THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Who Pays for Climate Breakdown? Banks, Financed Emissions, and the Road to Climate Accountability

June 2026

Prepared by the Sustainability Law and Policy Clinic (SLPC), part of LSE Global School of Sustainability and LSE Law School's Legal Advice Centre, in partnership with ClientEarth and the Grantham Research Institute on Climate Change and the Environment.

This report was prepared in response to a brief and questions provided by ClientEarth, a partner of the LSE Sustainability Law and Policy Clinic.

The delivery of this project was supported by the Global School of Sustainability at LSE (GSoS), the interdisciplinary centre for sustainability research impact at LSE. GSoS works in partnerships to advance pioneering sustainability research, global policy engagement and world's leading educational opportunities. Grounded in LSE's interdisciplinary excellence across the social sciences, GSoS's global networks target the systemic challenges to sustainability embedded in the world's economies, politics and societies.

Suggested citation:

Díez PS, Alaradi F, Vladyka T, El Khamloussy Z, Yap A-Y, Ko A, Paucar Bejarano SV, Cline M, Nakirinya NA and Rao N (2026) Who Pays for Climate Breakdown? Banks, Financed Emissions and the Road to Climate Accountability. London: Sustainability Law and Policy Clinic, Global School of Sustainability, London School of Economics and Political Science.

DOI: 10.21953/researchonline.lse.ac.uk.00138859

Global School of Sustainability

ClientEarth

Forewords

Sustainability Law and Policy Clinic
(LSE Global School of Sustainability, LSE Law School, LSE Legal Advice Centre)

Dr Marie Petersmann, Assistant Professor of Law at LSE Law School and Director of the Sustainability Law and Policy Clinic at the Global School of Sustainability.

The Sustainability Law and Policy Clinic (SLPC) was launched in October 2025 as the first clinic at LSE fully devoted to environmental and climate justice concerns. In the tradition of law school clinical education, the SLPC offers students from different departments the opportunity to work on real-world, high-stakes legal and policy challenges alongside leading external partners, under close academic supervision. The aim is to train students to apply legal knowledge to live cases, collaborate across disciplines, and navigate complex multi-level governance systems while holding questions of justice and equity at the centre of their analysis.

This report is the first output of an ongoing partnership with ClientEarth's Accountable Finance team, led by Robert Clarke and Dr Alex Bennett. It was developed under the mentorship of a team from the Grantham Research Institute on Climate Change and the Environment, led by Dr Joana Setzer, Dr Noah Walker-Crawford, Eoin Jackson, Jameela Joy Reyes, Nicholas Petkov, Tiffanie Chan, and Dr Agnieszka Smoleńska. The SLPC is grateful to both teams for their invaluable guidance, expertise, and trust throughout this project. The report addresses a question at the cutting edge of climate litigation: what legal principles and methodological tools could guide the development of a climate attribution study for banks? In doing so, it offers a timely resource for those seeking to advance climate accountability, whether through litigation or regulatory advocacy. The SLPC thanks all the external partners who engaged with and discussed the students' preliminary findings, notably Reclaim Finance, InfluenceMap, Milieudefensie, the Transition Pathway Initiative (TPI), and NatWest.

ClientEarth, Accountable Finance Team

Robert Clarke, Accountable Finance Lead at ClientEarth and Visiting Fellow at the Grantham Research Institute on Climate Change and the Environment, and **Dr Alex Bennett**, Accountable Finance Lawyer at ClientEarth. **ClientEarth** is an international environmental law organisation using the power of the law to create systemic change to protect the Earth and its inhabitants.

ClientEarth's Accountable Finance team uses corporate and financial laws to push for a more sustainable financial system. For us, this project aligns with a wider programme of work exploring the legal accountability of financial institutions for the impacts they finance.

The IPCC has warned that there is a 'rapidly closing window of opportunity to secure a liveable and sustainable future for all'. In that context, the role of financial institutions is pivotal: the flow of money has a hand in whether we escape or reinforce fossil fuel lock-in.

High-emitting projects do not happen without finance. Yet bank financing for fossil fuels continues unabated: since the Paris Agreement, the world's largest banks have committed almost US$8tn to fossil fuel companies. Recently, we have seen many banks dilute or retreat from key climate commitments.

While attempts to hold high-emitting companies to account for their climate impacts are growing, comparable attempts to hold banks accountable for the climate impacts they finance remain relatively limited. A central challenge is evidentiary: how to construct legally compelling arguments about causation and the responsibility of banks for the climate impacts they finance, facilitate and enable.

This is why we were delighted to collaborate with the Sustainability Law and Policy Clinic (SLPC) on this project. This report evaluates (1) how courts and claimants have approached causation and attribution in climate litigation across jurisdictions; and (2) how responsibility has been attributed to banks based on what they finance, including whether existing 'financed emissions' methodologies and frameworks can be legally persuasive in court. At an emerging frontier of climate litigation, the project responds to the need for a legally grounded approach to this challenge.

We are deeply grateful to the SLPC students and the LSE team for producing a substantial and impressive piece of work, and for providing a unique platform to bring together experts working at the cutting edge of climate accountability in the financial sector. This report is a welcome stepping stone for those engaged in this important work.

Grantham Research Institute on Climate Change and the Environment

Dr Joana Setzer, Associate Professorial Research Fellow at the Grantham Research Institute on Climate Change and the Environment and Co-Lead of the Mobilising Legal, Political, and Governance Systems theme of LSE's Global School of Sustainability.

For the past eight years, the Grantham Research Institute at LSE has published annual snapshot reports synthesising the latest developments and research in climate change litigation worldwide. Over this period, we have seen a rapid evolution in transnational climate change jurisprudence. Legal arguments about state obligations to act on climate change that were once seen as radical are now succeeding in courts worldwide. In parallel, litigants are advancing bold and innovative arguments against non-state actors—seeking to disrupt business-as-usual and shift financial flows towards a low-carbon and resilient economy. The litigation frontier is moving fast, and it is now reaching the financial sector.

This Sustainability Law and Policy Clinic report comes at this critical juncture. Holding banks legally accountable for their contribution to climate change raises distinctive challenges. Unlike cases against companies that directly emit greenhouse gases, attributing responsibility to a financial institution requires an additional causal step: from the provision of finance to the emissions it enables, and from those emissions to climate harm. Whether courts will accept that step is one of the defining legal questions of the coming years.

As shown in this report, there is a growing body of methodological infrastructure to support that causal argument: the Partnership for Carbon Accounting Financials (PCAF) standard (which allocates a share of a borrower's emissions to each financier in proportion to their share of the company's enterprise value), the Paris Agreement Capital Transition Assessment (PACTA) (which enables users to measure alignment of financial portfolios with climate scenarios), and datasets providing ways to track banks' climate ambition and implementation in various ways—including reports by Banking on Climate Chaos, InfluenceMap, the TPI Global Climate Transition Centre, Stand.earth's Banks vs the Amazondatabase, and the LINGO UK Overseas Carbon Bombs tracker.

Whether these tools will stand up to scrutiny in courts remains unknown, and presenting evidence effectively in legal settings will be decisive. The Milieudefensie v ING case, filed in March 2025, will be an early test of whether financed emissions attribution can meet the evidentiary standards of adversarial litigation. By mapping the available methodological tools and drawing on lessons from previous cases, this SLPC report makes a contribution that is both practically useful and analytically rigorous.

Authors

Pablo Sebastián Díez (LLM)
Farah Alaradi (BA Law & Anthropology)
Tomas Vladyka (LLB)
Zacharia El Khamloussy (LLM)
An-Ya Yap (LLB)
Andrew Ko (LLM)
Sahra Viviana Paucar Bejarano (MSc Regulation)
Mary Cline (MSc Human Rights and Politics)
Noreen A. Nakirinya (LLM)
Nehanshu Rao (MSc in Law and Finance)

Acknowledgements

The authors thank ClientEarth, particularly Robert Clarke, Senior Lawyer and Accountable Finance Lead, and Dr. Alex Bennett, Lawyer in the Accountable Finance team. Their invaluable support, insights, and trust made this project a reality.

The authors also thank the team of the Grantham Research Institute on Climate Change and the Environment for their constant support in the form of knowledge, guidance, and time. We are particularly grateful to Dr. Joana Setzer, Dr. Noah Walker-Crawford, Tiffanie Chan, Eoin Jackson, Nicholas Petkov and Jameela Joy Reyes. We are also grateful to Dr. Agnieszka Smoleńska of the Centre for Economic Transition Expertise (CETEx).

The authors especially thank Dr. Marie Petersmann, Director of the Sustainability Law & Policy Clinic (SLPC) of LSE's Global School of Sustainability (GSoS), for her vision, invaluable support, and commitment, which inspired our team in every step of the project.

Disclaimers

The views expressed in this report are those of the student authors alone and do not represent the positions of LSE, ClientEarth, or the Grantham Research Institute. The authors certify that this report is an original work of primary research and synthesis. All data sources, legal precedents, and third-party metrics have been rigorously verified and are cited in accordance with OSCOLA standards. The analysis herein has not been previously published in this form, and the authors have ensured that the work does not infringe upon the intellectual property rights of any third party. The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. The research presented in this report was accurate to the best of the authors' knowledge as of April 2026.

Table of Contents

List of Abbreviations

Banking on Climate Chaos (BOCC)
BNP Paribas (BNP)
Carbon Dioxide (CO_2)
Enterprise Value Including Cash (EVIC)
Environmental Impact Assessment (EIA)
Environmental, Social, and Governance (ESG)
European Convention on Human Rights (ECHR)
European Court of Human Rights (ECtHR)
European Union (EU)
Greenhouse Gas (GHG)
ING Group (ING)
Inter-American Court of Human Rights (IACtHR)
Intergovernmental Panel on Climate Change (IPCC)
International Court of Justice (ICJ)
International Energy Agency (IEA)
International Institute for Sustainable Development (IISD)
National Contact Points (NCPs)
National Inquiry on Climate Change Report (NICC)
Nationally Determined Contributions (NDCs)
Net Zero Emissions (NZE)
Organisation for Economic Co-operation and Development (OECD)
Paris Agreement Capital Transition Assessment (PACTA)
Partnership for Carbon Accounting Financials (PCAF)
Social Cost of Carbon (SCC)
United Kingdom (UK)
United Nations Environment Programme (UNEP)
United Nations Guiding Principles on Business and Human Rights (UNGPs)
United States (US)

Executive Summary

- **The key legal principles that could guide the development of a climate attribution study for banks are 'material contribution' as the standard of causation and 'knowledge and foreseeability' as the trigger for responsibility.** Courts are increasingly willing to hold individual actors responsible for their proportionate contribution to a collective harm. Recognising the limitations of the 'but-for' causation test (and other traditional tort doctrines) to address cumulative and globally dispersed harm, claimants are increasingly invoking 'material contribution' to overcome the threshold problem of causation. Yet, its practical force remains limited. Courts have demonstrated reluctance to assume overtly regulatory functions, although some cases suggest a willingness to interpret existing legal principles more expansively. Thus, the nature of the remedy sought is decisive. Damages claims (backward-looking) face stringent causation thresholds, whereas injunctive and restorative relief (forward-looking or mixed) permit more flexible, probabilistic, and systemic reasoning. The shift towards probabilistic and proportional reasoning is enabling courts to engage more effectively with the systemic nature of climate harms, but questions concerning evidentiary thresholds and the readiness of courts to engage with novel theories of causation persist.
- **Courts have consistently accepted IPCC reports as authoritative scientific baselines in climate litigation but have been reluctant to injunct enforceable reduction targets.** Courts remain cautious in applying emissions pathway modelling and probabilistic attribution to specific factual scenarios. Modelling supported a finding of breach in some cases, but in other cases similar evidence was treated as indicative rather than determinative. This reflects judicial reluctance to impose sector-level Scope 3 emissions reduction pathways in the absence of consensus among expert methodologies. Attribution models like the Carbon Majors database are increasingly referenced to allocate proportional responsibility.
- **Temporal boundaries of liability are increasingly anchored to corporate knowledge and foreseeability rather than the date of first emissions.** The mid-twentieth century consolidation of climate science and the evidentiary role of internal corporate documents are increasingly emphasised as temporal reference points for determining liability. Advances in attribution techniques, including high-resolution modelling and remote sensing, are expected to strengthen future claims. The central frontier lies in communicating the 'best available science' effectively and persuasively for legal audiences. This requires extending these doctrinal and evidentiary developments to financial institutions, resolving outstanding questions concerning Scope 3 attribution and contributory responsibility, and leveraging existing legal frameworks to accommodate the systemic role of finance in driving carbon emissions' growth and continuation.
- **Financial institutions are increasingly characterised as active contributors to climate harm through their financing decisions, rather than passive intermediaries.** The continued financing of fossil fuel expansion, particularly at the corporate level, is recast as constituting 'contribution' rather than mere 'linkage', thereby attracting more demanding standards of responsibility and remediation. This shift is grounded in identifiable empirical and analytical trends, including the concentration of fossil fuel financing among a small number of banks, the predominance of corporate-level lending over project-specific financing, and the corollary ineffectiveness of project-based exclusion policies. In addition, reliance on intensity-based emissions metrics obscures the continued growth of absolute financed emissions, undermining claims of alignment with climate objectives and reinforcing the systemic role of banks.

- **The persistence of indirect financing of fossil fuels gives rise to two theories of responsibility for banks.** The 'Enabling Theory' holds that finance is a necessary condition for fossil fuel continuation, making banks directly responsible for the emissions their capital makes possible. The 'Facilitation Theory' acknowledges that capital may be substituted by another lender, but argues for joint, proportional responsibility based on contribution. Facilitation-based theories—external to orthodox frameworks—challenge the traditional view of financial institutions as only indirectly linked to harm by advancing the claim of direct, albeit contested, causation.
- **Quantification methodologies have been used to attribute a share of a borrower's emissions to each financier in proportion to the former's enterprise value, but their direct usage has been limited in court.** Methodologies such as the PCAF allocate financed emissions through enterprise value-based attribution, while tools like the PACTA and the IEA benchmarking assess portfolio alignment with science-based transition pathways. These approaches have been deployed—for contextual and argumentative support—across a range of fora, including strategic litigation, soft law mechanisms (e.g. OECD National Contact Points), and regulatory advocacy. While these methodologies enhance analytical credibility through standardisation and scientific grounding, they remain largely untested in adversarial proceedings and are vulnerable to challenge, particularly due to reliance on self-reported data, methodological complexity, and technical distortions inherent in metrics that fluctuate according to market conditions.
- **Significant weaknesses that banks are positioned to exploit in litigation include the substitution defence—that another lender will simply fill the gap if one bank divests—and the reliance on self-reported or incomplete disclosure data.** Crucially, the evidentiary weight afforded to self-reported data is a concern that illustrates the structural tension between increasingly precise and disaggregated scientific attribution methodologies and legal evidentiary thresholds that remain anchored to case-specific, determinate standards of proof. Jurisdictional challenges, including extraterritoriality and fragmented regulatory regimes, further limit the coherence and transposability of emerging liability frameworks.
- **Substantive and procedural constraints persist, including hurdles in satisfying traditional causation requirements in the context of diffused and global harm, and the jurisdictionally contingent nature of legal claims.** These limitations have resulted in a reliance on both litigation and soft law mechanisms, whose outcomes are often non-binding. Accordingly, while the conceptual and evidential architecture for attributing responsibility to financial institutions is becoming increasingly sophisticated, its translation into enforceable legal standards remains incomplete. A key frontier lies in the development doctrine and the parallel evolution of regulatory frameworks capable of addressing the systemic and transnational nature of financed emissions.
- **Future litigation strategies could prioritise pivoting to procedural due diligence, neutralising the substitution defence, and integrating international soft law to scientific benchmarks**. Litigating for outcome-based reduction targets often faces stringent thresholds in court; thus, it is strategic to also aim to enforce procedural duties, such as the development and implementation of credible, science-aligned transition plans. Neutralising the substitution defence requires shifting focus away from a single bank toward the whole financial system—as a necessary condition for fossil fuel expansion—and to creatively utilise 'grouping theories' to ensure individual responsibility is not extinguished by market fungibility. A key frontier is combining international soft law (like the OECD Guidelines or the UNGPs) with scientific benchmarks to bypass historical damage claims, hold banks to a higher standard, and force systemic decarbonisation and human rights compliance across financial value chains.

Introduction

It is undeniable that climate change is one of the greatest challenges of our time. While some sceptics remain, the urgency of the issue and its risks have been confirmed and cemented at different levels. The Intergovernmental Panel on Climate Change (IPCC) has warned that 'there is a rapidly closing window of opportunity to secure a liveable and sustainable future for all'.[1] Despite the United Nations Environment Programme (UNEP)'s warnings that current national pledges remain fundamentally decoupled from the reality of rising warming risks,[2] an emissions reduction gap remains.[3] The International Court of Justice (ICJ), in its 2025 landmark Advisory Opinion on climate change, agreed that the risk of significant harm to the climate system is undisputed and of a general and urgent character.[4] This rationale has been echoed by international human rights courts *in concreto*—including the Inter-American Court of Human Rights (IACtHR)[5] and the European Court of Human Rights (ECtHR).[6] At governmental level, major economies like the United Kingdom (UK),[7] the European Union (EU),[8] and even the United States (US)[9] — regardless of recent backslides — have recognised the risks of climate change and have consequently prepared, or are preparing, strategies to address its impacts.

