caused by climate change]".

11 For example, injunctive or declaratory relief requiring the State to improve its overall climate mitigation ambition through specific emissions reduction targets, or through an adequate regulatory framework.

12 Urgenda (n.10) at [8].

13 C. Higham, J. Setzer, E. Bradeen, 'Challenging government responses to climate change through framework litigation' (2022), Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science.

2. The international law framework and scientific context for 1.5°C and fair share

2.1 The UNFCCC, the Paris Agreement and the IPCC

International law and best available science have been evolving in tandem over the last few decades. The United Nations Framework Convention on Climate Change (UNFCCC) (1992) and the Paris Agreement (2015) are some of the main international tools governing States' actions on climate change. Under these treaties, States' mitigation obligations must be assessed and implemented based on the principles of equity and CBDR-RC.[14] In particular, developed countries are also expected to "take the lead" in global efforts to prevent dangerous climate change.[15] These legal principles and elements shape the expectations of fairness that signatory States must uphold in meeting their mitigation obligations.

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the United Nations Environment Programme and the World Meteorological Organization.[16] The IPCC's mandate is to provide governments with scientific information to inform the development of climate policies. Its reports have been instrumental in informing international negotiations and processes in relation to the UNFCCC. It has 195 State members, each of which is involved in the approval process of the summary for policymakers (SPM) for the IPCC's Assessment Reports.[17]

Over the years, the IPCC has consistently emphasized the need for an equitable approach to tackling climate change, highlighting that fair and equitable efforts to cut GHG emissions are crucial for effective global action. According to IPCC reports, global climate mitigation can better succeed if all countries perceive the distribution of GHG reduction efforts as fair.[18] States are unlikely to engage in collective climate action unless they are assured that others will be similarly bound, and effective mitigation cannot be achieved if

14 See UNFCCC (1992), notably Preamble; Art. 3; and Art. 4; and Paris Agreement (2015), notably Preamble; Art. 2; and Art. 4.

15 See in particular UNFCCC, Art. 3.

16 IPCC, 'History of the IPCC' https://www.ipcc.ch/about/, https://www.ipcc.ch/about/history/.

17 IPPC, 'IPCC Factsheet: How does the IPCC review process work?' (2024), https://www.ipcc.ch/assessment-report/ar6/.

18 IPCC, AR6 WGIII, 'Climate Change 2022: Mitigation of Climate Change' (2022), Chapter 4, p. 473: "The literature suggests a relationship between the effectiveness of cooperative action and the perception of fairness of such arrangements". See also IPCC, AR5 WGIII, 'Climate Change 2014: Mitigation of Climate Change' (2014), Chapter 4, p. 291: "[a]t the international level, an equitable regime with fair burden sharing is likely to be a key condition for an effective global response."

countries prioritize their own interests independently.[19] IPCC reports also stress that equity enables greater ambition in accelerating climate mitigation. Only by doing its fair share can a State expect others – particularly those with fewer resources – to strengthen their own climate mitigation efforts.[20]

2.2 1.5°C as the relevant threshold for limiting global temperature rise

When it comes to quantifying a State's equitable contribution to global mitigation efforts, the first step in the development of a fair share assessment is the selection of a specific temperature limit. Over the last 15 years, international political, legal and scientific consensus has converged on 1.5°C as the relevant threshold for global temperature rise.

One of the main objectives of the Paris Agreement is to "[hold] the increase in the global average temperature to well below 2°C above pre-industrial levels and [pursue] efforts to limit the temperature increase to 1.5°C above pre-industrial levels".[21] This limit was informed by a structured expert dialogue that took place between 2013 and 2014, where the majority of the experts taking part were scientists working with the IPCC. The final report from this process, which was taken into account in the negotiations leading up to the Paris Agreement, made clear that there was a high likelihood of meaningful differences in the risks associated with 2°C, compared to 1.5°C.[22]

In 2018, the IPCC released its Special Report on Global Warming of 1.5°C, confirming that limiting temperature rise to 1.5°C, compared to 2°C, would significantly reduce the risks and impacts of climate change.[23] This includes risks relating to, for example, extreme weather, sea level rise, and biodiversity loss. In order to limit temperature rise to 1.5°C, the report set out that States would need to pursue rapid and far-reaching policy measures across the economy. In this regard, the report found that global CO_2 emissions would need to decline by about 45% from 2010 levels by 2030 and reach net zero around 2050.[24]

Subsequent UNFCCC Conferences of the Parties' decisions (COP) have consistently reinforced the need for States to make equitable contributions to global GHG reduction efforts that are aligned with limiting temperature rise to 1.5°C. These decisions have been heavily informed by the IPCC's findings. The Glasgow Climate Pact (2021) explicitly

19 IPCC, AR5 WGIII (2014), SPM, p. 5: "Effective mitigation will not be achieved if individual agents advance their own interests independently".

20 IPCC, AR6 WGIII (2022) (n.18), SPM, D.3.3: "Equity and just transitions can enable deeper ambitions for accelerated mitigation"; and Chapter 1, p. 156: "The AR5 noted that greater cooperation would ensue if policies are perceived as fair and equitable by all countries along the spectrum of economic development – implying a need for equitable sharing of the effort".

21 Paris Agreement (2015), Art. 2.1 (a).

22 UNFCCC, Subsidiary Body for Scientific and Technological Advice, 'Report on the structured expert dialogue on the 2013–2015 review', Forty-second session Bonn, 1–11 June 2015 (2015).

23 IPCC, 'Global Warming of 1.5°C' (n.4).

24 ibid SPM, C.1, p. 12.

recognizes that achieving rapid and deep emissions reductions "requires accelerated action in this critical decade, based on the best available science and equity, reflecting common but differentiated responsibilities and respective capabilities."[25] Similarly, the Sharm el-Sheikh Implementation Plan (2022) recognises that limiting global warming to 1.5°C "requires accelerated action in this critical decade, on the basis of equity and the best available scientific knowledge, reflecting common but differentiated responsibilities and respective capabilities."[26] The COP decision on the First Global Stocktake (2023) further underscores this commitment, with the international community pledging to "accelerate action in this critical decade on the basis of the best available science, reflecting equity and the principle of CBDR-RC."[27]

Building on IPCC findings and COP decisions, in 2025 the International Court of Justice found that the 1.5°C threshold is "the parties' agreed primary temperature goal for limiting the global average temperature increase under the Paris Agreement".[28] By highlighting that "1.5°C has become the scientifically based consensus target under the Paris Agreement", the Court conclusively settled the debate over whether, under international law, the appropriate long-term temperature limit guiding countries' mitigation efforts should be 1.5°C or "well below 2°C" of warming.[29]

The IPCC has warned repeatedly that 1.5°C of warming will already lead to serious adverse consequences to people and ecosystems.[30] Exceeding the 1.5°C limit, even temporarily, is projected to lead to ever greater risks and additional impacts, some of which may be irreversible, regardless of subsequent efforts to bring temperatures back down.[31] In this context, the assessment of States' climate mitigation efforts at the regional and national level may be subject to even stricter interpretations of such a long-term temperature limit. For example, the European Court of Human Rights acknowledged that "risks are projected to be lower if the rise in temperature is limited to 1.5°C",[32] recalling that current levels of global warming have already exposed populations and

25 COP26, Decision 1/CMA.3 'Glasgow Climate Pact', at [26].

26 COP27, Decision -/CP.27 'Sharm el-Sheikh Implementation Plan' at [12].

27 COP28, Decision 1/CMA.5 'Outcome of the first global stocktake', at [6]. Subsequent decisions from COP29 and COP30 reiterated the same findings on 1.5°C and CBDR-RC.

28 International Court of Justice (ICJ), Obligations of States in respect of Climate Change (Advisory Opinion) 23 July 2025, General List No. 187 [2025]. See in particular para [224].

29 ibid at [224] and [242]. For additional context, see J. Udell, F. Tan, 'New Standards in Government Framework Litigation: Legal Implications of the ICJ Advisory Opinion on Climate Change' (2025), Climate Law: a Sabin Center Blog / Verfassungsblog.

30 For example, see: IPCC, AR6 WGII, 'Climate Change 2022: Impacts, Adaptation and Vulnerability' (2022), SPM, B.3: "Global warming, reaching 1.5°C in the near-term, would cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems and humans".

31 For example, see: J. Rogelj, L. Rajamani, 'The pursuit of 1.5°C endures as a legal and ethical imperative in a changing world' (2025), Science, Vol 389, Issue 6757. The authors note that: "Every 0.1°C increase in peak temperature increases loss and damage".

32 KlimaSeniorinnen (n.10) at [436].

ecosystems to widespread adverse impacts and related losses and damages.[33] Similarly, the Inter-American Court of Human Rights highlighted that the 1.5°C limit, as informed by international consensus, "does not eliminate the risk" of worsening climate impacts.[34] It found that 1.5°C must thus be understood as a "minimum starting point" to calculate national carbon budgets that States must adhere to in order to adequately combat climate change and thus protect human rights.[35]

2.3 Effort sharing and fair share approaches

The concept of effort sharing broadly refers to how the global community of States works together to meet its collective goals under the global climate governance regime. In this context, effort sharing methodologies refer to the body of academic research that determines how mitigation efforts could be distributed among States.[36] Specifically, the scientific community has developed methodologies to determine States' shares of mitigation action, including by allocating the remaining global carbon budget (RGCB) among States,[37] or by deriving national emissions pathways,[38] consistent with a defined temperature limit. For example, effort sharing approaches can be used to divide the *global* carbon budget for 1.5 °C between States, in order to define *national* carbon budgets consistent with limiting warming to this threshold.

