FROM CHAINSAWS TO COURTROOMS: CORPORATE CLIMATE LITIGATION AND DEFORESTATION IN BRAZIL†

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Corporate climate litigation has emerged as one of the most dynamic and high-profile tools for addressing the private sector's role in the climate crisis. While much of the scholarship and public debate has centered on cases in the United States and Europe, litigation targeting corporations in the Global South—particularly Brazil—has grown rapidly, both in volume and significance. Brazil now ranks among the world's top jurisdictions for corporate climate damage claims. These suits have pioneered methods for quantifying climate damages, often from illegal deforestation, and have tested the reach of the civil liability regime in novel ways. This Article offers the first comprehensive analysis of corporate climate litigation in Brazil, situating it within global trends. It examines the actors, causes of action, liability regimes, and remedies shaping this emerging body of law, and evaluates the potential for litigation to influence corporate behavior in high-emissions sectors. By contextualizing

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Authors' Note: This Article is the first comprehensive study of damages in corporate climate litigation in Brazil, drawing on an original review of all known cases filed against corporate actors for climate-related harms in Brazilian courts. The dataset includes cases filed and decisions issued through November 2025. It situates these cases within the broader global landscape, with particular attention to comparative insights for the United States. The analysis draws on case records, court decisions, and statutory materials, as well as secondary sources in Portuguese and English, to identify patterns in claims, liability regimes, and remedies. Unless otherwise indicated, translations are the Authors' own. The authors are grateful to Ben Fisher, Janaína Julião, and Mia Boemio for their invaluable assistance in mapping cases; to Margaret Barry for her thoughtful comments; and to JeeHyun Chung for her exceptional dedication and critical support during the final stages of this project.

Brazil's experience within broader patterns of climate accountability, this Article contributes to a growing body of work on transnational climate litigation and highlights lessons for both Global South and Global North jurisdictions confronting the challenge of corporate climate accountability.

INTRODUCTION

The world is already living in the era it once feared. In 2025, global temperatures hovered at roughly 1.3°C above pre-industrial levels, closer than ever to the 1.5°C threshold that scientists warn could trigger irreversible climate tipping points.[1] Wildfires burn in regions once thought immune, coastlines vanish under rising seas, and communities endure heat so extreme it strains the limits of human survival. These changes are not the result of nature alone; they are the cumulative effect of decades of industrial activity, political inaction, and, above all, corporate conduct. Confronting the climate crisis now requires not only new commitments to reduce greenhouse gas (GHG) emissions, but also legal mechanisms to hold corporations accountable for both preventing future harm and remedying the damage already done.[2]

Corporate climate litigation has emerged as a central—yet still underdeveloped—tool in this accountability effort. Governments, communities,

[1] *See, e.g.*, World Meteorological Organization, State of the Global Climate 2024, WMO-No. 1368, at 22 (Geneva: WMO 2025), https://library.wmo.int/idurl/4/69455 ("The best estimates of current global warming from these three approaches are between 1.34°C and 1.41°C compared to the 1850–1900 baseline; however, given the uncertainty of ranges, the possibility that we have already exceeded 1.5°C cannot be ruled out." (figure omitted)); Zeke Hausfather, State of the climate: 2025 on track to be second or third warmest year on record, Carbon Brief (July 29, 2025), https://www.carbonbrief.org/state-of-the-climate-2025-on-track-to-be-second-or-third-warmest-year-on-record/ ("As it passes its midway point, 2025 is on track to be the second or third warmest year on record.").