Many scholars agree that climate change poses high risks for human welfare and, more importantly, that markets and the economy are key levers of change. Downar and colleagues point out that the root cause of climate change is the fundamental market failure associated with unpriced greenhouse gas (GHG) emissions[10]—a market-based idea that resembles the conclusion reached by Stern in its renowned 2006 Review: that climate change is the greatest market failure ever seen.[11] This notion is further fleshed out by Schoenmaker and Schramade when advancing the thesis that neoclassical economic models are fundamentally obsolete because they were developed for the 19th century Industrial Revolution—a process that erroneously perceived resource abundance and

---

[1] IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the IPCC [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, 1-34, Section C.1. For a more recent analysis, see <https://www.carbonbrief.org/analysis-what-record-global-heat-means-for-breaching-the-1-5c-warming-limit/> accessed 16 April 2026.

[2] UNEP, *Emissions Gap Report 2025: Off Target* (UNEP 2025) Section 4.4 <https://wedocs.unep.org/rest/api/core/bitstreams/4830e1a8-14c0-44a5-a066-cdd2ba5b3e10/content> accessed 17 April 2026.

[3] CMA, 'Outcome of the first global stocktake' (13 December 2023) UN Doc FCCC/PA/CMA/2023/16/Add.1, Decision 1/CMA.5 [21, 24, 28].

[4] *Obligations of States in respect of Climate Change* (Advisory Opinion) [2025] ICJ Rep 123 [137] [ICJ Advisory Opinion].

[5] Inhabitants of La Oroya v Peru (Preliminary Objections, Merits, Reparations and Costs) IACtHR Series C No 511 (27 November 2023) [128-129] (by pointing to the critical dimension of the climate emergency and its threats to the survival of the human species).

[6] *Greenpeace Nordic and Others v Norway* (App no 34068/21) (ECtHR, 28 October 2025) [73] (by emphasising the urgent and existential threat posed by climate change).

[7] Department for Environment, Food and Rural Affairs, *Nature Security Assessment: Global Biodiversity Loss, Ecosystem Collapse and National Security* (20 January 2026) <https://assets.publishing.service.gov.uk/media/696e0eae719d837d69afc7de/National_security_assessment_-_global_biodiversity_loss__ecosystem_collapse_and_national_security.pdf> accessed 16 April 2026.

[8] European Commission, 'European Climate Resilience and Risk Management: An Integrated Framework' <https://climate.ec.europa.eu/eu-action/adaptation-and-resilience-climate-change/european-climate-resilience-and-risk-management-integrated-framework_en accessed> accessed 17 April 2026. Also see: European Scientific Advisory Board on Climate Change, Strengthening Resilience to Climate Change: Recommendations for an Effective EU Adaptation Policy Framework (Publications Office of the European Union 2026).

[9] US General Services Administration, *2024–2027 Climate Change Risk Management Plan* (June 2024) <https://www.sustainability.gov/pdfs/gsa-2024-cap.pdf> accessed 16 April 2026.

[10] Benedikt Downar and others, 'The impact of carbon disclosure mandates on emissions and financial operating performance' (2021) 26 Rev Account Stud 1137.

[11] Nicholas Stern, *The Economics of Climate Change: The Stern Review* (CUP 2006).

neglected natural resource depletion, and that failed to incorporate 'externalities' into market prices.[12] In that vein, industrial policy is an axial area of analysis and influence, inasmuch as it boosts and (re)shapes specific economic activities, notably the fossil fuel industry, and therefore could shift the 19th century production rationale that became embedded into the current capitalist system.

Consequently, a central notion of the market-based debate is captured in the words of leading global experts on sustainable industrial policy and multilateralism: that 'global ecological crises stem from prevailing production structures',[13] and that '[m]arket forces alone will not suffice in addressing ecological crises' because it depends on 'transform[ing] production'.[14] Yet, precisely because pricing mechanisms ignore third-party effects (externalities), transforming production becomes a Sisyphean task, insofar as high-emission projects attract significantly more capital than is socially optimal.[15] Therefore, banks, led by risk-pricing mechanisms, are entrenching the fossil fuel industry. Indeed, the fossil fuel industry, more than legally and structurally, is financially locked in the current economic system — it is 'fossilised capital' driven by profit.[16]

Blanchard advances the idea that climate change ought 'to be thought of as a war' that 'needs to be fought on many fronts'.[17] This is a suitable analogy to clarify the complexity of solutions to the climate problem—one that demands simultaneous action across regulatory, market-based, and legal domains. Yet, the regulatory and market-based fronts are fundamentally stymied. While systemic economic restructuring should remain a matter for democratically legitimised legislatures,[18] a market-based regulatory front alone cannot correct the mispricing because market forces are impeded by captured regulators distorting the market.[19] Unsurprisingly, evidence supports this claim by showing that the fossil fuel industry has funded climate disinformation and opposition for decades to hinder public regulation, leaving markets fundamentally and informationally inefficient.[20]

Because the traditional regulatory approach is hindered and the free market chronically fails to price GHG emissions, climate litigation has emerged as a critical vanguard in this 'war'. Indeed, the absence of debates over the extractive economy growth model in political elections support the claim that '[c]limate litigation has become the forum for surrounding controversies over our economic growth models',[21] and therefore that litigation has placed unprecedented pressure on extractive capitalism.[22] Particularly, strategic climate litigation can achieve broader societal impacts beyond the individual cases by targeting the largest direct contributors to the problem to

[12] Dirk Schoenmaker and Willem Schramade, *Principles of Sustainable Finance* (OUP 2019) ch 1.
[13] Adriana Abdenur and others, *Removing International Obstacles to Sustainable Industrial Policy* (G20 2025), 7.
[14] Ibid 8.
[15] John Armour, Luca Enriques and Thom Wetzer, 'Mandatory Corporate Climate Disclosures: Now, but How?' [2021] Colum Bus L Rev 1085.
[16] Brett Christophers, 'Fossilised Capital: Price and Profit in the Energy Transition' (2022) 27 New Political Economy 146.
[17] Olivier Blanchard and others, 'Forging a New Economic System' (Summer 2022) 3(4) Revue européenne du droit, 173. (See also ICJ Advisory Opinion (n 4) [456]: the climate problem 'requires the contribution of all fields of human knowledge, whether law, science, economics or any other').
[18] Klaus J Hopt, 'Corporate Purpose and Stakeholder Value: Historical, Economic and Comparative Law Remarks on the Current Debate, Legislative Options and Enforcement Problems' (2024) ECGI Law Working Paper 690/2023. Also see: Anna Christie, 'The Agency Costs of Sustainable Capitalism' (2021) 55 UC Davis L Rev 893-897 (discussing how to address the climate crisis, including by democratically elected governments via binding treaties, and also how regulation has proven highly incomplete and thus financial markets continue to optimise for short-term exploitation).
[19] Madison Condon, 'Market Myopia's Climate Bubble' (2022) Utah L Rev 63.
[20] Ibid.
[21] Judith Rochfeld, 'Capitalism and Future Generations' (Summer 2022) 3(4) Revue européenne du droit 135.
[22] Ibid, 142.

influence long-term policy and regulatory frameworks.[23] Moreover, litigation plays a communicative function for public storytelling under the aegis of courts, shaping the evolving societal understanding of public law and ethical responsibility.[24] This signals that strategic climate litigation could increase the cost of capital for fossil fuel projects and also muster social pressure to galvanise the regulatory and market-based fronts into alignment.

Bank financing for fossil fuel continuation and expansion—the economic activities most responsible for driving this existential crisis—continues unabated, unchecked by meaningful political or regulatory intervention. Smoleńska and Van't Klooster suggest that the issue lies in the existing micro prudential regulatory framework, which defers entirely to internal bank risks models. These models are historically backward-looking and lack scientific expertise, thus fail to capture climate-related and environmental risks and allow new fossil fuel exploration.[25] Importantly, by failing to price the inevitable regulatory transition to a low-carbon economy, financial institutions are actively generating a 'climate bubble' that acts as a severe macroeconomic risk of contagion throughout the entire financial system.[26]

Banks occupy a uniquely systemic position within the global financial architecture. They enable—and indeed accelerate—substantial volumes of client emissions, notably through financing of new fossil fuel projects and the provision of general corporate capital to extractive industries. This is confirmed by the fact that in 2024 the world's 65 largest banks committed US$869bn to companies conducting business in fossil fuels, including expansion, bringing the total since the 2015 Paris Agreement to US$7.9tn.[27] Banks do not merely mediate the market, but actively entrench 'fossilised capital', thereby serving as the financial engine behind the climate risks that have been so urgently signalled by the scientific, legal, and political vanguards.

Unsurprisingly, in recent years climate-related litigation directed at banks and their corporate clients has surged, posing a novel risk that spans prudential risk categories and that might have broader systemic implications.[28] The 2023 Notre Affaire à Tous and others summons for BNP (*BNP Paribas* case) represents the first climate dispute aimed at forcing a commercial bank to halt its financial support for fossil fuels. By arguing that the bank has failed to comply with its obligations under France's duty of vigilance law to assess, disclose, and mitigate the environmental impacts of its investments, the claimants sought to force BNP, *inter alia*, to stop all direct and indirect support for new fossil fuel projects, to mandate an exhaustive accounting of Scope 3 emissions, and to compel the adoption of a formal exit strategy from the oil and gas sectors by 2050 with significant reductions by 2030.[29]

More recently, the 2024 Milieudefensie summons for ING Group (*Milieudefensie v ING case*) challenged the bank's systemic facilitation role under unwritten civil Dutch law—the societal duty of care—and international soft law standards—the United Nations Guiding Principles on Business and

[23] Joana Setzer and Catherine Higham, *Global Trends in Climate Change Litigation: 2025 Snapshot* (GRI 2025).
[24] Elizabeth Fisher, 'Telling Meaningful Stories About Climate Change and Public Law' (2025) 37 J Env L 1.
[25] Agnieszka Smoleńska and Jens van 't Klooster, 'A Risky Bet: Climate Change and the EU's Microprudential Framework for Banks' (2022) 8 J Financial Regulation 51.
[26] Madison Condon (n 19) 113.
[27] Banking on Climate Chaos (BOCC). Fossil Fuel Finance Report 2025 (BOCC 2025) 4-5.
[28] Agnieszka Smoleńska and others, Banks and Climate Litigation Risk: Navigating the Low-Carbon Transition (CETEx 2025).
[29] Notre Affaire à Tous and Others v BNP Paribas (Writ of Summons, Judicial Court of Paris, 23 February 2023) [unofficial English translation facilitated by the Sabin Center for Climate Change Law, <https://www.climatecasechart.com/document/notre-affaire-a-tous-les-amis-de-la-terre-and-oxfam-france-v-bnp-paribas_1736> accessed 18 April 2026].

Human Rights (UNGPs) and the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct (OECD Guidelines). Milieudefensie strategically sued ING—the largest bank in the Netherlands—demanding a 50% absolute reduction in total emissions (Scope 1, 2, and 3) by 2030 and to establish a climate policy in line with the Paris Agreement, including Scope 3 emissions.[30] The primary challenge for the claimants is the 'substitution argument': that if they stop financing a project, another bank will simply take their place and result in no real-world emission reduction.[31] While the success of these arguments is yet to be determined by Courts, strategic climate litigation against banks is a reality.

Against this backdrop, the present inquiry is positioned within the burgeoning vanguard of strategic climate litigation against banks. Departing from—and in parallel to—the vanguard of litigation against companies, attention is needed in relation to legal causation and the imputation of 'special responsibility' for climate change impacts; both pivotal yet conceptually fraught nodes of contention. Successful litigation strategies need to overcome the inherent constraints of the orthodox 'but-for' causation test[32] by gravitating to alternative, more flexible evaluative frameworks. Notably, the 'material contribution' to harm test[33] has emerged as a strong candidate vis-à-vis improving attribution science. Evidentially, this shift is supported by Heede's seminal quantitative analysis on the global emissions of carbon majors linking 90 corporations to roughly two-thirds of historic GHG emissions,[34] and its subsequent refinements.[35] Yet, additional challenges emerge in litigation against banks, notably by having to shift from direct to indirect, and from absolute to relative, contributions to harm. Crucially, there is no authoritative, peer-reviewed academic study tracing 'financed emissions'—no 'Heede for banks'.

The research question derives from the need for a methodology and report providing qualitative evidence that can help make compelling legal causation arguments asserting the 'special responsibility' of banks for climate breakdown from a factual perspective. To that effect, the meta question, answered through two sub questions, is: 'What are the key legal principles that could guide the development of a climate attribution study for banks?' The first sub question is: 'What approaches to establishing a causal link between climate-related harms and a corporation's emissions-generating activities have been most successful in climate litigation and why?' (Strand A question). The second sub question is: 'How have parties sought to attribute special responsibility for climate-related harms to financial institutions and/or how have they quantified their 'financed emissions'?' (Strand B question). After answering the Strand A and Strand B questions and

[30] Milieudefensie v ING Group NV and Another (Summons, District Court of Amsterdam, 28 March 2025) [Milieudefensie v ING Summons] [unofficial English translation facilitated by the Sabin Center for Climate Change Law <https://www.climatecasechart.com/documents/milieudefensie-v-ing-group-and-ing-bank-summons_54f7> accessed 18 April 2026].

[31] Milieudefensie v ING Groep NV and Another (Statement of Defence, Amsterdam District Court, 18 February 2026) [Milieudefensie v ING Defence] for the 'substitution argument' see Section 11.3.1 [unofficial English translation see: <https://ing.com/binaries/content/assets/documents/sustainability/20260217-statement-of-defence-of-ing-unofficial-translation.pdf?preview-token=5035c12a-6907-41b8-b816-a040958bd235> accessed 18 April 2026].

[32] The orthodox test for factual causation, requiring the claimant to show that, but for the defendant's conduct, the harm would not have occurred. See: Barnett v Chelsea and Kensington Hospital Management Committee [1969] 1 QB 428.

[33] An alternative test of factual causation for cumulative harm, requiring the claimant to show that the defendant's conduct made a more than negligible contribution to the injury, rather than satisfying the 'but-for' test. See: Bonnington Castings Ltd v Wardlaw [1956] AC 613.

[34] Richard Heede, 'Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010' (2014) 122 Climatic Change.

[35] Subsequent refinements include: InfluenceMap, *The Carbon Majors Database: Launch Report* (2024) and Climate Accountability Institute, 'Carbon Majors' (4 April 2024) <https://climateaccountability.org/carbon-majors/> accessed 18 April 2026.

specifying the answer to the meta question based on the former answers, some final reflections are drawn to guide potential future litigation.

1. Strand A Research Question

The framework for Strand A utilises a comparative, multi-jurisdictional approach to evaluate legal arguments establishing causal links between corporate emissions and climate-related harms. Central to this methodology is a three-tiered taxonomy categorised by the nature of relief sought: backward-looking cases focusing on compensatory damages for past harms, forward-looking cases seeking injunctive relief to prevent future degradation, and mixed approaches that blend both objectives.

The analysis systematically deconstructs these categories across distinct legal subject-matters, including traditional tort law (nuisance and negligence), human rights frameworks (positive obligations under the ECHR and advisory proceedings before the Inter-American System), and state responsibility (due diligence standards under general international law). The report evaluates five core analytical pillars: (1.1) legal parameters for causation; (1.2) methodological challenges; (1.3) the judicial reception of quantitative evidence; (1.4) the influence of sought relief on evidentiary standards, and (1.5) temporal aspects of attribution.

1.1. The Legal Parameters and Tests in Relation to Causation and Attribution

A keystone of most climate change litigation is establishing the legal responsibility of the defendant(s) for having caused, continuing to cause, or being projected to cause direct or indirect harm via their contribution to climate change. This is particularly challenging given that climate impacts are widely understood to be caused by global collective action. GHG emissions are so intertwined with modern industrial society that most participants will contribute to climate change. Thus, courts face a critical issue by having to determine whether and in what circumstances there is a principled basis for attributing legal responsibility to a small subset of the actors potentially responsible for a claimant's climate-related harms.

This section offers an evaluation of which legal parameters and tests courts regard as necessary to be met in order to prove causation and attribution. It is apparent that courts are increasingly apportioning legal responsibility to corporate defendants on the basis of a 'material contribution' causation test, with two emerging pathways for litigation. The first is tort-based litigation, particularly claims made in nuisance, which provide a retrospective assessment of climate-harms to property and environment caused by emissions linked to a large emitter. The second is forward-looking human rights litigation, which looks at the projected impact of a defendant's emissions trajectory on human rights, particularly the rights to life, health and private life.

