THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

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

Annexes

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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.

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Overview of the Annexes

These annexes set out the research underlying the analysis in the report *Who Pays for Climate Breakdown? Banks, Financed Emissions and the Road to Climate Accountability*, published 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 Client Earth and the Grantham Research Institute on Climate Change.

The case analyses examine eleven court and commission decisions, advisory opinions, and ongoing proceedings. They range from litigation against fossil fuel and cement companies (*Lliuya v RWE*, *Asmania v Holcim*, *Milieudefensie v Shell*, *Greenpeace Italy et al v ENI SpA*, *Hugues Falys v TotalEnergies*), the Philippines National Inquiry into Carbon Majors, to litigation against banks (*Notre Affaire à Tous and others v BNP Paribas* and the Milieudefensie summons for ING), and litigation and advisory opinions on government obligations, the *KlimaSeniorinnen* judgment, and the two advisory opinions of the International Court of Justice and the Inter-American Court of Human Rights on climate change.

Each case analysis addresses five questions. First, what are the legal parameters and tests which must be met in relation to causation and attribution? Second, what are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation? Third, what quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received? Fourth, how has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution? Fifth, what are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

The report analyses examine six civil society reports that assess banks' financed emissions and their contribution to climate harm, which reflect the principal accountability methodologies currently in use to assess financed emissions. Each report analysis addresses four questions. First, how has the special responsibility of banks for climate change impacts and global emissions been presented, framed and analysed? Second, what financed emissions or other accountability methodologies are currently available and in use? Third, to what extent have these assessments been relied upon in litigation or out-of-court challenges to banks? Fourth, what are the comparative strengths and weaknesses of available methodologies? These analyses informed the assessment of available evidential tools and their legal utility set out in Strand B of *Who Pays for Climate Breakdown*.

Analysis of Cases

Asmania v Holcim

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

This case is yet to be heard, meaning that it is still unclear which standard the court may choose to apply. The plaintiffs have argued that just because the defendant only causes part of the GHG emissions, and that GHG themselves are not the direct cause of the damage, this does not prevent natural causality.[1] The plaintiffs also heavily draw upon human rights and its link with environmental law; reference is made to the UN Guiding Principles,[2] European Convention on Human Rights and the *Milieudefensie* judgment.[3]

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

Asmania v Holcim is yet to be decided, so the challenges faced are unclear.

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

Holcim's Climate Strategy Too Little – Too Late: A report quantifying Holcim's emissions historically and its status as one of the Carbon Majors, as well as reviewing the company's sustainability practices and accusing it of greenwashing behaviour, was submitted.[4] As the case's admissibility is still being determined, it is unknown how the Court will respond. A Climate Accountability Institute study quantifying Holcim's emissions since 1950, providing a potential timeline for investigation was also provided.[5] This provides a slightly later temporal start point than the original Heede report on Carbon Majors, but an earlier start than the court applied in Lliuya. The plaintiffs have also accepted a 1965 start date in line with Lliuya.[6]

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

[1] Complaint issued by plaintiffs (on file with authors).
[2] UN OHCHR Guiding Principles on Business and Human Rights (2011) UN Doc HR/PUB/11/4.
[3] *Milieudefensie v Royal Dutch Shell* [2024] ECLI:NL:GHDHA:2024:2099 (The Hague Court of Appeal).
[4] HEKS/EPER, *Holcim's Climate Strategy: Too Little – Too Late* (HEKS/EPER 2023).
[5] Richard Heede, *Carbon History of Holcim Ltd: Carbon Dioxide Emissions 1950-2021* (CAI 2022).
[6] Complaint issued by plaintiffs (on file with authors).

The claimants seek damages to compensate for future injury and injury that has already occurred. These include 'special damages' suffered by the Pari people to their Indigenous way of life, loss of tourist revenue, and the possibility of sea level related displacement. Mitigation injunction measures are also sought. Quantification of the environmental impact is necessary to calculate the relief to be granted, as this is a 'polluter pays' case.

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

The complaint points to the Heede report as the start of the timeline but gathers evidence from as late as 1950; it is unclear where the Court will start its analysis. The Court may align with the approach in Lliuya, starting from where the impact of emissions could be feasibly known. Alternatively, the Court could start from the earliest point at which evidence of emissions becomes available, though this is considered less likely.

Climate Emergency and Human Rights (Inter-American Court of Human Rights Advisory Opinion)

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

The Advisory Opinion handed down three legal parameters and tests that could, arguably, be used to establish causation and attribution for corporate emissions: (a) adherence to flexible probative standards and scientific basis; (b) possibility of presuming the causal link, and (c) flexible interpretation of evidentiary rules. These legal parameters and tests are linked to the right of effective access to justice of potential victims and are aimed specifically at the conduct of judicial authorities. They could, therefore, be argued in court.

First, the IACtHR establishes that access to justice demands 'the adoption of alternative probative standards that permit establishing the causal relationship based on the best available science'.[7] This statement is supported by the recognition that access to justice and effective remedy in climate litigation is constrained by 'general provisions on evidentiary matters', including 'difficulties to prove the causal link between the damage and its origin, the asymmetry in control of and access to probative elements … [and] the concentration of technical information in stakeholder with greater institutional or economic capacities'; all of which call for 'evidentiary rules based on the principles of availability of evidence … procedural cooperation, pro persona, pro natura and pro actione'.[8]

Second, the possibility of presuming the causal link is established. The Court asserts that proof of a direct causal link is not necessary when (a) an absence of prevention measures creates or tolerates significant risks, and (b) individuals or groups are exposed to such risks. Indeed, the IACtHR, grounded on the precautionary principle, explicitly underscores that it is possible to 'presum[e] the causal link between GHG emissions and the degradation of the climate system' and 'this degradation and the resulting risks for natural systems and people'.[9] Further, the IACtHR asserts that the autonomous right to a healthy environment 'protects nature' and 'components of the environment, such as forests, rivers, and seas … even in the absence of certainty or evidence of the risk to the individual'.[10] As a corollary, presumption, according to the Inter-American standard, can bridge the evidentiary nexus between (a)

[7] *Climate Emergency and Human Rights*, Advisory Opinion OC-32/25, Inter-American Court of Human Rights Series A No 32 (29 May 2025) [553].
[8] Ibid [552].
[9] Ibid [553].
[10] Ibid [273].

emissions and environmental harm, and (b) environmental harm and risks to the environment and people. Consequently, the evidentiary nexus to attribute corporate liability is limited to proving the causal link between emissions and corporate behaviour regarding the omission to adopt preventive measures via the due diligence standard.

Third, the IACtHR supports flexible interpretation of evidentiary rules by accounting for structural asymmetries that discipline climate litigation and favour large corporations or state actors. Namely, the IACtHR highlights that rules of admissibility, reliability, and assessment of evidence 'should be interpreted flexibly to avoid unjustified procedural barriers for victims'.[11] This, the Court argues, is crucial for people 'in a special situation of vulnerability in the context of the climate emergency', and further calls for a 'detailed assessment of the possible asymmetries between the parties and the adoption of appropriate measures', including 'the reversal of the burden of proof'.[12] The bastion of this logic is guaranteeing effective access to justice to potential victims.

The described legal parameters and tests are, arguably, tailored for the protection of human rights and the environment. It follows that these principles can be incepted into climate litigation by shifting the proof of causation from the predominant—and rigorous—'scientific but-for' test to the 'proportional attribution and foreseeable risk creation but-for' test'.

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

The IACtHR Advisory Opinion reveals several significant legal and methodological challenges facing climate litigants attempting to demonstrate causation. Obstacles emerge re (a) the legal standard of proof and admissibility, (b) the evidentiary burdens, and (c) the inherent complexity of the climate issue itself. These challenges stem from the 'wicked' nature of climate change as a global phenomenon and the structural asymmetries in access to technical evidence.

First, challenges regarding the legal standard of proof and admissibility arise. The IACtHR underlines that the primary hurdle to overcome is the need for a tradition and strict causal link, which judicial systems are designed to require. This issue is critical in the face of 'significant knowledge gaps' stemming from 'limited information on regions of the world that are most vulnerable to climate change'; a phenomenon explained by 'the scarcity of scientific publications and the fact that … oral evidence' is not included among the sources of the

[11] Ibid [554].
[12] Ibid [554].

Intergovernmental Panel on Climate Change (IPCC).[13] Consequently, the Court remarks 'the importance of guaranteeing access to appropriate proof … in particular satellite evidence' given 'its probative pertinence in the context of the climate emergency'.[14] Crucially, the IACtHR highlights the 'complexity inherent in climate litigation' and cautions that 'the strict application of certain general provisions on evidentiary matters could represent an unjustified obstacle to effective access to justice'.[15]

It follows that evidentiary burdens become latent. A major challenge identified by the IACtHR is related to asymmetry, notably regarding access to and control of probative elements, including technical information kept by 'stakeholders with greater institutional or economic capacities'.[16] Consequently, cooperation mechanisms to transfer such technology for evidentiary purposes emerge as a challenge too.[17] A second major evidentiary challenge relates to access to environmental and historical data on climate change, notably due to 'chronic scarcity of meteorological and climate information on highly vulnerable regions such as Latin America and the Caribbean'.[18] This presents challenges in assessing the 'long-term repercussions of climate change … [and] slow and rapid-onset phenomena that affect human rights'.[19] Moreover, insufficient 'high-quality, long-term and socioeconomic data … [including] serious data gaps on ecosystem services and urban adaptation planning', particularly in Central and South America, impedes effective assessment of vulnerabilities and adaptive strategies; critically for Indigenous Peoples.[20] Finally, the ability of litigants to comprehensively prove localized harm using recognised scientific sources, crucially the IPCC reports, is hindered by its operational dynamics, including not accepting oral information.[21] It follows that regional contexts and traditional knowledge are overlooked, broadening the already cosmic—but paradoxically shrinking—knowledge gap.[22]

Last, complexities of transboundary and cumulative damage attribution engender methodological challenges. The IACtHR affirms that 'the global climate system … is an essential part of the environment' and, consequently, concludes that 'environmental damage … is, by definition, transboundary damage'.[23] This can complicate jurisdictional and attribution models rooted in traditional territorial concepts of harm. The concept of 'climate damage' vis-

[13] Ibid [497].
[14] Ibid [541(5)], [555].
[15] Ibid [552].
[16] Ibid.
[17] Ibid [555].
[18] Ibid [496].
[19] Ibid.
[20] Ibid [498].
[21] Ibid [497].
[22] Ibid.
[23] Ibid [295], [551].

à-vis 'environmental damage', however, emerges as a 'standard of enhanced due diligence', which the Court deems extraterritorially justiciable—in 'the jurisdiction of the State in which it [the damage] originated'—regarding treaty-based rights with a causal link between the damage and human rights violations outside the State's territory,[24] including the right to a healthy environment. Further, the IACtHR stresses the obligation of States to 'guarantee human rights when they are, or should be, aware of … acts or omissions of their agents or private individuals that may create risk … within or outside their territory', and that in such cases measures 'in the absence of scientific certainty' can be taken based on 'the pro persona principle and the obligation of due diligence'.[25] This principle is confirmed regarding the obligation to prevent risks for human rights and the environment beyond the State's territory,[26] and the obligation to regulate 'GHG-emitting activities and sectors … within and outside their territory'.[27] Crucially, the IACtHR establishes that 'the guarantee of access to justice involves the legal standing of people and entities that do not reside in the State's territory'.[28]

Regarding cumulative emissions, 'methods exist to analyse a State's contribution to climate change'.[29] The IACtHR critically underscores that quantitative evidence exists showing that '90 companies … the "Carbon Majors" … accounted for 71% of CO_2 emissions between 1988 and 2017'.[30] Attributing specific harm to a discrete financial or corporate decision, however, remains a challenge unless the legal test is framed around proportional contribution or risk creation, rather than direct causation. Indeed, climate litigants face a scenario where legal systems built for discrete, localised harms clash with an issue defined by cumulative, global, and highly technical risk creation.

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

The question of quantitative emissions attribution evidence remains reliant on 'the best science available on climate change',[31] compiled in the IPCC reports.[32] While this explicitly endorses the foundational scientific quantitative evidence relied upon in climate litigation, the IACtHR emphasizes the importance of flexible evidentiary rules to guarantee effective access to justice,[33] and of the right of access to information insofar such right, as a corollary,

[24] Ibid [278], [296].
[25] Ibid [229].
[26] Ibid [277].
[27] Ibid [337].
[28] Ibid [551].
[29] Ibid [56].
[30] Ibid [54].
[31] Ibid [487].
[32] Ibid [33].
[33] Ibid [552]-[553].

'enable[s] the population to exercise their rights and to adequately oversee the State's response to the climate emergency'.[34] Issues of asymmetry in the control of and access to probative elements remain a hallmark of climate litigation that further complicates the already colossal evidentiary burden regarding quantitative emissions attribution.

Indeed, accounting for historical emissions relies heavily on non-profit organisations' peer-reviewed data. Therefore, a key challenge—and opportunity—in this regard is that it is up to States to regulate to 'establish and update detailed inventories of GHG emissions, broken down by sector: energy, transport, agriculture, industry, waste, and land use/land-use change and forestry'.[35] The implication is that this information can inform mitigation[36] and adaptation[37] measures, and the respective arguments against corporations and financial institutions re breaches to such State-reliant measures. While the IACtHR confirms that the issue of corporate contribution to emissions has been examined by the judiciary in virtually every region of the world,[38] it does not detail the specific judicial findings regarding the admission or validation of the 'Carbon Majors' data itself in the final judgment of corporate cases.

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

Although the Advisory Opinion cannot directly answer the inquiry related to the specific influence of the nature of relief sought on evidence presentation in litigation, the core legal standards established by the Court for comprehensive climate redress logically dictate the adoption of alternative, flexible evidentiary tests. The crucial finding from the IACtHR's Advisory Opinion is that the types of remedies permissible under international human rights law—and arguably domestic constitutional law—require a 'proportional and risk-based standard of causation', rather than a 'narrow, specific link'.

The IACtHR conceptualises relief broadly, beyond simple 'damages'. While traditional litigation often seeks financial compensation (damages), requiring a strict 'but-for' causal link, the Court emphasises that climate litigation—in terms of *quantum*—might focus on seeking 'comprehensive redress'[39] or 'full restitution (*restitutio in integrum*)'.[40] This indeed guides the judiciary to implement a principles-based hermeneutic approach to evidentiary rules and

[34] Ibid [519]-[520].
[35] Ibid [510].
[36] Ibid.
[37] Ibid [511].
[38] Ibid [177].
[39] Ibid [557].
[40] Ibid [556].

supports arguments based on the 'generation or tolerance' of significant risks to the climate system. Moreover, legal presumptions, asserts the IACtHR, are necessary for achieving the ultimate goal of comprehensive redress for cumulative harms—notably when the relief sought relates to collective, global harm. These legal presumptions include nexuses between GHG emissions and the degradation of the climate system—even in the face of insufficient scientific evidence—and between the degradation of the environment and the resulting risks.