The IPCC has noted that "[i]nternational cooperation on climate change involves ethical considerations, including equitable effort-sharing."[39] In the IPCC Fifth Assessment Report,

33 ibid at [114], citing IPCC, 'Climate Change 2023: Synthesis Report' (2023), SPM, A.2.

34 As established by the Inter-American Court of Human Rights (IACtHR), Advisory Opinion OC-32/25 on the Climate Emergency and Human Rights [2025] at [326].

35 ibid. This remains particularly relevant considering that: "As the protection of rights is contingent on limiting global temperature rise, it is impossible to define a meaningful national carbon budget without it being calculated in relation to the remaining global carbon budget for a given temperature threshold." D. van Berkel, F. Tan, J. Udell, A. Williamson, 'Quantifying a 1.5°C Fair Share Carbon Budget: Human Rights Obligations on Climate Change after KlimaSeniorinnen' (2025). Amsterdam Law School Research Paper No. 2025-11, Amsterdam Centre for European Law and Governance Research Paper.

36 For example, see: N. Höhne, M. den Elzen, D. Escalante, 'Regional GHG Reduction Targets Based on Effort Sharing: A Comparison of Studies' (2014), 14 Climate Policy 122.

37 In this report, the remaining global carbon budget (RGCB) refers to the total, cumulative amount of carbon dioxide (CO2) that can still be emitted whilst staying below some level of global warming with a certain probability, for example a 50% chance of staying below 1.5°C. See also IPCC, Annex I: Glossary (n.4). Unless otherwise specified, references in this report to 'carbon budget' or 'budgets' concern CO_2 only.

38 Effort sharing approaches based on mitigation pathways presented by the IPCC cover all GHGs (i.e., CO_2 and non-CO_2 emissions). Some 1.5°C pathways may allow for overshoot, which implies that cumulative emissions exceed the RGCB for 1.5°C before net zero, and exceedance of the RGCB is balanced out by net negative emissions by 2100. See IPCC, AR6 WGIII (n.18) SPM [B.7].

39 IPCC, 'Climate Change 2014' (n.18) Technical Summary, TS.1, p. 38.

the contribution of Working Group III referred to several approaches to effort sharing, including those based on equity principles. [40] For example:

i. **Responsibility** approaches consider "historical emissions to derive emission goals".[41]
ii. **Capability** approaches rely on an "allocation relating reduction goals or reduction costs to GDP or human development index" and imply that "effective responses [to climate change] require not only financial resources, but also technological, institutional and human capacity".[42]
iii. **Equality** approaches provide "allocations based on immediate or converging per capita emissions".[43]
iv. **Responsibility, capability, and need** approaches include those "that put high emphasis on historical responsibility and at the same time on capability plus the need for sustainable development."[44]
v. **Grandfathering** approaches refer to the allocation of emissions rights or mitigation obligations to individual countries in amounts that are "in proportion to [their] current emissions".[45]
vi. **Cost-optimal** approaches imply that "emissions are reduced where this is most cost-effective (e.g. marginal mitigation cost is equalized across countries – as assessed by models or marginal abatement cost curves)".[46]

However, not all effort sharing approaches in the academic literature reflect fair share, such as those that lack representation of principles such as equity, equality and CBDR-RC. In particular, 'cost-optimal' and 'grandfathering' approaches are increasingly understood to be incompatible with these principles of fairness. For example, various articles in the academic literature and plaintiffs in several framework cases have argued that 'grandfathering' – which favours developed countries' status quo and avoids any weight being given to the historical responsibility and capacity of these countries – is inconsistent with equity principles.[47]

40 Based on (n.36), the IPCC presented an overview of the categories of effort-sharing approaches in IPCC, 'Climate Change 2014' (n.18) Table 6.5, 458.

41 ibid Table 6.5 - Categories of effort-sharing proposals, p. 458.

42 ibid p. 319 and p. 458.

43 ibid p. 458.

44 ibid.

45 ibid Chapter 4, p. 320.

46 European Scientific Advisory Board on Climate Change (ESABCC), 'Scientific Advice for the Determination of an EU-Wide 2040 Climate Target and a Greenhouse Gas Budget for 2030–2050' (2023), p. 27.

47 For examples of academic literature, see: Rajamani et al, 'National 'fair shares' (n.5); and Dooley et al, 'Ethical choices behind quantifications of fair contributions under the Paris Agreement' (2021), Nature Climate Change 11, 300–305. For examples of plaintiffs' arguments, see: ECtHR, Duarte Agostinho v Portugal and 32 other States, App no 39371/20 [2024] and the associated report by Climate Analytics, 'Achieving the 1.5°C Limit of the Paris Agreement: An Assessment of the Adequacy of the Mitigation Measures and Targets of the Respondent States in Duarte Agostinho v Portugal and 32 other States', pp. 25–26 at [2.2.3].

The position that cost-optimal and grandfathering approaches do not constitute fair share approaches is also reflected in research from intergovernmental bodies. As a key example, UNEP took these considerations into account in its 2024 Emissions Gap Report. In this assessment, UNEP produced 1.5°C and 2°C fair share ambition ranges for G20 countries, which were based solely on approaches that are "consistent with the principle of common but differentiated responsibilities and respective capabilities in the light of national circumstances and the Paris Agreement (Rajamani et al. 2021)". Pure cost-effectiveness approaches are presented separately, notably because such a "method is criticized, as it does not consider whether the distribution of future emissions reductions is aligned with any given equity principle."[48]

Several regional and national climate advisory bodies have also flagged the need for States to pursue their fair share of global mitigation efforts.

The European Scientific Advisory Board on Climate Change (ESABCC) is an independent body providing the European Union (EU) with scientific knowledge, expertise and advice relating to climate change. In 2023, the ESABCC took legal principles reflected in the UNFCCC, the Paris Agreement and EU law as the starting point for assessing the EU's fair share of emissions reductions.[49] In particular, the ESABCC recommended that the EU "consider [...] estimates of its fair share of the remaining carbon budget in accordance with the 1.5°C global warming limitation" in order to "make a contribution to achieving the Paris Agreement temperature target that is equitable and consistent with the physical science of climate change".[50] The ESABCC concluded that grandfathering and cost-effectiveness should not be considered a "standard of equity" since "they are not underpinned by equitable principles, and grandfathering in particular maintains current patterns of uneven distribution of emissions".[51] In this context, the ESABCC "assessed the fairness of the EU's contribution under different ethical principles", including equality, responsibility, capability and need.[52] The ESABCC found that under some of these approaches, the EU had already exhausted its fair share of the global emissions budget.

National climate advisory bodies have also assessed, on the basis of effort-sharing approaches, what their country's fair contribution to global mitigation should be. For example, in 2019, the Finnish Climate Change Panel assessed "the fair and responsible contribution of Finland [...] to global efforts to restrict the increase in the global mean temperature to 1.5 degrees."[53] First, the Panel excluded pathways for limiting warming to 2°C in light of the additional "damages" they would entail, and only took into account a carbon budget for Finland – updated with emissions data up to 2019 – based on a 66% probability of limiting global warming levels to 1.5°C (i.e., the Panel did not focus on the

48 UNEP (2024) (n.8), p. 36 at [5.2] and [5.2.1.].

49 ESABCC (n.46), p. 26.

50 ibid p. 14.

51 ibid p. 27.

52 ibid.

53 Finnish Climate Change Panel, 'An Approach to Nationally Determined Contributions Consistent with the Paris Climate Agreement and Climate Science: Application to Finland and the EU' (2019). See notably pp. 4–6.

less stringent budget with a 50% chance of staying within 1.5°C).[54] Second, the Panel relied on existing scientific literature on equity to assess how Finland could provide a fair contribution to global emissions reduction. It identified the "three most basic criteria commonly used in the context of climate policy" to "formulate allocation-based principles and their implications of sharing mitigation efforts", namely: "equality"; "ability to pay"; and "historic responsibility".[55] The Panel concluded that, in all cases, the application of these principles shows that "Finland should be GHG neutral during the early 2030s and clearly net negative from 2040 onwards", and that current mitigation targets are "highly insufficient".[56] Following the Finnish Climate Change Panel's recommendations, Finland has accordingly revised its policies and enshrined the goal of climate neutrality by 2035 into law.[57]

54 ibid p. 5.

55 ibid pp. 6–7.

56 ibid p. 29.

57 Republic of Finland, 'Carbon neutral Finland 2035' (2021), https://www.treasuryfinland.fi/investor-relations/sustainability-and-finnish-government-bonds/carbon-neutral-finland-2035.

3. Fair share through judicial and quasi-judicial developments

Over the past ten years, international, regional and national courts have increasingly found that, in order to prevent further dangerous climate change, States should strive to fairly and equitably do their part to keep global warming within 1.5°C by the end of the century. As the IPCC has recognised, regional and national courts "are increasingly being asked to determine if the climate actions pledged by states are adequate in relation to their fair share".[58] This is because, in light of the collective, global problem of climate change, it is "only in relation to such a 'fair share' that the adequacy of a state's contribution can be assessed".[59]

3.1 Interpretations of international law by international courts and treaty bodies

3.1.1 International Court of Justice

In July 2025, the International Court of Justice (ICJ) issued an advisory opinion (AO) on the obligations of States in the context of climate change.[60] The ICJ AO sets out a series of multifaceted findings regarding States' overarching obligations to urgently confront the "existential problem of planetary proportions that imperils all forms of life and the very health of our planet."[61] The ICJ made unambiguous and actionable findings, establishing clear guidelines to scrutinise the adequacy of States' efforts to reduce GHG emissions.

Overall, the ICJ found that: (a) mitigation obligations are substantive in nature; (b) States must take into account a clear set of requirements when adopting and implementing their mitigation policies, ensuring they are consistent with the overarching goal of collectively keeping the 1.5°C long-term temperature limit within reach; (c) States must determine their contributions towards collective action in light of the central role attributed to equity principles, in particular CBDR-RC.