- <u>1.1.a. Backward-looking cases:</u>

  There is a burgeoning trend, in light of the sheer number of contributors to climate change across time, of courts accepting that partial contributions to climate change can form the basis of legal responsibility. For example, in *Lliuya v RWE,* the Higher Regional

Court of Hamm accepted in principle that major GHG emitters can be held liable for the impacts of their emissions around the world.[36] The claim was brought by a Peruvian farmer against a German utility company using coal-fired energy production. The claimant alleged that glacial retreat caused by rising global temperatures posed a risk of flooding to his property. Specifically, the claimant sought for RWE to pay a share of his adaptation measures in line with RWE's historical emissions as a proportion of global emissions causing temperature rising.[37] The Court accepted the use of attribution science to show causation between the defendant's emissions and the increased risk of harm. Recognising that climate change is caused by multiple contributors, the Court established a causal nexus on the basis that all global emissions are equivalently causal of every increase in anthropogenic warming and resulting climate harm.[38] The Court was prepared to attribute to RWE the GHG emissions resulting from its subsidiaries' operation of power plants due to the defendant having management and control over the company group.[39] This grouping of emissions to a parent company is significant for an ancillary issue: the materiality of the defendant's contribution to climate change. In this case, the Court rejected RWE's arguments that its emissions (at approximately 0.38% of global emissions) were *de minimis* and held that its contribution was material to global anthropogenic warming.[40] Also significant was the Court's finding that emissions released in one country could constitute a 'direct disturbance' (pursuant to Germany's civil law) to property interests in another country.[41] This finding reflects awareness that close proximity between an emitter and a person experiencing climate-related harms is not representative of how GHG emissions disperse in the atmosphere. The National Inquiry on Climate Change, the Commission of Human Rights of the Philippines took a different approach to evaluating the materiality of a specific actor's contribution to climate change. It recommended that a state's positive duty to protect human rights (and to take positive steps to mitigate and adapt to climate change) should not be viewed as directly proportional to the state's contribution to climate change.[42] That is because this duty is greater than to 'merely refrain from interfering with human rights'.[43] Separately, the Inquiry said it is well-established that climate change is anthropogenic. As such, it recommended that courts should not require specific evidence of the fact that climate change as a phenomenon is non-naturally occurring.[44] However, this does not alter the fact that evidence of a specific actor's contribution to climate change will be required to ground a basis for a specific actor's liability.

[36] *Luciano Lliuya v RWE AG* Case No. 5 U 15/17 (2025) (Higher Regional Court of Hamm), 35.
[37] Ibid 118.
[38] Ibid 42-44 and 46.
[39] Ibid 38-41 and 48.
[40] Ibid 46-47.
[41] Ibid 49-53 and 57.
[42] Commission on Human Rights of the Philippines, *National Inquiry on Climate Change Report* (CHR Philippines 2022), <https://www.greenpeace.org/static/planet4-philippines-stateless/2024/02/6c24f95b-nicc_report.pdf> accessed 26 March 2026, 74.
[43] Ibid.
[44] *National Inquiry on Climate Change Report* (n 42), 147.

- 1.1.b. Forward-looking cases:

  Similarly, the forward-looking cases assessed suggest that courts are willing to rely on the defendant's partial contribution to creating or heightening the risk of a projected climate harm as the basis for responsibility. The nature of that responsibility is often a legal duty to contribute to prevent the harm from occurring, including to reduce the risk of human rights infringements. In these cases, courts often assess the materiality of the defendant's contribution as relevant to whether a legal duty should be imposed. For instance, in *Milieudefensie v Shell,* the Hague Court of Appeal determined that whether Shell had breached a social standard of care turned on the severity of the threat of a particular danger, the relative significance of the defendant's contribution to that danger and its capacity to contribute to combating that danger.[45] However, there is no clear or established standard for what constitutes a 'material' or 'significant' contribution to climate change. Nor is it clear whether the materiality of the defendant's contribution should be measured in the context of global, national or sector-specific emissions. In *Smith v Fonterra*, the New Zealand Supreme Court rejected that a finite number of known contributors to the alleged climate harm must be identified and brought before the court.[46] This finding allowed the tort claims in public nuisance, negligence and an inchoate duty of care to proceed to the merits stage.

- 1.1.c. Human Rights approach:

  Human rights litigation has seen particular success in pinpointing a principled basis for attributing legal responsibility to prevent future climate harms. Climate change threatens a wide range of rights. Often, however, climate litigation strategically centres on the rights to life, and to private and family life. On the one hand, the right to life is commonly interpreted by courts as requiring positive measures of states, and sometimes corporations, to safeguard the right from specific threats. On the other hand, there is a high bar to proving a severe threat to the right to life, making it more challenging evidentially than proving severe interference with other human rights. To illustrate, in *KlimaSeniorinnen v Switzerland*, the ECtHR interpreted Article 8 to include a 'right for individuals to effective protection by the State authorities from serious adverse effects of climate change on their life, health, well-being and quality of life'.[47] To this end, the ECtHR required Member States to adopt and 'effectively apply in practice'[48] regulations and policies 'capable of mitigating the existing and potentially irreversible future effects of climate change',[49] while deferring to states' wide margin of appreciation in this endeavour.[50] However, the Court noted that applicants in this type of litigation would need to demonstrate an 'actual interference', to a certain degree of

[45] *Shell plc v Vereniging Milieudefensie & Ors* (2024) ECLI:NL:GHDHA:2024:2100 (Hague Court of Appeal), [7.24] [*Milieudefensie v Shell*].
[46] *Smith v Fonterra Co-Operative Group Limited* [2024] NZSC 5, [159, 164, 166].
[47] *Verein KlimaSeniorinnen Schweiz and Ors v Switzerland* App no 53600/20 (ECtHR, 9 April 2024), [519] [*KlimaSeniorinnen v Switzerland*]. Note, While the four individual applicants did not meet this criterion, *KlimaSeniorinnen* satisfied the requirements for standing as an association and so was able to bring the claim on behalf of its members.
[48] Ibid [538].
[49] Ibid [545].
[50] Ibid [549].

severity, with the enjoyment of their private or family life.[51] It would be insufficient, for instance, if the interference were negligible in comparison to environmental hazards inherent in every modern city.[52] The ECtHR affirmed that it is insufficient for a claimant to suffer from general damage to the environment.[53] Instead, applicants must demonstrate that they have personally and particularly suffered.[54] The severity of the consequences of government action or inaction affecting the applicant must be significant, and there must be a 'pressing need' to ensure applicants' individual protection.[55] To assess whether an interference with human rights is unlawful, domestic courts have used as a benchmark emission reduction pathways (as identified by expert witnesses or the IPCC reports) consistent with limiting global warming to the Paris Agreement temperature goals. That is, courts may assess whether (a) a corporate defendant's self-reported level of GHG emissions,[56] or (b) a state's laws or policies permitting the lawful emission of GHGs, are aligned with limiting global warming to 1.5°C or well-below 2°C. For instance, the ICJ advised that state parties to the Paris Agreement (which has near universal participation) must make best endeavours to fulfil their Nationally Determined Contributions (NDCs), in accordance with their Common but Differentiated Responsibilities and Respective Capabilities, to contribute to limiting warming to 1.5°C.[57] The ICJ also advised that, under customary international law, states have a duty to act with due diligence, which includes regulating the emissions of private actors. The ICJ finally advised that states may commit an internationally wrongful act if they fail to regulate GHG emissions or to conduct environmental impact assessments (EIAs) pursuant to either duty.

1.2. The Key Legal and Methodological Challenges Facing Climate Litigants

Litigants encounter significant hurdles in establishing a causal nexus due to the phenomenon of cumulative causation and the inherent mismatch between orthodox tort doctrines and the diffuse, aggregate nature of global GHG emissions. These challenges are amplified by scientific uncertainty regarding specific reduction pathways and systemic data gaps, alongside judicial reluctance to regulate and stringent victim classification criteria designed to preclude *actio popularis* claims. Consequently, overcoming extraterritoriality requires, *inter alia*, innovative legal anchoring—such as corporate group liability and flexible evidentiary standards—to reconcile traditional jurisdictional constraints with the transboundary realities of climate-related harm. In that context, this section engages with the key legal and methodological challenges facing climate litigants seeking to demonstrate causation in this context.

[51] Ibid [514].
[52] Ibid [517].
[53] Ibid [472].
[54] Ibid.
[55] Ibid [487](b).
[56] This type of analysis was present in *Milieudefensie v Shell* (n 45).
[57] ICJ Advisory Opinion (n 4).

	Cumulative Causation	Scientific Uncertainty	Existing Tort Doctrines	Reluctance To Regulate	Victim Classification	Extraterritoriality of Climate Change	Data Gaps
Smith v Fonterra	X	X	X	X		X	
Milieudefensie v Shell	X	X	X	X			
Lliuya v RWE	X	X	X				
Philippines Inquiry	X				X	X	X
KlimaSeniorinnen v Switzerland					X		
IACtHR Advisory Opinion on Climate Emergency	X	X	X			X	X
Greenpeace Italy et.aAl. V ENI S.p.A	X			X	X	X	
ICJ Advisory Opinion	X	X		X			
Hugues Falys v TotalEnergies	X	X	X	X		X	X
Asmania et al v Holcim	X	X					

Figure 1. *List of the key methodological challenges that appear in each case/report. Cases below the red line are ongoing, and analysis was limited to available information as there is no complete judgment yet.*

- 1.2.a. Cumulative Causation:

  This challenge refers to the difficulty of connecting a defendant's emissions to a sustained climate-related harm. The challenge arises because the harm stems from the aggregate GHG emissions of actors across time and space (in particular, since the Industrial Revolution). This makes it difficult for claimants to prove that a defendant's emissions materially contributed to the harm suffered. Across the analysed cases, courts responded to this challenge in different ways. In *Smith v Fonterra*, the High Court held that the contribution of each defendant was minimal on a global scale.[58] The Court of Appeal then found that there could potentially be an unlimited number of defendants.[59] Both of these conclusions were reversed by the Supreme Court of New Zealand, which held that cumulative causation in the climate context must be figured out at trial.[60] This suggests that traditional legal thresholds, such as the 'but for' test, may prove inadequate in the climate context. Furthermore, in *Lliuya v RWE*, the German court accepted, in principle, the defendant's proportional contribution to historic GHG emissions.[61] Despite this, the claim failed to meet the probability threshold for concrete danger.[62] This illustrates that cumulative causation alone might not be sufficient to dismiss a climate claim.

- 1.2.b. Scientific Uncertainty:

  This heading does not encompass a debate over whether climate change is anthropogenic. Analysed litigation seems to accept that climate change is a real scientific phenomenon.

[58] *Smith v Fonterra Co-operative Group Ltd* [2020] NZHC 419, per Wylie J, [82].
[59] *Smith v Fonterra Co-Operative Group Ltd* [2021] NZCA 552, [112].
[60] *Smith v Fonterra* [NZSC] (n 46), [166].
[61] *Lliuya v RWE* (n 36), [46-47].
[62] Ibid [81-82], [85].

The challenge of 'scientific uncertainty' refers to the multiple uncertainties involved in quantifying historical emissions and determining their contribution to specific local harms. It also refers to the difficulty of identifying a single GHG emissions reduction pathway for states to regulate in accordance with, or for private actors to not exceed. In the analysed cases, the courts tend to accept the authority of IPCC reports. For example, the ICJ declared these reports to be the 'best available science'.[63] However, courts may find difficulty utilising these reports to derive specific GHG emission reduction obligations for corporate defendants due to the existence of multiple emission reduction scenarios (with varying degrees of overshoot) available to limit global warming to a particular temperature goal. In light of current warming levels exceeding 1.5°C on a temporary basis, there is uncertainty as to whether limiting warming to 1.5°C can be operationalised as a legal requirement, or whether defendants should instead be required to limit warming to well-below 2°C, and what this particular temperature would be. Progress has been seen in the Advisory Opinion of the IACtHR, where the court suggested the use of flexible evidentiary standards and of the precautionary principle to overcome scientific uncertainty.[64]

- 1.2.c. Existing Tort Doctrines:

  This category refers to the structural inadequacy of orthodox tort law doctrines, such as negligence or nuisance, to accommodate the distinct mechanisms by which climate-related damages arise. Traditional legal tests, such as 'but for' causation, proximity, or concrete danger, do not necessarily encompass cumulative, global, and long-term harm. In *Smith v Fonterra*, for example, the Court of Appeal held that existing legal standards for public nuisance do not translate to the climate context due to the structural features of climate change.[65] However, following this decision, the Supreme Court found that public nuisance standards may be capable of accommodating climate claims, and difficulties in applying these established principles shall be resolved during trial.[66] This presents a challenge for climate litigation in terms of how to effectively utilise existing legal doctrines or pioneer new legal tests.

- 1.2.d. Reluctance to Regulate:

  This is the recurring tendency of courts' unwillingness to assume a regulatory role in climate litigation. It is especially true in cases where courts must determine specific targets for reducing emissions, climate policy timelines, and/or other regulations that are not explicitly mandated by existing legislation. This was seen in *Milieudefensie v Shell*. However, the courts are less reluctant to assess compliance with existing commitments. *Greenpeace v ENI* shows promise in this regard, as the Italian Supreme Court of Cassation refused to dismiss it simply because it concerned climate policy.[67] The court ruled that it is within the remit of the courts to evaluate whether existing legal norms impose obligations on defendants. While this approach is not entirely regulatory, it demonstrates that courts are willing to interpret existing legislation in a regulatory manner. Additionally, this challenge

[63] ICJ Advisory Opinion (n 4), [74].
[64] *Climate Emergency and Human Rights* (Advisory Opinion) IACtHR Series A No 32 (29 May 2025), [228-229, 552-554].
[65] *Smith v Fonterra* [NZCA] (n 59), [16, 92-93].
[66] *Smith v Fonterra* [NZSC] (n 46), [154, 166, 172-173].
[67] *Greenpeace Italy et al. v ENI S.p.A.*, Corte Suprema di Cassazione, Sezioni Unite Civili, Ordinanza No. 20381/2025, R.G.N. 13085/2024, 18 February 2025 (published 21 July 2025), [7.1-7.2].

demonstrates the importance of supporting climate litigation with lobbying and policy advocacy to provide courts with existing commitments to assess defendants' actions against.

- 1.2.e. Victim Classification:

  This challenge already arises even before litigation begins. It determines who qualifies as a victim or an affected party and is therefore entitled to bring a claim. As many people are affected by climate change to some extent, claimants must demonstrate that they have suffered harm to a degree that distinguishes them from the general population. Despite this already being a difficult legal and procedural challenge, courts have not defined principled criteria to help overcome it. In *KlimaSeniorinnen v Switzerland,* the ECtHR developed a two-part test for individual victim status and a three-part test for association victim status.[68] These tests represent the first structured judicial framework for distinguishing climate related human rights complaints from inadmissible *actio popularis* claims under the ECHR. The tests are also significant as they provide future claimants with replicable, principled criteria for establishing victim status in a context where the harm is universal. The Philippines' *National Inquiry on Climate Change* adopted a different approach in its NICC. It utilised emissions attribution data to establish the collective emissions contribution of Carbon Majors to climate harms experienced by Filipino citizens.[69] This frames the issue as human rights violations, suggesting that courts might be willing to develop structured criteria to avoid premature dismissals of climate related claims.

- 1.2.f. Extraterritoriality of Climate Change:

  These are legal and jurisdictional difficulties that arise from the global nature of climate change. The emissions of GHG from one jurisdiction into the global atmosphere have a negative impact and cause harm in other jurisdictions. This creates multiple legal challenges: Does a court have jurisdiction over the litigation if the emissions occurred elsewhere? How do courts establish that states have extraterritorial human rights obligations beyond their own jurisdiction? And how can emissions from multiple jurisdictions over time be attributed to a particular defendant in the litigating jurisdiction? In *Greenpeace v ENI*, the Italian Supreme Court of Cassation resolved this challenge by attributing the harm to ENI's headquarters in Italy.[70] This rationale is arguably similar to *Lliuya v RWE*, given that RWE never operated directly in Peru and the claim was brought in Germany because RWE is headquartered there. Additionally, in the interim decision in *Falys v TotalEnergies*, the Belgian court accepted jurisdiction as the climate-related damage materialised within the court's territory, Belgium.[71] The Belgian court also provisionally held

[68] *KlimaSeniorinnen v Switzerland* (n 47), [487], [502]. (The two-part test for individual victim status required to demonstrate a high intensity of exposure to the adverse effects of climate change and a pressing need for individual protection due to the inadequacy of reasonable mitigation measures. The three-part test for association standing required the entity to be lawfully established, to pursue a dedicated statutory purpose in defending human rights from climate-related threats, and to be genuinely qualified and representative to act on behalf of affected individuals).
[69] *National Inquiry on Climate Change Report* (n 42), [99-100].
[70] *Greenpeace v ENI* (n 67), [8.1].
[71] Elsa Neugroschl, 'Belgian court takes interim decision in climate case against TotalEnergies' (*Clifford Chance*, 24 March 2026) <https://www.cliffordchance.com/insights/resources/blogs/business-and-human-rights-insights/2026/03/belgian-court-takes-interim-decision-in-climate-case-against-totalenergies.html> accessed 24 April 2026.

that TotalEnergies SE, as a parent company, could defend the claim because it exercised de facto control over subsidiaries. However, this could still change at the merits stage. The court proceeding for *Falys v TotalEnergies* is currently halted as the Belgian court is awaiting the decision of a Paris court that is ruling on a similar matter.[72] These cases demonstrate the potential for anchoring extraterritorial harm through corporate group liability.