A strategic relief that can be sought is a mitigation commitment, as a form of forward-looking behavioural obligation. The IACtHR notes the necessity to establish 'measures of restitution aimed at restoring the climate system and the ecosystems by increasing mitigation commitments, as well as funding and implementing conservation or restoration plans and actions.'[41] In this case, arguably, evidence needs only to establish the corporation's proportional contribution to the emissions problem, rather than the causation of a specific, quantifiable monetary loss. Both legal presumptions and arguments aimed at risk creation can be powerful tools to that effect.

The notion of non-pecuniary relief and monitoring as forms of redress was underscored by the IACtHR. Critically, the IACtHR directed authorities—domestic and international—tasked with 'determin[ing] measures of reparation in the context of the climate emergency' to 'consider [on a case-by-case basis] the necessity and pertinence of not limiting reparation to pecuniary measures of compensation' and to evaluate 'the opportunity to establish mechanisms to monitor or follow-up on the implementation of any measures of reparation'.[42] Indeed, the IACtHR notes that reparations must include 'measures of rehabilitation … compensation … and … guarantees of non-repetition' aimed at 'reducing vulnerability, monitoring compliance with existing obligations, and enhancing resilience of natural and human systems'.[43] The implication for climate litigation is that when claimants seek relief involving monitoring or specific conservation plans, the evidence requirements focus less on monetary quantification and more on establishing the viability of restoring the climate system and the ecosystems. To that effect, again, both legal presumptions and arguments aimed at risk creation are important tools.

The IACtHR alludes to the pursuit of effective justice by underscoring the task of overcoming the evidentiary imbalance between victims and major economic actors, especially when seeking relief for complex harms. Regardless of the nature of the relief sought (financial or behavioural), the IACtHR suggests measures like 'the reversal of the burden of proof' to 'allow

[41] Ibid [558].
[42] Ibid [559].
[43] Ibid [558].

effective access to justice to be guaranteed'.[44] This procedural shift, the IACtHR highlights, is necessary because the required relief, especially for those in a situation of vulnerability, must not be blocked by 'unjustified procedural barriers' inherent in complex causation arguments.[45] To pursue comprehensive redress, claimants should utilise the framework of proportional attribution and risk creation to shift the focus towards systemic corporate contribution (eg, emissions data). This directly aligns with the goal of compelling future behavioural change (i.e. mitigation commitments) and refocuses the evidentiary burden away from proving direct, quantifiable economic damages in every instance.

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

The IACtHR identifies the start of the industrial era as the historical baseline for recognising human influence on climate change, establishing the timeframe over which emissions must be aggregated for attribution analysis. It underscores that '[s]cience has demonstrated that human activities have influenced the global climate since around 1750 – the approximate start of the industrial era'.[46] The IACtHR indeed refers to the reference period used by the IPCC to compare global temperature averages.[47] The Court affirms that '[b]etween 1750 and 2019, the concentration of CO_2 in the atmosphere increased by 47%' and 'from 2010 to 2019, between 81% and 91%'.[48]

Moreover, the IACtHR outlines specific quantitative data that spans defined historical periods, implicitly guiding how corporate contribution is calculated and assessed by institutions. Sectoral distribution of accumulated emissions, for instance, indicates that emissions originate primarily from sectors such as 'energy … (34%), industry (24%), agriculture, livestock, forestry, and other land use (22%), transportation (15%), and construction (6%)'.[49] The widely registered data on emissions from 'Carbon Majors' establishes a recent, specific timeframe relevant for attributing a significant portion of the problem to identifiable non-state actors. To that effect, the IACtHR notes that the historical contribution of CO_2 emissions from the use of fossil fuels (i.e. natural gas, coal, and petroleum) has been scientifically measured from 1850 to 2019.[50] These notions directly influence the legal concepts of 'greater responsibility'—re proportionality—and 'risk creation' as conduits for attribution.

[44] Ibid [554].
[45] Ibid.
[46] Ibid [46].
[47] Cf Ibid fn 46.
[48] Ibid [47].
[49] Ibid [54].
[50] Cf Ibid fn 60.

The analysis of mitigation targets and State obligations can shed light on how historical temporal attribution serves as a core legal imperative for determining responsibility and corresponding commitments. The specific argumentation strategies of claimants or detailed judicial analysis in corporate litigation, albeit are not provided by the IACtHR. Regarding mitigation targets, the IACtHR grounds its analysis on considerations of justice linked to the principles of (a) common but differentiated responsibilities and respective capabilities and (b) equity. The Court holds that 'the scale of each State's mitigation should be determined based on: (i) its current and historical cumulative contribution to climate change; (ii) its capacity to contribute to mitigation measures and, finally, (iii) its actual circumstances'.[51] Within that logic, that 'the cumulative impact of the GHG present in the atmosphere' implies that 'nations that have emitted the most GHG throughout history should assume greater responsibility in relation to mitigation'; and to that effect the Court stressed the relevance of 'factors such as per capita emissions, the externalization of environmental costs, GHG emissions from consumption and not only production, the timeline of industrialization in each State, and the energy intensity of its economy'.[52] These notions, as a corollary, imply that any climate attribution analysis must temporally begin around the start of the industrial era—circa 1750/1850, or as close as possible—to measure accumulated emissions.

[51] Ibid [327].
[52] Ibid [328].

Greenpeace v ENI

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

In determining causation in the climate context, the first reference point is the 'but for' test. The test is satisfied if the evidence establishes, on the balance of probabilities, that but for the defendant's wrong, the plaintiff would not have suffered the harm.[53]

In this instance, causation was linked to the defendant's failure to adopt the necessary measures to reduce CO2 emissions to meet the 1.5ºC global temperature target set by the Paris Agreement.[54] The plaintiffs alleged that they were entitled to take action pursuant to specific duties arising from articles 2043, 2050, and 2051 of the Italian Civil Code together with articles 300 and 313 of the Legislative Decree No 152 of 3 April 2006. Additionally, the plaintiffs contended that the violation stemmed from Articles 2 and 8 of the European Convention on Human Rights (ECHR) on the right to life and respect for private and family life and articles 2 and 7 of the Charter of Fundamental Rights of the European Union.[55]

The Court acknowledged that the European Court of Human Rights has found a violation of Article 8 ECHR based on the causal link between the State's actions or omissions in failing to adopt protective measures and the damage or risk of damage to individuals resulting from climate change.[56]

On the second limb of attribution, in order to attribute global emissions to ENI, the parent company, the plaintiffs invoked the theory of corporate personhood. They argued that the parent company's strategic role in defining policies for the entire group makes it responsible.[57] The harm was attributed not merely to scattered acts of pollution but to a systemic failure in ENI's industrial and commercial strategy.

The main success achieved by the plaintiffs was the establishment of Italian jurisdiction over the defendants. This success hinged entirely on the strategic use of jurisdictional connecting

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[53] Rupert Stuart-Smith and others, 'Attribution Science and Litigation: Facilitating Effective Legal Arguments and Strategies to Manage Climate Change Damages' (*SSEE*, 2021) <https://www.smithschool.ox.ac.uk/sites/default/files/2022-03/attribution-science-and-litigation.pdf> accessed 3 December 2025.

[54] Greenpeace Italy et al v ENI S.p.A., the Italian Ministry of Economy and Finance and Cassa Depositi e Prestiti S.p.A Italian Supreme Court of Cassation, no. 20281/2025, 4.

[55] Ibid 5.

[56] Ibid 19. The Court cited Verein KlimaSeniorinnen Schweiz and Ors v Switzerland App no 53600/20 (ECtHR, 9 April 2024).

[57] Ibid 12.

factors derived from the nature of the relief sought. When framing the case around the parent company's omission to adopt an adequate strategy for the group, the harmful conduct was successfully localised at ENI's Italian headquarters. Additionally, by claiming compensation for the impairment of life expectancy and health, the damage was successfully localised at the plaintiffs' residences in Italy. These two distinct legal arguments allowed the Court to declare jurisdiction over the entire claim, both injunctive relief and damages. The Court found that the claim involved issues of liability under constitutional and international sources and was therefore justiciable, dismissing the defendants' objections that the case required an invasion of the legislative or executive arms.[58]

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

First, the defendants argued the claim involved the adoption of measures that require political and legislative assessment, which are the responsibility of Parliament and the Government, thus exceeding the jurisdiction of the courts. They also argued that assessing the opportunity of business decisions regarding climate impact is beyond the jurisdiction of the courts. The Court acknowledged this objection but clarified that the judicial task is only to verify whether international and constitutional sources impose a duty of intervention directly on the defendants sufficient to establish non-contractual liability.[59]

Further, the defendants argued that the plaintiffs lacked concrete, direct, and specific interest, possessing only a generic interest in the environment. They also contended that the plaintiffs sought future measures for purely hypothetical and potential damage. The Court noted that establishing the existence of individual, actual, and concrete damage and the standing of the plaintiff associations is a matter for the merits of the dispute, not jurisdiction.[60]

Additionally, ENI argued the Court lacked jurisdiction because the plaintiffs alleged conduct abroad attributable to foreign companies separate and independent from the defendant. The plaintiffs, conversely, asserted the parent company's liability for emissions produced by the entire group resulting from the failure to adopt an adequate industrial and commercial strategy. The court ultimately classified the determination of ENI's liability for its subsidiaries' distinct legal personalities as a matter related to the merits of the dispute, rather than jurisdiction.[61]

[58] Ibid 11.
[59] Ibid 10.
[60] Ibid 9.
[61] Ibid 23.

The global nature of climate change complicated defining the place where the harmful event occurred under EU Regulation 1215/2012.[62] The Court noted that climate-changing emissions have a naturally diffusive reach, extending their effects to the entire Earth's atmosphere.[63]

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

Plaintiffs stated that ENI is responsible for 0.6% of global industrial cumulative emissions. They also alleged ENI's absolute greenhouse gas emissions were 419,000,000 tons of CO_2 in the year 2022 referring to attribution science as the field responsible for studying these phenomena and attributing the major contribution of CO_2 emissions to fossil fuel companies.[64]

This evidence was submitted in the initial claim before the Court of Rome as a factual premise.[65] The Supreme Court received this information as part of the factual background necessary to understand the substance of the claims. However, since the Supreme Court was ruling solely on the question of jurisdiction, it did not comment on the veracity, validity, or legal reception of this quantitative evidence, as that concerns the merits of the case.

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

The plaintiffs requested that ENI be ordered to reduce its aggregate annual CO_2 emissions by 45% by 2030 and that the Ministry/Cassa DPP be ordered to adopt an operational policy to monitor ENI's targets. This necessitated a focus on corporate strategy and control. They sought to attribute the harm not just to scattered acts of pollution but to a systemic failure in ENI's industrial and commercial strategy. This led to the use of the theory of corporate personhood to hold ENI liable for the emissions of the entire group, including subsidiaries operating abroad.[66]

The Court found that because the harmful event was identified as the omission to adopt an adequate strategy, and the strategy development occurs at ENI's headquarters in Italy, this supported Italian jurisdiction over the harmful conduct itself.[67] Lastly, the plaintiffs sought

[62] Regulation (EU) 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters [2012] OJ L351/1.
[63] Greenpeace Italy v ENI (n 54) 22.
[64] Ibid 17.
[65] Civil Court of Rome, Writ of Summons 47.
[66] Greenpeace Italy v ENI (n 54) 15.
[67] Ibid 23.

compensation for pecuniary and non-pecuniary damage caused by climate change. This required demonstrating that the diffuse, global harm resulted in individual, concrete, and actual damage suffered by the resident plaintiffs.[68]

The Court considered that the place where the damage occurred was the place where the plaintiffs reside, i.e. Italy, where the impairment of life expectancy, health conditions, and quality of life was destined to occur. This focus on the specific location of the harm allowed the court to affirm Italian jurisdiction under EU law.[69] In essence, by seeking injunctive relief focused on strategy, claimants broadened attribution beyond direct pollution to corporate omission, the parent company's failure to regulate its group. In seeking damages focused on individual harm, they narrowed the causation chain geographically, allowing the court to pinpoint the location of the damage for jurisdictional purposes.

[68] Ibid 4.
[69] Art 7(2) Regulation 1215/2012 (n 62).

Hugues Falys v TotalEnergies

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

With respect to fault, TotalEnergies' (TE) wrongful conduct of continuing, despite its awareness of the consequences of such conduct, misleading climate communication, inadequate mitigation, and significant contribution to climate change.[70] There are two types of damage. Material damage comprises loss of crops, fodder shortages, purchase costs, and herd reduction.[71] Non-material damage comprises anxiety over the environment, increased stress, and professional pressure.[72] In regard to causal link, the applicable test is 'equivalence of conditions', the Belgian 'but for' test. It is satisfied if, without the defendant's wrongful conduct, the damage would not have occurred as it did, including where lesser damage would have occurred.[73] The test accepts multi-causal chains and requires a threshold of reasonable certainty. Any legally admissible evidence may be presented to establish a reasonable causal chain.[74]

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

First, the multi-actor and small-percentage argument: climate change is caused by many actors, and TE's share is argued to be too small to be legally relevant.[75] Second, the gap between global and local weather: Falys attempts to close the gap between aggregate GHG emissions and global climate change on the one hand and local weather events on the other, using computer models to show that certain extreme weather events that damaged his farm had a higher likelihood due to anthropogenic climate change compared to a counterfactual world without those emissions.[76] Third, the non-attribution of emissions to TE: the majority of attributed emissions arise from the use of sold products, and TE argues it cannot control downstream combustion by its clients and is therefore not liable for these emissions.[77] Fourth, the unreliability of quantification methods: Greenpeace's recalculation of TE's emissions in

[70] Hugues Falys v TotalEnergies SE, Commercial Court of Tournai, petition (March 2024), [65], [66].
[71] Ibid pp 111–116.
[72] Ibid [107].
[73] Ibid [48].
[74] Ibid [86].
[75] Ibid [61], [64].
[76] Ibid [89], [90], [93], [94], [97], [98].
[77] Ibid [63].