[2] Newell explains the role of corporate accountability in climate change through a variety of strategies, including (i) legal activism (holding companies liable for emissions or environmental harm); (ii) hybrid accountability strategies that use public law to target private actors, often in tandem with holding states responsible; (iii) civil regulation, where NGOs and social movements engage in shareholder activism, boycotts, and public shaming to compel corporations to disclose emissions, adopt reduction targets, and change investment patterns; (iv) market-based leverage, such as influencing major financial institutions' climate risk assessments, to create indirect pressure on high-emitting industries. He distinguishes between *liberal* strategies (partnerships, self-regulation, CSR) and *critical* strategies (confrontation, disruption), noting that both have limitations. Voluntary corporate initiatives can result in self-referential and unenforceable commitments, while confrontational tactics risk being episodic and media driven. Ultimately, Newell argues that corporate accountability should not be a substitute for robust public regulation. Civil society's role is often to "plug governance gaps" by creating interim accountability mechanisms, but lasting solutions require governments to regulate private sector actors effectively in the public interest. Peter Newell, *Civil Society, Corporate Accountability and the Politics of Climate Change*, 8 Global Env't Pol. 122 (2008).

non-governmental organizations (NGOs), and shareholders have sought to hold corporations liable for climate-related harms through claims for injunctive relief, disclosure, and, increasingly, financial compensation.[3] While states remain the primary duty-bearers under international climate agreements, the International Court of Justice (ICJ) recently confirmed that states also have a legal obligation to regulate private actors whose activities drive climate change.[4] This recognition underscores the role of corporate liability as an essential complement to state action, opening the door for courts to play a decisive role in shaping corporate behavior.

To date, much of the scholarship and litigation practice related to corporate climate litigation has concentrated on Global North jurisdictions—particularly the United States, which accounts for more than half of all corporate climate cases globally.[5] Despite this, U.S. litigation has not yet produced an award of climate damages, leaving critical questions about causation, quantification, and enforceability unresolved. By contrast, across the Global South, litigation has expanded rapidly in contexts of institutional fragility, social inequality, and environmental vulnerability.[6] As Murcott, Tigre and Samuel observe, courts in these regions often represent the only forum available to demand accountability.[7] Brazil epitomizes this dynamic, presenting a case study that could be critical "to test, explore, and transplant innovative solutions to different parts of the world."[8] Despite political headwinds, Brazil has become one of the most active jurisdictions for climate litigation in the Global South;[9] and, uniquely, it has produced

[3] United Nations Environment Programme, *Global Climate Litigation Report 2025: Status Review* (2025) [hereinafter UNEP, Report], https://www.unep.org/resources/report/global-climate-litigation-report-2025-status-review.

[4] *Obligations of States in respect of Climate Change* (Request for Advisory Opinion), Advisory Opinion, July 23, 2025, *ICJ Rep.* para. 428.

[5] *See, e.g.*, Center for Climate Integrity, Big Oil Accountability Lawsuits (last visited Nov. 4, 2025), https://climateintegrity.org/lawsuits.

[6] Maria Antonia Tigre, *Global South Climate Litigation Mapping Report* (Sabin Ctr. for Climate Change L., Columbia L. Sch. 2024), https://climate.law.columbia.edu/content/global-south-climate-litigation-mapping-report.

[7] Melanie Jean Murcott, Maria Antonia Tigre & Susan Ann Samuel, Introduction: Climate Litigation and Vulnerabilities: Global South Perspectives, *in* Climate Litigation and Vulnerabilities: Global South Perspectives 1, 4 (Maria Antonia Tigre, Melanie Jean Murcott & Susan Ann Samuel eds., Routledge 2025).

[8] Maria Antonia Tigre, Armando Rocha & Délton Winter de Carvalho, Climate Change Litigation in Brazil: an Introduction, *in* Brazil and Climate Justice: Pioneering Climate Litigation for a Global Cause 1–43 (Maria Antonia Tigre, Armando Rocha & Délton Winter de Carvalho eds., Brill | Nijhoff 2025) [hereinafter Tigre et al., Climate Change Litigation in Brazil].