First, in identifying the legal framework applicable to determine States' international legal obligations, the ICJ stressed the cardinal importance of the principle of CBDR-RC.[62] Defined as a "manifestation of the principle of equity", the Court highlighted its core guiding role for the implementation of climate change treaties, as well as for the overall

58 IPCC, AR6 WGIII (2022) (n.18), 14.3.2.3.

59 ibid.

60 ICJ, 'Obligations of States in respect of Climate Change' (Advisory Opinion) (n.28).

61 ibid. at [456]. On the broader implications of the Advisory Opinion, see M.A. Tigre, M. Bönnemann, A. De Spiegeleir, 'The ICJ's Advisory Opinion on Climate Change: an Introduction' (2025), Climate Law: a Sabin Center Blog / VerfassungsBlog.

62 The ICJ recalled, *inter alia*, how CBDR-RC-related findings are rooted in the 1990 First Assessment Report of the IPCC and how this principle permeates the whole climate change treaty framework. See for example Advisory Opinion (n.28) at [149] and [179].

interpretation and application of the most directly relevant legal rules.[63] It found that CBDR-RC "reflects the need to distribute equitably the burdens of the obligations in respect of climate change".[64] This consolidates the distinct expectations stemming from different levels of historical and current contributions to cumulative GHG emissions, as well as from different capabilities and national circumstances.[65] As noted above, the Court then found that the agreed temperature goal of limiting global warming under the Paris Agreement must be understood as 1.5°C above pre-industrial levels, as informed by scientific consensus.[66]

In fulfilment of their obligations under the Paris Agreement, parties are then required to formulate and communicate Nationally Determined Contributions ("NDCs"). The Court found that the content of NDCs is not entirely left to their discretion, and in particular:

- they "must become more demanding over time";
- be informed by "global stocktake" outcomes;
- be sufficiently transparent;
- reflect "highest possible ambition"; and
- be collectively "capable" of making an adequate contribution to achieving the 1.5°C temperature limit.[67]

The Court further found that, owing to the gravity of the threat posed by climate change, the applicable standard of due diligence is a stringent one. This requires each party to do "its utmost" to ensure that its NDC is as ambitious as possible and makes an adequate contribution to the realization of the Agreement's objectives.[68] The Court noted that such an obligation is incumbent upon all parties to the Paris Agreement. However, consistent with the CBDR-RC principle, it found that the assessment of the adequacy of a party's NDC will have to take into account, most notably, its historical contribution to cumulative GHG emissions, its level of development, and its national circumstances.[69] In this regard, the Court further emphasizes that developed countries are expected to take the lead.[70]

When it comes to the duty to implement NDCs and domestic mitigation measures under the Paris Agreement, the Court similarly established that States must undertake best efforts, be proactive and pursue mitigation measures that are "reasonably capable" of

63 ibid [146], [148], [151], [161].

64 ibid [148].

65 ibid, noting that: "The principle of common but differentiated responsibilities and respective capabilities thus acknowledges, on the one hand, the historical responsibility of certain States and, on the other, that the measures which can be expected from all States with respect to addressing climate change are not the same".

66 ibid [224].

67 ibid [241]–[245].

68 ibid [246]. See also the conclusions highlighted by J. Udell, F. Tan (n.29).

69 ibid [247].

70 ibid [248].

achieving their NDCs.[71] Even in this context, scientific consensus around worsening climate impacts requires States to comply with a stringent due diligence standard when carrying out their domestic mitigation action.[72]

The ICJ reached similar conclusions when addressing the relevance of customary international law.[73] Even in this context, the due diligence standard required to prevent significant harm needs to be operationalised in accordance with the CBDR-RC principle, in light of the specific situation of each State. In particular, "developed States, in the context of climate change, must take more demanding measures to prevent environmental harm and must satisfy a more demanding standard of conduct".[74] Implementing due diligence therefore requires a State to "take all the means at its disposal to protect the climate system in accordance with its capabilities and available resources".[75]

In light of the "shared" nature of the climate system, the Court concluded that States need to similarly do their part to implement the international customary duty to co-operate. This is particularly important to collectively achieve, in line with CBDR-RC, "concrete emission reduction targets or a methodology for determining contributions of individual States", including with respect to the fulfilment of the 1.5°C temperature limit.[76]

3.1.2 International Tribunal for the Law of the Sea

In its 2024 Advisory Opinion on Climate Change, the International Tribunal for the Law of the Sea (ITLOS) affirmed the importance of equity in the implementation of a State's efforts to reduce GHG emissions.[77] It emphasized that mitigation measures must be guided by best available science and relevant legal standards, including those enshrined in the UNFCCC and the Paris Agreement. Citing the "key principle" of CBDR-RC, ITLOS concluded that "the scope and content of necessary measures may vary in accordance with the means available to States Parties and their capabilities."[78] Against this

71 ibid [253]. In particular, noting that "[t]hese measures may include putting in place a national system, including legislation, administrative procedures and an enforcement mechanism, and exercising adequate vigilance to make such a system function effectively, with a view to achieving the objectives in their NDCs".

72 ibid. [254].

73 The Court notably focused on the mitigation obligations stemming from the customary duty to prevent significant harm to the environment and the duty to co-operate (on the latter, see also below, Part 2 of this report). With respect to the climate system, the ICJ affirmed that States must fulfil their duty to prevent significant harm to the environment by acting with due diligence, as noted at [273]–[280]. This requires States to "actively pursue" the scientific information necessary to assess the probability and seriousness of climate harm, and to "properly act" on it, with more demanding diligence efforts required as scientific knowledge progresses, as further noted at [283]–[284].

74 ibid [291].

75 ibid [292].

76 ibid [305]. As of March 2026, at the domestic level, plaintiffs in government framework cases in France, Italy, the Netherlands and Sweden have already incorporated the findings of the ICJ (see case details below in Part 2 of this report). In particular, they argue that the ICJ AO further informs a State's duty to undergo a fair share assessment to equitably allocate – and pursue – global mitigation action.

77 International Tribunal for the Law of the Sea (ITLOS), Request for an Advisory Opinion Submitted by the Commission of Small Island States on Climate Change and International Law [2024].

78 ibid [225]–[229], [243].

background, it further established that "States with greater means and capabilities must do more to reduce such emissions" than States with fewer resources.[79]

3.1.3 UN treaty bodies

The need for developed countries to pursue more ambitious emissions reductions than the global average is crucial to ensure effective human rights protection and has also been increasingly highlighted by UN treaty bodies.

For example, in its 2023 General Comment on Climate Change, the UN Committee on the Rights of the Child emphasised the need for global emissions reductions endeavours to reflect equity considerations, finding that "mitigation measures should reflect each State party's fair share of the global effort to mitigate climate change", and for high-income States to "continue to take the lead" in reducing emissions to ensure adequate protection of human rights, with particular reference to the protection of the younger generations.[80]

This argument was also raised in the UN Human Rights Committee proceedings of *Daniel Billy et al v Australia* (2022).[81] While the Committee's findings mainly focused on the State's climate adaptation failures, a concurring opinion to the decision found that "a higher standard of due diligence applies in respect of those States with significant total emissions or very high per capita emissions (whether these are past or current emissions), given the greater burden that their emissions place on the global climate system, as well as to States with higher capacities to take high ambitious mitigation action", most importantly because "if no effective mitigation actions are undertaken in a timely manner, adaptation will eventually become impossible".[82]

3.2 Regional judicial developments

3.2.1 The European Court of Human Rights

In April 2024, the Grand Chamber of the European Court of Human Rights (ECtHR) handed down a landmark judgment in *Verein KlimaSeniorinnen Schweiz and Others v Switzerland*, marking the first time that the ECtHR has ruled on the application of the European Convention on Human Rights (ECHR) in relation to climate change.[83] In this application, the applicants requested the Court to evaluate Switzerland's conduct on climate change in light of the human rights protections guaranteed by the Convention. The Court determined that Switzerland was in breach of its positive obligations under Article 8 ECHR (the right to respect for private and family life) because it failed to put in place an adequate domestic regulatory framework to mitigate climate change.

79 ibid [227].

80 Committee on the Rights of the Child, General comment No. 26 (2023) on Children's Rights and the Environment, with a Special Focus on Climate Change [2023]. See para [98].

81 UN Human Rights Committee, Daniel Billy et al v Australia, Comm no. 3624/2019 [2022].

82 ibid Annex II at [5]–[6].

83 KlimaSeniorinnen (n.10). The ECtHR published its decision in KlimaSeniorinnen on the same day as two other climate change cases, which were ruled inadmissible: Duarte Agostinho and Others v Portugal (n.42); and Carême v France, App no 7189/21 [2024].

The ECtHR interpreted Article 8 ECHR through the lens of the UNFCCC and the Paris Agreement. The Court found that, under Article 8 ECHR, "each State has its own share of responsibilities to take measures to tackle climate change and that the taking of those measures is determined by the State's own capabilities rather than by any specific action (or omission) of any other State".[84] It considered that each State must do "its part" in the global emissions reduction effort based on the principle of CBDR-RC.[85]

In this context, the ECtHR did not make direct reference to the term 'fair share'. However, the Court's reasoning shows that the determination of a State's fair share was a highly relevant consideration in assessing the adequacy of Switzerland's approach to setting its climate mitigation policies. The Court was explicit that an "effective regulatory framework" is dependent on "national GHG limitations" that have been determined through "a carbon budget or otherwise".[86] Academic analysis has inferred that the judgment effectively requires States to quantify a national carbon budget through a fair share assessment that is based on the remaining global carbon budget for 1.5°C.[87]

First, the Court made it clear that, to comply with its human rights obligations, a State cannot merely claim that principles of fairness and CBDR-RC were taken into account in the process aimed at setting its climate mitigation targets. In this regard, it stated that "the Court is not convinced that an effective regulatory framework concerning climate change could be put in place without quantifying, through a carbon budget or otherwise, national GHG emissions limitations".[88] The Court concluded that the absence of such a quantification was part of a "critical lacunae" in the Swiss regulatory framework, which led to its conclusion that the State had violated Article 8 ECHR.[89]

Second, in finding the Swiss emissions reduction targets insufficient, the Court explicitly relied on estimates – submitted by the applicants – of the remaining Swiss carbon budget, based on an 'equal per capita' allocation of the remaining global carbon budget for 1.5°C.[90] With regard to the requirement to quantify a national carbon budget,

84 KlimaSeniorinnen [442].

85 ibid [545]; [571].