- 1.2.g. Data Gaps:

  Data gaps are shortages or asymmetries in evidence needed to prove climate harm and responsibility. These data gaps, for example, include meteorological records, incomplete emissions inventories, uncertainty in historical production records, and others. Data Gaps impact both the process of proving harm and the right to be a claimant. The challenge lies in overcoming these gaps with sources that courts accept as reliable. The IACtHR, in its landmark 2025 Advisory Opinion on the Climate Emergency and Human Rights, identified such data gaps as a systemic challenge to climate litigation.[73] The IACtHR especially noted the lack of information on highly vulnerable regions such as Latin America, and insufficient long-term and socioeconomic data of high-quality.[74] To combat these challenges, the IACtHR affirms that states, pursuant to the right of access to information, have the obligation to 'establish appropriate systems and mechanisms for the production, collection, analysis, and dissemination of information',[75] and recommends utilising satellite evidence.[76]

In the cases studied, the key legal and methodological challenges facing climate litigants seeking to demonstrate causation include cumulative causation, scientific uncertainty, existing tort doctrines, reluctance to regulate, victim classification, extraterritoriality of climate change, and data gaps. These categories operate at the intersection of scientific complexity and judicial innovation. A re-evaluation of traditional legal doctrines to address the systemic challenges of global warming is necessary to approach the methodological hurdles. The difficulty of cumulative causation—wherein aggregate global emissions historically undermine the orthodox 'but-for' test—has prompted a judicial shift toward assessing proportional contribution and adapting existing torts like public nuisance, as evidenced by developments in *Smith v Fonterra* and *Lliuya v RWE*. These doctrinal evolutions are complicated by scientific uncertainty regarding specific reduction pathways and systemic data gaps, yet the judicial adoption of IPCC reports and the IACtHR's emphasis on the precautionary principle and state information obligations provide a framework for managing evidentiary asymmetries and meteorological shortages. Procedurally, the establishment of structured victimhood criteria in *KlimaSeniorinnen v Switzerland,* and the use of human rights framing for emissions attribution in the Philippines' *National Inquiry on Climate Change*, facilitate the transition from inadmissible *actio popularis* to actionable claims, while the anchoring of extraterritorial harms to corporate headquarters, as seen in *Greenpeace v ENI*, allows courts to interpret existing legal norms as regulatory obligations despite a traditional reluctance to assume policy-making roles.

Moreover, recognition of Tikanga Māori in *Smith v Fonterra* demonstrates a judicial willingness to move beyond anthropocentric perspectives toward metaphysical and non-pecuniary harms, but this

[72] Ibid.
[73] *Climate Emergency and Human Rights* (n 64) [497-499], [552].
[74] Ibid [497-498].
[75] Ibid [505].
[76] Ibid [555].

shift is counterbalanced by a lack of expert consensus on the allocation of corporate responsibility, which precluded the imposition of specific reduction targets in *Milieudefensie v Shell*. Such evidentiary challenges are further compounded by the necessity of proving a high probability of concrete local harm, as seen in *Lliuya v RWE*. In some fora standing can be a hurdle to overcome, like in international human rights, evidenced by the ECtHR's reaffirmation in *KlimaSeniorinnen v Switzerland* that climate claims must satisfy strict victim status criteria rather than proceeding as *actio popularis*. To navigate these barriers, claimants are *inter alia*, utilising group subsidiary liability to overcome extraterritoriality objections—as highlighted in *Greenpeace v ENI*—yet the attribution of Scope 3 emissions remains a critical evidentiary hurdle, with the debate over corporate control versus the foreseeability of carbon use in *Falys v TotalEnergies*[77] representing a vital frontier in resolving scientific and legal uncertainty.

1.3. Quantitative Emissions Attribution Evidence Submitted to Courts

In pursuing climate litigation, claimants have increasingly relied on quantitative emissions attribution evidence to establish corporate and state responsibility for climate harms. This evidence draws primarily from the Carbon Majors database, IPCC assessment reports, and independent scientific studies. Courts have received this evidence with varying degrees of acceptance ranging from straightforward acceptance to more critical interpretation. These patterns—including what quantitative emissions attribution evidence has been submitted to courts and how this evidence has been received—are examined below through select climate litigation cases.

- 1.3.a. IPCC Reports:

  The IPCC's reports provide a baseline on which courts ground factual findings about causation in most climate litigation cases. Across jurisdictions, Courts have treated IPCC's reports as authoritative though the weight has varied from case to case.[78] In *KlimaSeniorinnen v Switzerland,* the ECtHR accepted IPCC findings as established scientific fact, noting their comprehensive and rigorous methodology.[79] The Philippines' *National Inquiry on Climate Change* similarly relied on the IPCC Fifth Assessment Report to establish the causal chain between anthropogenic emissions and observed warming.[80] New Zealand's courts have indicated willingness to accept IPCC findings at face value,[81] though the strike-out posture of those proceedings meant no full evidential testing occurred. In *Milieudefensie v Shell*, IPCC 1.5°C pathways were submitted as part of a wider synthesis to derive an enforceable reduction standard. The court declined to engage with them on that basis, treating the resulting range as insufficiently certain rather than questioning the

[77] Citation de l'assignation (Summons) in *Falys and Others v TotalEnergies SE* (Commercial Court of Tournai, filed 13 March 2024), [62, 68, 98]. (The defendant argued that emissions arising from the products that were sold to third parties and used by third parties are not attributable to them. TotalEnergies claimed that they cannot control how sold products are used downstream, while the claimants held that downstream emissions are a foreseeable consequence of selling carbon-bearing products).

[78] Noah Walker-Crawford and others, 'Science in the Courtroom: Evidentiary Needs in Climate Litigation', Grantham Climate Litigation Guide 1, Grantham Research Institute on Climate Change and the Environment and Grantham Institute (2026).

[79] *KlimaSeniorinnen v Switzerland* (n 47*)*, [432].

[80] *National Inquiry on Climate Change Report* (n 42), [32].

[81] *Smith v Fonterra* [NZHC] (n 58), [27]; *Smith v Fonterra* NZSC (n 46), [14].

underlying science.[82] The IACtHR has affirmed that the best available science standard couched in IPCC findings, is the appropriate evidentiary foundation for climate cases.[83]

- 1.3.b. Carbon Majors Database:

  The Carbon Majors database attributes cumulative historical carbon dioxide (CO2) emissions from 178 of the world's largest oil, gas and cement producers.[84] It is the primary tool used by claimants seeking to quantify a defendant's conduct to global emissions totals. In *Lliuya*, RWE was attributed 0.47% (later revised to 0.38%) of cumulative anthropogenic CO2 emissions since 1854.[85] In the Philippines' *National Inquiry on Climate Change*, the Carbon Majors collectively accounted for 21.4% of global industrial emissions.[86] In *Greenpeace v ENI*, ENI was attributed 0.6% of cumulative global industrial emissions.[87] Courts' reception of this data has not been uniform. The Philippines' *National Inquiry on Climate Change* endorsed the Carbon Majors database as a valid attribution tool.[88] In *Lliuya*, the German court accepted the quantitative emissions share as a relevant basis for calculating proportional liability, a notable development for attribution science in tort.[89] However, the expert evidence translating that share into a specific flood risk was found too speculative to sustain the claim.[90] In *Greenpeace v ENI*, the Supreme Court of Cassation, received the data as factual background but ruled solely on jurisdiction, leaving its evidentiary weight unassessed. The *Asmania* admissibility proceedings remain ongoing.

- 1.3.c. Emissions Pathway Modelling and Sectoral Reduction Scenarios:

  Alongside IPCC baseline data, several cases have relied on more detailed modelling to derive specific, defendant-level reduction obligations. In *Milieudefensie v Shell*, the claimants consolidated the IEA Net Zero Scenario, Tyndall Centre analysis, and United Nations Environmental Programme (UNEP) and International Institute for Sustainable Development (IISD) reports into a table, projecting required reductions of 28.5% to 51.7% for oil and 30.1% to 50.5% for gas by 2030, relative to 2019 levels.[91] In *KlimaSeniorinnen v Switzerland*, applicants submitted emissions pathway comparisons tracking Switzerland's performance against IPCC-recommended targets across multiple legislative periods.[92] They also relied on probabilistic carbon budget analysis, using a remaining global budget of 400 gigatonnes of CO2 to anchor Switzerland's share of the remaining emissions space.[93] Courts' reception of this evidence diverged sharply. In *KlimaSeniorinnen*, the ECtHR accepted the pathway analysis and found that Switzerland had permitted more emissions than an equal per capita approach would allow, directly deploying the modelling to establish a treaty violation.[94] In *Milieudefensie v Shell*, the Court took the opposite approach. It treated

[82] *Milieudefensie v Shell* (n 45), [429].
[83] *Climate Emergency and Human Rights*, (n 64).
[84] InfluenceMap, 'About Carbon Majors', <https://carbonmajors.org/> accessed 27 March 2026.
[85] *Lliuya v RWE* (n 36), [5].
[86] *National Inquiry on Climate Change Report* (n 42), 89.
[87] *Greenpeace v ENI* (n 67), [13].
[88] *National Inquiry on Climate Change Report* (n 42), 89.
[89] *Lliuya v RWE* (n 36), [12].
[90] Ibid (n 36), [12].
[91] *Milieudefensie v Shell* (n 45), [4-8].
[92] *KlimaSeniorinnen v Switzerland* (n 47), [569].
[93] Ibid [110].
[94] Ibid [303].

the range produced by the synthesis as evidence of scientific uncertainty rather than a reasonable reduction, holding that no sufficiently unequivocal conclusion could be drawn.[95] It refused to select a mid-range figure, reasoning that doing so would improperly elevate a scientific prognosis into a legally binding standard. This contrast illustrates how courts can apply formally similar evidence to opposite conclusions, depending on whether scientific range is treated as inherent uncertainty or as the limits of a defensible standard.

- 1.3.d. Corporate Investment and Internal Reporting Data:

  Internal corporate data has been submitted both as evidence of compliance and as evidence of due diligence failures. In *Milieudefensie v Shell*, Shell submitted its own Scope 1 and 2 emissions data, including a self-reported 50% reduction target and claimed a 31% reduction progress by 2023.[96] This was central to the Court's assessment. In the Philippines' *National Inquiry on Climate Change,* Shell's continued investment aligned with a 6°C warming scenario and ExxonMobil's dismissal of a low-carbon scenario, were submitted to demonstrate failures under Principle 17 of the UNGPs.[97] In *Milieudefensie v Shell*, the Court treated internal corporate reporting with considerable deference, accepting Shell's self-reported figures as robust evidence of compliance despite the company's history of weakening its targets.[98] The Court acknowledged that history but declined to treat it as sufficient reason to question current commitments.[99] This stood in pointed contrast to the scepticism applied to the claimants' external scientific evidence.[100] The Philippines' *National Inquiry on Climate Change* took a different view, finding that investment decisions inconsistent with low-carbon pathways were accepted as evidence of due diligence failure, without requiring claimants to prove direct causation of specific harms.[101]

- 1.3.e. Epidemiological and Demographic Evidence:

  In *KlimaSeniorinnen v Switzerland*, applicants submitted quantitative evidence that elderly women faced disproportionate health risks from climate-related heat.[102] Data showed that heat-related mortality in people over the age of 65 increased by approximately 68% between 2004 and 2017.[103] Applicants also submitted data from the Swiss Federal Institute of Technology data showing that Switzerland's consumption-based emissions of 13 tonnes of CO2 equivalent per capita substantially exceeded its domestically reported figure of 5.04 tonnes of CO2eq per capita, a discrepancy directly relevant to the state's claimed compliance with reduction targets.[104] The ECtHR accepted this evidence in establishing that the applicants had suffered real and identifiable harm.[105] The demographic data on heat mortality was central to the Court's finding that elderly women faced sufficiently specific harm to confer standing.[106] The consumption-based emissions data reinforced the finding

[95] *Milieudefensie v Shell* (n 45), [7.111].
[96] Ibid [7.65].
[97] *National Inquiry on Climate Change Report* (n 42), 100.
[98] *Milieudefensie v Shell* (n 45), [7.93].
[99] Ibid [7.93].
[100] Ibid [7.96].
[101] *National Inquiry on Climate Change Report* (n 42), 91.
[102] *KlimaSeniorinnen v Switzerland* (n 47), [392].
[103] Ibid [65].
[104] Ibid [558].
[105] Ibid [70].
[106] Ibid [384].

that Switzerland's domestic accounting understated its actual contribution, and that its failure to meet legislated targets constituted a breach of Article 8 of the European Convention on Human Rights.[107]

In the cases analysed, five different forms of quantitative emissions attribution evidence were submitted to courts, namely IPCC reports, carbon majors database, emissions pathway modelling and sectoral reduction scenarios, corporate investment and internal reporting data, epidemiological and demographic evidence. The integration of quantitative emissions attribution evidence—comprising the authoritative baselines of IPCC reports, the granular datasets of the Carbon Majors database, and sophisticated emissions pathway modelling—has become a cornerstone of contemporary climate litigation, though its judicial reception remains divided between its role as a factual anchor and its potential as a source of scientific uncertainty. The ECtHR in *KlimaSeniorinnen v Switzerland* and the IACtHR have embraced these frameworks to establish treaty violations and define victim standing based on demographic health risks. However, other jurisdictions, in particular the appeal of *Milieudefensie v Shell*, have treated the inherent range in scientific modelling as an evidentiary barrier to rather than a basis for court-ordered emission reductions. This discrepancy is further reflected in the treatment of corporate internal data, where self-reported compliance figures may receive judicial deference in some contexts while inconsistent investment patterns are utilised as evidence of due diligence failures in others, underscoring the ongoing challenge of translating multifaceted scientific data and proportional attribution into precise, enforceable legal obligations.

1.4. The Nature of Relief Sought by Climate Litigants

Across both the backward and forward-looking cases, the nature of relief sought has operated as a key variable in shaping how claimants frame causation and how courts, in turn, assess attribution. At the highest level, there is a consistent pattern cutting across both types of cases: the greater the compensation sought, the stricter the causation threshold demanded. Similarly, where relief is more injunctive or restorative, systemic and probabilistic causal reasoning tends to be more readily accepted. The following section evaluates how the nature of relief sought (e.g. damages, injunctive relief) has influenced the way claimants have presented, and courts have considered, evidence relating to causation and corporate attribution.

- <u>1.4.a. Backward-looking:</u>

  Damages claims represent archetypical backward-looking cases, focusing legal efforts on rectifying a past harm. From the examined jurisprudence, damages claims demand a more granular attribution test. Specifically, where claimants sought compensation for past harm, the courts have tended to require a tighter chain of causation. For instance, in *Lliuya*, the reliance on nuisance law, §1004 BGB, meant that although the claimant sought an injunction to prevent future floods, the damages dimension imposed a requirement of concrete, imminent and determinate danger, as opposed to a merely hypothetical danger.[108] In practice, this was challenging to prove to the required legal standard. Notably, this was a higher standard than that required for a purely compensatory claim, for which proof of loss and causation would have been required, with no imminence requirements. In the

[107] Ibid [384].
[108] *Lliuya v RWE* (n 36), 82.

Philippines' *National Inquiry on Climate Change*, the Commission recommended that stricter causation standards were applicable to damages cases in particular, whereas human rights-based findings of responsibility or recommendations would not require as high a degree of accuracy concerning the causal relationship between GHGs and specific climate-related effects on particular parties.[109] Overall, backward-looking cases, often seeking compensatory claims, require highly quantified attribution evidence, often using the Carbon Majors Database/Heede's emissions accounting, to establish the defendant's proportionate shares of global emissions. This precision matters, given the very nature of the relief sought and considering that claiming a fraction of responsibility for harm first requires determination of the respective fraction of the cause. Nevertheless, it bears mentioning that sole compensation is often not the only mechanism of relief in cases where harm has already occurred.