[9] *Id.* at 6–7. *See also* Melanie Jean Murcott & Maria Antonia Tigre, *Developments, Opportunities, and Complexities in Global South Climate Litigation: Introduction to the Special Collection*, 16 J. Hum. Rts. Prac. 1, 2–3, 10–11 (2024) (reviewing climate litigation in the Global South and emphasizing the relevance on global climate discourse); Maria Antonia Tigre, Climate

pioneering corporate climate damages awards—often linked to illegal deforestation in the Amazon.

This Article examines the emerging field of corporate climate litigation in Brazil, with a particular focus on cases that involve claims for climate-related damages. While climate litigation in Brazil has primarily targeted public authorities, an increasing number of lawsuits are now directed at private actors. These cases raise complex questions about the scope of corporate liability for climate harm, the methodologies courts use to quantify such damages, and the interaction between environmental, civil, and climate law frameworks.

To address these questions, this study builds on systematic mapping of climate-related litigation in Brazil, drawing primarily on the Sabin Center for Climate Change Law's Global Climate Litigation Database.[10] As of November 2025, the database identifies 337 climate-related cases filed in Brazil, of which 66 involve corporate defendants. These include all cases in which at least one corporate entity appeared as a defendant, even when the complaint also named individuals, state bodies, or other co-defendants. The inclusion criteria followed the database's definition of climate litigation.[11]

Each qualifying case was reviewed to determine whether the plaintiffs sought climate-related damages. For every case, we recorded (i) the year of filing; (ii) the procedural status (pending, decided, or with an interlocutory decision);[12] (iii) the jurisdiction and court or tribunal; (iv) the types of plaintiffs and defendants

Litigation in the Global South: Mapping Report 2–3 (2024) (arguing that the Global South has been transformational to the legal landscape).

[10] This research draws on the Sabin Center for Climate Change Law's *The Climate Litigation Database* (http://www.climatecasechart.com/), which, for Brazil, incorporates data from the *Litigância Climática* database maintained by the *Law, Environment and Justice in the Anthropocene* Research Group (JUMA) at PUC-Rio (https://juma.jur.puc-rio.br/pesquisas-litigancia-climatica). The two initiatives operate in partnership to provide comprehensive, up-to-date coverage of climate litigation in Brazil. For additional context and analysis, see the *Brazilian Climate Litigation Bulletin 2024* (3d ed., Dec. 2024), produced by JUMA/PUC-Rio. Danielle de Andrade Moreira et al., Brazilian Climate Litigation Bulletin 2024 (Research Group on Law, Env't & Just. in the Anthropocene—JUMA/PUC-Rio, 3d ed. 2024) [hereinafter de Andrade Moreira et al., Brazilian Climate Litigation 2024], https://juma.jur.puc-rio.br/pesquisas-litigancia-climatica.

[11] Sabin Center for Climate Change Law, *Methodology—Global Climate Litigation Database* (last visited Nov. 3, 2025), https://www.climatecasechart.com/methodology.

[12] For the purposes of this research, interlocutory decisions are understood as judicial rulings in which a request for a preliminary injunction was examined in actions concerning climate-related harm. Such harm may be addressed either through provisional measures intended to mitigate or prevent the worsening of the climate emergency, or through evidentiary issues affecting the very admissibility or viability of the claim. The second hypothesis is justified by the observation that some judges have denied claims seeking climate restoration due to insufficient evidence of the alleged harm. Accordingly, procedural orders limited to the issuance of summons or to routine procedural acts were not classified as interlocutory decisions, as such cases remain pending judicial determination on the merits of the injunction request.

(including public prosecutors, public defendants, NGOs, companies); and (v) for decided cases, whether climate damages were awarded and, if so, how they were calculated or quantified.

This mapping allows for a comparative analysis of how Brazilian courts conceptualize corporate accountability for climate harm, revealing trends in the use of climate arguments, the valuation of environmental and moral damages, and the integration of scientific and economic methodologies in judicial reasoning.