2019[78] is said to be methodologically flawed because of the choices of emission factors, value-chain boundaries, and assumptions that introduce large uncertainty.[79] Fifth, the regulation via tort law issue: the requested injunctions are argued to turn the Belgian court into a climate regulator, with the implication that these are decisions belonging to legislators rather than judges.[80]

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

The Carbon Majors Database, drawing on the Heede and Climate Accountability Institute datasets,[81] attributes TE's operations and products as responsible for 0.82–0.83% of global GHG emissions.[82] Greenpeace's 2019 recalculation of TE's emissions,[83] found them to be 3.5 times higher than the figure TE self-reported.[84] The IPCC Sixth Assessment Report[85] was submitted to demonstrate the linear relationship between cumulative CO2 and global warming.[86] Belgian climate trend evidence was provided by the Independent Reporting Mechanism[87] and climat.be,[88] showing 1.9°C of warming and more frequent extreme weather events.[89] Farm-level agricultural impact evidence was submitted documenting specific losses from storms, droughts, and heat waves, to demonstrate concrete damage.[90]

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

Falys claimed symbolic damages of €1 for each past weather event, meaning exact monetary quantification is not required.[91] Belgian courts prefer reparation in kind, meaning reparation that addresses the issue directly rather than a monetary award, which is why an injunction is sought.[92] However, the risk of being characterised as climate regulation via tort law is higher

[78] Florence de Bonnafos, François Chartier, and Simon Reyburn, *Bilan carbone de TotalEnergies: le compte n'y est pas* (Greenpeace 2022).
[79] Falys v TotalEnergies (n 70) [63]-[64].
[80] Ibid [110]-[112].
[81] 'About Carbon Majors' (*Carbon Majors*) <https://carbonmajors.org> accessed 6 March 2026.
[82] Falys v TotalEnergies (n 70) [55]-[57].
[83] Bonnafos, Chartier, and Reyburn (n 78).
[84] Ibid [261].
[85] IPCC, *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (IPCC 2023).
[86] Ibid [257]-[259].
[87] 'Introduction' (*IRM*) <https://www.opengovpartnership.org/irm-guidance-overview/> accessed 6 March 2026.
[88] 'Actualités' (*climat.be*) <https://climat.be> accessed 6 March 2026.
[89] Falys v TotalEnergies (n 70) [262].
[90] Ibid [99], [100], [102]-[106], [117], [118], [388], [389]-[397], [406], [407].
[91] Ibid [19], [418].
[92] Ibid [87], [110], [111], [424], [426], [428].

for injunctive relief than for damages, and TE's emission levels alone are not treated as concrete evidence of certain future harm for the purpose of granting an injunction.

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

The historical baseline used in the attribution evidence runs from 1751 to 2010, reflecting the fact that the climate reacts to cumulative emissions; this period shows that TE is responsible for 0.82–0.83% of all anthropogenic emissions.[93] For the temporal trigger of TE's knowledge and foreseeability, the claimants rely on TE's archives showing an internal article from 1971 in the company's magazine *Total Information* titled 'La pollution atmosphérique et le climat'.[94] The article detailed the impact of fossil fuels on the climate, was distributed to managers, and warned of the catastrophic consequences of emissions, establishing that TE had awareness of climate harm from at least that date.[95] The period from 1988 onwards is also significant: emissions from that year onwards equal total emissions from 1751 to 1988, making them most relevant to present-day harm. Additionally, the IPCC was founded in 1988, meaning that from this point an authoritative scientific consensus on the relationship between fossil fuel emissions and climate change existed, removing claims of ignorance of harm stemming from emitters' actions.[96] In a related case, *Klimaatzaak* (2021),[97] the court linked state responsibility to emissions from 1990 onwards, as the primary window for assigning legal causation, because scientific evidence dictated that a minimum 25% reduction in greenhouse gas emissions compared to 1990 levels was necessary to protect human rights. The court noted that the 2018 IPCC Report[98] should have prompted authorities to increase the target to at least 30%.[99]

[93] Ibid [42], [261].
[94] François Durand-Dastès, 'La pollution atmospherique et le climat' (1971) 47 Total Information 12.
[95] Falys v TotalEnergies (n 70) [265], [266].
[96] Ibid [54].
[97] Tribunal de première instance francophone de Bruxelles, 17 June 2021, RG 2015/4585/A, *Klimaatzaak ASBL et consorts c État belge et autres* (Brussels Court of First Instance).
[98] IPCC, *Global Warming of 1.5°C* (CUP 2018).
[99] Falys v TotalEnergies (n 70) [237], [238], [415], [424].

KlimaSeniorinnen v Switzerland

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

The Court considers four elements of causation in human-rights based complaints against the State for climate-change disputes that pertain to **evidence, analysis, and causality.**[100] The first was the link between greenhouse gas (GHG) emissions, the accumulation of GHG emissions, and the effect of GHG emissions on the climate.[101] The second was the link between the adverse effects of climate change and the risk/harm posed to the enjoyment of human rights, particularly considering intergenerational burden-sharing.[102] The third was the link between a risk/harm violating human rights suffered by a specific group resulting from the State's action/lack of action.[103] The fourth was the link between the adverse effects of climate change suffered by the claimants and the degree to which they are attributable to a State, given that many States emit GHG.[104]

The Court adopts the following test to determine whether victim status for associations exists under article 34 of the Convention: the association must (a) be lawfully established or have standing in the concerned jurisdiction; (b) demonstrate its purpose to defend human rights of victims, members, and/or collective action to protect threatened rights associated with climate change (c) be representative of members and qualified to act on behalf of victim.[105]

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

The principal challenge was the action popularis problem. The applicants argued they were a vulnerable group and appealed to the Court's exception for associations to secure victim status. Applicants highlighted the association's role in mitigating uneven intergenerational burden sharing.[106]

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

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[100] *Verein KlimaSeniorinnen Schweiz v Switzerland* App no 53600/20 (ECtHR, 9 April 2024) [424]-[425]; Ibid [427]-[444].
[101] Ibid [436].
[102] Ibid [434].
[103] Ibid [440].
[104] Ibid [444].
[105] Ibid [487].
[106] Ibid [500].

The applicants presented emissions pathways to demonstrate Switzerland's failure to achieve emissions benchmarks in Swiss policies and further asserted that Switzerland's GHG benchmarks were not aligned with scientific findings.[107] The applicants compared policy standards to national emissions inventories and IPCC targets with probabilistic event attribution.[108]

The Court evaluated emissions pathways to determine that Swiss emissions targets were insufficient to actualise scientific benchmarks that limit global warming.[109] The Court received the IPCC's findings as a matter of established fact.[110] Therefore, the Court attached 'importance to the fact that the situation complained of breached the relevant domestic law' and 'may need to have regard to the relevant international standards concerning the effects of environmental pollution when ascertaining whether the rights of an individual have been affected'.[111]

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

KlimaSeniorinnen v Switzerland is a case of government ambition, which requires applicants to attribute current and future climate harm to the State's actions or lack thereof to secure a relief. The applicants presented 'epidemiological data and other scientific evidence' to demonstrate 'the real probability of the occurrence of further violations of their rights.'[112] Applicants successfully demonstrated that Switzerland's actions were likely to create future climate harms without intervention in addition to the current harms. The Court found Switzerland in breach but did not impose a solution or award damages.

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

The Court analysed the temporal relationship between Switzerland's GHG emissions between Switzerland's CO_2 Act and Climate Act. Because the applicants challenged pieces of Swiss legislation, they presented corresponding emissions pathway and budget models and probabilistic event attributions. The Court analysed the scientific evidence in favour of the applicants.

107 Ibid [500]; Ibid [35]; Ibid [76]; Ibid [78].
108 Ibid [77].
109 Ibid [79].
110 Ibid [429].
111 Ibid [428].
112 Ibid [310]; Ibid [309].

Lliuya v RWE

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

Under §1004 German Civil Code (GCC), the defendant must be a *Zustandsstörer* (disturber), such that its activities contribute to the interference with the claimant's property.[113] In principle, the Court accepted that greenhouse gas (GHG) emissions can constitute disturbance to legal interests if they contribute causally to climate change and its effects.

Claimants must demonstrate that the defendant contributed to a measurable share of global anthropogenic GHG emissions. So, company emissions must contribute to climate change, which in turn must lead to glacial retreat which poses an increased flood risk to the claimant's property.

Pursuant to §1004 GCC, a claimant may seek injunctive relief or cost contribution where there is an impending interference with the property.[114] This must amount to a 'concrete danger'[115] within the meaning of §1004 GCC, requiring that the occurrence of harm is sufficiently likely within a determinate time horizon.

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

In *Lliuya v RWE*, the ultimate pitfall was that the factual probability of damage was determined to be too low to permit the award of the damages sought. The Court relied on its own experts, who estimated that a Glacial Lake Outburst Flood could occur over a 30-year time period. However, even after conducting a site inspection, the experts determined that the probability of the harm materialising was around 1% over the 30-year period[116] (or: 1:30 million), which was ultimately not sufficiently significant to fulfil the standard of concrete danger under §1004 GCC.

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

[113] *Luciano Lliuya v RWE AG* [2025] Hamm Higher Regional Court 1-5 U 15/17 18.
[114] German Civil Code, §1004.
[115] *Luciano Lliuya v RWE AG* [2025] Hamm Higher Regional Court 1-5 U 15/17 4.
[116] *Luciano Lliuya v RWE AG* [2025] Hamm Higher Regional Court 1-5 U 15/17 99.

The plaintiffs relied on the Carbon Majors Database[117] and Richard Heede's Carbon Majors Report[118] to quantify RWE's cumulative emissions since 1854. RWE was attributed 0.47% of historic anthropogenic CO2 emissions, which was later revised to 0.38%. The Court accepted the quantitative emissions shares as a relevant basis for calculating proportional liability. Expert evidence was also provided by Prof Katzenbach and Prof Hübl regarding a potential increase in the risk of natural disasters resulting from RWE - using a high-resolution three-dimensional terrain model and active and passive remote sensing methods. This evidence partially resulted in the dismissal of the claim, as the possibility of damage was too remote.[119]

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

The plaintiff sought injunctive relief under §1004 GCC. To be granted injunctive relief in Germany, the claimant must prove 'a concrete source of danger has objectively arisen which makes the impairment possible and on the basis of which intervention is required' in this case having to prove that RWE caused sufficient injury to the property. A declaration on RWE's harmful actions was also sought. The plaintiff demanded a cost contribution proportionate to RWE's emissions share towards its local flood defences. Since the remedy required proving a real and imminent threat, the evidentiary burden for probability was higher than would have been required for other types of relief, such as declaratory relief. This is also a possible form of relief under §1004 GCC. §1004 GCC can only order the removal or prevention of disturbance where the legal interest is threatened by a real, concrete, and imminent danger, as opposed to a merely hypothetical one. If the relief sought were merely compensatory in nature, the plaintiff would have needed to prove causation and loss. Thus, paradoxically, by seeking a relatively more modest, proportional contribution to adaptation measures, the legal test applicable was more onerous, requiring the relatively higher causation standard under German private law.

[117] 'About Carbon Majors' (*Carbon Majors*) <https://carbonmajors.org> accessed 6 March 2026.
[118] Richard Heede, 'Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854-2010' (2014) 122 Climatic Change 229.
[119] *Luciano Lliuya v RWE AG* [2025] Hamm Higher Regional Court 1-5 U 15/17 92.

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

1965 was chosen as the temporal start point due to an established causality link.[120] Courts acknowledge that starting the timeline in the 1980s or 1990s may have changed the outcome, but do not elaborate on this much further - it could be due to the rise of industrialisation outside of Europe displacing RWE as a major polluter.[121] The judgment suggests that Germany and the EU favour as early a historical starting point as possible.

[120] *Luciano Lliuya v RWE AG* [2025] Hamm Higher Regional Court 1-5 U 15/17, 47.
[121] *Luciano Lliuya v RWE AG* [2025] Hamm Higher Regional Court 1-5 U 15/17, 42.

Milieudefensie Summons for ING

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

The case evidences a shift from a linear 'but-for' tort causality to advanced frameworks based on 'partial responsibility',[122] 'systemic endangerment',[123] and standardised carbon accounting.[124] 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[125] 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.[126]

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, consequently, violating the unwritten 'societal duty of care' under Dutch tort law.[127] Second, the claimants satisfied the court's need for objective measurement by arguing that a bank's causation is mathematically proven via the Partnership for Carbon Accounting Financials (PCAF)[128] and the Greenhouse Gas Protocol (GHG Protocol)[129]—both of which provide 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.[130] 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.[131]

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[122] Milieudefensie, 'Detailed Summary of Milieudefensie's Summons for ING' (2025), 16, 23.
[123] Ibid 2, 23-24.
[124] Ibid 12.
[125] Ibid 3, 12-14.
[126] Ibid 19, 22-25.
[127] Ibid 14-15.
[128] 'About PCAF' (*PCAF*) <https://carbonaccountingfinancials.com/about> accessed 23 March 2026.
[129] 'About Us' (*Greenhouse Gas Protocol*) <https://ghgprotocol.org/about-us> accessed 23 March 2026.
[130] Milieudefensie (n 122) 12-13.
[131] Ibid 22.

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

In the Milieudefensie Summons for ING, the central challenge is bridging the attribution gap created by the structural opacity of global capital markets and traditional tort law rationale (i.e. 'but-for' causality). Milieudefensie sought to pierce the corporate veil of fungible capital, while also narrowing the possibility for banks to use their traditional defence arguments (eg, the effectiveness/*de minimis* defence). Through an innovative framework, the claimants presented arguments that hoped to reshape the causality parameters, so that traditional direct-harm tests would be replaced by 'hazardous negligence' and 'partial responsibility' rationales under the unwritten societal duty of care. 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).[132]

3***. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?***

The case hinged on a novel, macro-level strategy. The PCAF and GHG Protocol standardisation was used to divide a bank's Scope 3 emissions into financed, facilitated, and insured emissions—indeed, to enable the necessary calculations to create a quantifiable chain of attribution. The macro-level aspect consisted of presenting evidence that Dutch banks are responsible for 'x' amount of CO_2 emissions through a Profundo report,[133] and that ING financed 'y' amount for fossil fuel companies through the Banking on Climate Chaos Report 2025.[134] Then, the submission pointed out how banks selectively omit crucial quantitative data from their targets (i.e. how ING intentionally obscures over 70% of its loan portfolio emissions via 'general corporate loans') and, therefore, how this failure to report all emissions justifies an *ex post* mathematical calculation of those emissions using a trend line—one that leveraged the 2019 baseline required by the Intergovernmental Panel on Climate Change (IPCC).[135]

[132] Ibid 25.
[133] Ibid 13.
[134] *Banking on Climate Chaos. Fossil Fuel Finance Report 2025* (BOCC 2025).
[135] Milieudefensie (n 122) 17-22.