- 1.4.b. Forward-looking:

  Purely injunctive cases have been seen to generally loosen the causal requirements. In *Milieudefensie v Shell* and *Smith v Fonterra*, the claimants seeking injunctions did not need to prove that past harm had been caused by a specific defendant. Instead, causation was re-conceived around the potential ongoing contribution to a right-infringing state of affairs. For instance, in *Milieudefensie v Shell*, Shell's voluntarily assumed reduction targets became an evidentiary basis against which the court could assess whether a legal obligation was being violated.[110] Accordingly, the analysis focused on whether Shell was doing its part to prevent harm in accordance with its targets.[111] Other cases, like *Smith v Fonterra,* also echoed this rationale, in that the key issue was not whether the defendant's emissions were *de minimis* at a global scale, but whether the defendant's conduct perpetuated a broader harm, as considered by the Supreme Court.[112] The reasoning being that equitable, injunctive remedies may justify a more flexible causal analysis than compensatory damages, because the question becomes whether ongoing rights-infringing activity should be allowed to continue at all. Among the forward-looking cases, the implications of pursuing non-pecuniary and restorative relief were observed, including the relaxation of attribution standards. At the furthest point on the spectrum, the IACtHR Advisory Opinion recognises the restoration of the entire climate system as the goal.[113] This involves increasing mitigation commitments and funding in order to restore the climate system and its ecosystems.[114] Looking towards private litigation, the impact of symbolic relief on litigation strategy and framing is still evident. For instance, in *Falys v TotalEnergies*, a mixed case, symbolic damages for past harm were sought alongside injunctions for future conduct.[115] Since the damages claimed were clearly a symbolic amount of €1 per event, the exact quantification of damages was not needed, which mitigated the problems that could have arisen from a specific accountability quantification framework.[116] Ultimately, these cases reveal that the tort-inspired causation framework built around compensatory relief vis-à-vis damages poses a high evidentiary burden on litigants. Some claimants have responded by accepting the compensatory framing and, in turn, investing heavily in quantitative attribution

[109] *National Inquiry on Climate Change* (n 42), 78.
[110] *Milieudefensie v Shell* (n 45), [7.63-7.66].
[111] Ibid.
[112] *Smith v Fonterra* [NZSC] (n 46), [156,168-169].
[113] *Climate Emergency and Human Rights* (n 64), [273].
[114] Ibid [199-201, 364-366].
[115] *Falys v TotalEnergies* (n 77), [109, 112].
[116] *Falys v TotalEnergies* (n 77), [109].

evidence as part of their strategy, while others have instead pivoted towards injunctive or restorative relief where the causal standard appears to be more tractable. Although courts have appeared to be more accommodating of the latter, mixed cases like *Falys v TotalEnergies* and *Asmania v Holcim*[117] suggest that the standard applied to cases involving both compensatory and injunctive relief remains convoluted. It is also worth noting that the relief sought is often based on several factors going beyond mere evidentiary thresholds, but also include, for instance, mitigating the impact of physical distance (as with a nuisance claim) or strategic choices of venues for litigation.

The nature of relief sought in climate litigation serves as a primary determinant in the judicial calibration of causation and attribution standards, whereby the pursuit of backward-looking compensatory damages demands a rigorous, granular chain of causation and highly quantified emissions data to establish proportionate liability for concrete harms, as exemplified by *Lliuya v RWE* and the Philippines' *National Inquiry on Climate Change*. In contrast, forward-looking injunctive and restorative remedies—featured in cases such as *Milieudefensie v Shell* and *Smith v Fonterra*—facilitate a relaxation of these evidentiary thresholds by shifting the legal focus from specific past injury to a defendant's ongoing contribution to a systemic, rights-infringing state of affairs. This divergence extends to symbolic and restorative frameworks, seen in the IACtHR's systemic restoration goals and the nominal damages in *Falys v TotalEnergies*, which allow claimants to bypass the stringent quantification requirements of traditional tort law, though the adjudication of mixed claims remains inherently convoluted as litigants strategically navigate the tension between compensatory burdens and more tractable injunctive standards.

1.5. The Temporal Aspects of Attribution Evidence and Arguments

The taxonomy of cases identified (forward-looking, backward looking and mixed) require any temporal elements of the argument to be established before evidence is admitted and certain events are considered as proof of harm done to the environment, or anticipated harm. Forward-looking cases approach litigation through a lens that highlights prospective and projected harms. Backward-looking cases consider the harm that has already been done to the environment and the community. Mixed approach cases consider both elements, though in varying proportions. Temporal aspects of attribution focus on locating a point in time at which the alleged polluter incurred responsibility for the harm caused.

Establishing a starting point in time for responsibility determines which evidence from the claimant and defendant is admissible in relation to the impact of climate change and links to specific events. It also establishes whether the defendant could have had knowledge of, and foreseen, the harmful impact of their activity. The issue of knowledge is particularly pressing, as climate science has evolved and awareness of the impact of fossil fuels has been heightened. Establishing a starting point enables the defendant (or defendants, if blame is shared proportionally) to be held responsible for any harm they ought to have known or foreseen as a result of their activities, particularly in relation to harm caused by emissions rather than direct actions. The following section discusses how claimants argued, and courts analysed, questions related to the temporal aspects of attribution evidence and argument.

[117] *Asmania and others v Holcim AG* (Cantonal Court of Zug, filed 1 February 2023, admissibility decision 17 December 2025).

- 1.5.a. Backward-looking Cases and Temporal Elements:

  In the backward-looking cases (particularly, *Lliuya v RWE* and the Philippines' *National Inquiry on Climate Change*), there was a heavy emphasis on knowledge in regard to a presumed industry standard. The question that the courts and inquiries were invited to answer was at what point in the proposed historical timeline (put forward by either party) could the claim be based, in order to determine what harm could be considered an outcome of their environmentally destructive actions. This question would then determine whether it was viable to force the defendant company to pay compensation for damage if it, or any other company at the time, had no knowledge that its activities were linked to present or future harm. In *Lliuya v RWE*, Heede's Carbon Majors Report[118] was used in the process of establishing a timeline for expected knowledge of climate harms.[119] While the report traces emissions from as early as 1884, the 'starting point' was determined to be 1965.[120] The Philippines' *National Inquiry on Climate Change* reached the same conclusion, deciding that responsibility could be assumed from 1965 onwards due to the knowledge that the extended use of fossil fuels would cause environmental damage.[121] The report highlights that the decision to move ahead with the 1965 start date was determined by the fossil fuel industry's acquisition of knowledge about the harm caused. One possible explanation for the 1965 threshold is that courts across the world are reluctant to trigger a rule of law crisis by holding Carbon Majors accountable for issues that occurred before the effects of carbon emissions were widely known. Therefore, it is virtually impossible to claim compensation for harm done prior to the start of this timeline, or attempting to submit evidence demonstrating such harm. Backward-looking climate litigation is often centred on harms resulting from cumulative emissions rather than emissions linked to a specific moment in history or a specific polluter's actions. This means that establishing the period during which the defendant contributed to these emissions is vital to proving their negative contribution.

- 1.5.b. Forward-looking Cases and Temporal Elements:

  Forward-looking cases focus less on when the knowledge would have been acquired and more on emphasising the link between current scientific knowledge and the foreseeability of environmental risks. Knowledge is still a factor when it comes to proving that the risk was foreseeable, and if it was already widely known or well-studied. The forward-looking approach, consequently, considers the issue of industry standards and knowledge, focusing on the risk of future harm rather than knowledge of ongoing harm. Neither the *Milieudefensie v Shell* nor the *Smith v Fonterra* cases identified a starting point where the clock 'started', so to speak. Similarly, the ECtHR did not determine a specific start date when establishing a timeline in the *KlimaSeniorinnen v Switzerland*.[122] In *Milieudefensie v Shell* and *Smith v Fonterra*, the courts opted to consider temporality solely in relation to scientific knowledge rather than to a fixed point in time. Rather than attempting to determine the year from which to begin analysing emissions and evidence, the courts have instead focused on establishing that the relevant knowledge existed at that point in time, therefore giving rise to a duty of care. In *Falys v TotalEnergies*, internal company documents were used to highlight TotalEnergies' awareness of the environmental harm they had perpetuated and, as

[118] Richard Heede (n 34) 229.
[119] *Lliuya v RWE* (n 36), 5.
[120] Ibid.
[121] N*ational Inquiry on Climate Change* (n 42), 94.
[122] *KlimaSeniorinnen v Switzerland* (n 47).

a corollary, the temporal baseline was established from the point at which this awareness could be demonstrated and continual knowledge of this harm could be proven.[123] The ECtHR also considered present and future emissions targets when discussing the issue of temporality in *KlimaSeniorinnen v Switzerland*, comparing the state of Switzerland's emissions targets and actions to regulate emissions and impose positive human rights obligations in respect of climate change.[124] In these forward-looking cases, the knowledge threshold is primarily useful for its ability to give rise to a duty of care to mitigate harm, and various positive obligations.

The taxonomy of climate litigation—categorised as backward-looking, forward-looking, or mixed—requires the establishment of temporal baselines to determine the admissibility of evidence and the specific parameters of legal responsibility. In backward-looking cases such as *Lliuya v RWE* and the Philippines' *National Inquiry on Climate Change*, courts and inquiries often identify a discrete 'starting point', frequently anchored at 1965, to align corporate liability with the historical acquisition of industry knowledge regarding carbon-related harms while avoiding the rule-of-law complications associated with pre-consensus emissions. Conversely, forward-looking litigation, exemplified by *Milieudefensie v Shell*, *Smith v Fonterra*, and *KlimaSeniorinnen v Switzerland*, prioritises the link between scientific consensus and the foreseeability of environmental risks, utilising the knowledge threshold not as a fixed chronological marker for cumulative accounting but as a trigger for a duty of care and positive obligations for mitigation. Whether defining a historical threshold for past contributions or a contemporary baseline for awareness—as evidenced by the use of internal documents in *Falys v TotalEnergies*—the temporal framing of attribution remains a critical mechanism for holding defendants accountable for harms they ought to have foreseen.

[123] *Falys v TotalEnergies* (n 77), [255-266].
[124] *KlimaSeniorinnen v Switzerland* (n 47), [79].

1.6. Final Considerations for Strand A Research Question

Contemporary climate litigation is defined by a sophisticated judicial effort to reconcile traditional legal doctrines with the diffuse, aggregate reality of GHG emissions. As courts move away from orthodox 'but-for' causation—which often fails in the context of collective global action—they are increasingly adopting a 'material contribution' framework. This evolution has bifurcated into two primary pathways: backward-looking tort litigation, which seeks retrospective accountability for property and environmental harm, and forward-looking human rights litigation, which focuses on the projected impact of a defendant's emissions trajectory on fundamental rights. There are also mixed cases that blend both approaches.

The efficacy of these claims rests upon overcoming a series of systemic methodological challenges. Litigants must navigate the complexities of cumulative causation, where the historical contributions of countless actors obscure specific liability. While judicial bodies are beginning to accept proportional liability—evidenced by the recognition of corporate group liability to bridge extraterritorial gaps—they remain constrained by scientific uncertainty regarding specific reduction pathways and data gaps in vulnerable regions, usually located in developing countries. Procedural hurdles, such as stringent victim classification criteria, continue to serve as a guardrail against *actio popularis*, requiring claimants to demonstrate 'actual interference' and 'personal suffering' rather than generalised environmental damage.

Central to this legal shift is the integration of quantitative emissions attribution evidence. Courts generally treat IPCC reports as the 'best available science', providing a factual baseline for anthropogenic warming. However, the reception of more granular data, such as the Carbon Majors database or sectoral pathway modelling, remains inconsistent. While some tribunals utilise this data to establish a principled basis for proportional responsibility, others view the inherent range in scientific modelling as an evidentiary barrier that precludes the imposition of specific, legally binding reduction targets. This discrepancy underscores a broader tension: the degree to which a 'scientific prognosis' can be translated into a 'legal standard'.

The nature of the relief sought serves as the primary calibrator for these evidentiary thresholds. Claims for compensatory damages (backward-looking) demand a rigorous, granular chain of causation and high-precision attribution data. Conversely, injunctive and restorative relief—which focuses on preventing future harm or protecting human rights (forward-looking)—often facilitates a relaxation of these standards, shifting the focus to a defendant's ongoing contribution to a systemic risk. This is inextricably linked to temporal arguments of knowledge and foreseeability. In backward-looking cases, liability is frequently anchored to a 1965 'starting point'—the era when industry awareness of carbon-related harms became undeniable. In forward-looking contexts, this 'knowledge threshold' functions less as a chronological marker and more as a trigger for a positive duty of care to mitigate foreseeable environmental risks.

Ultimately, climate litigation represents a dynamic frontier where scientific complexity and judicial innovation intersect. Success for future litigants depends on the strategic alignment of quantitative data with flexible evidentiary standards, navigating the delicate balance between the expansion of substantive rights and the reinforcement of rigorous procedural thresholds.

2. Strand B Research Question

The research methodology for Strand B integrates doctrinal analysis of emerging litigation and extrajudicial challenges with a technical appraisal of the current evidential tools used to quantify financed emissions. The 'special responsibility' of banks as systemic enablers of the climate breakdown is evaluated through five analytical sub-questions: (2.1) the legal tests for causation and attribution; (2.2) the accountability methodologies currently available; (2.3) how these assessments have been relied upon in litigation; (2.4) the strengths of available methodologies, and (2.5) the weaknesses of available methodologies.

This analysis draws on a diverse set of independent reports and judicial and quasi-judicial precedents, ranging from the 'Banking on Climate Chaos' 2025 Report, to judicial processes like the *Notre Affaire à Tous and others v BNP Paribas* and the *Milieudefensie summons for ING litigations*, including extrajudicial UN special procedures and the OECD National Contact Points. Moreover, the analysis employs a qualitative matrix to evaluate the comparative utility (strengths and weaknesses) of available methodologies. This integrated approach facilitates a critical assessment of the shift toward risk-prevention and human rights-based 'positive obligations' within the financial sector.

2.1. How The Special Responsibility of Banks Has Been Presented

The special responsibility of banks is framed as a function of their commensurate financial power, whereby the sheer volume of capital directed toward fossil fuels transitions them from passive intermediaries to active agents across the complete lifecycle of emissions. This attribution is reinforced by scientific benchmarking and methodological 'adjusters' that effectively neutralise the 'diversification defence' by exposing how intensity-based targets and corporate-level financing are frequently utilised to circumvent project-specific exclusion policies. Legally, these frameworks leverage the UNGPs to argue that banks possessing knowledge of climate risks shift along the responsibility spectrum from being merely 'linked' to 'actively contributing' to harm. Concurrently, by invoking the polluter pays principle, analysts assert that banks bear a positive obligation to utilise their financial leverage to prevent the social costs of the carbon-intensive activities they structurally enable.

	Volume of financial flows & economic influence	Captures complete lifecycle (upstream, downstream)	Contrasts Intensity v Absolute emissions targets	Distinguish Project v Corporate level financing	Scientifically aligned arguments / analysis	Use of 'adjusters' for aggregate finance data	HR Framing - knowledge of & contribution to abuses	Reference / inference of positive obligation of banks
Banking on Climate Chaos (BOCC)	X	X	X	X	X	X	X	
ActionAid UK	X	X		X			X	X
InfluenceMap	X		X	X	X			X
ClientEarth - Saudi Aramco	X	X			X		X	X
Stand.earth	X			X			X	X
Heemskerk & Cox		X	X		X		X	X
PCAF	X		X	X		X		
Greenpeace / WWF	X				X			X
LINGO	X			X				

Figure 2 - Table showing different types of framing used to attribute special responsibility for climate change to banks.

- 2.1.a. Volume of financial flows and economic influence:

  In the majority of the reports analysed, the special responsibility of banks for climate change has been framed by quantifying the sheer scale of capital they direct toward fossil fuels.[125]

[125] BOCC (n 27) 6; ActionAid, Profundo, and AidEnvironment, Who Pays the Price? The Cost of HSBC's Climate Damages (ActionAid UK 2025), 4; InfluenceMap, 'Big Four UK Banks: Falling Short on Climate Action?' (2025) <https://influencemap.org/report/Big-Four-UK-Banks>, 5; ClientEarth, Complaint Concerning Saudi Arabian Oil Company (Saudi Aramco) and Others (Submission to the UN Working Group on Business and Human Rights and the

The reports pose the argument that, because banks control the flow of money that makes economic activities possible, their responsibility is commensurate with their financial power. This framing moves banks from passive intermediaries to active players in the climate crisis—the larger the capital flow, the harder it is for a bank to claim that it is merely a bystander. This is seen in the *Stand.earth* report, which tracked the financing of oil and gas activities in the Amazon across 330 banks, finding that just 10 institutions were responsible for nearly 75% of all direct financing traceable to Amazon oil and gas extraction.[126] Thus, an inference may be drawn that the report uses the volume of financial flows to argue that those banks' share of financing makes them responsible for the climate harm induced by extraction.

- 2.1.b. Complete lifecycle:

  Some reports argue that banks' responsibility should extend across the entire fossil fuel value chain—from extraction through to combustion—rather than being confined to a single transaction or project stage.[127] The former framing prevents banks from limiting the liability to upstream financing by showing that they enable every stage at which emissions are generated. For example, Heemskerk and Cox's report presents this framing by inferring that because banks finance corporations operating across extraction, transportation and combustion, they are structurally implicated in emissions at each stage of the lifecycle.[128]

- 2.1.c. Intensity versus absolute emissions targets:

  A number of the reports construct banks' special responsibility by exposing how the choice of emissions targets determines whether a bank can claim meaningful climate change accountability.[129] Intensity targets, which measure emissions relative to an economic or operational metric, allow total financed emissions to rise as long as the efficiency of the portfolio increases. The 'Banking on Climate Chaos' report, which deploys this framing, presents that banks' preference for intensity emission targets reflects an active choice to adopt a measurement framework that obscures the true scale of their contribution to the climate crisis.[130]

- 2.1.d. Project versus corporate level financing:

  Several reports frame banks' special responsibility by exposing the structural gap between their public climate commitments—which typically restrict or exclude project-level financing of specific coal mines or power plants—and their continued provision of loans and

UN Special Rapporteur on Human Rights and the Environment, 2021), [205]; Stand.earth, 'Banks vs. Amazon Scorecard Report 2025' (2025) <https://banksvstheamazon.org/>, 4; Heemskerk P and Cox R H J, 'Banks' Climate Liability: What to Learn From States and Oil Majors' (2023), 548; PCAF, 'Financed Emissions: For financial institutions measuring and reporting scope 3 category 15 emissions' (2025), 5; Greenpeace UK and WWF, 'The Big Smoke: The Global Emissions of the UK Financial Sector' (Greenpeace UK 2021), 6; LINGO, 'UK Overseas Carbon Bombs' (LINGO, 2023).