These developments matter beyond Brazil's borders. They represent one of the first sustained judicial experiments in quantifying climate harm at the corporate level, carrying implications for the design of remedies and liability frameworks in other jurisdictions. At the same time, they invite a comparative perspective: how can lessons from Brazil's corporate climate damages cases enrich broader debates about corporate liability, reparations, and climate justice worldwide?

While briefly situating Brazil within global trends, this study uses selective comparative examples of corporate climate litigation from a few other countries to illuminate recurring problems—causation, quantification, and enforceability—without undertaking a full cross-jurisdictional analysis. Part I defines corporate climate damages cases and sketches global patterns. Part II maps Brazil's damages docket. Part III distills the liability architecture that Brazilian courts deploy in corporate climate cases, and damages rulings in particular. Part IV analyzes remedies and the emerging methodologies for monetizing climate damages.

I. CORPORATE CLIMATE LITIGATION IN CONTEXT

A. Defining Corporate Climate Litigation

This Article defines "corporate climate damages litigation" as lawsuits seeking monetary compensation for harms caused or exacerbated by corporate conduct contributing to GHG emissions. Two patterns recur: (i) global-emissions responsibility claims against carbon-major producers (often paired with misrepresentation theories), and (ii) localized damages claims where illegality (e.g., illegal deforestation) supplies the liability hook and climate harm is monetized as part of relief. Brazil's docket is dominated by the second pattern, which has produced some of the world's earliest damages quantifications tied to deforestation-related emissions.

Corporate climate cases have emerged as a fast-growing subset of climate litigation, bridging traditional regulatory frameworks with innovative legal theories that hold corporate actors accountable for their roles in driving the climate crisis.[13] While early climate cases focused on state obligations, corporate litigation now

[13] Joana Setzer & Catherine Higham, *Global Trends in Climate Change Litigation: 2025 Snapshot* 5 (Grantham Rsch. Inst. on Climate Change & Env't, London Sch. of Econ. & Pol. Sci. 2025) [hereinafter Setzer & Higham, 2025 Snapshot], https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2025/06/Global-Trends-in-Climate-Change-Litigation-2025-Snapshot.pdf.

accounts for a substantial and rising share of climate-related filings worldwide. These suits seek to compel corporations to reduce GHG emissions, disclose climate-related risks, change harmful practices, and—in some instances—compensate for climate damages already incurred. This Part situates Brazilian corporate climate litigation within the broader global landscape. It first defines the scope of "corporate climate litigation" and highlights key global trends, including the industries and actors most frequently targeted. It then contrasts the strategic, procedural, and substantive differences between cases in the Global North and Global South, with particular attention to challenges in access to justice, evidentiary burdens, and enforcement.

Corporate climate litigation spans a range of claims, including those challenging misleading climate claims (i.e., companies claiming to be climate neutral or net zero), the financing of high-emission activities, mismanagement of transition risks, corporate governance frameworks, and actions seeking compensation for climate harm.[14] This Article focuses on the latter, often referred to as "polluter-pays" cases. The Grantham Research Institute defines these as actions seeking monetary damages for alleged contributions to climate change through GHG emissions or other climate-impacting conduct, and distinguishes between (1) global emissions responsibility claims—targeting companies' overall operations and often involving allegations of climate misinformation—and (2) localized climate damage claims—arising from specific unlawful activities that result in emissions, such as illegal deforestation or operating outside permit terms.[15] According to Grantham, there are 85 such cases globally, 36 in the first category (32 in the United States, 3 in Europe, and 1 in Ecuador) and 49 in the second category (39 in Brazil, 9 in Indonesia, and 1 in China).[16] Grantham differentiates the Brazilian cases by noting they involve climate damages for localized illegal activities—for example, illegal deforestation. Relying on "traditional" environmental law, these cases also seek compensation for climate impacts as part of the range of remedies sought. Damages are substantiated by the illegality of the action that led to the emissions, in sharp contrast to the first type of case, which is broader in scope.[17]

B. Comparative Touchpoints

While corporate climate litigation has gained traction worldwide, litigation strategies, procedural opportunities, and legal frameworks vary significantly between the Global North and Global South. This Section examines these differences, with emphasis on how disparities in institutional capacity, political context, and access to

[14] UNEP, Report, *supra* note 3, at 32–38.