86 ibid [570].

87 For example, for a full analysis of the Court's reasoning on this point, see 'Quantifying a 1.5°C Fair Share Carbon Budget: Human Rights Obligations on Climate Change after KlimaSeniorinnen' (n.35), pp. 14 ss ; the same interpretation is posited by A. Jackson, O. Kelleher, 'Quantifying Fair Share Carbon Budgets The Margin of Appreciation in the ECtHR's Klimaseniorinnen Judgment Revisited', Verfassungsblog (2025), finding that: "An obligation to quantify each country's fair share of the remaining global carbon budget associated with limiting global heating to 1.5°C flows from the judgment in KlimaSeniorinnen". The same framing is also provided by J. Setzer, C. Higham, 'Global Trends in Climate Change Litigation: 2025 Snapshot' (2025), LSE, p. 30: "the Committee of Ministers clarified this aspect of the judgment as a substantive requirement, inviting the Swiss government to provide more information on its quantification methodology, particularly in relation to how it aligns with the remaining global carbon budget. Superficial compliance will not suffice: an approach based on at least equal per-capita allocation appears necessary to meet the threshold set by the Court".

88 KlimaSeniorinnen [570].

89 ibid [573].

90 ibid [323], [569].

Switzerland, argued that "there was no established methodology to determine a country's carbon budget".[91] In particular, the State asserted that any quantification of fairness principles is inherently subjective and could therefore not be used to determine the legality of its reduction efforts.[92]

The Court explicitly rejected Switzerland's arguments.[93] It held, referencing with approval the findings of the German Constitutional Court in the climate case *Neubauer*,[94] that it is possible to derive a State's national carbon budget from the global carbon budget. It also held that it is precisely the principle of CBDR-RC, as enshrined in global climate treaties, that "requires the States to act on the basis of equity and in accordance with their own respective capabilities".[95]

Assessing the Swiss reduction efforts in substance, the Court further noted that "[o]n the basis of its current and planned targets, Switzerland would apportion itself 0.2073% of the remaining global CO_2 budget as of 2022, compared to a population share of 0.1099%" (i.e. considerably more than Switzerland's equal per capita allocation).[96] In relation to the applicants' equal per capita estimate of the Swiss carbon budget, the ECtHR observed that, based on Switzerland's current emissions reduction targets, its carbon budget to remain within 1.5°C would already be depleted by 2030, or 2034 at the latest.[97] The Court concluded that "[t]hus, under its current climate strategy, Switzerland allowed for more GHG emissions than even an "equal per capita emissions" quantification approach would entitle it to use".[98] In other words, the Court held that the mitigation policies were deficient *even* under the equal per capita methodology, the most lenient approach to calculating fair share, which does not take into account principles such as CBDR-RC. As such, the judgment provides an expectation that the quantification of a remaining national carbon budget through more stringent 1.5°C-aligned fair share methodologies, which do take these principles into account, is more appropriate to ensure compliance with Article 8 ECHR.[99] Overall, the ECtHR's approach indicates that the burden of proof rests with States to demonstrate compliance with the standards articulated in *KlimaSeniorinnen*. In particular, States must establish that they have

91 ibid [570].

92 For an overview of Switzerland's arguments on this point, see notably the applicant's submission 'Response to the Respondent's written answers to the questions communicated by the Court to the parties on 16 March 2023 to be addressed in their oral submission at the hearing before the Grand Chamber', pp. 3–4.

93 KlimaSeniorinnen [570].

94 German Constitutional Court, Neubauer and Others v Germany [2021] 1 BvR 2656/18, 1 BvR 96/20, 1 BvR 78/20, 1 BvR 288/20, 1 BvR 96/20, 1 BvR 78/20.

95 KlimaSeniorinnen [571].

96 ibid [323]. The Court referred to this finding in its assessment of Switzerland's climate targets at [569].

97 ibid.

98 ibid.

99 This position is also reflected in the applicants' challenge to the validity of the equal per capita approach compared with the 'highest possible ambition' standard set out in the Paris Agreement, and the principle of CBDR-RC. See: 'Observations on the facts, admissibility and the merits' at [39].

determined national emissions limitations reflecting their equitable share, that national GHG emissions remain within this limit, and that adequate measures are being adopted to achieve the required emissions reductions to do so.[100]

Building on the findings established in *KlimaSeniorinnen*, plaintiffs in several government framework cases, including those targeting Austria, Czechia, France, the Netherlands and Sweden, have submitted expert evidence highlighting that their respective States' climate policies are not compatible with a 1.5°C fair share-aligned national carbon budget.[101]

3.2.2 The Inter-American Court of Human Rights

Another groundbreaking regional development occurred in July 2025, when the Inter-American Court of Human Rights (IACtHR) issued its Advisory Opinion No. 32, outlining State obligations under the American Convention on Human Rights in response to the climate emergency.[102] With a broad range of critical findings on both procedural and substantive matters – including, notably, the recognition of a human right to a healthy climate – the IACtHR delivered one of the most comprehensive and consequential interpretations of States' human rights obligations in the face of worsening global warming.[103]

The IACtHR emphasised that, in order to guarantee the right to a healthy climate, States are, *inter alia*, obliged to adequately reduce their GHG emissions.[104] The Court stressed the importance of pursuing global mitigation endeavours in a fair and equitable manner, finding that States have an obligation to define an appropriate mitigation target.[105] Overall, the Court highlighted the duty to take into account best available science in the determination of a State's mitigation action, with the goal of defining a target that should be as ambitious as possible and increase progressively.[106]

Through the lens of the international legal framework established by the UNFCCC and the Paris Agreement, the IACtHR recalled that such a target must reflect highest possible ambition, in accordance with the principle of CBDR-RC.[107] Specifically, this entails the adoption of a mitigation target based on a temperature increase of no more than 1.5°C, a limit that must be understood as a "minimum starting point" in the determination of GHG reduction endeavours.[108]

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100 Quantifying a 1.5°C Fair Share Carbon Budget (n.35), p. 35.

101 See the national-level cases described in Part 2 of this report.

102 Inter-American Court of Human Rights, Advisory Opinion (n.34).

103 Along these lines, the AO of the IACtHR has been defined as "the most important and progressive document yet released by an international court on the climate crisis". M.A. Tigre, M. Bönnemann, K. Silverman-Roati, 'A Blueprint for Rights-Based Climate Action: The Inter-American Court of Human Rights' Advisory Opinion on the Climate Emergency', VerfassungsBlog (2025).

104 ICJ, Advisory Opinion (n.28) at [321].

105 ibid at [322].

106 ibid at [327] and [331].

107 ibid at [323].

108 ibid at [326].

Importantly, the Court found that such a target should notably be "established based on considerations of justice", such as those emanating from the fundamental principle of common but differentiated responsibilities.[109] Accordingly, the Court found that the extent of mitigation for which each State is responsible should be determined by taking into account three factors:

i. States' current and historical cumulative contribution to climate change. The Court explained that: a) nations that have emitted the most GHG throughout history should assume greater responsibility in relation to mitigation because "they have had the most harmful impact on the global climate system"; and b) accordingly, the largest current emitters of GHG should also "make a commitment that matches their emissions". In this determination, the Court stressed the need for States to also assess the potential relevance of a broader (non-exhaustive) list of factors, such as per capita emissions, GHG emissions from consumption, the timeline of industrialization in each State, and the energy intensity of its economy.[110]
ii. The capabilities of each State. The Court focused on how the State should increase its mitigation response on the basis of "the resources it possesses". In particular, the Court emphasized that countries which "have achieved development or are on the brink of achieving it" should set mitigation targets proportionate to both their contribution to global climate change and their level of development. To calculate how capabilities should be integrated in a State's determination of its mitigation ambition, the Court identified a non-exhaustive list of factors that should be taken into account, including cumulative and current GNP of each country, past costs incurred to preserve the global climate system, the government's budget, public debt, tax collection capacity, and access to international financing and low-emission technologies.[111]
iii. The circumstances of each State. In the assessment of this factor, the Court paid particular attention to the perspective of human rights protection, flagging relevant circumstances including the size of the State's population, income distribution inequality, and unsatisfied basic necessities.[112]

The Advisory Opinion concluded that the IACtHR does not have to determine how, *in concreto*, all the aforementioned factors must quantitatively contribute to inform each State's mitigation target. However, it established that, within the Inter-American human rights protection framework, States have a positive obligation to qualitatively assess these factors and to set, adopt, and progressively update the most ambitious mitigation target possible on the basis of that assessment. The Court further found that such a duty to explain the rationale behind a State's decision in the context of setting a mitigation target is vital to ensuring procedural rights, such as people's participation in the decision-making process.[113]

109 ibid at [327]. The Court highlights the relevance of the principle of common but differentiated responsibilities throughout its Opinion, considering it one of the "fundamental" principles shaping its interpretation of States obligations in the context of the climate emergency. See [216].

110 ibid at [328].