[126] Stand.earth (n 125) 4.

[127] BOCC (n 27) 54; ActionAid, Profundo, and AidEnvironment (n 125) 14; ClientEarth (n 125) [154].

[128] Heemskerk P and Cox R H J (n 125) 550.

[129] BOCC (n 27) 55; InfluenceMap (n 125) 7; Heemskerk P and Cox R H J (n 125) 549; PCAF (n 125) 51.

[130] BOCC (n 27) 55.

underwriting to the same corporations.[131] These reports demonstrate that banks exploit the distinction between project finance and corporate finance to fund fossil fuel expansion while claiming policy compliance. These reports suggest the proposition that responsibility cannot be limited by the contractual label attached to a financial instrument. 'Banking on Climate Chaos' presents this most comprehensively, finding that 94.7% of fossil fuel financing in 2024 was to corporations. This meant that most bank support was channelled as unrestricted lending or bond underwriting for general corporate purposes, leaving project-level exclusion policies functionally irrelevant.[132]

- 2.1.e. Scientifically aligned arguments/analysis:

  Another way in which some of these reports ground banks' special responsibility in scientific consensus is by benchmarking their financing decisions against the IEA's Net Zero Emissions (NZE) by 2050 Scenario or the IPCC's remaining carbon budget.[133] This framing facilitates the argument that banks cannot claim ignorance of the adverse climate impacts associated with their choice of capital allocation, as they operate knowing that continued fossil fuel expansion is likely to be incompatible with limiting warming to 1.5°C. InfluenceMap's report frames responsibility by measuring each bank's lending and underwriting portfolio against the IEA NZE scenario, generating a quantified misalignment score that demonstrates the degree to which each bank's financing decisions are scientifically incompatible with the Paris Agreement.[134]

- 2.1.f. Use of 'adjusters' for aggregate finance data:

  The 'Banking on Climate Chaos' and PCAF reports address the issue of banks financing diversified corporations and not clearly identified fossil fuels emitters. The reports introduce proportional attribution mechanisms. The BOCC employs a deflationary 'adjuster', which scales a bank's exposure to reflect the fossil fuel share on a client's overall business.[135] The PCAF's report similarly uses an attribution factor (usually the EVIC) to determine the share of a company's emissions that can be assigned to each financier.[136] This methodological choice constructs responsibility as real and measurable even where the financing relationship is not exclusively fossil-fuel-focused, and closes off a possible diversification defence before it can be raised.

- 2.1.g. Human rights framing:

  A distinct strand of the reports analysed banks' responsibility through human rights law, drawing on the UNGPs to place banks on a spectrum of responsibility that escalates with knowledge of harm.[137] Under this framing, a bank that continues to finance harmful activities after acquiring knowledge of its consequences shifts from being 'directly linked' to adverse effects to actively 'contributing' to them—a distinction that carries materially stronger remediation obligations and narrows the legal distance between finances and

[131] BOCC (n 27) 54; ActionAid, Profundo, and AidEnvironment (n 125) 43; InfluenceMap (n 125) 13-15; Stand.earth, (n 125) 10.
[132] BOCC (n 27) 18.
[133] Ibid 6; Heemskerk P and Cox R H J (n 125), 549.
[134] InfluenceMap, Big Four Banks, (n 125) 16.
[135] BOCC (n 27) 56.
[136] PCAF (n 125), 25.
[137] ClientEarth (n 125), [193].

harm.[138] ClientEarth's complaint concerning Saudi Aramco supports that banks are responsible for lending to Aramco without due diligence or conditions, despite the scale of Aramco's emissions being publicly known, because they are linked through their business relationship. In doing so, the report cited the UNGPs to hold that banks fall into 'contribution' territory, making them subject to the same remediation duties as the company causing the primary harm.[139]

- 2.1.h. Reference to positive obligations of banks:

  Another common framing of banks' special responsibility is the assertion of a forward-looking positive duty. Since banks provide capital that fossil fuel projects are dependent upon, this method of conceptualising responsibility appreciates that banks are not merely implicated in climate harms caused, but are key actors to prevent climate harms from occurring. This positive duty is mainly presented as the responsibility to proactively channel capital away from high-emissions activities.[140] This framing draws on the 'polluter pays' principle (that corporations which pollute are liable for the harm caused, and the banks that fund them should be equally liable). ActionAid's 'Who Pays the Price?' frames responsibility in these terms, applying the 'polluter pays' principle to argue that HSBC's role as the primary European financier of fossil fuel and industrial agriculture projects in the Global South generates a positive obligation to bear the social costs for those emissions.[141]

In the analysed reports, the 'special responsibility of banks' is conceptualised through eight channels: volume of financial flows and economic influence, complete lifecycle of fossil fuels, intensity versus absolute emissions targets, scientifically aligned arguments/analysis, use of 'adjusters' for aggregate finance data, human rights framing, and reference to positive obligations of banks. The core of the channels is reframing banks' role not as passive intermediaries, but as active agents—a shift grounded in the immense volume and economic influence of their capital flows. This responsibility extends across the complete emissions lifecycle—from extraction to combustion—and is increasingly measured against absolute rather than intensity-based targets to prevent the obscuring of aggregate contributions. Methodologically, the use of proportional 'adjusters' and attribution factors effectively neutralises the 'diversification defence', ensuring that unrestricted corporate-level financing is scrutinised alongside project-specific lending. Legally, this framework draws on the UNGPs to argue that banks move from being merely 'linked' to 'actively contributing' to harm once knowledge of adverse climate impacts is established. Consequently, banks are subjected to the 'polluter pays principle', giving rise to positive obligations to proactively mitigate the social costs of the carbon-intensive activities they structurally enable. By benchmarking portfolios against IEA and IPCC scenarios, these frameworks demonstrate that banks operate with the foresight of environmental harm, transforming financial leverage into a core pillar of legal and human rights accountability.

2.2. The Accountability Methodologies Currently Available

'Financed emissions' methodologies are used to calculate whether financial institutions are compliant with net-zero transition plans by assessing capital support for fossil fuel and extractive projects. The transition plans that financial institutions do not publicly disclose frequently do not

[138] Ibid [194].
[139] Ibid [193].
[140] Heemskerk P and Cox R H J (n 125), 550.
[141] ActionAid, Profundo, and AidEnvironment (n 125), 9.

align with net-zero commitments.[142] The IEA's 'Net Zero Roadmap by 2050 for the Global Energy Sector' stated that investment into new fossil fuel projects after 2021 does not comply with international net-zero goals, yet the financial sector continues to support fossil fuel and extractive projects.[143] Strategic litigation must leverage 'financed emissions' and accountability methodologies to hold the financial sector accountable for its role in funding the climate crisis. This section explores what 'financed emissions' or other accountability methodologies are currently available and in use.

	Use of Absolute (*not intensity*) emissions targets	**Fossil fuel expansion tests (*v continuation*)**	**Scientific benchmarking (IPCC, IEA Roadmap)**	**'Enabler' Theory of Responsibility**	**'Facilitated' Theory of Responsibility**	**Aims to tackle 'transition plan' arguments**	**Reliance on bank specific disclosure frameworks**
Banking on Climate Chaos (BOCC)	x	x	x	x	x	x	
ActionAid UK				x		x	
InfluenceMap	x		x			x	x
ClientEarth - Saudi Aramco				x	x		
Stand.earth					x		
Heemskerk & Cox	x		x	x		x	
PCAF	x			x	x		x
Greenpeace / WWF				x		x	x
LINGO				x	x		

[142] EBA, Guidelines on the management of ESG risks (EBA 2025).
[143] IEA, *Net Zero by 2050* (IEA 2021) <https://www.iea.org/reports/net-zero-by-2050>, 21.

Figure 3 - *Table showing different types of 'financed emissions' methodologies and other accountability framings in use.*

- 2.2.a. Absolute Emissions Targets and fossil fuel expansion analysis:

  Absolute emissions targets and fossil fuel expansion analysis allow claimants to identify a point in time in which the defendant should be held liable for funding fossil fuel projects, which is especially useful to determine whether defendants are non-compliant with international emissions goals. Absolute emissions targets were raised as benchmarks for a specific point in time in the 'Banking on Climate Chaos', InfluenceMap and 'Banks' Climate Liability' reports.[144] Banks may prefer absolute emissions targets over fossil fuel expansion tests, which measure the extent to which current fossil fuel projects comply with net-zero targets.[145] In strategic litigation, fossil fuel expansion targets may be used as a binary accountability metric to cross-reference financial transactions with public databases to identify developing fossil fuel assets.[146] PCAF and the Social Cost of Carbon (SCC) are useful methodologies for claimants to do so.[147]

- 2.2.b. Scientific Benchmarking:

  While this subsection facially seems to overlap with subsection '2.1.e. Scientifically aligned arguments/analysis', it differentiates in that this concerns the mechanisms of evasion and the need for more rigorous transition plan standards, whereas subsection 2.1.e pertains to the duty of care based on scientific awareness. Scientific Benchmarking is helpful to contextualise whether the financing of emissions aligns with net-zero goals; it offers a comparative foundation to determine whether financial actors' transition plans are compliant with international emissions reduction goals. This rationale is present in 'Banking on Climate Chaos', InfluenceMap, and 'Banks' Climate Liability'.[148] The 'Banking on Climate Chaos' report found that financing fossil fuel companies was inconsistent with IEA's 2021 Net Zero roadmap, while InfluenceMap's Paris Agreement Capital Transition Assessment benchmarks banks' policies against the IEA's 'Net Zero Roadmap by 2050 for the Global Energy Sector'.[149] While many banks have climate policy statements and targets that regulate financing at the project level, banks continue to support post-2021 fossil fuel projects through corporate finance.[150] Banks leverage loopholes in transition plans and policies to finance projects that do not align with net-zero targets, thus negating the potential for scientific international emissions benchmarks to be achieved.

[144] BOCC (n 27) 52; Heemskerk P and Cox R (n 125); InfluenceMap, Big Four Banks, (n 125).
[145] Heemskerk P and Cox R (n 125); Emily K Fromboluti, 'Absolute vs Intensity Emission Targets' (*Green Portfolio*, 2025) <https://greenportfolio.com/blog/explainer-absolute-emissions-vs-carbon-intensity/>; Smith School of Enterprise and the Environment, 'New 'Climate Tests' proposed to align UK oil and gas licensing with climate goals' (University of Oxford, 29 August 2024) <https://www.smithschool.ox.ac.uk/news/new-climate-tests-proposed-align-uk-oil-and-gas-licensing-climate-goals> accessed 27 March 2026.
[146] BOCC (n 27) 56-57.
[147] Greenpeace UK and WWF (n 125), 18-20; ActionAid, Profundo, and AidEnvironment (n 125), 16-17.
[148] BOCC (n 27); Greenpeace UK and WWF (n 125); ActionAid, Profundo, and AidEnvironment (n 125).
[149] BOCC (n 27) 18, 34, 45, 51.
[150] BOCC (n 27) 27-28.

- 2.2.c. The Enabler Theory of Responsibility:

  The Enabler Theory of Responsibility centralises banks as a key player in the climate crisis, because finance is required for extractive projects to operate. Actors in the financial industry must have a legal duty to reduce financed emissions, because banks provide finance that enables the initiation and continuation of extractive projects.[151] For example, ActionAid UK used the enabler theory to argue that HSBC UK is directly responsible for socio-economic harms arising from HSBC's indirect financing of extractive projects in the Global South as evidenced through PCAF and SCC.[152] 'Banks' Climate Liability', 'Banking on Climate Chaos', Client Earth – Saudi Aramco, Greenpeace / WWF, and LINGO also use 'the Enabler Theory of Responsibility' to centralise the financial industry's role in the climate crisis. 'The Enabler Theory of Responsibility' could be operationalised with quantitative data through PCAF and SCC.

- 2.2.d. The Facilitated Theory of Responsibility:

  'The Facilitated Theory of Responsibility' suggests that extractive projects could continue without financial support from banks through alternative financing (for instance, shadow banking), creating a different level of responsibility for climate change in legal approaches.[153] PCAF may be used to operationalise the theory to establish material contributions. For example, Strand.earth analysed publicly available data through a cross-assessment of direct and total fossil fuel financing to determine whether financial actors' Amazon exclusion, oil and gas, and human rights policies were sufficiently implemented.[154] LINGO also crossed-referenced public finances of 'carbon bombs' to determine that banks are listed as financiers of 'carbon bomb' corporations.[155] 'Banking on Climate Chaos' and ClientEarth – Saudi Aramco also leveraged 'The Facilitated Theory of Responsibility'.[156]

- 2.2.e. Aims to Tackle 'Transition Plan' Arguments:

  Aims to tackle 'transition plan' arguments suggest that the actualisation of decarbonisation policies in the financial sector is limited by the industry's financing of fossil fuel projects at a high volume. Sector-level decarbonisation pathways are diverse, thus seemingly justifying bank's arguments that global average emissions reductions cannot be applied within individual sector portfolios.[157] For example, the ActionAid UK report used SCC modelling to demonstrate that HSBC UK's failure to act upon its own transition plans disproportionately harms vulnerable communities in the Global South.[158] Applying a global average to a diversified bank portfolio without sector-level adjustment may produce mathematically compliant outcomes without complying with decarbonisation targets. However, uniform reductions are not required to achieve global average reductions. This argument was made in the 'Banking on Climate Chaos', ActionAid UK, InfluenceMap, 'Banks' Climate Liability', Greenpeace / WWF reports.[159]

[151] Heemskerk P and Cox R (n 125).
[152] ActionAid, Profundo, and AidEnvironment (n 125), 18.
[153] Greenpeace UK and WWF (n 125).
[154] Stand.earth (n 125).
[155] LINGO (n 125).
[156] BOCC (n 27) 57; ClientEarth (n 125).
[157] Heemskerk P and Cox R H J (n 125).
[158] ActionAid, Profundo, and AidEnvironment (n 125),17.
[159] Greenpeace UK and WWF (n 125).

- 2.2.f. Reliance on Bank Specific Disclosure Frameworks**:**

  Reliance on bank specific disclosure frameworks is common when third parties use 'financed emissions' methodologies to trace a financial actor's role in the climate crisis, because the regulatory environment does not require complete financial transparency. Although banks may not disclose the totality of their funding of extractive projects, bank specific disclosure frameworks provide third-parties with data to examine the extent to which banks comply with their own policies with alternative additional accounting methods. For example, InfluenceMap gathered evidence from bank specific disclosures as input into a PACTA.[160] Greenpeace / WWF also relied on publicly available data as input for PCAF methodology and the calculation of financed emissions.[161] PCAF methodology may be used as a tool to calculate 'financed emissions' from a bank specific disclosure framework.

The accountability of the financial sector for its contribution to the climate crisis is increasingly predicated on the operationalisation of 'financed emissions' methodologies, which leverage absolute emissions targets and fossil fuel expansion analysis to identify precise points of legal liability. In the analysed reports, six methodologies were identified: absolute emissions targets and fossil fuel expansion analysis, scientific benchmarking, the enabler theory of responsibility, the facilitated theory of responsibility, aims to tackle transition plans arguments, reliance on bank-specific disclosure frameworks. By utilising frameworks such as PCAF and the SCC, strategic litigation can bridge the gap between financial institutions' public net-zero commitments and their continued capital support for extractive projects that contravene the IEA's Net Zero Roadmap. Central to this evolving legal landscape are the Enabler and Facilitated Theories of Responsibility, which reposition banks as key actors whose financing is either a prerequisite for, or a material contributor to, 'carbon bomb' projects. Furthermore, scientific benchmarking and tools like PACTA serve to dismantle transition plan 'loopholes', by exposing how sectoral diversity arguments often mask non-compliance with global decarbonisation targets. In the absence of full regulatory transparency, third-party reliance on bank-specific disclosure frameworks remains essential for efficient accounting. These accountability methodologies provide the evidentiary foundation necessary to hold the financial industry responsible for the socio-economic and environmental harms resulting from its investment portfolios.

[160] InfluenceMap, Big Four Banks, (n 125).
[161] Greenpeace UK and WWF (n 125).

2.3. How These Assessments Have Been Relied Upon in Litigation

The use of these strategies has been limited, with their application being more prevalent in extrajudicial or regulatory pressure processes than in courts. The following section examines the available examples to establish to what extent have the assessments determined in previous sections been relied upon in litigation or out-of-court challenges to banks.