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

The Milieudefensie Summons for ING seeks a forward-looking injunctive relief in the form of mandatory emissions reduction targets (i.e. for the bank to halve its total emissions by 2030, set binding reduction targets in eight polluting sectors aligned with the International Energy Agency Net Zero Scenario,[136] and immediately stop financing for fossil fuel expansion) and divestment orders—contrasting with the oft-sought relief of retrospective compensatory damages.[137] The 'forward-looking' nature of the relief implies that the legal parameters of causation can be framed differently—crucially, by seeking to mandate future corporate behaviour, the intended relief bypasses the traditional tort burden of proving proximate cause between a specific bank loan and a specific localised weather disaster. Claimants sought to support the argument of a 'systemic endangerment' by quantifying financed emissions through macro-level carbon accounting frameworks, aiming for the court to analyse this argument through the lens of a 'societal duty of care' and 'partial responsibility'. Moreover, a 'systemic' argument was made against the 'ineffective' argument (i.e. that other financiers will replace the bank and render the court order ineffective)—Milieudefensie argued that because banks are systemic non-state actors, a judicial injunction will alter confidence in global climate policy, impact the financial market, and push for more ambitious national goals.[138]

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

The case approaches the temporal aspects of attribution by using both historical foreseeability and future systemic risk to establish a continuous breach of the societal duty of care.[139] In periods when no emissions data is available, the claimants used *ad hoc* methodologies to mathematically complete historical emissions data, drawing from independent reports (e.g. Banking on Climate Chaos Report 2025) and established carbon accounting methodologies (e.g. PCAF and GHG Protocol). Claimants drew from the defendant's own reporting to assess when they could reasonably foresee the risk—for ING, the year was 2007, based on their own 2006 internal report titled 'Climate Change: When Hell Freezes Over'.[140] To satisfy the foreseeability parameter required for tortious endangerment, Milieudefensie argued that because ING explicitly acknowledged the link between fossil fuels

[136] 'Net Zero Emissions by 2050 Scenario' (*IEA*) <https://www.iea.org/reports/global-energy-and-climate-model/net-zero-emissions-by-2050-scenario-nze> accessed 23 March 2026.
[137] Milieudefensie (n 122) 2, 18-23.
[138] Ibid 23.
[139] Ibid 14-15.
[140] Ibid.

and global warming effects in 2007, its subsequent decisions to increase fossil fuel financing were done 'knowingly and intentionally'.[141] In a vein related to temporality, 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.[142] Moreover, the 'imminence' of the risk—to address the reliance of banks on delay tactics using 2050 as a temporal marker—was argued with the support of the cascading tipping points rationale: if the 2030s are a 'critical decade' because it can produce irreversible damage to the climate system in the long term, then the issue should be addressed not within the 2050 oft-used horizon, but rather on a shorter, five-year timeframe.[143]

[141] Ibid.
[142] Ibid.
[143] Ibid 7.

Milieudefensie v Shell

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

The Court of Appeal framed the issue on appeal as being whether, on the basis of a general social standard of care, Shell had an obligation to reduce its CO_2 emissions by a certain percentage.[144] The Court recognised that protection from 'dangerous climate change' is a human right that companies, including Shell, may have a responsibility to take measures to counter.[145] The Court characterised art 2 of the ECHR as a positive obligation which requires positive measures to protect life.[146] It interpreted arts 2 and 8 as applying to society or the population as a whole (in addition to individuals), particularly in situations where an environmental hazard threatens an entire area.[147] The Court acknowledged that arts 2 and 8 of the ECHR are primarily owed by governments towards citizens but nonetheless determined they do inform the social standard of care owed by Shell.[148]

The Court held that whether a social standard of care is breached turns on the severity of the threat of a particular danger, the defendant's contribution to the creation of the danger and their capacity to contribute to the combating of the danger.[149] Since climate change was accepted as threatening the rights protected by arts 2 and 8, the Court found that those rights should be decisive to answering what is required of Shell under the social standard of care.[150] The Court upheld the test that companies whose products have contributed to the creation of the climate problem and who have it in their power to combat the climate problem, have an obligation to do so *vis-à-vis* other inhabitants of the Earth.[151] The Court found that Shell, as a significant contributor to climate change and with the power to contribute to combatting climate change, had an obligation to limit its CO_2 emissions.[152]

The causal test emerging from the application of a social standard of care to a right to life analysis is whether the defendant is a significant contributor to climate change and whether the defendant has the power to combat climate change. The Court did not define what threshold of emissions is required to meet a 'significant contributor' test or whether the

[144] *Shell plc v Vereniging Milieudefensie & Ors* (2024) ECLI:NL:GHDHA:2024:2100 (Hague Court of Appeal), [7.3].
[145] Ibid [7.17].
[146] Ibid [7.6].
[147] Ibid [7.7].
[148] Ibid [7.24].
[149] Ibid.
[150] Ibid [7.25].
[151] Ibid [7.26].
[152] Ibid [7.27].

significance of an actor's contributions is judged against global, national or sector-specific greenhouse gas emissions. The Court did not engage in a fact-specific inquiry of the volume of emissions attributable to Shell and whether this met a 'significance' threshold.

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

The Court's reluctance to impose a broad, sectoral reduction obligation created a significant legal and methodological challenge. While affirming that Shell has a general duty of care to reduce emissions, the court explicitly refused to impose the plaintiffs' claimed 45% reduction target for Scope 3 emissions, or any specific reduction at all. Its primary rationale was the perceived absence of a clear, unequivocal scientific consensus on a precise reduction percentage for an individual company like Shell, noting that scientific models show a range of outcomes open to different expert interpretations.[153] This reasoning effectively set an 'impossibility threshold' for litigants, requiring them to prove a consensus on a company-specific pathway—a standard climate science, which provides global pathways and ranges, cannot meet. By demanding this unattainable specificity, the Court created a rationale for judicial inaction, stating it could not 'elevate [a] prognosis to a legally binding standard'.[154] The consequence is that large corporate emitters are shielded from concrete judicial mandates, as this burden of proof is nearly impossible to meet, leaving the determination of a 'fair share' almost entirely to the company's own discretion despite its recognised special responsibility.

Furthermore, the Court narrowed established legal doctrines and principles in a manner that nullified their utility for setting a quantifiable standard. It applied the precautionary principle in a critically restrictive way, holding that it applies to uncertainty about the consequences of an action but not to uncertainty about the appropriate standard of care.[155] This interpretation prevents the principle from mandating ambitious action in the face of scientific ranges. Similarly, while acknowledging principles of equity and Common but Differentiated Responsibilities (CBDR), the Court concluded they were 'too general to infer that Shell has a 45% reduction obligation',[156] thus divorcing the acknowledgment of greater responsibility from any operational legal consequence. The Court also cited soft law instruments like the UN Guiding Principles[157] and the Race to Zero campaign[158] to establish Shell's general

[153] Ibid [7.90]-[7.92].
[154] Ibid [7.92].
[155] Ibid [7.95].
[156] Ibid [7.81].
[157] UN OHCHR Guiding Principles on Business and Human Rights (2011) UN Doc HR/PUB/11/4.
[158] 'Race to Zero' (*Global Climate Action*, 2025) <https://climateaction.unfccc.int/Initiatives?id=Race_to_Zero> accessed 10 March 2026.

responsibility,[159] yet dismissed the specific reduction targets these same instruments advocate as non-binding and not designed to be 'hard and enforceable standards' for individual companies.[160] Finally, it explicitly declined to apply the tort doctrine of hazardous negligence (*Kelderluik*),[161] used in *Urgenda*,[162] reasoning it is tailored to specific dangers, not the diffuse danger of climate change.[163]

For future litigants, this decision signals that strategies seeking specific numerical reduction orders face a formidable new obstacle. Success may require a strategic pivot: (1) focusing on enforcing procedural due diligence duties (like developing credible transition plans) rather than demanding specific outcome-based targets; (2) challenging discrete, high-carbon investment decisions as *per se* breaches of the duty of care, rather than aggregate emissions (though the court in this case declined to address such arguments as they fell outside the claim's scope); and (3) forcefully arguing that courts must, in the absence of a global regulator, use the best available science and equity principles to define a 'fair share' standard within a range of evidence, directly confronting the court's expressed reluctance to 'legislate'. Overcoming this judicial hesitancy will be the core battleground in future corporate climate litigation.

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

At the heart of the case was a fundamental clash between two categories of quantitative evidence: internal, company-specific data and targets for Scopes 1 and 2, and external, modelled sectoral pathways for Scope 3. The Court treated these categories with vastly different levels of deference, creating a major evidentiary hurdle for the plaintiffs. To establish an enforceable Scope 3 reduction standard for Shell, Milieudefensie and its co-plaintiffs relied on a body of global and sectoral studies.[164] This evidence included IPCC 1.5°C pathways, which dictate a ~45% global emissions reduction by 2030;[165] the IEA's Net Zero Scenario, pointing to a 28% drop in oil demand by 2030;[166] and several sectoral analyses. These ranged from the Tyndall Centre's call for a 74% cut in production from wealthy nations by 2030,[167] to UNEP and IISD reports indicating median reduction needs of approximately 30-36% for oil and

[159] *Milieudefensie* (n 144) [7.20]-[7.27].
[160] Ibid [7.80].
[161] *Kelderluik* [1965] ECLI:NL:HR:1965:AB7079 (Supreme Court of the Netherlands).
[162] *Urgenda v the Netherlands* [2019] ECLI:NL:HR:2019:2006 (Supreme Court of the Netherlands).
[163] *Milieudefensie* (n 144) [7.3].
[164] Ibid [7.69], [7.82]–[7.83], [7.86], [7.90].
[165] Ibid [3.9], [7.69].
[166] Ibid [7.82].
[167] Ibid [7.86].

gas by 2030.[168] The plaintiffs' experts synthesized this into a table showing a required reduction range of 28.5% to 51.7% for oil and 30.1% to 50.5% for gas by 2030 versus 2019 levels.[169]

The Court's interpretation of this evidence, however, was starkly asymmetric. For the external, modelled Scope 3 evidence, it displayed deep skepticism, imposing what amounted to a 'scientific consensus' standard. The court focused on the fragmentation within the presented range, concluding that the variation from ~28% to ~52% meant 'no sufficiently unequivocal conclusion can be drawn' to base a judicial order.[170] It explicitly refused to select a middle ground figure, arguing this would improperly elevate a 'prognosis to a legally binding standard'.[171] In contrast, the Court treated Shell's internal evidence for Scopes 1 and 2 with significant deference and trust.[172] Shell's own target of a 50% reduction by 2030 (versus 2016) and its self-reported progress of 31% by 2023 were accepted as robust and concrete proof of compliance, noting that 'these figures demonstrate a significant reduction'.[173] While acknowledging Shell's history of watering down targets, the Court dismissed this as insufficient to doubt its current commitments, applying none of the intense scrutiny reserved for the plaintiffs' scientific models.[174]

Consequently, the judgment reveals a profound evidentiary double standard: external scientific evidence is held to an impossibly high bar of unanimity and precision when used to impose an obligation, while internal corporate evidence is given significant, and arguably uncritical, deference when used to demonstrate compliance with a general duty.

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

Milieudefensie argued that Shell's current policy was not in accordance with the Paris Agreement goals to limit global warming to 'well below 2°C' in part because it had planned investments in new oil and gas fields and because Shell Group's aggregate emissions would not decrease.[175] No evidence appears to have been led on the projected increase in emissions caused by the planned investments. Milieudefensie cited the 2022 report 'Integrity Matters: Net Zero Commitments by Business, Financial Institutions, Cities and Regions', which

[168] Ibid [3.10], [7.89].
[169] Ibid [7.90].
[170] Ibid [7.91].
[171] Ibid [7.92].
[172] Ibid [7.63]–[7.65].
[173] Ibid [7.65].
[174] Ibid.
[175] Ibid [7.58].

referenced the IPCC's findings that existing planned and approved fossil fuel infrastructure was already sufficient to exhaust the remaining carbon budget and there was no room for new investment in fossil fuel supply, and in fact, a need to decommission existing assets.[176] Milieudefensie also argued that new investments could lead to a carbon lock-in effect, which Shell was aware of.[177]

The Court referred to evidence that between 2019 and 2023 its oil production fell by 20% and its gas production fell by 28%. The Court also referred to the fact that for the period up to 2030, Shell was committed to maintaining the same level of oil production and expanding its LNG sales by 20-30% of which an unknown portion would come from its own production. There was also evidence that Shell would invest around $40 billion between 2023 and 2025 and a further $60 billion between 2025 and 2030 in upstream oil and gas activities.[178]

The Court acknowledged that the social standard of care, interpreted in light of arts 2 and 8 of the ECHR, required fossil fuel producers to take their portion of responsibility to reduce emissions drastically by 2030 to keep the Paris Agreement goals within reach.[179] As part of this, it was reasonable to require Shell to take into account the negative consequences of further expansion of the supply of fossil fuels.[180] However, the Court was not required to consider whether Shell's planned investments violated its social standard of care.[181]

The most influential evidence considered appears to be that Shell had voluntarily set specific reduction targets of 50% for scope 1 and 2 emissions by 2030 relative to 2016 emissions.[182] This target went further than the 45% reduction in emissions relative to 2019 levels sought by Milieudefensie.[183] As a result of this voluntarily assumed reduction target, the Court accepted Shell's argument that it did not pose an impending violation of a legal obligation. Without the existence of a threat to violate a legal obligation, the Court considered it could not grant an order aimed at preventing that violation, i.e. to require Shell to reduce its Scope 1 and 2 emissions.[184]

In making this finding, the Court dismissed Milieudefensie's argument that Shell posed an impending violation of its legal obligation because it had previously adjusted its emissions

[176] Ibid.
[177] Ibid [7.59]-[7.60].
[178] Ibid [7.60].
[179] Ibid [7.61].
[180] Ibid.
[181] Ibid.
[182] Ibid [7.63]-[7.64].
[183] Ibid [7.64].
[184] Ibid [7.64]-[7.66].

reductions policy. The Court was satisfied that Shell had committed to its voluntarily assumed reduction target in its business plan, in documents filed with the Securities and Exchange Commissions and that it had outlined in a number of publications how it would achieve this target.[185] There was also evidence that Shell had already largely achieved its target as it had reduced its scope 1 and 2 emissions by 31% by 2023 compared to 2016 levels.[186] The Court found that there was insufficient evidence to conclude that Shell was unlikely to reduce its Scope 1 and 2 emissions by 45% by 2030.[187]