111 ibid at [329].

112 ibid at [330].

113 ibid at [332].

When it comes to the implementation of the objectives highlighted in its Advisory Opinion, the Court stressed, *inter alia*, the relevance of the duty of cooperation, as notably enshrined in international customary law, climate treaties and the Inter-American system.[114] Noting its "binding legal force", it found cooperation to be essential to achieve effective implementation of global climate goals.[115] In relation to addressing the causes and impacts of climate change, the Court concluded that cooperation must be operationalised in light of factors such as "the differences among States, their capabilities, and their responsibilities".[116]

3.3 National judicial developments

Against the background of legal and scientific consensus on equitable climate action, several apex courts have further determined the importance of assessing a State's fair share in the context of achieving their legal duties to tackle climate change. This is especially the case in the context of human rights protection. Most notably in *Urgenda* (2019), *Neubauer* (2021) and *Do-Hyun Kim* (2024), Dutch, German and South Korean courts addressed this issue by drawing on principles of international law and best available science.[117] Specifically, they referred to international legal principles of equity and CBDR-RC, as well as effort sharing methodologies set out in the scientific literature.

3.3.1 The Netherlands

In *Urgenda*, the Dutch Supreme Court sought to identify the "minimum fair share" of the Netherlands, in order to inform its assessment of the State's compliance with its human rights obligations under the ECHR.[118] The Court noted that in its Fourth Assessment Report (AR4), the IPCC indicated that developed countries needed to reduce their GHG emissions between 25–40% by 2020 against 1990 levels to have a likely chance of holding global temperature below 2°C (because the first instance proceedings were initiated in 2013,

114 ibid at [247]–[250].

115 ibid at [251].

116 ibid at [253] and [258].

117 Urgenda (n.10); Neubauer (n.94); Constitutional Court of South Korea, Do-Hyun Kim et al v South Korea, 2020HunMa389, 2021HunMa1264, 2022HunMa854, 2023HunMa846 [2024]. These apex court judgments were all delivered before the ICJ AO, recognising 1.5°C as the relevant temperature threshold (n.25). Other pending proceedings are also addressing this point. For example, in Klimaatzaak et al v Kingdom of Belgium & Others (2023) the Court of Appeal of Brussels highlighted the relevance of fair share methodologies in the assessment of a State's duty to adequately reduce GHG emissions. Among several elements of evidence, the Court relied on grand-fathering calculations to order the defendants to cut emissions domestically by 55% by 2030 compared to 1990 levels. The Court acknowledged that it would have been "more prudent" to select mitigation scenarios with higher probabilities of keeping global warming within the 1.5°C threshold. However, it identified the 55% goal, as also informed by grand-fathering – as "the least restrictive for the State" – that could help "avoid interfering with the prerogatives of the legislative and executive powers." See [192]–[195]. The Court of Appeal of Brussels also delivered this ruling before the ICJ AO and the KlimaSeniorinnen judgment and, as of March 2026, the case is pending before Belgium's Supreme Court.

118 Urgenda (n.10) [6.3].

1.5°C had not yet been reflected as a relevant standard in the Paris Agreement, IPCC reports and subsequent COP decisions).[119]

The Dutch Supreme Court concluded that the IPCC did not provide conclusive answers regarding the emissions reduction that the Dutch State needed to adopt measures aimed at holding global warming below a certain temperature level. Nevertheless, the Court determined the 25–40% range to be a "reasoned proposal", as it was derived from the latest scientific studies and covered a broad spectrum of effort sharing methodologies.[120] Furthermore, the Court considered it significant that States Parties to the UNFCCC had referred to the 25–40% range in the COP decisions adopted at the annual climate summits.[121] Although the Dutch Supreme Court did not consider the IPCC's finding as legally binding, it nevertheless determined that the strong scientific backing and broad political consensus behind it made it the relevant standard to determine the "absolute minimum" mitigation requirement for the Netherlands. Thus, the Court decided that the 25–40% range could be taken as a starting point for specifying the duty of care of the Dutch State.[122] Accordingly, it ordered the State to achieve an emissions reduction target of at least 25% by 2020 (the lowest end of the range).[123]

The Supreme Court further indicated, with reference to the Court of Appeal of the Hague's decision (2018), that this finding was informed by the Netherlands' status as a developed country, and the CBDR-RC commitments it made under global climate agreements.[124] The Court of Appeal indeed noted that:

> [T]he Netherlands, as a highly developed country, has profited from fossil fuels for a long time and still ranks among the countries with the highest per capita greenhouse gas emissions in the world. It is partly for this reason that the State should assume its responsibility, a sentiment that was also expressed in the United Nations Framework Convention on Climate Change and the Paris Agreement.[125]

119 The Urgenda case was filed in 2013, at a time when 2°C was widely regarded as the politically agreed long-term temperature limit. Because the first instance proceedings were initiated in 2013, 1.5°C had not yet been clearly reflected as a relevant standard in IPCC reports and subsequent COP decisions. However, when issuing its decision in 2019, The Supreme Court acknowledged the shifting consensus, noting that "new insights have shown that the temperature can only safely rise by no more than 1.5°C". See [2.1].

120 The term "reasoned proposal" was used in the 'Advisory Opinion on Cassation Appeal of the Procurator General in the Matter between the Netherlands v Urgenda' (Hoge Raad 2019) ECLI:NL:PHR:2019:1026, No. 19/00135, [4.129]–[4.137]. See also J. Setzer, D. van Berkel, 'Urgenda v State of the Netherlands: Lessons for International Law and Climate Change Litigants' (2019), LSE Grantham Research Institute on Climate Change and the Environment.

121 Urgenda (n.10) [7.2.3].

122 ibid [4.5].

123 ibid [7.5.1].

124 ibid [7.3.4.] citing Court of Appeal of the Hague, Urgenda v State of the Netherlands [2018] at [66].

125 Court of Appeal of the Hague, Urgenda, [66].

3.3.2 Germany

In *Neubauer*, the German Constitutional Court acknowledged that, while there are several scientific methods for determining a State's necessary emissions reductions to hold global warming to a particular temperature limit, all approaches to effort-sharing entail uncertainties. Nevertheless, the Court found:

> [T]his does not make it permissible under constitutional law for Germany's required contribution to be chosen arbitrarily. Nor can a specific constitutional obligation to reduce CO_2 emissions be invalidated by simply arguing that Germany's share of the reduction burden and of the global CO_2 budget are impossible to determine.[126]

The Court then examined the lawfulness of Germany's existing climate mitigation efforts. It did so by referring to the findings of the German Advisory Council on the Environment, which quantified a remaining national carbon budget for Germany.[127] On this basis, the Court established that – under the current reduction targets – the entire remaining carbon budget for Germany would almost be depleted by 2030.[128] The Court therefore concluded that Germany's climate law was effectively "offloading the necessary reduction burdens" to future generations, giving rise to a violation of the youth plaintiffs' fundamental freedoms.[129]

The Court also provided more general guidance on the lawfulness of a government's climate mitigation plan in light of its obligation to protect constitutional rights. The Court noted that "[a] manifestly unsuitable protection strategy would be one that concerned itself with reducing greenhouse gas emissions without pursuing the goal of climate neutrality".[130] Related to this, and in light of the risk of irreversible climate change, the Court noted that "the law must therefore take into account the IPCC's estimates on the size of the remaining global CO_2 budget and its consequences for remaining national emission budgets".[131] Finally, the Court suggested that "ever increasing reduction quotas [...] and annually decreasing emission amounts" (i.e. progression over time) are necessary to discharge the duty to protect the constitutional rights to life and health.[132]

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126 Neubauer (n.94) [225].

127 ibid [231]: "the specific amount of the remaining national CO_2 budget that is still available from 2020 onwards is taken to be 6.7 giga-tonnes – in line with the Advisory Council's calculation for the target of limiting the increase in the global average temperature to 1.75°C with a probability of 67%". However, while taking this approach into account in its assessment, the Constitutional Court acknowledged 1.5°C as a relevant temperature limit. Specifically, it found that a 1.75°C budget may not be adequate in light of the requirement – under international law – to pursue efforts to limit the global temperature increase to 1.5°C. See ibid [235]. As noted above, the Constitutional Court adjudicated Neubauer several years before the establishment of 1.5°C as the relevant legal standard by the ICJ AO and KlimaSeniorinnen.

128 ibid [231].

129 ibid [117], [183].

130 ibid [155].

131 ibid [229].

132 ibid [167].

3.3.3 South Korea

Similarly, in *Do-Hyun Kim*, the Supreme Court of South Korea found that States must determine their climate policies in line with their fair share of global mitigation efforts.[133] In its landmark 2024 ruling, the Court scrutinized the ambition of South Korea's climate policies and found that the Government violated the right to a healthy environment by failing to set emissions reduction targets for the 2031–2049 period.[134] This omission, the Court ruled, left future climate policies dependent "solely on the short-term circumstances and conditions identified by the government at the time", placing a disproportionate emissions reduction burden on young and future generations.[135] While it declined to assess the lawfulness of South Korea's 2030 GHG reduction target, it underscored the State's duty to integrate equity considerations in the design of its climate policies. Specifically, the Court invoked the principle of CBDR-RC, affirming that "developed countries bear greater responsibility for GHG emissions."[136] It concluded that States must determine and implement climate policies based on their fair share of global mitigation efforts:

> [B]ased on a common understanding of global GHG reduction pathways formed through international consensus—grounded in scientifically estimated global carbon budgets and scientific research findings—individual countries must set their own GHG reduction targets, thereby determining their fair share of contributing to global reduction targets, and develop and implement policies to achieve these targets.[137]

133 Constitutional Court of Korea, Do-Hyun Kim et al v South Korea (n.117).

134 For additional context on the South Korean climate case, see: F.P. Fantozzi, J. Udell, 'Shifting the Mitigation Burden: Outcomes and Implementation Opportunities of the Landmark South Korean Climate Case' (2024), BIICL Climate Law and Litigation Blog Series.