- 2.3.a. Client Earth – Saudi Aramco:

  In this complaint, Saudi Aramco's alleged liability is based on the UNGPs, which distinguish between 'direct linkage' and 'contribution'. This complaint has been filed with the UN Special Procedures to generate reputational pressure and clarify regulatory standards on banks' responsibility for climate impacts and human rights. This approach has also been supported by the practice of the OECD's National Contact Points (NCPs), including those in Norway, the Netherlands, and Switzerland, which have processed complaints against financial institutions. Some cases resulted in settlements, such as the *Milieudefensie ING* case, or initial assessments, although without a legally binding effect. Finally, the UNGPs were also referenced in *Milieudefensie v Shell*, demonstrating how these principles can influence the interpretation of the duty of care. However, as this case focuses on a direct issuer (Shell) rather than banks, its relevance is indirect.

- 2.3.b. Greenpeace / WWF report:

  This report has not been used in court, but has primarily served for regulatory advocacy in the United Kingdom. Its objectives include: (i) aligning banking activity with the Paris Agreement's 1.5°C target, (ii) establishing mandatory minimum standards for regulatory compliance, (iii) accelerating the financed emissions methodology to quantify and monitor banks' liability, and (iv) promoting international coordination using the regulations that may be approved in the UK as a starting point, ensuring that measures have global reach. The UK Overseas/LINGO report on 'carbon bombs' identifies high-impact fossil fuel projects and the banks that finance them.[162] The report was referenced in the *Oxfam France v BNP Paribas* case, where it was used to demonstrate that bank financing enables the expansion of projects with high emissions.[163] However, its use in court was argumentative, not quantitative, nor was it a decisive evidentiary basis; the idea was to demonstrate the banks' link to the existence and expansion of high-emissions activities.

- 2.3.c. BNP Paribas case:

  In this case, attribution was assessed through a risk-based framework grounded the French Duty of Vigilance Law, which requires large companies to establish and implement vigilance plans identifying and preventing environmental and human rights risks.[164] Consequently, the claim focuses on the adequacy and effectiveness of BNP Paribas's vigilance measures, including risk mapping, mitigation strategies, monitoring and alert mechanisms.[165] This

[162] Kjell Kühne and others, '"Carbon Bombs": Mapping Key Fossil Fuel Projects' (2022) 166 Energy Policy 112950, 1.
[163] Oxfam International, 'Taking a Funder of Climate Chaos to Court' (2023) <www.amisdelaterre.org/wp-content/uploads/2023/02/dp-affaire-bnp-en-def-bd.pdf> accessed 27 March 2026.
[164] *BNP Paribas v. Notre Affaire à Tous*, Summons, Section II.1.2.2, paras 26–30.
[165] Ibid, Section II.1.2.2.1, [35-38].

approach reflects a broader shift in climate litigation from damage-based liability toward due diligence and risk-prevention obligations. In the claim, the Scope 3 financed emission data is considered contextual evidence demonstrating the scale of the bank's climate impact and the foreseeability of environmental risk associated with continued fossil fuel financing.[166] Also, the financed emissions data helped evaluate whether the bank fulfilled its duty of vigilance according to the complexity and diversity of its portfolio; this implies sophisticated mechanisms to assess risk of financed activities. In this sense, financed emissions data operate less as proof of causation and more as evidence of knowledge, foreseeability and the scale of climate risk within the bank's portfolio.[167] The summons also recognise that climate litigation against banks faces several structural difficulties because banks are not direct emitters. To address these challenges, the claim shifts the analysis from strict causation to risk management and preventive responsibility. The bank's obligations were framed in three possible scenarios.[168] First, if the bank directly causes harm, it must cease and repair it. Second, if it contributes to harm, it must prevent or mitigate its contribution and use its influence over clients. Third, if it is linked to harm through client activities, it must leverage its influence to mitigate impacts, including through financing conditions or divestment. The summons refers to international benchmarks such as the Paris Agreement and the Intergovernmental Panel on Climate Change reports to support the assessment of foreseeability and adequacy of mitigation measures.[169] Consequently, the idea is that courts increasingly rely on standards such as substantial contribution, foreseeability of harm and adequacy of preventive measures, rather than requiring proof of a direct causal chain between financial activities and specific climate damage. Claimants emphasise ongoing and future financing activities, rather than solely historical emissions.[170] This forward-looking approach reflects the preventive nature of climate law, where companies are expected to address foreseeable climate risks as scientific knowledge becomes clearer.

- 2.3.d. Milieudefensie v ING case:

  The case evidences a shift from a linear 'but-for' tort causality to advanced frameworks based on 'partial responsibility',[171] 'systemic endangerment',[172] and standardised carbon accounting.[173] Because modern capital markets are characterised by the fungibility of corporate debt—which obscures direct links between a bank loan and a specific environmental harm—litigants leveraged unwritten societal duties of care, human rights doctrine, and Scope 3 emissions tracking,[174] to argue that market facilitation inherently constitutes material causation, thereby seeking to strip banks of the defence that their financial contributions are legally too remote to cause physical climate damage.[175] First, Milieudefensie argued that attribution does not require proving a bank physically emitted the carbon itself; rather, it requires demonstrating that banks, by financing and facilitating carbon-intensive activities, are acting in a 'hazardous and negligent manner' and,

[166] Ibid Section II.1.2.2.2, [52-55].
[167] Ibid Section II.1.2.2.2, [54].
[168] Ibid Section II.1.2.2.2, [57].
[169] Ibid Section II.1.2.2.3, [68-69].
[170] Ibid.
[171] Milieudefensie, 'Detailed Summary of Milieudefensie's Summons for ING' (2025), 16, 23.
[172] Ibid 2, 23-24.
[173] Ibid 12.
[174] Ibid 3, 12-14.
[175] Ibid 19, 22-25.

consequently, violating the unwritten 'societal duty of care' under Dutch tort law.[176] Second, the claimants satisfied the court's need for objective measurement by arguing that a bank's causation is mathematically proven via the PCAF and the GHG Protocol—both of which provided the required parameter to categorise a bank's Scope 3 emissions into 'financed emissions' (i.e. loans/asset management), 'facilitated emissions' (i.e. capital market underwriting), and insured emissions (i.e. insurance and reinsurance)—thereby establishing a direct, quantifiable chain of attribution between a bank's balance sheet and the real world GHG emissions.[177] Finally, Milieudefensie approached the '*de minimis*' defence (i.e. that a single bank's emissions reductions would be legally ineffective at global scale) by invoking the doctrine of 'partial responsibility', by which attribution can be established insofar as the claim is effective 'with regard to the (individual) tortious act' of the bank being held liable.[178] One notable challenge highlighted by Milieudefensie refers to historical carbon accounting—because banks did not track comprehensive Scope 3 data prior to recent years, litigants are tasked with the burden of constructing *ad hoc* quantitative estimations to establish legal baselines (i.e. since ING's reporting started in 2020, Milieudefensie had to calculate the 2019 baseline for ING using trend lines supported by the 2019 IPCC baseline).[179] For the question of temporality, the claimants drew from the defendant's own reporting to assess when they could reasonably foresee the risk—for ING, the year was 2007, hinging from their own 2006 internal report titled 'Climate Change: When Hell Freezes Over'.[180] To satisfy the foreseeability parameter required for tortious endangerment, Milieudefensie argued that because ING explicitly acknowledged the link between fossil fuels and global warming effects in 2007, its subsequent decisions to increase fossil fuel financing were done 'knowingly and intentionally'. In that vein, Milieudefensie strategically argued that present-day capital allocation actively freezes future transition efforts (the 'carbon lock-in effect') and artificially prolongs the demand for fossil fuels.[181]

The application of financed emissions methodologies and bank accountability frameworks has matured across three distinct levels of utility. First, extrajudicial mechanisms—such as the UN Special Procedures and OECD National Contact Points—utilise the UNGPs to distinguish between 'linkage' and 'contribution', exerting reputational pressure and clarifying regulatory standards through non-binding settlements. Second, these assessments provide critical argumentative support and evidentiary baselines in litigation. In the *BNP Paribas* and *Milieudefensie ING cases*, Scope 3 data and PCAF metrics shift the judicial focus from linear 'but-for' causation toward risk-based vigilance and 'partial responsibility'. By framing financed emissions as indicators of knowledge and foreseeability, litigants utilise quantitative trendlines to dismantle 'de minimis' defences and establish a quantifiable nexus between balance sheets and systemic endangerment. Finally, these methodologies wield significant political and regulatory influence, driving advocacy for mandatory disclosure standards and Paris-aligned compliance. By exposing the 'carbon lock-in' effect and the structural gap between project-level exclusions and corporate-level underwriting, these reports catalyse a shift toward forward-looking due diligence. While judicial reception remains emerging (much of the progress remains in the initial assessment or admissibility phase), these frameworks provide the forensic architecture necessary to transition financial institutions from passive bystanders to legally accountable agents in the global climate transition. Finally, it should

[176] Ibid 14-15.
[177] Ibid 12-13.
[178] Ibid 22.
[179] Ibid 25.
[180] Ibid 14-15.
[181] Ibid.

be noted that quantitative data is often used contextually (to show knowledge) rather than as a decisive evidentiary basis for specific damages.

2.4. The Strengths of Available Methodologies

The comparative strengths of available methodologies suggest that a robust framework for bank accountability is built on objective attribution, substantive redlines, and evidentiary impartiality. The primary strength of current methodologies lies in the tension between Enabling and Facilitated frameworks. While the Enabling approach provides a direct, high-accountability attribution model for fossil fuel funding, the Facilitated approach (which relies mostly on PCAF) offers a wider lens, capturing the nuances of underwriting and proportional responsibility. By applying a weighing factor, methodologies can acknowledge the bank's role in securing market access without overstating its direct capital contribution.

	Independent source of information	Use of court-tested methodology	Enabling v Facilitated Framework	Science-based approaches	Expansion v Continued FF Financing	Human Rights Framing	Proportional responsibility objective
Banking on Climate Chaos (BOCC)	X		X	X	X	X	X
ActionAid UK	X					X	X
InfluenceMap	X			X	X		
ClientEarth - Saudi Aramco		X				X	
Stand.earth			X		X	X	
Heemskerk & Cox	X	X	X	X		X	X
PCAF			X				X
Greenpeace / WWF	X			X			
LINGO	X			X			

Figure 4 - *Table showing strengths of available methodologies.*

- 2.4.a. Enabling versus Facilitated Framework:

  Methodologies that employ 'enabling' or 'facilitating' conceptions of responsibility have differing strengths. While a methodology that focused on enabled emissions may be more direct and fully attributed to the bank, a methodology focused on facilitated emissions can cover a wider scope of bank activity. A strength of Heemskerk & Cox's study is its endorsement of the 'facilitating' theory of responsibility – in arguing that banks should be accountable, even if withholding of funding may be substituted by another lender. The PCAF

formula mirrors this idea in its inclusion of a bank underwriting a company's shares and a 33% weighing factor, rather than 100% since the bank did not directly provide the capital. However, the 'facilitating' theory of responsibility fails to recognise situations where the underwriting activity was needed to secure market access for GHG emitting corporations. The 'Banking on Climate Chaos' methodology avoids this weakness by attributing all 869 billion USD in funding committed to fossil fuel corporations to banks, for enabling environmentally harmful activity.

- 2.4.b. Focus on Financing of 'Expansion' Projects:

  Another strength would be a methodological focus on financing of expansion projects, rather than continued fossil fuel projects. Existing scientific research points to the need to refrain from any new fossil fuel projects post 2021.[182] Financing expansion projects against this backdrop is hard to defend. The 'Banking on Climate Chaos' methodology draws on this nuance and spotlights fossil fuel corporations that are actively developing new fossil assets as identified by Urgewald's Global Oil and Gas Exit List[183] and Global Coal Exit List.[184] One justification employed by banks is that they are financing the company's transition plans to fully decarbonise. The methodologies rejected this argument by positing that the volume of fossil fuel financing dwarfs any such green commitments. Financing 'carbon bombs' is categorically incompatible with any credible transition plan.

- 2.4.c. Proportional Responsibility:

  Methodologies based on proportional responsibility decide that a bank should be responsible only for a share of emission proportional to its actual financing contribution, rather than for all of the emissions from an associated company. The 'Banking on Climate Chaos' and PCAF reports draw on this notion, as explained in section 2.2.f. This is a strength of their methodology as it draws a convincing link from a particular proportion of emissions directly to the bank.

- 2.4.d. Science-Based Approaches:

  Some methodologies assess compliance with scientific benchmarks. For example, compliance with the IEA's Net Zero Roadmap by 2050 Roadmap for the Global Energy Sector, as mentioned in the earlier section 2.3.b. The use of scientific benchmarks communicates unbiased standards and feeds into the credibility of the methodology.

- 2.4.e. Use of Independent Sources of Information:

  Another commonly observed strength was the use of independent sources of information. Using sources from independent organisations generates more confidence in the impartiality of data. For example, instead of only bank self-reporting, the reports draw on information from external datasets like Bloomberg, for the 'Banking on Climate Chaos' and InfluenceMap report, and Global Energy Monitor, for the 'Banking on Climate Chaos' and LINGO's 'UK Overseas Carbon Bombs' reports.

[182] IEA (n 143).
[183] 'Global Oil & Gas Exit List' (Urgewald) <https://gogel.org> accessed 24 March 2026.
[184] 'Global Coal Exit List' (Urgewald) <https://www.coalexit.org> accessed 24 March 2026.

Five strengths can be noted: Enabling versus Facilitated framework, focus on financing of 'expansion' projects, proportional responsibility framework, science-based approaches, and the use of independent sources of information. The efficacy of bank accountability frameworks is grounded in the strategic integration of objective attribution, scientific redlines, and evidentiary independence. A primary strength of contemporary methodologies lies in the tension between Enabling and Facilitated frameworks; while the former provides a high-accountability model for direct funding, the latter—utilised by PCAF—offers a broader lens through proportional weighing factors that acknowledge the bank's role in securing market access.

Furthermore, a methodological focus on fossil fuel expansion serves as an important redline, effectively trumping institutional 'transition' defences by demonstrating that the financing of new assets post-2021 is categorically incompatible with the IEA Net Zero Roadmap. This approach is reinforced by proportional responsibility metrics, which establish a mathematically sound link between balance sheets and specific emissions shares. Finally, the credibility of these assessments is bolstered by science-based benchmarking and a reliance on independent data sources—such as Bloomberg, Urgewald, and the Global Energy Monitor—which ensure impartiality and move beyond the inherent limitations of corporate self-reporting. These strengths provide the evidentiary rigour necessary to transform financial leverage into a quantifiable and legally actionable pillar of climate responsibility.

2.5. The Weaknesses of Available Methodologies

The comparative weaknesses of available methodologies are primarily defined by their legal novelty and untested status within judicial systems. Given that most frameworks have yet to be argued in court, their sufficiency for establishing attribution remains unverified. A critical vulnerability lies in the use of assumptions—specifically the 'facilitating' theory of responsibility—goes beyond the established legal standards of contribution or causation and remains vulnerable to bank challenges. Furthermore, many methodologies suffer from a lack of engagement with the structural and systemic role of banks, potentially rendering them less effective for strategic litigation aimed at industry-wide reform.

	Untested Methodology (in court)	Dependent on external data - which may be unavailable	Not structural (≠ systemic impact-oriented methodology)	Dependent on banking data - may be partial, unreliable or un-transparent	Use of complex accounting formulas	Uses assumptions that might not be accepted by courts	Application / framing is limited to specific jurisdictions
Banking on Climate Change (BOCC)	x	x			x	x	
ActionAid UK	x	x					x
InfluenceMap	x	x	x		x	x	x
ClientEarth - Saudi Aramco	(?)					x	x
StandEarth	x	x	x	x	x		x
Heemskerk & Cox	x	x				x	x
PCAF	x	x	x		x	x	
Greenpeace / WWF		x		x	x		x
LINGO	x					x	

Figure 5 *- Table showing weaknesses of available methodologies.*

- 2.5.a. Untested methodology:

  Given the legal novelty of the methodologies and approaches, most have not been presented in court, and some have yet to withstand the stringent scrutiny of judicial attribution criteria. Whether it would be accepted as sufficient for attribution is not definitively ascertained.

- 2.5.b. Use of assumptions that might not be accepted by courts:

  Some of these methodologies employ assumptions that have not previously been endorsed by courts and raise challenges. Cases in Strand A demonstrate that attribution has primarily been established on proportional contribution or causation, not facilitation, leaving open the question in relation to 'how' such proportional responsibility might meet judicial criteria for effective outcomes in litigation against banks.

- 2.5.c. Lack of engagement with the structural and systemic role of banks:

  Another shortcoming in some of the available methodologies is the lack of engagement with the structural and systemic role of banks. Some of the methodologies employed were not aimed at creating systemic industry change and so they might be less suitable to be employed in strategic climate litigation. The underlying rationale, or theory of change, of holding banks accountable is precisely to influence their lending practices and thus hinder the fossil fuel industry's capacity of expanding and continuing their activities.