[15] Setzer & Higham, 2025 Snapshot, *supra* note 13, at 27.

[16] *Id.* Note that this Article identified a broader range of cases.

[17] *Id.* at 35.

justice influence both case selection and outcomes. It also sets the stage for a closer look at the Brazilian experience by highlighting where Global South jurisdictions have been particularly innovative—or particularly constrained—in corporate climate accountability.

Outside Brazil, courts are testing corporate climate liability through different legal architectures that reflect domestic legal traditions and policy priorities. These experiments—spanning tort, consumer protection, human rights, and supply-chain due diligence—underscore both convergence and divergence in the pursuit of corporate accountability for climate harm. Some of the ways in which these cases are different or similar are identified in Part IV. They also highlight the distinctiveness of Brazil's damages jurisprudence, which anchors liability in illegal activity and integrates detailed quantification of climate-related losses.

The United States has played an outsized role in shaping the field, serving as the principal laboratory for corporate climate claims. Oil Change International identifies three categories of corporate climate litigation have grown significantly in recent years: (1) *compensation suits* seeking to hold companies accountable for the environmental and community damages caused by their GHG emissions; (2) *greenwashing or consumer-protection actions* challenging misleading representations about companies' climate performance or products; and (3) *emission-reduction suits* demanding that companies adopt or strengthen climate-aligned business practices.[18] While no U.S. compensation case has yet produced a damages award, their procedural trajectories—especially around justiciability and causation—continue to influence global debates on climate attribution and foreseeability.

In Europe, courts have begun integrating human rights and value chain perspectives into corporate climate litigation. The German and Swiss contexts illustrate how statutory duties of care and supply-chain accountability can extend to climate-related impacts, even where transnational conduct is at issue. These claims foreground parent companies' responsibility for emissions and harms across complex corporate structures, emphasizing the duty to respect human rights and to conduct environmental due diligence.

A landmark example is *Lliuya v. RWE AG*, a tort action filed by Peruvian farmer Saúl Luciano Lliuya against the German energy company RWE AG for its alleged contribution to glacial melt in the Andes. The Higher Regional Court of Hamm recognized, *in principle*, that a major emitter could be held civilly liable for climate-related harm abroad, even if its share of global emissions is small.[19] Although

[18] *See* Press Release, Al Johnson Kurts & Murray Worthy, *Climate Lawsuits Being Filed Against Fossil Fuel Companies Have Nearly Tripled*, Oil Change Int'l (Sep. 12, 2025), https://www.oilchange.org/news/new-report-climate-lawsuits-being-filed-against-fossil-fuel-companies-have-nearly-tripled/.

[19] *See Luciano Lliuya v. RWE AG*, Zivilsenat des Oberlandesgerichts Hamm [OLG] [Fifth Division for Civil Matters of the Higher Regional Court of Hamm], Sep. 27, 2021 (Ger.); Noah

the court ultimately found the risk to the plaintiff's property insufficiently imminent to sustain damages, *Lliuya* stands as a critical precedent for transboundary corporate liability, confirming that the legality of emissions does not necessarily preclude civil responsibility. Scholars have noted that the court's reasoning—particularly its acceptance of probabilistic attribution science—could inform future loss-and-damage claims worldwide.[20]