135 Do-Hyun Kim (n.117) p. 25.

136 ibid p. 17.

137 ibid p. 21.

4. Governments' mitigation obligations in an era of overshoot: the next generation of climate cases

The examples highlighted above show how climate litigation has helped shape a broad legal framework for climate protection in less than a decade, with courts around the world recognizing that States must do their part to fairly contribute to collective mitigation action.

As the world imminently approaches the 1.5°C limit, new climate cases are increasingly testing what this means for the establishment and enforcement of State responsibility going forward. In this context, evidence shows that many Global North countries have already exhausted, or are close to exhausting, their fair share-aligned 1.5°C national carbon budgets. Against this background, some governments have refuted the need to quantify their fair share or argued that further ambitious efforts would simply be unfeasible. As the need for such steep GHG reductions is largely due to decades of inaction, a lack of scrutiny on these points would allow governments to benefit from past delays, and ultimately avoid an equitable allocation of the global mitigation burden.

As fair share considerations become key tests for assessing the conduct of governments, plaintiffs are increasingly drawing on scientific, institutional and academic developments to substantiate the legal obligations of States in an era of overshoot.

4.1 The scientific context of overshooting 1.5°C

Despite decades of political commitments and continuously improving scientific consensus, the international community is failing to adequately address the gap between mitigation pledges and the efforts required to prevent dangerous climate change and limit temperature rise to below 1.5°C.[138]

Forster et al (2025) estimated that the remaining global carbon budget for 1.5°C (with a 50% probability) was just 130 Gt CO_2 from the start of 2025.[139] Considering that global annual CO_2 emissions have been consistently on the rise, and close to 40 Gt CO_2

138 UNFCCC, Decision 1/CMA.5, 'Outcome of the first global stocktake', 2024, see I. Context and cross-cutting considerations at [2]–[5].

139 See Forster et al, 'Indicators of Global Climate Change 2024: Annual Update of Key Indicators of the State of the Climate System and Human Influence' (2025), Earth System Science Data, 17, 2641–2680.

since 2021,[140] business as usual emissions would imply that the remaining global budget for a 50% chance of remaining below 1.5°C could be depleted by the end of 2028.[141] There is thus a strong indication the world will imminently exceed 1.5°C. This presents two futures: one where global temperatures remain in breach of 1.5°C between this point and the end of the century, and a second where, after some exceedance, net negative emissions bring global temperatures below this threshold again by 2100, known as 'overshoot'.[142]

Intergovernmental organisations such as the IPCC and the International Energy Agency have made it clear that the energy transition will require time, significant investment and sustained effort, and cannot be achieved overnight if the global community is to ensure a smooth and orderly transition.[143] Emissions continue to accumulate until countries reach, and sustain, net zero. Delaying the energy transition will lead to an accumulation of emissions in excess of a 1.5°C aligned allowance. Depletion of the remaining global carbon budget will mean that global annual emissions must decline more steeply, reach net zero sooner and then become net negative in order to allow temperature rise to return below 1.5°C as soon as possible, and to minimise overshoot and its consequences.[144]

Some developed nations have historically emitted, and continue to emit, at levels much higher than that of the global per capita average. With this context in mind, some countries have contributed more, and continue to contribute more, to the exhaustion of the remaining global carbon budget than others. This is reflected in various fair share analyses in the academic literature, which have found that many developed nations have either already exceeded their share of the budget, or have such a small amount of remaining budget that they would need to reach net zero within the next few years to avoid doing so.[145] Once a country's share of the remaining global carbon budget is depleted, any excess emissions would ultimately need to be balanced with net negative emissions before the end of the century in order to return temperature rise to 1.5°C or below.

140 International Energy Agency (IEA), 'Global Energy Review 2025' (2025), CO2 Emissions, p. 31: "Total energy-related CO2 emissions increased by 0.8% in 2024, hitting an all-time high of 37.8 Gt CO2".

141 See Forster et al (n.139), assuming global emissions remain at 2024 levels.

142 The IPCC defines temperature overshoot as the "[e]xceedance of a specified global warming level, followed by a decline to or below that level during a specified period of time (e.g., before 2100)". See IPCC, AR6, Glossary' (n.4).

143 For example, see IEA (n.140), Chapter 7, 'Net Zero Emissions by 2050: Acting now to limit overshoot'.

144 According to the IPCC, "All global modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot, and those that limit warming to 2°C (>67%), involve rapid and deep and in most cases immediate GHG emission reductions in all sectors." See IPCC, AR6 WGIII, SPM C.3M; Pelz et al, 'Using net-zero carbon debt to track climate overshoot responsibility' (2025) 122 PNAS.

145 For example, see the case studies on the exhaustion of fair share-informed carbon budgets in Pelz et al, 'Entry points for assessing 'fair shares' in national mitigation contributions' (2025) Environ. Res. Lett. 20 024012; and Rajamani et al (n.5), '4. Results', p. 999.

As such, entering an era of overshoot has serious implications for governmental responsibility. There are two key questions now being considered in the academic literature and by international and regional institutions:

- The first question concerns how fast countries can feasibly reach net zero (and, in some cases, net negative) emissions, considering the requirement for States to pursue highest possible ambition under the Paris Agreement (referred to hereafter as 'domestic feasibility').[146]
- The second question concerns how States can address the 'mitigation shortfall', namely the difference between (i) the overall emissions reductions a country must achieve as a contribution to collective effort towards the 1.5°C temperature objective (informed by best available science and fair share assessments) and (ii) the emissions reductions deemed feasible territorially.

As a key example, in 2023, the ESABCC considered how much the EU could feasibly reduce its emissions by 2040, assuming it met its 2030 mitigation target (i.e., a 55% reduction compared to 1990 levels). Notably, the ESABCC found that "[whichever] ethical principle is considered, there is a gap between the feasibility estimates and fair share estimates". It confirmed that "[a]dditional efforts to increase the ambition beyond 55% (up to 70% or more by 2030) would considerably decrease the EU's cumulative emissions until 2050 and thus increase the fairness of the EU's contribution to global mitigation".[147] The ESABCC also highlighted that there is a gap between (i) the emissions reductions necessary to respect the EU's fair share and (ii) the emissions reductions that can be achieved within the EU's territory. As a solution to this gap, the ESABCC recommended that, in order for the EU to do its part to achieve the 1.5°C long-term temperature limit in a way that is both "fair and consistent" with best available climate science, "[a]mbitious domestic emission reductions need to be complemented by measures outside the EU to achieve a fair contribution to climate change mitigation".[148] The need to enhance GHG emissions reduction abroad derives from the "shortfall identified between the feasible pathways and fair share estimates" of the EU. The ESABCC concluded that such a mitigation shortfall can be addressed through "[s]upport, cooperation and partnerships outside the EU".[149]

The UNEP took a similar approach in its 2024 Emissions Gap Report. After identifying possible 1.5°C-aligned fair share ranges for G20 countries, it concluded that supporting mitigation efforts abroad will be crucial to ensure that States do their part to stay within the long-term threshold of the Paris Agreement:

146 Paris Agreement, Art. 4(3).

147 ESABCC (n.46) p. 10.

148 ibid.

149 ibid p. 15. The ESABCC findings have been cited in an increasing number of climate cases, including in framework proceedings against Austria, Czechia, France and the Netherlands. See case details below.

> For some countries, under any equity principle, their fair share could substantially exceed their cost-effective range. In such cases, it may not be feasible to align with their fair share by domestic mitigation action alone, and international mitigation support and co-operation will be essential to achieve robust alignment with the Paris Agreement's long-term temperature goal. This could be in the form of enhanced climate finance to catalyse emissions reductions in countries where their cost-effective potential goes beyond their fair-share range.[150]

More broadly, much of the literature concerning fair share takes a similar position. For example, among the studies cited in climate cases, *Holz et al* (2018) stresses that, with respect to "wealthier countries, who as we have shown fall both collectively and individually short of pledging their fair share of the necessary global mitigation, the dual obligation consists of ambitious domestic emissions reductions as well as provision of support for mitigation elsewhere, as a way to attain the portion of their fair share that exceeds their domestic mitigation potential."[151] Likewise, *Rajamani et al* (2021) highlighted that, if a country's fair share of emissions "is not reachable with domestic emission reductions, these states will need to correspondingly scale up the support they offer to others to reduce their emissions, based on the principle of cooperation".[152] In this context, the well-established international law principle of cooperation, also explicitly enshrined in climate treaties, provides "strong normative expectation" on matters requiring "collective action" – such as mitigation action – and is thus "relevant in implementing fair shares."[153]

More recently, against the background of a rapidly shrinking 1.5°C-compatible remaining global carbon budget, *Pelz et al* (2025) also highlights the importance of "increased global mitigation efforts through international cooperation". This is to allow nations with the highest responsibilities to address their 'carbon debt', by supporting emissions reductions in other countries through international climate finance.[154] Along these lines, *Robiou du Pont et al* (2025) highlights that, irrespective of "what is feasible to implement within their borders", countries can also achieve their equity-based emissions allocations overseas – recalling that the IPCC itself called for additional research "extending equity frameworks to quantify equitable international support as the difference between equity-based national emissions scenarios and national domestic emissions scenarios".[155]

150 UNEP, Emissions Gap Report 2024 (n.8) p. 39.

151 Holz et al, 'Fairly sharing 1.5: national fair shares of a 1.5 °C-compliant global mitigation effort' (2018) International Environmental Agreements: Politics, Law and Economics, 117–134 at [5].