- 2.5.d. Dependency on external data and bank self-reporting:

  Choices in the data used may also be challenged as a weakness of the methodology. Many of the organisations preparing these reports required information from third-parties to input in their methodologies. For example, Strand.earth's methodology involves reference with third-party organisations like IJGlobal providing a secondary source of data.[185] The credibility of the methodology may be affected if these secondary sources become unavailable or are not considered up to date. In a similar vein concerning data usage, a reliance on self-disclosed information from banks may pose a weakness. Albeit unavoidable, methodologies that track finance flows using self-reported financial databases, like the London Stock Exchange, may possibly be considered less independent. There is a risk that the data is less transparent as to the volume of a bank's financing, if greenwashing accounting techniques are used. This was highlighted by a report from SOMO which found ING's financing of Upstream Oil & Gas corporations to be 10.6 times larger than reported by the bank.[186] Methodologies that use self-reported data should examine the bank's chosen methodology for inconsistencies and reliability.

- 2.5.e. Use of complex accounting formulas:

  Less crucially, the use of complex accounting formulas may require accounting experts to convey this information simply for a court to understand. This may open up avenues for discreditation by respondent banks. It is noted that comprehensibility has to be balanced against the need for a sufficiently robust accounting methodology to quantitatively support claims of attribution to a bank. A possible solution put forth preliminarily was to move the case to be heard in a specialised court with the requisite expertise in this area. Rather, a more pressing issue to consider in light of a methodology's complex accounting formulas is the possibility of technical distortions. These include the instability of the Enterprise Value Including Cash (EVIC) denominator (used in the PCAF methodology as a financial metric to

[185] Strand.earth, 'Annex_Banks_Methods_2025' (2025) <https://docs.google.com/document/d/1A107K_Hglk0-uAjbakB0h-L5njAaYbtTF70xYHwGyHE/edit?tab=t.0> accessed 27 March 2026, 6.
[186] SOMO, 'ING's Fossil Fuel Financing - Digging into ING's Climate Ambition - SOMO' (SOMO 6 February 2025) <www.somo.nl/digging-deeper-into-ings-climate-ambition/> accessed 27 March 2026.

measure a company's carbon intensity—ie, emissions per unit of value), which can cause reported emissions to fall due to market fluctuations rather than actual decarbonisation, and the 'year-end snapshot' approach, which may systematically undercount exposure in Revolving Credit Facilities. Complex accounting formulas must be closely analysed for such shortcomings.

- 2.5.f. Application or framing limited to specific jurisdictions:

  The methodology relying on framing is limited to specific jurisdictions, making them less transferable in other contexts. *ActionAid* employs qualitative testimonies and interviews with locals in affected areas of the Global South, to complement the qualitative SCC Model in attribution. Similarly, a methodology that integrates principles from international treaties - like the centrality of UNGPs in the ClientEarth - Saudi Aramco complaint - might be authoritative in jurisdictions that are party to such international agreement.

Five weaknesses were found from the analysed reports: untested methodologies, use of assumptions that might not be accepted by courts, lack of engagement with the structural and systemic role of banks, use of complex accounting formulas that might not easily translate into enforceable legal injunctions, and the application or framing limited to specific jurisdictions. The primary weaknesses stem from their legal novelty and lack of judicial verification, leaving their sufficiency for establishing attribution largely untested. A critical vulnerability resides in the reliance on the 'facilitating' theory of responsibility, which may struggle to meet traditional judicial criteria for contribution or causation. Furthermore, a lack of engagement with the structural and systemic role of banks may limit the efficacy of these models for litigation intended to drive industry-wide reform (strategic litigation).

Technical and evidentiary challenges further compound these weaknesses, notably the dependency on external data and self-reporting, which are susceptible to undercounting or 'greenwashing' accounting techniques. The use of complex accounting formulas—such as the EVIC denominator in PCAF methodologies—introduces risks of technical distortion, where market fluctuations or 'year-end snapshots' may obscure actual exposure. Finally, the jurisdictional specificity of frameworks relying on qualitative regional data or specific international treaties restricts their global transferability. The transition from scientific modelling to legally binding standards is hindered by the tension between technical robustness and judicial comprehensibility, demanding a more rigorous calibration of these methodologies to withstand stringent legal scrutiny.

2.6. Final Considerations for Strand B Research Question

The evaluation of Strand B demonstrates a fundamental shift in the conceptualisation of the financial sector's role in climate change—reimagining banks as active agents of environmental degradation, rather than passive intermediaries. This 'special responsibility' is grounded in the commensurate financial power of these institutions, as evidenced by the Stand.earth report, which revealed that a mere ten banks facilitate nearly 75% of direct financing for oil and gas extraction in the Amazon. By directing vast volumes of capital toward fossil fuel expansion, banks are now being held to a standard of positive obligation, where their financial leverage is viewed as a prerequisite for the initiation and continuation of 'carbon bomb' projects.

The evidentiary foundation of this responsibility relies on sophisticated accountability methodologies that intend to dismantle traditional industry defences. Reports such as 'Banking on

Climate Chaos' and InfluenceMap have been instrumental in exposing the structural gap between public climate commitments and actual capital allocation. By highlighting the prevalence of corporate-level financing—which accounted for 94.7% of fossil fuel support in 2024—these methodologies render project-specific exclusion policies functionally irrelevant. Furthermore, the integration of scientific benchmarking against the IEA Net Zero Emissions by 2050 Scenario and IPCC carbon budgets is positioned to neutralise the 'ignorance defence', establishing that banks operate with a clear foreseeability of the adverse impacts associated with their portfolios.

In the judicial and extrajudicial spheres, this technical appraisal is transforming the nature of climate litigation. The *BNP Paribas* case and *Milieudefensie v ING* signal a departure from linear 'but-for' tort causality toward advanced frameworks of partial responsibility, systemic endangerment, and risk-based vigilance. By leveraging Scope 3 financed emissions data and the PCAF methodology, litigants are framing financial facilitation as a material contribution to harm. These precedents, alongside human rights-based complaints like ClientEarth v. Saudi Aramco, utilise the UNGPs to move banks along the responsibility spectrum from being 'directly linked' to 'actively contributing' to climate-related human rights violations.

However, the transition from scientific modelling to legally binding standards remains hindered by significant vulnerabilities. The primary weaknesses of current methodologies—including their legal novelty, dependency on bank self-reporting, and the potential for technical distortions in complex formulas like the EVIC denominator—mean they have yet to fully withstand the stringent scrutiny of judicial attribution criteria. Moreover, while independent data from sources like Bloomberg and the Global Energy Monitor bolster evidentiary impartiality, the reliance on the 'facilitated theory of responsibility' remains a contested assumption in many jurisdictions.

The synthesis of these reports and precedents provides a robust, albeit emerging, forensic architecture for strategic litigation. By focusing on absolute emissions targets and the 'carbon lock-in' effects of present-day capital allocation, these frameworks provide the tools necessary to hold the financial industry accountable. The path forward lies in refining these methodologies to bridge the gap between technical robustness and judicial comprehensibility, ensuring that financial institutions are no longer bystanders to, but legally responsible actors in, the global climate transition.

Conclusion

The field of strategic climate litigation against financial institutions is novel and growing. Presently, it is defined by an attempt to shift the fundamental legal doctrine for responsibility, moving away from the limitations of the traditional 'but-for' causation test toward a 'material contribution' test as the primary standard of causation. By anchoring responsibility to 'knowledge and foreseeability', current legal frameworks are increasingly positioning banks as active contributors to climate harm rather than passive intermediaries. While backward-looking damages claims remain hindered by stringent evidentiary thresholds, the move toward probabilistic and proportional reasoning is facilitating a more flexible approach to forward-looking injunctive and restorative relief. This transition might allow courts to engage more effectively with the cumulative nature of global emissions, recasting corporate-level fossil fuel financing as a direct 'contribution' that attracts heightened standards of remediation and cessation.

This conceptual architecture is supported by a range of quantification methodologies, including PCAF and PACTA, which enable the attribution of financed emissions to specific balance sheets through enterprise value-based metrics. By leveraging the 'Enabling' and 'Facilitation' theories of responsibility, these frameworks challenge the traditional view of financial remoteness, arguing that capital is a necessary condition for the continuation and expansion of carbon-intensive activities—namely fossil fuel exploration and exploitation. However, significant hurdles remain, particularly the 'substitution defence'—the claim that other lenders will fill the gap left by divestment—and a reliance on self-reported data to 'adjust' the financed emissions—which is vulnerable to market fluctuations and technical distortions. Despite these weaknesses, the integration of scientific benchmarks linked to IPCC reports, such as the Carbon Majors database and IEA Net Zero Scenario, continues to enhance the analytical credibility of claims in both judicial and soft law fora. The question of how courts will receive these novel strategies and arguments, however, remains, as 2026 is positioned to be a year that could clarify, but perhaps not entirely answer, that query.

The path forward for climate litigation strategies lies in pivoting toward procedural due diligence and the enforcement of science-aligned transition plans—indeed a forward-looking approach. Rather than solely litigating for outcome-based targets, which often face unfeasible legal thresholds, future efforts must prioritise neutralising the substitution defence by shifting the focus from individual actors to the financial system as a whole. By creatively utilising 'grouping theories' and integrating international soft law—such as the UNGPs and OECD Guidelines—with rigorous scientific benchmarks, climate litigation can bypass historical damage hurdles. This integrated approach is essential to forcing systemic decarbonisation and human rights compliance across global financial value chains, transforming financial leverage into a decisive tool for climate accountability.

Table of Cases

Bibliography

Books

Schoenmaker D and Schramade W, *Principles of Sustainable Finance* (OUP 2019)

Stern N, *The Economics of Climate Change: The Stern Review* (CUP 2006)

Journal Articles

Armour J, Enriques L and Wetzer T, 'Mandatory Corporate Climate Disclosures: Now, but How?' [2021] Colum Bus L Rev 1085

Blanchard O and others, 'Forging a New Economic System' (Summer 2022) 3(4) Revue européenne du droit 173

Christie A, 'The Agency Costs of Sustainable Capitalism' (2021) 55 UC Davis L Rev 893

Christophers B, 'Fossilised Capital: Price and Profit in the Energy Transition' (2022) 27 New Political Economy 146

Condon M, 'Market Myopia's Climate Bubble' (2022) Utah L Rev 63

Downar B and others, 'The impact of carbon disclosure mandates on emissions and financial operating performance' (2021) 26 Rev Account Stud 1137

Fisher E, 'Telling Meaningful Stories About Climate Change and Public Law' (2025) 37 J Env L 1

Heede R, 'Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010' (2014) 122 Climatic Change 229

Heemskerk P and Cox RHJ, 'Banks' Climate Liability: What to Learn From States and Oil Majors' (2023)

Hopt KJ, 'Corporate Purpose and Stakeholder Value: Historical, Economic and Comparative Law Remarks on the Current Debate, Legislative Options and Enforcement Problems' (2024) ECGI Law Working Paper 690/2023

Kühne K and others, '"Carbon Bombs": Mapping Key Fossil Fuel Projects' (2022) 166 Energy Policy 112950

Macchi C and Bernaz N, 'Business, Human Rights and Climate Due Diligence: Understanding the Responsibility of Banks' (2021) 13(15) Sustainability 8391

Rochfeld J, 'Capitalism and Future Generations' (Summer 2022) 3(4) Revue européenne du droit 135

Smoleńska A and van 't Klooster J, 'A Risky Bet: Climate Change and the EU's Microprudential Framework for Banks' (2022) 8 J Financial Regulation 51

Reports and Institutional Documents

Abdenur A and others, *Removing International Obstacles to Sustainable Industrial Policy* (G20 2025)

ActionAid, Profundo and AidEnvironment, Who Pays the Price? The Cost of HSBC's Climate Damages (ActionAid UK 2025)

Banking on Climate Chaos Coalition, Banking on Climate Chaos: Fossil Fuel Finance Report 2025 (BOCC 2025)

ClientEarth, Complaint Concerning Saudi Arabian Oil Company (Saudi Aramco) and Others (Submission to the UN Working Group on Business and Human Rights and the UN Special Rapporteur on Human Rights and the Environment, 2021)

CMA, 'Outcome of the first global stocktake' (13 December 2023) UN Doc FCCC/PA/CMA/2023/16/Add.1

Commission on Human Rights of the Philippines, National Inquiry on Climate Change (CHR Philippines 2022)

European Banking Authority, Guidelines on the management of ESG risks (EBA 2025)

European Scientific Advisory Board on Climate Change, *Strengthening Resilience to Climate Change: Recommendations for an Effective EU Adaptation Policy Framework* (Publications Office of the European Union 2026)

Greenpeace UK and WWF, The Big Smoke: The Global Emissions of the UK Financial Sector (Greenpeace UK 2021)

IEA, Net Zero by 2050 (IEA 2021)

InfluenceMap, *The Carbon Majors Database: Launch Report* (2024)

IPCC, 'Summary for Policymakers' in *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the IPCC* (IPCC 2023)

LINGO, UK Overseas Carbon Bombs (LINGO 2023)

PCAF, Financed Emissions: For financial institutions measuring and reporting scope 3 category 15 emissions (2025)

Setzer J and Higham C, *Global Trends in Climate Change Litigation: 2025 Snapshot* (GRI 2025)

Smoleńska A and others, *Banks and Climate Litigation Risk: Navigating the Low-Carbon Transition* (CETEx 2025)

UNEP, *Emissions Gap Report 2025: Off Target* (UNEP 2025)
US General Services Administration, *2024–2027 Climate Change Risk Management Plan* (June 2024)

Walker-Crawford N and others, 'Science in the Courtroom: Evidentiary Needs in Climate Litigation' (Grantham Climate Litigation Guide 1, Grantham Research Institute on Climate Change and the Environment and Grantham Institute 2026)

Websites and Online Sources

Carbon Brief, 'Analysis: What record global heat means for breaching the 1.5C warming limit' (16 April 2026) <https://www.carbonbrief.org/analysis-what-record-global-heat-means-for-breaching-the-1-5c-warming-limit/> accessed 16 April 2026

Climate Accountability Institute, 'Carbon Majors' (4 April 2024) <https://climateaccountability.org/carbon-majors/> accessed 18 April 2026

Department for Environment, Food and Rural Affairs, 'Nature Security Assessment: Global Biodiversity Loss, Ecosystem Collapse and National Security' (20 January 2026) <https://assets.publishing.service.gov.uk/media/696e0eae719d837d69afc7de/National_security_assessment_-_global_biodiversity_loss__ecosystem_collapse_and_national_security.pdf> accessed 16 April 2026

Elsa Neugroschl, 'Belgian court takes interim decision in climate case against TotalEnergies' (Clifford Chance, 24 March 2026) <https://www.cliffordchance.com/insights/resources/blogs/business-and-human-rights-insights/2026/03/belgian-court-takes-interim-decision-in-climate-case-against-totalenergies.html> accessed 24 April 2026.

European Commission, 'European Climate Resilience and Risk Management: An Integrated Framework' <https://climate.ec.europa.eu/eu-action/adaptation-and-resilience-climate-change/european-climate-resilience-and-risk-management-integrated-framework_en> accessed 17 April 2026

Fromboluti EK, 'Absolute vs Intensity Emission Targets' (Green Portfolio, 2025) <https://greenportfolio.com/blog/explainer-absolute-emissions-vs-carbon-intensity/>, accessed 27 March 2026

InfluenceMap, 'About Carbon majors' <https://carbonmajors.org/> accessed 27 March 2026

InfluenceMap, 'Big Four UK Banks: Falling Short on Climate Action?' (2025) <https://influencemap.org/report/Big-Four-UK-Banks>, accessed 27 March 2026

Oxfam International, 'Taking a Funder of Climate Chaos to Court' (2023) <www.amisdelaterre.org/wp-content/uploads/2023/02/dp-affaire-bnp-en-def-bd.pdf>, accessed 27 March 2026

Smith School of Enterprise and the Environment, ‘New 'Climate Tests' proposed to align UK oil and gas licensing with climate goals’ (University of Oxford, 29 August 2024) <https://www.smithschool.ox.ac.uk/news/new-climate-tests-proposed-align-uk-oil-and-gas-licensing-climate-goals>, accessed 27 March 2026

SOMO, ‘ING’s Fossil Fuel Financing - Digging into ING’s Climate Ambition - SOMO’ (6 February 2025) <www.somo.nl/digging-deeper-into-ings-climate-ambition/>, accessed 27 March 2026

Stand.earth, ‘Annex_Banks_Methods_2025’ (2025) <https://docs.google.com/document/d/1A107K_Hglk0-uAjbakB0h-L5njAaYbtTF70xYHwGyHE/edit?tab=t.0>, accessed 27 March 2026

Stand.earth, ‘Banks vs. Amazon Scorecard Report 2025’ (2025) <https://banksvstheamazon.org/>, accessed 27 March 2026

Urgewald, ‘Global Coal Exit List’ <https://www.coalexit.org> accessed 24 March 2026

Urgewald, ‘Global Oil & Gas Exit List’ <https://gogel.org> accessed 24 March 2026