The Court declined to apply a 45% reduction in Shell's Scope 3 emissions (or any of the alternative emission reduction pathways) because they were not sufficiently case-specific and because there were indications that different reduction pathways were appropriate for different sectors and different countries.[188] This did not mean that Shell could be held to the average global rate, and nor could a standard be derived from the equitable principle that those who have reaped the benefits of contributions to climate change should do more to combat it.[189]

Shell's Scope 3 emissions were spread across different sectors, including 'transport' and 'building' which accounted for a more significant proportion of its Scope 3 emissions but which were harder to source alternatives to fossil fuels for.[190] It was also relevant to the Court's findings that it would be beneficial to global emissions reductions pathways overall if Shell's Scope 3 emissions increased because it was supplying gas to a company that previously relied on coal.[191] Consequently, while the Court recognised that Shell had a 'special responsibility' to reduce emissions, and that it 'must' make 'an appropriate contribution to preventing dangerous climate change',[192] the global average was too general to infer a specific emissions reduction obligation.[193]

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

There was no reference to Shell's emissions across time and so there was no point from which the clock started running for the purpose of calculating Shell's contribution to global emissions. The principal relief sought – that Shell reduce its aggregate CO2 emissions by 45%

[185] Ibid [7.65].
[186] Ibid.
[187] Ibid.
[188] Ibid [7.35].
[189] Ibid [7.81].
[190] Ibid [7.78].
[191] Ibid [7.74]-[7.75].
[192] Ibid [7.80].
[193] Ibid [7.81].

by 2030 relative to 2019 levels – was grounded in various IPCC reports (the 'Summary for Policymakers' to the 2018 IPCC Special Report entitled 'Global Warming of 1.5°C', the Climate Change 2022: Mitigation of Climate Change Reports and the Working Group III Contribution to the IPCC Sixth Assessment Report, as well as the United Nations Environment programme Emissions Gap Report 2023 and Production Gap Report 2023).[194] Those reports variously stated, in essence, that global CO_2 emissions should be reduced by a net 45% by 2030 relative to 2019 to maximise the likelihood of avoiding the most severe impacts of dangerous climate change, and to achieve 1.5°C with no or limited overshoot.[195] The Court acknowledged that those reports assumed an average global reduction in all sectors and would achieve a 50% chance of limiting global warming to 1.5°C.[196]

On all claims, Milieudefensie applied the net global reduction percentage to the energy sector and to Shell in reliance on the principle of 'maximum ambition'.[197] It claimed that since there were no agreements on how the reduction commitments were to be divided between companies, it should be provided to all companies.[198] Since the energy sector accounts for 4/5 of global CO_2 emissions, individual companies would have to adhere to at least a 45% reduction by 2030.[199]

The Court accepted that there is broad consensus that in order to limit global warming to 1.5°C, CO_2 emissions should be reduced by a net 45% by the end of 2030 relative to 2019.[200] It also accepted that given these emission reduction pathways were net 45%, some sectors and companies in countries would need to reduce more.[201] However, the Court did not determine which specific reduction obligation applied to Shell.[202]

[194] As cited at Ibid [3.9], [7.69].
[195] Ibid [3.9].
[196] Ibid [7.69].
[197] Ibid [7.72].
[198] Ibid.
[199] Ibid.
[200] Ibid [7.73].
[201] Ibid.
[202] Ibid.

BNP Paribas v Notre Affaire à Tous

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

The claim did not apply a traditional tort-law causation test requiring a direct causal link between the bank's conduct and specific climate damage. Instead, attribution was assessed through a risk-based framework grounded in constitutional law, international standards and the French Duty of Vigilance Law, which requires large companies[203] to establish and implement vigilance plans identifying and preventing environmental and human rights risks.[204]

The summons argues that this obligation should be interpreted broadly, such that financing and investment activities may fall within the scope of corporate responsibility, as they can generate foreseeable environmental risks.[205] Consequently, the claim focuses on the adequacy and effectiveness of BNP Paribas's vigilance measures, including risk mapping, mitigation strategies, monitoring and alert mechanisms.[206] This approach reflects a broader shift in climate litigation from damage-based liability toward due diligence and risk-prevention obligations, where the central question is whether companies have taken adequate measures to anticipate and mitigate foreseeable climate risks.

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

Climate litigation against banks faces several structural difficulties: Banks are not major direct emitters, Scope 3 emissions involve methodological estimations and uncertainty, and banking portfolios are complex and diversified, complicating attribution. 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.[207] First, where the bank directly causes harm, it must cease and repair it. Second, where it contributes to harm, it must prevent or mitigate its contribution and use its influence over clients. Third, where it is linked to harm through client activities, it must leverage its influence to mitigate impacts, including through financing conditions or divestment.

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[203] Loi n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre (France). The obligation extends not only to subsidiaries but also to activities connected to established commercial relationships.
[204] *BNP Paribas v Notre Affaire à Tous*, Summons, Section II.1.2.2, [26–30].
[205] Ibid, Section II.1.2.2.1, [35].
[206] Ibid, Section II.1.2.2.1, [35-38].
[207] Ibid [57].

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.[208] Consequently, 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.

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

The summons does not use Scope 3 financed emission data as strict causal proof of climate harm. Instead, they are considered contextual evidence demonstrating the scale of the bank's climate impact and the foreseeability of environmental risk associated with continued fossil fuel financing.[209] 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.[210]

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

Claimants primarily sought injunctive and declaratory relief, rather than damages. Instead of demonstrating precise quantifiable harm, claimants could rely on probabilistic and portfolio-level evidence, including financed emissions and risk assessments.[211] The claim therefore focuses on whether BNP Paribas's vigilance plan and climate risk management measures were reasonable and effective to comply with the duty of vigilance.[212] Seeking injunctive relief allows claimants to focus on future risk prevention and corporate conduct, rather than proving past climate damage attributable to a specific actor.[213]

[208] Ibid, Section II.1.2.2.3, [68-69].
[209] Ibid, Section II.1.2.2.2, [52-55].
[210] Ibid, Section II.1.2.2.2, [54].
[211] Ibid, Section II.1.3.2, [90-95].
[212] Ibid, Section II.1.3 [84-85].
[213] Ibid, Section II.1.2.2.4, [80-82].

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

Claimants emphasize ongoing and future financing activities, rather than solely historical emissions.[214] Climate risks are foreseeable and serious as scientific knowledge is available.[215] The summons questioned whether BNP Paribas had taken adequate measures to restrict new fossil fuel investments and align its financing activities with climate targets, complying with the approach of the Duty of Vigilance and the objective of limiting global warming to 1.5°C according to international commitments.[216] 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.

[214] Ibid.
[215] Ibid [68-69].
[216] Ibid, Section II.1.3.2.

Obligations of States in Respect of Climate Change (International Court of Justice Advisory Opinion)

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

The court identifies that at the level of legal parameters one must take into account general principles of environmental law such as the principle of prevention and of polluter pays[217] and duties such as that of due diligence. According to the principle of prevention, States have the legal duty to prevent significant harm to the climate system both for current generations and for future generations. As part of the duty of prevention, the State is expected to comply with its obligations, acting with due diligence,[218] which represents a standard of conduct.

Likewise, the court establishes that due diligence is a concept that varies depending on the expected standard of conduct and the particular circumstances; the latter are influenced by the level of scientific knowledge, the risk of harm, and the urgency of adopting prevention actions.[219] In that case, more concretely, the court has observed that in the case of private parties and when we speak of transboundary contexts, due diligence implies taking an environmental impact assessment,[220] which will allow knowing the environmental risks and management measures.

This also is related to the polluter pays principle insofar as it allows the internalisation of costs through technical and economic instruments.[221] This study will require investments at the level of technical studies financed by the companies to know how they can prevent the impact of the activity. At this point, it is noted that the advisory opinion addresses the issue of attribution – not from the scientific point of view but from the perspective of legal attribution to States, insofar as they have the obligation to regulate the activities of private parties in their territories through laws, policies, and programmes, including decisions, that promote fossil fuel production and consumption. Consequently, States fail when they do not adequately regulate the GHG emissions under the State's jurisdiction.[222]

The court also indicates that the regulation must have objectives of creating mitigation mechanisms that reduce greenhouse gas (GHG) emissions and environmental damage.[223]

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[217] *Obligations of States in Respect of Climate Change* (Advisory Opinion) General List No 187 [2025] ICJ 1.
[218] Ibid [280].
[219] Ibid [254].
[220] Ibid [296].
[221] Ibid [159].
[222] Ibid [426].
[223] Ibid [282].

Due diligence also requires States to actively seek the scientific information needed to assess the probability and seriousness of harm, consistent with the principle of common but differentiated responsibilities and respective capabilities.[224] Likewise, States have the responsibility to monitor the behaviour of their private actors.[225] When the State fails to comply, it is responsible.

Regarding the issue of causation, the court does not go much into detail, as it is not analysing a specific case, but it indicates that the standard requires the existence of a causal link sufficiently direct between the wrongful act and the harm generated to the one alleging it; the demonstration of this causal link is flexible due to the complexity of the phenomenon of climate change,[226] again related to the available science.

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

The court recognises that the idea of significant risk depends on the environmental context,[227] and that this influences the expected standard at the level of due diligence; thus, the greater the risk, the stronger the standard of conduct required.[228] Likewise, the court recognises that due to the cumulative and diffuse nature of GHG emissions, there are difficulties in determining or measuring the real risks, hence the importance that States provide legal frameworks that require that environmental impact assessments be carried out. With this type of assessments, it is possible to measure gas emissions in the national territory.[229]

Again, the importance of the environmental impact assessment (EIA) and the need for it to be carried out on the basis of the best available science is reiterated.[230] The court, however, recognises that there are different capacities among States regarding the identification of risk; based on scientific advancement, the development of societies, and human (scientific) capital, the more developed States must have a greater duty of identification, monitoring, and enforcement to achieve that adequate environmental impact assessments are carried out that are linked more directly with the objectives of climate change mitigation.[231] In this context, it must be recognised that the Court mentions that the Intergovernmental Panel on Climate Change (IPCC) reports can be considered as best available science.[232]

[224] Ibid [283].
[225] Ibid [296].
[226] Ibid [436].
[227] Ibid [274].
[228] Ibid [275].
[229] Ibid.
[230] Ibid [92].
[231] Ibid [290]-[292].
[232] Ibid [74].

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

The determination of significant harm must take into account the information of the best available science,[233] contained in the IPCC reports.[234] This on the basis of considering that it has already been scientifically accepted that climate change is caused by greenhouse gases which raise terrestrial temperatures, generating significant changes in the atmosphere.[235]

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

According to the Court, to establish the reparation it must be demonstrated the causal link between the wrongful act and the harm suffered.[236] Likewise, when we speak of harm caused by States, it does not imply compensation but rather the cessation and a guarantee of non-repetition with respect to other States.[237] These harms must be based on the breach of legal duties.[238]

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

Historically, States have contributed to emissions in different ways and are affected in different ways. It is evident that there are States that are responsible for a greater concentration of GHGs in the atmosphere.[239] In that sense, their obligations differ according to their contribution and their capacity.[240] The ICJ Advisory Opinion does not engage with the spatial or temporal dimensions of causation in a way that is directly relevant for this question. Instead, the Court frames causal reasoning primarily through States' preventive obligations, the duty of due diligence, and the requirement to rely on the best available science.

[233] Ibid [278].
[234] Ibid [74].
[235] Ibid [72].
[236] Ibid [449].
[237] Ibid [445].
[238] Ibid [443].
[239] Ibid [421].
[240] Ibid [148].

Philippines National Inquiry on Climate Change

1. What are the legal parameters and tests which must be met in relation to causation and attribution?

The Commission of Human Rights of Philippines investigated the responsibility of the Carbon Majors for human rights violations or threats of violations resulting from the impacts of climate change. The Carbon Majors are the 47 oil, gas, and cement companies whose activities have been studied as the largest contributors of CO_2 and methane emissions since the industrial revolution.

The Commission acknowledged a relaxed causation standard should be applied in cases of human rights breaches resulting from climate change. In its advice to the judiciary, the Commission highlights that to evaluate evidence linking actors to climate-related losses using the stringent standards of legal causation would be to disregard the work of climate and attribution science and cause more climate injustice. The Commission also held that claimants no longer need to prove that climate change is anthropogenic. Courts should operate on the fact that this is an established observation.[241]

For establishing state liability in particular, the threshold to identify causation is not as strict. A state has a duty to protect human rights that imposes positive obligations to mitigate and adapt to climate change. These obligations are not directly related nor proportional to its contribution to climate change and states may not claim that they have not 'caused' climate change to escape the obligation to address global warming. 'Human rights law requires each State to do more than merely refrain from interfering with human rights itself. It also requires each State to protect against such harms that others may cause actively. Hence, even if it is not possible to connect a particular emission of greenhouse gases (GHG) to a specific infringement of human rights, States are still obliged to protect against the harm caused by climate change.'[242]

With regards to attribution toward financial institutions, the Commission endorses the Equator Principle. There is a social, though non-legal, obligation for financial institutions to refuse loans to borrowers who will not or cannot follow their respective social and environmental policies and processes.[243]

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[241] 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, 147.
[242] Ibid 74.
[243] Ibid 87.

2. What are the key legal and methodological challenges facing climate litigants seeking to demonstrate causation?

Carbon Majors collectively contribute to global climate change. Emissions by one company are not distinguishable in their effects from emissions by other companies. It is not possible to attribute a specific harm, or threat thereof, to the carbon produced by a single Carbon Major. Claimants submit that Heede's Carbon Major Study identifies Carbon Majors' responsibility, jointly and severally, for contributing predominantly to climate change and its resulting impacts that are interfering with the enjoyment of human rights.[244] Therefore, there is a substantial probability that the climate impacts experienced by Filipinos are made significantly worse because of the Carbon Majors' past and current activities and each company should be held accountable for making some of that contribution.

In addition, the jurisdiction of the Commission and the State to consider the emitting activities of the Carbon Majors outside of Philippines was challenged. Since climate change is a transborder global issue, there were arguments raised about the Commission's jurisdiction to consider the activities of the Carbon Majors outside of Philippines, when evaluating if such activities can be a liability to the Philippines.[245] The Commission uses principles of international law like the United Nations *Principles Relating to the Status of National Institutions* or the *Paris Principles* to establish their jurisdiction in hearing the petition.[246]

Regarding the jurisdiction of the state, international law principles are also employed to enforce that the Philippines have an obligation to ensure that activities within their territory do not cause damage to the environment of another State but also that their human rights obligations extend beyond its borders.[247] For example, the *Maastricht Principles* and *OECD guidelines* are cited to this effect.[248] While the extraterritorial obligation is qualified by a duty not to intervene in the internal affairs of another state,[249] the court endorses the *erga omnes* nature of States' duty to protect human rights in the face of climate change.[250]

[244] Richard Heede, 'Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854-2010' (2014) 122 Climatic Change 229.
[245] CHR (n 241) 4.
[246] Ibid 7.
[247] Ibid 63.
[248] Ibid 68–9.
[249] Ibid 70.
[250] Ibid 75.