152 Rajamani et al p. 999 at [4].

153 ibid pp. 994–995 at [2.5].

154 Concepts expressed in Pelz et al, 'Using net-zero carbon debt to track climate overshoot responsibility' (2025), Proceedings of the National Academy of Sciences, Vol. 122 | No. 13. Also summarised in: Carbon Brief, 'Guest Post: How to apportion 'net-zero carbon debt' if global warming overshoots 1.5C', by Pelz, Pachauri, Smith, Lamboll, Thiery, Gidden, 09.04.2025.

155 Robiou du Pont et al, 'Effect of discontinuous fair-share emissions allocations immediately based on equity', (2025), Nature Communications, 16 - 8020. The authors notably cite IPCC, AR6 WGIII, Chapter 4.

4.2 Developments in international law regarding cooperation and international finance

Recent international legal developments, which have stressed the importance of assessing and acting upon best available climate evidence, further lay down the groundwork to operationalise a State's fair share through cooperation with other countries.

In its Advisory Opinion, the ICJ found that, faced with the growing, existential threat posed by climate change, "[c]o-operation is not a matter of choice for States but a pressing need and a legal obligation."[156] It established that, while the duty to co-operate allows States to enjoy some discretion in determining the means for regulating their GHG emissions, this cannot provide an excuse for States to refrain from co-operating with the required level of due diligence. Their conduct in the context of co-operation is thus subject to scrutiny.[157] Importantly, implementing the duty to co-operate also aims at requiring States to achieve the overarching goal of a fair allocation of mitigation efforts:

> "the duty to co-operate is founded on the recognition of the interdependence of States, requiring more than the transfer of finance or technology, in particular efforts by States to continuously develop, maintain and implement a collective climate policy that is based on an equitable distribution of burdens and in accordance with the principle of common but differentiated responsibilities and respective capabilities."[158]

The ICJ's interpretation of the duty to co-operate is intertwined with its adjacent findings on climate finance under the Paris Agreement. First, the Court recalled that, in the context of implementing mitigation obligations, "enhanced support for developing countries will allow for higher ambition".[159] It then found that the "legally binding" obligation to provide climate finance to developed countries cannot be pursued arbitrarily: it needs to be implemented "in a manner and at a level that allows for the achievement of the objectives" of the Paris Agreement, including the collective 1.5°C temperature limit.[160] Lastly, the Court found that compliance with the duty to provide financial support can also be subject to scrutiny, and notably assessed on the basis of the capacity of each developed State.[161]

156 ICJ, Advisory Opinion (n.28) [308].

157 ibid [306].

158 ibid.

159 ibid [264].

160 ibid [265].

161 ibid.

In the same direction, the IACtHR's 2025 Advisory Opinion highlighted that, in light of the urgency and severity of the climate emergency, "States should also consider in their regulation the activities and sectors that emit GHGs both within and outside the State's territory."[162] This is consistent with its findings, in the same opinion, on the legal duty to cooperate: adequately pursuing such a duty must notably entail "the implementation of mitigation [...] actions that can benefit other States".[163]

4.3 Fair share in regional and national framework cases

In a significant number of cases pending before regional and national courts, a new generation of claims is already building on this growing body of judicial developments and scientific evidence. Plaintiffs are increasingly asking courts to scrutinise governments' conduct in light of the new factual circumstances – and corresponding legal implications – stemming from the approaching era of overshoot. In light of the developments in both science and law, emissions reduction 'asks' in ambition-related framework cases – as informed by fair share considerations – appear increasingly stringent.

Against this background, governments in a number of framework cases have argued that the fair share-aligned GHG reductions requested by plaintiffs are "unfeasible" at the domestic level.[164] However, the findings of both the IPCC and UNEP make clear that the need for such steep reductions is the result of States' own persistent inaction throughout the last three decades.[165] If accepted by courts, arguments concerning feasibility would allow States to essentially benefit from their own mitigation delays, *de facto* exempting them from the duty to equitably do their part to tackle global warming. In response to this, plaintiffs have sought to extend their arguments to address not only fair share, but also issues relating to domestic feasibility and the mitigation shortfall in single, unified cases. While questions around quantifying fair share have been common across framework cases since the *Urgenda* case, domestic feasibility and the mitigation shortfall are novel issues in the climate litigation field.

162 IACtHR, Advisory Opinion (n.34) at [337].

163 ibid at [264].

164 For example, in the climate case Duarte Agostinho (n.47), the United Kingdom has raised arguments on feasibility in the context of fair share, notably claiming that: "imposing a 'fair share' obligation" would "impose 'disproportionate or impossible' burden on the UK"; and that "it is not 'feasible' for the UK to go further" in respect of its existing climate commitments. See 'Observations of the Respondents on Admissibility and Merits (including the Supplementary Observations of the United Kingdom)', 31 January 2023, p. 64 at [45].

165 For example, See IPCC, AR6 WGIII (n.18), finding that despite States' longstanding commitment to stabilize GHG concentrations and reduce emissions under the UNFCCC (1992), "Global net anthropogenic GHG emissions during the decade 2010–2019 were higher than any previous time in human history", TS.3, p. 59. In 2010, the UNEP had already flagged the existence of a significant gap between States' pledges and the efforts required to stay below 2°C and 1.5°C. See UNEP, 'the Emissions Gap Report: Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2° C or 1.5° C?' (2010) at [2]. In 2024, the UNEP confirmed that such gap is still far from being closed, and expressly highlighted the consequences of past mitigation delays: "The lack of action and time lost has implications. It has reduced the remaining carbon budget, which in 2024 is estimated at [...] 200 GtCO2 to stay below a 1.5°C limit (>50 per cent chance) [...] Importantly, inaction reduces the chance of bridging the emissions gap in 2030 because of continued lock-in of carbon-intensive infrastructure and less time available to realize the emission reductions required". UNEP, Emissions Gap Report 2024 (n.8), p. XVII at [6].

Plaintiffs in framework cases are tackling the question of domestic feasibility by flagging the need for governments to conduct rigorous and stringent domestic feasibility assessments.[166] In respect of the mitigation shortfall, plaintiffs have argued that governments could rely on direct emissions reduction efforts abroad. In this sense, these claims argue that a State's overall duty to reduce emissions and feasibility constraints should be treated as separate considerations – i.e., a State should make up the difference between its overall fair share and the mitigation levels it can achieve domestically by supporting GHG reduction efforts abroad. Such endeavours should be consistent with, yet additional and distinct from, the broader States' finance obligations on mitigation and adaptation that arise under the UNFCCC regime.[167]

Climate lawsuits against States have already raised this argument in climate proceedings before regional courts, and notably the ECtHR. For example, in *Duarte v Portugal and 32 States*, the applicants highlighted that "countries can contribute towards their fair share of the necessary global mitigation effort by contributing to international climate finance which achieves emissions reductions or enhances GHG sinks in other countries".[168] Similarly, in *Müllner v Austria*, the applicant argued that the Austrian Government's failure to adopt and implement effective mitigation policies is worsening the impacts of climate change on his health, violating his rights under the ECHR.[169] *Inter alia*, he is asking the Court to order Austria to increase its emissions reduction efforts, also through "general measures to mitigate, at the highest level of ambition, any exceedance of its remaining national carbon budget [...] as a consequence of GHG emissions that are attributable to it, through support for direct emissions reductions outside of its territory."[170]

166 For example, see District Court of the Hague, Greenpeace Netherlands and 8 citizens of Bonaire v the Netherlands C/09/659832 / HA ZA 24-53 [2026], Summons, requests at [V.I]: "Condemn the State to conduct a study as soon as possible on what minimum climate policy the State should adopt in order to be fully in line with the fairness principles and principles of the UN climate convention and the Paris Agreement, taking a long-term target of 1.5°C as a starting point.". Similarly, see ECtHR, Müllner v Austria, App no. 18859/21 [pending]. In this case, the applicant asks the ECtHR to indicate that Austria must adopt a regulatory framework requiring, *inter alia*, to "Determine and periodically update emissions reduction pathways that aim for the highest level of ambition in domestic emission reductions and carbon dioxide removals." See Applicant's written submissions (March 2025), Request for Just Satisfaction and General Measures at [4].

167 For an overview of legal implications and trends on the topic, see Center for International Environment Law (CIEL), 'Remedy and Reparations for Climate Harm: The Human Rights Case' (2024). Moreover, legal scholarship also cautions on the risks of overreliance on mitigation activities obtained through market-based mechanisms. For example, to avoid undermining highest possible ambition, some articles indicate that supporting mitigation efforts abroad through Art. 6 of Paris Agreement should be guided by supplementarity, enhancing mitigation ambition on top of domestic efforts. See for example: I. Johnstone et al, 'Oxford Principles for Responsible Engagement with Article 6' (2025), Oxford: Smith School of Enterprise and the Environment, University of Oxford; and D. Rossati, 'Reviving the Principle of Supplementarity for the Market-based Mechanisms of the Paris Agreement' (2025), Carbon & Climate Law Review, Volume 19, Issue 2.

168 Climate Analytics, 'Achieving the 1.5°C Limit of the Paris Agreement' (n.47) p. 44 at [3.3.1.].

169 Müllner (n.166).

170 ibid. See Applicant's written submissions (March 2025), 'Request for Just Satisfaction and General Measures' at [4].