3. What quantitative emissions attribution evidence has been submitted to courts and how has this evidence been received?

The claimant uses Heede's Carbon Major study, in conjunction with the UN Guiding Principles, to attribute violations of human rights to Carbon Majors. It is submitted that the study shows that 'while it is not possible to attribute a specific harm, or threat thereof, to the carbon produced by a single Carbon Major, there is a substantial probability that the climate impacts experienced by Filipinos are made significantly worse as a result of the Carbon Majors' past and current activities.'[251] This 'substantial probability' is sufficient in light of the UN Guiding Principles, stating that responsibility is not contingent on a company being the sole cause of a human rights impact.

Additionally, claimants use quantitative projections about future temperatures to establish a violation of due diligence requirements. In particular, Shell's investment activity in accordance with a 6°C temperature rise was submitted to breach Guiding Principle 17, as well as Exxon's dismissal of a "low carbon" scenario.[252] Shell and Exxon's response focused more on jurisdiction of the Commission rather than attribution.

In terms of the Commission's response, first**,** climate change is observed through Intergovernmental Panel on Climate Change (IPCC) reports on 1) atmospheric warming, 2) oceanic indicators like ocean surface temperatures, rate of ocean warming, sea level rise, and ocean acidification, 3) cryosphere loss, and 4) frequency of extreme weather and climate events.[253] Second, the cause of climate change is recognised to have an anthropogenic dimension based on the IPCC Sixth Assessment Report.[254] Third, testimonies of resource persons presented during the inquiry hearings, fact-finding missions, community dialogues, key informant interviews, and focus group discussions are used to examine the impact of climate change on human rights in the Philippines. A mix of quantitative (number of deaths from extreme weather events, percentage reduction in stability of food chains resulting from rising temperatures) and qualitative evidence (accounts of how corals, once 'big and colorful' have been reduced) was provided. Evidence put forth by the court focuses on the impact of climate change and the rights infringed, before establishing state and business enterprises' duties to protect human rights. [255]

[251] Citizens of the Philippines, *Petition to the Commission on Human Rights of the Philippines concerning climate change and human rights impacts (2015)* 37.
[252] CHR (n 241) 35.
[253] Ibid 24-8.
[254] Ibid 29.
[255] Ibid 32-63.

After recognising the negative impacts of climate change to human rights, the Commission proceeds to attribute climate change to the Carbon Majors. It relies on IPCC Fifth Assessment Report[256] to establish a causal link between increase in GHG concentration and climate change. In particular, how increasing carbon dioxide emissions have contributed to total positive radiative forcing. Subsequently, it endorses the Carbon Majors Study to identify how Carbon Majors have contributed to increasing carbon dioxide levels - 21.4% of global carbon dioxide emission from fossil fuel combustion and cement production through the sale of their products - and how rise in global temperatures can be attributed to Carbon Majors.[257]

The Commission does not address use of projections of future temperatures in a corporation's investment, only that continued investment in new sources of oil will become 'stranded assets' that open suit to its shareholders. However, the Commission touches on these projection pathways in its recommendations to financial investors - that it should align lending and investment portfolios with "targets set by science".[258]

4. How has the nature of relief sought influenced the way claimants have presented, and courts have considered, evidence relating to causation and attribution?

Claimants submitted a prayer to find that Carbon Majors violated the human rights of Filipino citizens and to make recommendations on steps these companies should take in response. To policymakers and legislators, claimants seek orders to address the situation.[259] To do so, they framed activities as a breach of human rights rather than environmental rights, i.e. rights to health and to a balanced and healthful ecology, as the Commission has jurisdiction over human rights breaches and to monitor Philippine Government's compliance with international human rights treaties and instruments.

The commission recognised breaches in terms of human rights, rather than environmental rights. It held that stricter causation requirements may apply for claims for damages, as opposed to findings of responsibility or recommendations. That science cannot yet establish to a high degree of accuracy the causal relationship between GHGs and specific climate-related effects on particular parties is problematic only in establishing legal liability for the purpose of claiming awards for damages from specific parties.[260]

[256] IPCC, *Climate Change 2014: Synthesis Report* (IPCC 2014).
[257] CHR (n 241) 88.
[258] Ibid 121.
[259] Citizens of the Philippines (n 251) 61.
[260] Ibid 78.

5. What are the temporal aspects of attribution, in particular as to the point in history from which an entity's contribution to global emissions should be calculated?

The claimants suggested that attribution should begin when the offending corporations learn about threats of climate change yet continue to engage in harmful activities and even misled consumers and investors in the U.S. for decades. [261]

They cited documents from the Center for International Environmental Law which suggest that 'the oil industry was explicitly warned of climate risks in the 1960s', amongst other documents like copies of Carbon Majors' internal documents, evidence of engagement with these documents, i.e. publications compiling these and similar internal documents, a peer-reviewed study analysing the internal communications and a publication on the fossil industry's early knowledge.[262] They argue by continuing business as usual, even misleading customers, companies like Exxon have 'robbed' Filipinos, and humanity as a whole of 'a generation's worth of time to reverse climate change' and fueled the human rights impacts being experienced today.[263]

In analysing Carbon Majors' contribution to global warming, the Commission considered two timeframes, relying on the findings of Heede's Carbon Majors study (which adopted these timeframes based on the IPCC AR5 report).[264] First, the study found that Carbon Majors 'were responsible for roughly 16 percent of the global average temperature increase from 1880 to 2010, and around 11 percent of the global sea level rise during the same time frame'. Second, that emissions tied to the Carbon Majors 'from 1980 to 2010, a time when fossil fuel companies were aware their products were causing global warming, contributed approximately 10 percent of the global average temperature increase and about 4 percent sea level rise'. [265]

The Commission agrees with the claimant that it can be inferred that the Carbon Majors were aware of potential adverse effects of their activities, then proceeds to focus on establishing when the Carbon Majors gained this awareness. They focused on a report submitted to President Lyndon Johnson by the President's Science Advisory Committee, *Restoring the Quality of our Environment*, that was published by the US government in November 1965,[266] to

[261] Citizens of the Philippines (n 251) 7.
[262] CHR (n 241) 90.
[263] Citizens of the Philippines (n 251) 58.
[264] Heede (n 244); IPCC (n 256).
[265] CHR (n 241) 90.
[266] President's Science Advisory Committee, *Restoring the Quality of Our Environment* (The White House 1965).

substantiate their inference. This document was acknowledged by key players in the fossil fuel industry such as President of the American Petroleum Institute, leading to the conclusion that 'it is reasonable to charge the fossil fuel industry with actual knowledge or notice of this very important publication from the White House'. The Commission concludes that '[a]ll these demonstrate that the Carbon Majors have known since 1965 that their products, when used as intended, result in various harms to the climate system'.[267]

Although not explicitly stating that 'the point in history from which the clock should start running for the purpose of calculating an entity's contribution to global emissions' is 1965, the Commission held that corporations have a duty to avoid contributing to adverse human rights impacts and address them when they occur, and seek to prevent or mitigate adverse human rights impacts that are directly linked to their operations, products, or services.[268]

[267] CHR (n 241) 94.
[268] Ibid 79.

Analysis of Reports

ActionAid, Who Pays the Price? The Cost of HSBC's Climate Damages

1. How has the special responsibility of banks for climate change impacts and global emissions been presented, framed and analysed?

ActionAid's *Who Pays the Price* report quantified climate and socio-economic harms arising from HSBC's financing of fossil fuel and industrial agriculture projects through case studies in Brazil, Tanzania, and Bangladesh between 2021-2023.[269] The report built upon ActionAid's 2023 *How the Finance Flows* report that concluded that HSBC UK was the largest financier of agribusiness and the lead European financier of fossil fuel projects in the Global South.[270] The 2025 report argues that the gap between relaxed private sector regulation and public net-zero targets must be closed by cutting off financial flows to extractive industries. It is also highlighted that the UK regulatory regime is inadequate due to its fragmented structure that lags behind the European Union (EU) as an authority on binding sustainable finance legislation.[271]

ActionAid argued that banks have special responsibility in the climate crisis, because they fund extractive projects, giving them more power than direct emitters. The report distinguishes between project finance and corporate finance and states that when HSBC provides loans to companies like TotalEnergies and Cargill, the bank indirectly funds these activities, even when it claims not to be directly involved. In sustaining the financial capability of these companies, HSBC facilitates climate destruction and is therefore inextricably linked to the harms and the responsibility that arises out of it. [272]

The report also argued that banks should be held liable for causing climate harms under the 'polluter pays' principle,[273] which has been further developed in the US under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).[274] The 'polluter pays' principle discourages irresponsible climate-destructive financing to correct market failures that devalue natural resources. Market failures are perpetuated by financial institutions that do not account for climate and environmental risks, which allows banks to

[269] ActionAid, Profundo, and AidEnvironment, *Who Pays the Price? The Cost of HSBC's Climate Damages* (ActionAid UK 2025).
[270] ActionAid, *How the Finance Flows: The Banks Fuelling the Climate Crisis* (ActionAid 2023).
[271] ActionAid, Profundo, and AidEnvironment (n 269) 47.
[272] Ibid 53.
[273] ActionAid, Profundo, and AidEnvironment (n 269) 17.
[274] 42 USC §9601 et seq (1980).

profit from extractive industries. Prosecuting financial institutions under the polluter pays principle encourages banks to internalise the costs of climate risk to disincentivise investments in extractive projects.

The UK does not have an adoption of the extended 'polluter pays' policy, but parallels can be drawn with 'producer responsibility' in packaging waste. Producer responsibility requires that businesses which place in-scope products or materials on the market are obligated to take greater responsibility for those products or materials, including at the end of their life when they have become waste. Therefore, just as producers must take responsibility for their products when they become waste, banks should equally be responsible for their financial products, in this case loans and investments when they contribute to GHG emissions and environmental and human rights harms.

2. What financed emissions or other accountability methodologies are currently available and in use?

ActionAid estimated that HSBC was responsible for £128 billion pounds in financial flows to fossil fuel and industrial agricultural sectors from 2021-2023 by applying the Social Cost of Carbon (SCC) methodology.[275] The SCC is a marginal damage cost estimate, a dollar value representing the total economic damage caused by emitting one additional tonne of carbon dioxide into the atmosphere[276]. The most critical variable in SCC modelling is the discount rate, which determines how much value is placed on protecting future generations.[277] A lower discount rate results in a significantly higher SCC, reflecting an ethical judgment that future climate harm is as significant as present-day economic costs. ActionAid complemented the SCC model with interviews, aerial imagery, and environmental/economic attribution science to highlight the socio-economic costs of HSBC's fossil fuel financing, which extended well beyond fossil fuel emissions. The ActionAid report used quantitative and qualitative data to capture the socio-economic damages associated with HSBC UK's financing of fossil fuel projects.[278]

3. To what extent have these assessments been relied upon in litigation or out-of-court challenges to banks?

It is not known whether it has been used in litigation or out-of-court challenges.

[275] ActionAid, Profundo, and AidEnvironment (n 269) 18.
[276] Kevin Rennert and others, 'Comprehensive Evidence Implies a Higher Social Cost of CO_2' (2022) 610 Nature 687.
[277] Renée Cho, 'Social Cost of Carbon: What Is It, and Why Do We Need to Calculate It?' (*State of the Planet*, 1 April 2021) <https://news.climate.columbia.edu/2021/04/01/social-cost-of-carbon/> accessed 27 February 2026.
[278] ActionAid, Profundo, and AidEnvironment (n 269) 18.

4. What are the comparative strengths and weaknesses of available methodologies?

The report has several strengths. The report leverages Partnership for Carbon Accounting Financials (PCAF) methodology to calculate HSBC's financial stake in the climate crisis, which is a standardised, global methodology to support cross-company comparisons.[279] HSBC's financial contribution to the climate crisis can be compared to other reports that use PCAF to determine which financial institution is the highest contributor. Furthermore, the Social Cost of Carbon (SCC) methodology supports a translation between abstract emissions data and financial figures to support the financial industry's conceptualisation of the extent to which financial institutions fund the climate crisis. The report also collected qualitative data to gain additional insight into socio-economic harms perpetuated by the financing of extractive projects.

The report has several weaknesses. While the use of SCC methodology is standardised and supports comparative analysis, SCC may contribute to uncertain financial estimates. Extractive projects that strengthen the climate crisis cause indirect harms with spillover costs that are not necessarily captured by the SCC. The gap between financing projects and associated socio-economic harms is captured with interviews and qualitative data.

[279] 'About PCAF' (*PCAF*) <https://carbonaccountingfinancials.com/about> accessed 23 March 2026.

Banking on Climate Chaos, Fossil Fuel Finance Report 2025

1. How has the special responsibility of banks for climate change impacts and global emissions been presented, framed and analysed?

The report is constructed to expose the systemic gap between banking sector rhetoric and financial reality. It scopes its analysis not merely around fossil fuel projects but around the corporate entities driving the climate crisis. By prioritising corporate-level financing (94.7% in 2024 at issuer level) over project-specific financing (5.3% in 2024 at activity level), the report argues that the vast majority of fossil fuel support is hidden within general corporate purposes, thereby rendering most bank exclusion policies ineffective. Lending to a company for 'general purposes' (not knowing nor specifying the purpose of the financing) over project-specific financing (lending for a specific asset like a pipeline), allows banks to bypass climate-related policies (e.g. a policy prohibiting financing new coal plants). Banks, however, present themselves as 'climate-friendly' by referencing exclusively their project-level financing in their ESG reporting/commitments. Indeed, the analysis parameters of the report (including corporate-level v project-level financing) are rigorously defined to capture the full lifecycle of fossil fuels, from extraction to combustion, using sophisticated 'adjusters' to attribute responsibility accurately to diversified conglomerates.

2. What financed emissions or other accountability methodologies are currently available and in use?

The report juxtaposes two conflicting methodological frameworks for accountability: (a) the financed emissions models (preferred by the banking sector) and (b) the financing flow analysis (employed by civil society). The report argues that the industry's reliance on financed emissions targets is functionally broken, characterised by 'flawed calculation methodologies', a shift toward 'intensity' rather than 'absolute' reductions, and a reliance on voluntary alliances like the Net Zero Banking Alliance (NZBA)[280] which are currently collapsing. In contrast, the report advocates for and utilises a 'flow-based' accountability methodology, which tracks the exact dollar amount of new capital (lending and underwriting) provided to fossil fuel expanders, employing sophisticated 'adjusters' to isolate fossil fuel activity within diversified conglomerates.