As a follow up to the *KlimaSeniorinnen v Switzerland* case heard by the ECtHR, in January 2025, the applicant NGO submitted expert evidence before the Committee of Ministers of the Council of Europe, the body charged with supervising the execution of judgments of the ECtHR.[171] While Switzerland claimed that no further action was needed to ensure compliance with the Court's ruling, the applicant argued that Switzerland's endeavours were still inconsistent with the human rights obligations established under the Convention. In particular, the applicant highlighted that, among different fair share approaches, only an equal per capita approach provided Switzerland with a non-negligible remaining national carbon budget. To remain within this budget, on the basis of a straight-line reduction, Switzerland would need to reach net zero CO_2 emissions by 2038. Against this background, the applicant concluded that "if this is not feasible with domestic measures alone, further reductions can be achieved with measures taken abroad."[172] In April 2025, one year after the European Court of Human Rights' decision, four special procedures of the United Nations Human Rights Council – including the Special Rapporteur on human rights and climate change and the Special Rapporteur on the human right to a clean, healthy and sustainable environment – stressed the importance of ensuring full compliance with the *KlimaSeniorinnen* ruling, notably through the lens of a fair contribution to global mitigation: "[t]he European Court's ruling underscores the importance of each State doing its fair share to reduce emissions, based on the global reductions needed to prevent ongoing and worsening human rights violations".[173]

While national courts still have to adjudicate on all these points, evidence submitted in several climate cases builds on the developments above to highlight a State's failure to quantify its fair share; and to argue that, in the presence of feasibility constraints, a State's fair share should also be met by supporting mitigation action abroad.

For example, in *Notre Affaire à Tous v France* ('the Fair Share Trial'), the plaintiffs highlighted that the State has adopted its mitigation targets without first quantifying its remaining emissions allowance consistent with the 1.5°C global carbon budget.[174] The plaintiffs submit that, across all allocation methodologies, only the most lenient 'equal per capita' approach, which does not account for historical responsibilities and capacity, would provide France with a remaining national carbon budget under current levels of CO_2 emissions. The plaintiffs also recall that exceeding its fair share budget would be detrimental to the budgets of other countries and would overall contribute to the depletion of the global carbon budget.[175]

171 Committee of Ministers, 'Communication from an NGO (Verein KlimaSeniorinnen) (17/01/2025) in the case of Verein KlimaSeniorinnen Schweiz and Others v. Switzerland (Application No. 53600/20)'.

172 ibid [4.4] at [34].

173 United Nations, 'UN experts urge Switzerland and other States to step up climate action one year after landmark climate ruling' (2025). As of [March 2026], the supervision of the execution of the KlimaSeniorinnen judgment is still ongoing. See Committee of Ministers, Ministers Deputies, Verein KlimaSeniorinnen Schweiz and Others v. Switzerland, (4-6 March 2025) (DH) - H46-30; and (15-17 September 2025) (DH) - H46-37.

174 French Administrative Court, Notre Affaire à Tous v France ('the Fair Share Trial') [pending]. See Summons, p. 35.

175 ibid pp. 28–31.

In *Klimatická žaloba ČR v Czech Republic*, the plaintiffs submitted analogous arguments highlighting that Czechia has not quantified its fair share before setting up its mitigation targets, and has already exhausted its national carbon budget under all the considered fair share approaches.[176]

Along these lines, in *A Sud et al v Italy*, the plaintiffs argued that Italy may close part of the gap between its fair share and planned policies "by concrete commitments to aid mitigation in developing countries, if these mitigation actions were truly additional, contributing to an overall mitigation in global emissions."[177] Similarly, in *Anton Foley et al v Sweden*, the plaintiffs asserted that reducing emissions in line with its fair share would require Sweden to pursue "a dual obligation - to set an ambitious domestic emission reduction target as well as to provide adequate support for mitigation in developing countries, to close the gap between the domestic emission reduction target and the fair share target."[178] Following the procedural dismissal of *Anton Foley*, expert evidence submitted in a new government framework case, *Aurora v Sweden*, similarly "points to the need for Sweden to not only substantially increase the mitigation effort within its own territory but also to its responsibility for ensuring a substantial amount of additional mitigation outside its territory".[179]

These arguments are also prominent in the plaintiffs' pleadings in the climate case *Greenpeace Netherlands and 8 citizens of Bonaire v The Netherlands*.[180] Building extensively on the *Urgenda* precedent, the *KlimaSeniorinnen* ruling, and the landmark ICJ Advisory Opinion, the District Court of the Hague delivered its first instance verdict in *Bonaire* in January 2026.

The Court assessed the Dutch State's conduct in the context of climate mitigation and adaptation, notably through the lens of the impacts suffered by the inhabitants of Bonaire, and identified significant shortcomings on both aspects.[181] In its judgment, the Court gave particular prominence to the principle of CBDR-RC and its applications throughout the UN regime treaties and decisions: it highlighted that States like the Netherlands must take the lead in reducing GHG emissions, also "given their past and their socio-economic advantage".[182] Crucially, the Court found that the State failed to

176 Constitutional Court of the Czech Republic, Klimatická žaloba ČR v Czech Republic, Case No. Pl. ÚS 6/25 [2025]. See Constitutional complaint at [78] and [92]. In February 2026, after exhausting domestic remedies, Klimatická žaloba filed an application to the European Court of Human Rights against Czechia, submitting the same fair share arguments before the Strasbourg Court.

177 Climate Analytics, 'Italy's Climate Targets and Policies in Relation to the Paris Agreement and Global Equity Considerations' (2021) p. 33, in the context of Court of Appeals of Rome, A Sud et al v Italy, n. 39415 [pending].

178 Climate Analytics, 'Determining Sweden's Fair Share Contribution under the Paris Agreement' (2022), p. 1 and 6, in the context of Supreme Court of Sweden, Anton Foley et al v Sweden, NJA 2025 s. 88 [2025].

179 C. Holz, 'Sweden's Fair Share in the Context of Limiting Global Average Temperature Increase to 1.5°C' (2026), Climate Equity Reference Project Working Paper Series (1.0, Vol. WP011), at [5]. The expert report was submitted in District Court of Stockholm, Aurora v Sweden, T 2485-26 [pending].

180 Bonaire v the Netherlands (n.166).

181 ibid [11]–[12].

182 ibid [11.9.3].

overall demonstrate how its actions comply with the standards of conduct set by the ICJ and the ECtHR. For example, in assessing the defendant's conduct, it noted that, as early as 2023, the State already acknowledged that "the Netherlands' remaining carbon budget would already be exceeded in the next two years".[183]

The Court concluded that the State had not substantiated how its climate mitigation policies could be regarded as "equitable" within the meaning of UN climate treaties, nor how they would reflect the leading role expected of a developed nation.[184] In this context, it established that the State failed to "[quantify] how much emission allowance the Netherlands still has as part of the global emission budget that remains to limit global warming to 1.5°C".[185] As such, the Court established that the State is acting in violation of Article 8 ECHR by continuing to "pursue a climate policy that does not make an equitable contribution to the measures that must be taken worldwide to limit global warming to a maximum of 1.5°C above pre-industrial levels by the end of this century".[186] *Inter alia*, the Court ordered the State to review and strengthen its mitigation targets, in line with the Paris Agreement and COP decisions; and "to provide insight into the (remaining) emission allowance for the Netherlands".[187]

Throughout their submissions, the plaintiffs also argued the need for the State to conduct a strict feasibility assessment; recalled that the emissions reductions that are necessary to stay within fair share budgets do not need to be entirely achieved within the State's own territory; and concluded that excess emissions should be addressed through reductions or removals taking place abroad.[188] In its 2026 ruling, the District Court of the Hague did not comment on the issue of feasibility and highest possible ambition, but recognised that the Netherlands' legal obligations may be partially met by enhancing mitigation efforts abroad.[189]

183 ibid [11.13.5].

184 ibid.

185 ibid [11.15].

186 ibid [12.1.a].

187 ibid [12.2].

188 ibid as flagged in the Plaintiffs' Statement of Reply (2025): 'Explanation: Claims III IV and V in conjunction', [15.1]–[15.37].

189 ibid, Bonaire ruling at [11.13.4].

Conclusion

As the window to limit global warming to 1.5°C rapidly closes, States are running out of time to deliver their fair share of global mitigation action. The implication of the near-depleted remaining global carbon budget is that governments must act faster than ever before in terms of emissions mitigation, and compensate for emissions made in excess of the budget, in order for the temperature limit to be respected by the end of the century.

Against the background of systemic shortcomings and worsening climate impacts, growing litigation against governments reflects a rising demand for accountability and effective human rights protection. Courts have used international law and scientific consensus as the foundation for groundbreaking rulings around the world. These have emphasized that the achievement of fair share is not optional, but rather an essential cornerstone to uphold equity and mitigate the worst impacts of climate change.

The science is clear that States' rapidly shrinking – if not already exhausted – national carbon budgets will drastically challenge feasibility constraints and prevent States from meeting their fair share duties solely through domestic GHG emissions reductions. As a result, an increasing number of plaintiffs argue that, on top of increased domestic ambition, supporting additional mitigation endeavours abroad may now be inevitable, if States are to meet their fair share of global climate action.

Looking ahead, courts may soon be asked to scrutinise how States are operationalising their legal duty to cooperate in limiting temperature rise to 1.5°C. For instance, courts may need to consider questions regarding how, and under what conditions, States can meet their obligations through contributions to emissions reductions abroad. In this regard, they may be asked whether States' planned mitigation efforts overseas are tangible, verifiable, and genuinely additional. Similarly, courts may be called upon to ensure that ambition linked to climate finance does not undermine the pursuit of the highest possible ambition at the domestic level. Finally, courts may play a role in ensuring that due diligence is undertaken to minimise the impacts of projects funded through climate finance, and that such projects are implemented in a manner that ensures human rights and environmental protection, as well as the prerogatives of cooperating host countries.

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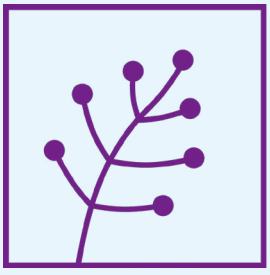

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