Unlike bank disclosures, which often obscure capital markets activities, the report tracks both lending (corporate loans) and underwriting (issuing bonds/shares). In 2024, a $117-billion

[280] 'Net Zero Banking Alliance (NZBA)' (*Global Climate Action*) <https://climateaction.unfccc.int/Initiatives?id=Net_Zero_Banking_Alliance> accessed 24 March 2026.

increase in underwriting was the primary driver of the spike in fossil fuel finance. By capturing underwriting, the methodology exposes how banks facilitate capital without holding the loans on their balance sheets.

The report creates a specific accountability subset for expansion finance. It cross-references bank transactions against Urgewald's Global Oil and Gas Exit List (GOGEL)[281] and Global Coal Exit List (GCEL).[282] This filtered the data to identify financing specifically for the 706 companies actively developing new fossil fuel and resulted in a binary accountability metric: if a bank finances a company on this list, it is funding expansion.

The text juxtaposes bank actions against scientific consensus to establish culpability. The International Energy Agency's (IEA) 2021 Net Zero roadmap is cited to establish the baseline that achieving net zero by 2050 requires no new fossil fuel supply or infrastructure.[283] The report uses this IEA roadmap to argue that any bank financing expansion is knowingly betting against the Paris Agreement goals.

The core argument is that banks are responsible for climate-driven harms because they provide the necessary liquidity for fossil fuel companies to operate and expand. The report contends that without this financing—specifically the $869 billion committed in 2024 alone—the physical expansion of fossil fuel infrastructure would be impossible. The report explicitly links these financial decisions to physical consequences, stating that worsening conditions are not an accident but the result of choices made by the institutions that finance them.

By shifting the analytical lens to human rights impacts, the report holds that the banking sector's contribution to climate change is legally and ethically inseparable from the violation of the right to life, health and indigenous sovereignty. Through capital allocation, banks are active participants of 'colonial practices' and physical violence. The argument further elaborates that the true cost of fossil fuel finance, directly correlated to choices made by financiers, is borne by the frontline communities who face immediate harms. This gives a human face to the usual abstract; impersonal greenhouse gases increase rationale. It further helps reimagine fossil fuel expansion financing as a human rights violation in and of itself.

3. To what extent have these assessments been relied upon in litigation or out-of-court challenges to banks?

[281] 'Global Oil & Gas Exit List' (*Urgewald*) <https://gogel.org> accessed 24 March 2026.
[282] 'Global Coal Exit List' (*Urgewald*) <https://www.coalexit.org> accessed 24 March 2026.
[283] 'Net Zero Emissions by 2050 Scenario' (*IEA*) <https://www.iea.org/reports/global-energy-and-climate-model/net-zero-emissions-by-2050-scenario-nze> accessed 23 March 2026.

The central legal and methodological challenge facing climate litigants is the 'attribution gap' created by the structural disconnect between financial flows and physical harms. The report holds that while banks are the 'architects' of the climate crisis, the current financing model—heavily skewed toward 'general corporate purposes' rather than 'project-level finance'—effectively launders liability. Litigants face the burden of piercing the corporate veil of fungible capital, where a loan to a parent company cannot easily be traced to a specific controversial project, thereby complicating the establishment of proximate cause in tort or human rights claims.

The report's use of adjusters (scaling finance by the % of fossil fuel business) highlights a legal difficulty: *de minimis* arguments. A bank financing a diversified giant like Mitsubishi might argue its contribution to the client's fossil fuel emissions is negligible. Litigants must adopt what the report calls a 'flow-based' methodology to prove that any new capital to an expander constitutes a material contribution to the violation of the IEA Net Zero Roadmap.

The collapse of the NZBA presents a double-edged sword. While it proves voluntary measures are failing, the report notes that some banks, like Wells Fargo, have abandoned climate targets entirely in 2025. This a key hook for litigants: if a bank has no policy, it cannot be sued for breaching it. Indeed, such developments suggest that future litigation must move beyond breach of promise to fundamental duty of care arguments regarding systemic risk.

The evidence suggests that the project finance loophole is the single greatest legal barrier. As long as 93.6% (2021-2024 average) of financing remains corporate-level, banks possess a plausible deniability defence. Successful litigation will likely require courts to accept the report's central premise: that financing a company is financing its activities, regardless of how the contract is labelled.

The report concludes that because banks prioritise short-term profit over human survival, the attribution of responsibility must shift from voluntary corporate social responsibility to mandatory regulation. Policymakers must put regulatory muscle behind Paris Agreement commitments, as the banking sector has proved it will not self-correct.

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

1. How has the special responsibility of banks for climate change impacts and global emissions been presented, framed and analysed?

Notably, the Greenpeace/WWF report covers both banks and asset managers, extending the scale of analysis across financial institutions (FIs). The report is primarily concerned with the influence and impact of investments and lending activities, particularly of UK FIs. The report looks at financed emissions, defining financed emissions as 'greenhouse gas emissions associated with a FIs' loans and investments in a reporting year'.[284] Greenpeace primarily uses Scope 1 (direct) and Scope 2 (purchased energy) emissions declared by borrowers to look at the resulting Scope 3 (indirect) emissions of the FI as a whole. The report claims that FIs have merely attempted to manage risk in relation to investments caused by climate change and environmental harm,[285] but that these risk mitigation practices have not actually resulted in a measurable reduction in emissions. Banks and asset managers have not used risk mitigation tactics in an attempt to reduce negative climate impacts and have instead opted to temporarily curb the risks related to investments in fossil fuels. The report attributes not just current global emissions to FIs but also a potential failure to transition to net zero as a result of inadequate mitigation tactics.[286]

2. What financed emissions' or other accountability methodologies are currently available and in use?

The report focuses on using the Partnership for Carbon Accounting Financials (PCAF) methodology,[287] in conjunction with the Greenhouse Gas Protocol for carbon accounting and the calculation of financed emissions.[288] A combination of reported emissions and economic activity-based emissions were used to determine the possible emissions attributable to lending activity. All information used was publicly available, limiting the scope of the calculation. Credit exposure was used for the analysis, as it represented the most visible element of bank lending activity. The PCAF calculation uses Scope 1 and Scope 2 emissions to calculate a potential volume of Scope 3 emissions, reaching the conclusion that FIs Scope 3 emissions resulted in 805 million tonnes of CO_2 being released. Due to limited data

[284] Greenpeace UK and World Wildlife Fund, *The Big Smoke: The Global Emissions of the UK Financial Sector* (Greenpeace UK 2021) 4.
[285] Ibid 6.
[286] Ibid.
[287] 'About PCAF' (*PCAF*) <https://carbonaccountingfinancials.com/about> accessed 23 March 2026.
[288] 'About Us' (*Greenhouse Gas Protocol*) <https://ghgprotocol.org/about-us> accessed 23 March 2026.

availability regarding the emissions of service providers, this number is likely lower than the actual volume of emissions.[289]

3. To what extent have these assessments been relied upon in litigation or out-of-court challenges to banks?

This assessment has primarily been used for the purpose of lobbying the British government for stricter regulation. Banks have not been 'challenged' per se, rather the UK finance regulation system as it currently is. The report makes recommendations regarding a move away from mere disclosure requirements towards forcing banks to align their activities with the 1.5 degrees Paris Agreement goal. The report advocates for emission reducing activity rather than climate risk reduction activity, as well as greater government intervention. Voluntary activity has not reduced emissions fast enough in line with the Paris Agreement timeline.

The report suggests changes in regulation that set a 'best minimum standard', accelerating the development of climate accountability methodology, using the UK/City of London's influence to push for international integration of these measures, and creating new enforceability measures/procedures.[290]

4. What are the comparative strengths and weaknesses of available methodologies?

The PCAF methodology used in the report is able to use known emissions data to generate prospective emissions numbers for the purposes of attribution, providing clear quantitative evidence that could be used for the purposes of strategic litigation or policy-making. Given that banks rarely disclose any Scope 3 emissions, this methodology provides an empirical way to calculate this data for the purpose of attribution.

However, the PCAF methodology is unable to factor known underlying Scope 3 emissions into its calculations, meaning that calculated emissions will always be lower than the actual number and speculative in nature.[291] In addition, it relies solely on open-source information disclosed by banks, FIs and their borrowers in accordance with existing frameworks.

The strength of the strategy proposed by the paper lies in its ability to enact horizontal change. Lobbying for policy change surrounding the City of London in particular has the possibility to make a continental and global impact if executed correctly. However, a reliance on political

[289] Ibid 5.
[290] Ibid 17.
[291] Ibid 5.

lobbying risks these measures not coming into force or being diluted past the point of efficacy. The paper also references international law and soft law instruments, which are increasingly being questioned and disregarded in the modern political landscape.

InfluenceMap, Big Four UK Banks: Falling Short on Climate Action?

1. How has the special responsibility of banks for climate change impacts and global emissions been presented, framed and analysed?

This report assesses the selected banks' climate performance through its research programme FinanceMap. The report frames the urgency of this research on banks' critical role in facilitating the transition to net zero. As InfluenceMap's previous 'Finance & Climate Change' report (2022) indicated a significant gap between financial institutions' commitments to achieving net zero and their policy and financing activities, this report contributes to holding these banks accountable to their respective commitments.[292] The report also frames banks as bearing responsibility not just through their financing but through their active engagement with government climate policy.[293] By lobbying against or weakening climate regulation (as Barclays and HSBC are mentioned to have done) banks are presented as using their institutional influence to slow down the very policy environment that would require them to change their financing behaviour.[294]

Further, the report uses Scope 3 Category 15 financed emissions disclosures to frame banks as responsible for the emissions of the companies they finance, not just their own operational emissions.[295] To draw conclusions on the banks' climate change impact, the report analyses the selected banks' corporate governance, strategies and policies, their corporate lending and capital markets underwriting portfolios and their engagement with government policies. [296]

The report focuses its scope on the UK's largest banks by total assets – Barclays, HSBC, Lloyds Banking Group and NatWest, which between them hold £5.54 trillion in assets, as of 31 December 2024.[297] The report justifies this selection as these banks play a key role in facilitating the transition to net zero both in the UK and globally due to their significant size in assets, reporting that HSBC and Barclays ranked 7th and 16th in the world's largest banks by assets, according to a list published by S&P Global in April 2024.[298]

[292] InfluenceMap, 'Big Four UK Banks: Falling Short on Climate Action?' (2025) <https://influencemap.org/report/Big-Four-UK-Banks> 5.
[293] Ibid 4.
[294] Ibid.
[295] Ibid 10.
[296] Ibid 5.
[297] Ibid.
[298] Ibid.

The report divides its results on the banks' climate change impact into three categories: climate governance, strategy and policies; portfolio results; and policy engagement results.

First, the climate governance, strategy and policies result analyses how the banks were incorporating climate risk into their decision-making and operations.[299] This result is derived by analysing the banks' metrics (including executive remuneration policies and weighting of climate/sustainability considerations, their green financing targets and their progress, and metrics about exposure to carbon-related or climate-risk exposed sectors), their emissions disclosures (including Scope 3 Category 15 emissions and financed emissions), their committed financing to renewable energy activities and their fossil fuel exclusion policies (for the coal, oil and gas sectors).[300] Second, the portfolio results assess the climate performance of the four banks' financial portfolios by looking at their facilitated financing, corporate lending, and bond and equity underwriting. The timeframe chosen for this analysis includes deals from 1 January 2020 and 31 December 2024, with the deal data being derived from Bloomberg Terminal LEAG tables. This result is reached by using three metrics: fossil fuel exposure, green exposure and their portfolios' alignment with net zero targets. Fossil fuel exposure includes financing to companies whose primary activities fall within the fossil fuel production value chain.[301] Green exposure includes financing to green companies, which are companies that derive 75% or more of their revenue from activities being classified as green by the EU taxonomy for sustainable activities.[302] The policy engagement results analyse the banks' direct engagement with policymakers on decarbonisation policies and policies to tackle climate-related financial risk, as well as their indirect engagement through industry associations.[303]

2. What financed emissions or other accountability methodologies are currently available and in use?

All four banks were assessed on their disclosed financed emissions under Scope 3 Category 15, which captures the greenhouse gas emissions associated with a bank's lending and investment portfolio. The report notes that UK banks have relatively comprehensive coverage of this metric across multiple sectors compared to their US and European peers, though the granularity and sector coverage varies between the banks. As of the report's publication, all four banks have also begun disclosing facilitated emissions from capital

[299] Ibid 7.
[300] Ibid.
[301] Ibid 16.
[302] Ibid.
[303] Ibid 25.

markets/underwriting activities, though HSBC only covers two sectors in this regard while the others have broader coverage.[304]

The Paris Agreement Capital Transition Assessment (PACTA) compares the forecasted green and polluting production trajectory of companies financed by each bank against the International Energy Agency (IEA) Net Zero Emissions (NZE) by 2050 scenario pathways over 2020-2029, producing a score ranging from -100% to +100%.[305] A score of 0% represents alignment with the IEA NZE. The sectors assessed using PACTA are automotive, power, upstream oil and gas and coal mining.[306]

The IEA Net Zero Emissions by 2050 (NZE) Scenario is used as the central benchmark against which both portfolio alignment scores and individual bank fossil fuel financing policies are evaluated.[307] The IEA NZE underpins the assessment of whether banks' financing is consistent with limiting warming to 1.5°C.[308]

The EU Taxonomy for Sustainable Activities is used to identify and classify green companies in the portfolio exposure analysis for the banks.[309] Companies deriving 75% or more of their revenue from activities that demonstrate substantial contribution to climate change mitigation under the EU Taxonomy are classified as green, and the banks' green financing exposure percentages are calculated on this basis.[310]

The TCFD (Task Force on Climate-Related Financial Disclosures) / IFRS-S2 Framework has a climate governance, strategy, and policies scoring methodology adapted from TCFD recommendations and the IFRS Foundation's IFRS-S2 guidance, covering 11 recommendations across governance, strategy, risk management, and metrics and targets.[311] These form the basis of the letter grade climate governance scores assigned to each bank.[312]

InfluenceMap's Matrix Methodology is designed to assess how well each bank is incorporating climate considerations into its decision-making and operations.[313] It is adapted from the TCFD and IFRS-S2 guidance, NZBA reporting, and IPCC and IEA technology statements. The TCFD and IFRS-S2 standards provide guidance on 11 recommendations

[304] Ibid 10.
[305] InfluenceMap, 'FinanceMap Banking Methodology' (2025) <https://financemap.org/EN/our-methodology?lang=EN> 10-11.
[306] Ibid 12.
[307] InfluenceMap (n 292) 23.
[308] Ibid.
[309] InfluenceMap (n 305) 5.
[310] Ibid 10.
[311] Ibid 35-36.
[312] Ibid 36.
[313] Ibid.

across four areas reflected in FinanceMap's matrix: Governance, Strategy, Risk Management, and Metrics and Targets.[314] For each query, all publicly available evidence is scored against qualitative scoring guidelines on a five-point scale from -2 to +2, where -2 indicates significant underperformance relative to the benchmarks and +2 indicates evidence of positive TCFD alignment and/or ambitious technology positions.[315] The sixteen resulting query-level scores are then weighted together to produce a single overall top-line score.[316] The top-line score is expressed as a letter grade ranging from A+ at the highest end down to F at the lowest, giving an overall picture of how well each bank is performing on climate governance, strategy, and policies.[317]

4. What are the comparative strengths and weaknesses of available methodologies?

The report has several strengths. PACTA is described as an industry-standard, open-source methodology managed by RMI, giving it transparency and independent credibility. It uses physical asset-based forward-looking production data from approximately 35,000 publicly and privately owned real-economy organisations, which is a substantial empirical dataset.[318] The definition of green companies, utilised for the exposure metrics, uses a clear, externally established threshold - over 75% of revenue from EU Taxonomy-qualifying climate mitigation activities.[319] Bloomberg Terminal data is used as the source, providing a standardised data provider.[320]

The policy engagement scoring methodology assesses both direct engagement (a bank's own positions and communications) and indirect engagement (through industry associations), giving a fuller picture of a bank's real-world influence on climate policy than direct disclosures alone would reveal.[321] In 2024 the scope was also expanded beyond sustainable finance policy to include real economy climate policy, covering areas such as carbon taxes, emissions trading, renewable energy, and transport and making it more holistic.[322] The data sources are wide-ranging, including organisational websites, social media, senior management statements, regulatory consultation comments, financial disclosures and media outlets, making the data set more reliable.[323]

[314] InfluenceMap (n 305) 5-6.
[315] Ibid 7-8.
[316] Ibid 8.
[317] InfluenceMap (n 292) 36.
[318] InfluenceMap (n 305) 10.
[319] Ibid.
[320] Ibid.
[321] Ibid 14-15.
[322] Ibid 15.
[323] Ibid.

The report has several weaknesses. The InfluenceMap Matrix Methodology, which assesses the banks' climate governance, strategy and policies, relies entirely on publicly available evidence. As the InfluenceMap report acknowledges, this means it can only assess what banks choose to disclose. The report found that NatWest and Lloyds engaged more ambitiously in direct government communications than their public reporting reflected, with those communications only uncovered through Freedom of Information requests. This means the scores may understate or misrepresent a bank's true position.[324] Additionally, some elements of updated TCFD guidance (specifically the recommendation to incorporate transition plan disclosures into scenario analysis reporting) were deliberately excluded from scoring to allow financial institutions time to update their reporting, meaning the methodology is intentionally incomplete in this area.[325]

The PACTA methodology currently only covers four sectors (automotive, upstream oil and gas, coal mining, and electric power) which the FinanceMap Banking Methodology document acknowledges as a limitation of scope.[326] The InfluenceMap report itself notes that financed emissions data is used alongside PACTA but that banks' disclosures of financed emissions are themselves incomplete: HSBC, for instance, only discloses facilitated emissions across two sectors.[327] The scoring is also artificially capped at +100% and -100% to prevent mathematical imbalances, which the methodology document openly acknowledges is an approximation rather than a precise measure.[328] Additionally, the portfolio-weighted allocation approach, which assigns a proportion of a company's total production to a bank based on its deal share, relies on publicly disclosed loan, bond, and equity deal data from Bloomberg, meaning deals not disclosed publicly or directly to Bloomberg would be absent from the analysis.[329]

The green exposure definition, for the exposure metrics, depends on EU Taxonomy classifications, and the InfluenceMap report notes that the UK government reduced its ambition on the UK Green Taxonomy, partly due to lobbying from Barclays, HSBC and UK Finance.[330] This means the benchmark against which green companies are identified is itself subject to political pressure.[331]

[324] InfluenceMap (n 292) 32.
[325] InfluenceMap (n 305) 3.
[326] Ibid 10.
[327] InfluenceMap (n 292) 10.
[328] InfluenceMap (n 305) 13.
[329] Ibid 9.
[330] InfluenceMap (n 292) 30.
[331] Ibid.

The policy engagement scoring methodology underwent a significant update in 2024, and the FinanceMap Banking Methodology document explicitly states that reports published before this update are not directly comparable to those published after, creating a continuity problem for tracking progress over time.[332] All four banks have limited transparency on indirect engagement, meaning the relationship scores are constrained by what can actually be evidenced publicly.[333]

[332] InfluenceMap (n 305) 15.
[333] InfluenceMap (n 292) 32.

LINGO, UK Overseas Carbon Bombs

1. How has the special responsibility of banks for climate change impacts and global emissions been presented, framed and analysed?

This report identifies banks that have financed companies involved in production of 'carbon bombs', quantifies the total financing provided and total emissions that are predicted to arise out of these 'carbon bombs'. 'Carbon bombs' are fossil fuel projects that could emit more than a gigaton of CO_2 over their lifetime. [334] The report frames banks as financial enablers of fossil fuels. The report establishes a key framing of 'all enablers are jointly responsible for the full emissions of a specific carbon bomb, regardless of their percentage share'. This treats financial facilitation as a necessary condition for the carbon bomb's existence.

2. What financed emissions or other accountability methodologies are currently available and in use?

After cross-referencing companies that are on the Global Energy Monitor's Global Oil and Gas Tracker[335] and Global Coal Mine Tracker[336] with those that are involved in the 'carbon bombs' identified in a 2022 research paper by Kühne and others,[337] the report singles out nine UK-based banks that have financed these 'carbon bomb' companies with loans, bonds and share issuances between 2016 and 2023.

Even if the financial contract has ended since then, banks are listed as financiers of 'carbon bomb' companies, as they were implicated in the mentioned period. The full emission value of a 'carbon bomb' is attributed to the company, regardless of the proportion of 'carbon bomb's' shares that the company holds. This choice of methodology is based on the idea of joint responsibility for climate change.

3. To what extent have these assessments been relied upon in litigation or out-of-court challenges to banks?

Establishing special liability for financing or producing 'carbon bombs' has not been extensively used in litigation. The term is more frequently used in news articles and case

[334] Kjell Kühne and others, '"Carbon Bombs" – Mapping Key Fossil Fuel Projects' (2022) 166 Energy Policy 112950, 1.
[335] 'Global Oil And Gas Extraction Tracker' (*Global Energy Monitor*) <https://globalenergymonitor.org/projects/global-oil-gas-extraction-tracker/> accessed 24 March 2026.
[336] 'Global Coal Mine Tracker' (*Global Energy Monitor*) <https://globalenergymonitor.org/projects/global-coal-mine-tracker/> accessed 24 March 2026.
[337] Kjell Kühne and others (n 334).

notes. Of the cases that were assigned, *Oxfam France v BNP Paribas*[338] does cite the study by Kühne and others. To highlight how finance is destroying the climate, it is asserted that while 169 new 'carbon bombs' have been identified around the world, the banking sector and BNP are still providing these projects with the money they need to grow, through direct or indirect means.[339] In particular, BNP's financing of Total, which has plans to develop numerous 'carbon bombs', was highlighted. BNP was challenged not for the backing of a specific Total project but a general loan to the oil and gas company.[340]

4. What are the comparative strengths and weaknesses of available methodologies?

The report has several strengths. The methodology for identifying banks is transparent and easy to understand, drawing on cross-referencing between verifiable open-source resources: Global Energy Monitor's trackers, a study by Kühne and others and the BOCC+ database, which are verifiable resources. The study by Kühne and others uses scientific benchmarks, such as the average IPCC emissions factors for direct CO2 emissions from burning the fossil fuels in question. An emission factor is a coefficient that describes the rate at which a given activity releases greenhouse gases into the atmosphere. The Global Energy Monitor oil and gas extraction tracker is based on public sources, with data included only if publicly accessible, supporting the independence of the evidence used. The report is simplified by capturing the enabling function of finance rather than just a mathematical share, framing collective and equal responsibility for emissions across all financing banks.[341]

The report has several weaknesses. Strand A research found that courts focused on when polluting companies became aware of the harmful impacts of their activity. The report examines financing from 2016 onwards, though banks arguably gained awareness of environmental harms even earlier. A further limitation is the predictive factor in the identification of 'carbon bombs' by Kühne et al: carbon bombs are identified by quantifying CO2 emissions based on the amount of fossil fuel recoverable from a specific field's reserves, meaning the study models potential rather than actual emissions. This may be less concerning given that courts are increasingly recognising the significance of a project's downstream emissions, including the burning of fossil fuels in extraction projects. The report only considers financing up to 2023 and includes banks that may have since ended the

[338] Oxfam International, 'Taking a Funder of Climate Chaos to Court' (2023) <https://www.amisdelaterre.org/wp-content/uploads/2023/02/dp-affaire-bnp-en-def-bd.pdf> accessed 27 March 2026.
[339] Ibid 4.
[340] Ibid 18.
[341] BOCC+ 2024, Banking on Climate Chaos Coalition (Rainforest Action Network, Indigenous Environmental Network, BankTrack, CEED, Oil Change International, Reclaim Finance, Sierra Club, Urgewald), May 13, 2024, viewed Sept 19, 2024.

relevant financing. This means only a backwards-looking case could be brought, with possible remedies limited to declaratory relief since an injunction would not be appropriate where the financial contract has been terminated.

Additionally, while fossil fuel financing was decreasing between 2021 and 2023, it increased again in 2024 and 2025, meaning the report presents an incomplete picture of the current financing reality. The full attribution model can be problematic for many reasons. Where multiple banks have financed a single carbon bomb, each is attributed 100% of the emissions, potentially inflating the figures. Combined with the potential emissions factor, a court may treat the methodology as more political than scientific. This concern is compounded by the report's inclusion of any company with a share in a carbon bomb on the basis that it is enabling extraction regardless of its percentage holding. The report also does not address share ownership in parent companies and subsidiaries of companies that develop the carbon bombs, which represents a gap in its scope.

Stand.earth, Banks vs. the Amazon Scorecard Report 2025

1. How has the special responsibility of banks for climate change impacts and global emissions been presented, framed and analysed?

The Scorecard Report looked to track 330 banks' financing of oil and gas activities in the Amazon. It found that 10 banks are responsible for nearly 75% of "direct financing" (i.e., project and corporate level financing that can be directly traced to the Amazon) of Amazon oil and gas.[342] This was the focus of the report because of the impact of exploitative extraction as a driver of deforestation (e.g., oil development often leads to the development of roads forests and is often linked as paving the way for other industries that accelerate deforestation.[343] Additionally, fossil fuels are recognised as the leading cause of global greenhouse gas emissions driving the climate crisis and the Amazon Biome is an important carbon sink and an important source of biodiversity.[344]

The Report appears to infer that responsibility to "implement effective policies that identify, prevent and mitigate adverse impacts to the planet and people" should be attributed to banks as a result of their financing of oil and gas development.[345]

2. What financed emissions or other accountability methodologies are currently available and in use?

Stand.earth applied a methodology which assessed 18 of the top global banks financing oil and gas activities in the Amazon based on the following five criteria:[346]

1. Direct Financing to Amazon Oil and Gas: evaluates the direct financial support banks provide to oil and gas activities within the Amazon Biome. Banks were ranked by the value of their financing to projects in the Amazon Basin from January 2016 (immediately following the drafting of the Paris Agreement) to June 2025 (end of the data collection period). To distinguish between meaningful action and greenwashing, the full range of financial instruments, including loans and bond underwriting, were examined.
2. Total Fossil Fuel Financing: evaluates the overall financial support banks provide to the oil and gas sector. The rationale for this criterion was that overall, fossil fuel financing accelerates global heating and intensifies Amazon droughts, justifying an overall assessment of banks' fossil fuel financing portfolios.
3. Amazon Exclusion Policy: evaluates whether banks have adopted specific measures to protect the Amazon. This criterion is measured against publicly available and self-reported information on the banks' websites.
4. Oil and Gas Policy: assesses banks' broader commitments to phasing out fossil fuels. This was based on the Oil and Gas Policy Tracker, which ranks the robustness of fossil fuel exclusion policies and screens.

[342] Stand.earth, 'Banks vs. Amazon Scorecard Report 2025' (2025) <https://banksvstheamazon.org/> 4.
[343] Ibid 7.
[344] Ibid 7.
[345] Ibid 4.
[346] Ibid 3 and 34-35.

5. Human Rights Policy: this criterion examines whether banks acknowledge and address the rights and well-being of indigenous communities who depend on the Amazon for their survival.

To evaluate each bank's performance, Stand.earth used two main financial databases: the London Stock Exchange Group (the primary source) and IJGlobal (a supplementary source to validate transaction records).[347] These financial databases are reliant upon the transparency and disclosure of financing by the banks themselves, and so were likely to be conservative in their estimate of the actual amount of financing of oil and gas extraction in Amazon by a given institution.[348]

3. To what extent have these assessments been relied upon in litigation or out-of-court challenges to banks?

It is not known whether this type of assessment has been relied upon.

4. What are the comparative strengths and weaknesses of available methodologies?

This methodology was specifically tailored to track banks' financing of oil and gas activities in the Amazon Biome so is unlikely to be directly relevant to climate litigation. It does, however, contain indicators of what might be assessed in addition to financed emissions, when developing a framework for pleading the special responsibility of banks e.g., does the bank have any policies specifically relating to their financing of fossil fuels, what are the purpose of those policies, are they applied to self-regulate a bank's financing, and are they robust / effective? To what extent do they reflect the total direct or indirect financing that banks provide to these activities?

The data Stand.earth relied on in compiling this report was public, meaning the information had likely been disclosed by banks' themselves. This type of information may initially be used to select defendants, but discovery would reveal more comprehensive data. For instance, relying on public disclosures bears the risk that the data is not only not independent, but that banks have green-washed or put a "spin" on the framing of the data disclosed. Furthermore, because the data was provided by the banks, it is difficult to accurately determine how much financing supports oil extraction in the Amazon, hindering transparency and limiting accountability.

[347] Ibid 33.
[348] Ibid.