A similarly innovative claim is *Asmania et al. v. Holcim AG*, filed in Switzerland by four residents of Pari Pari, an Indonesian island already experiencing severe flooding. The plaintiffs allege that Holcim, one of the world's largest cement producers, is partly responsible for the island's submersion risk due to its historical emissions. They seek (1) monetary compensation for local adaptation measures, (2) a proportionate contribution to broader mitigation funds, and (3) judicial orders requiring Holcim to reduce its future emissions by 43% by 2030 and 69% by 2040 (relative to 2019 levels).[21] The case is pending before the Cantonal Court of Zug. It represents the first transnational corporate climate lawsuit filed in Switzerland and exemplifies a holistic remedial model—linking compensation, mitigation, and adaptation—that resonates with the evolving notion of *climate reparations* in civil liability. The plaintiffs, supported by NGOs and climate scientists, frame the claim as both a human rights and a tort action, illustrating how corporate accountability can transcend domestic boundaries.[22]

Although this study focuses on national instruments for climate litigation in Brazil, it is worth noting one limitation. Corporate climate litigation also arises from

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Walker-Crawford, Jameela Joy Reyes & Nicholas Petkov, *Luciano Lliuya v. RWE: A Major Step Forward for Climate Justice*, Grantham Research Inst. on Climate Change & Env't (July 9, 2025), https://www.lse.ac.uk/granthaminstitute/news/luciano-lliuya-v-rwe-a-major-step-forward-for-climate-justice/.

[20] *See generally* Maxim Bönnemann & Maria Antonia Tigre, *What Lliuya v. RWE Means for Climate Change Loss and Damage Claims*, Sabin Ctr. for Climate Change L. Blog (June 19, 2025), https://blogs.law.columbia.edu/climatechange/2025/06/19/what-lliuya-v-rwe-means-for-climate-change-loss-and-damage-claims/.

[21] *See Asmania et al. v. Holcim AG*, Cant. Ct. Zug (Switz.) (filed Jan. 30, 2023); *see also* Luigi Jorio, *Indonesians vs Swiss Company Holcim: 'We Want to Save Our Island'*, SWI Swissinfo (Sep. 2, 2025), https://www.swissinfo.ch/eng/climate-solutions/indonesians-vs-swiss-company-holcim-we-want-to-save-our-island/89933528/.

[22] *See* Theresa Mockel & Johannes Wendland, *Litigating Corporate Responsibility for Climate-Related Loss and Damage: Insights Into the Case of Asmania et al. v. Holcim*, Völkerrechtsblog (Nov. 14, 2024), https://voelkerrechtsblog.org/litigating-corporate-responsibility-for-climate-related-loss-and-damage/; Nina Burri & Laura Duarte Reyes, *Elevating Women's Voices in Transnational Climate Litigation: The Case of Asmania et al. v. Holcim*, *in* Climate Litigation and Vulnerabilities: Global South Perspectives 163–76 (Maria Antonia Tigre, Melanie Jean Murcott & Susan Ann Samuel eds., Routledge 2025); *see also* Dana Drugmand, *Indonesian Islanders Take Their Fight for Climate Justice to Swiss Court*, *Climate in the Courts*, Climate in the Courts (Feb. 5, 2025), https://www.climateinthecourts.com/indonesian-islanders-take-their-fight-for-climate-justice-to-swiss-court/.

the activities of subsidiaries of Global North companies operating in the Global South, which often challenge the practice of retaining profits by parent companies in the Global North. This dynamic once again reproduces the dynamics of climate injustice in the North–South, aggravating the burdens borne by the most vulnerable.[23] This distortion has opened the way for discussions on transnational corporate accountability, which, although highly relevant, must be reserved for another opportunity of study.

The *Envol Vert et al. v. Casino* case, filed before the Judicial Court of Saint-Étienne in 2021, represents one of the earliest attempts to hold a multinational corporation legally accountable for deforestation in its South American supply chain.[24] Eleven environmental NGOs—including Envol Vert—brought the case against the French supermarket group Casino, alleging that its subsidiaries' beef purchases in Brazil and Colombia were linked to cattle raised in illegally deforested areas, including Indigenous territories. The plaintiffs argued that these activities caused severe environmental and human rights harms and contributed to global climate change. The case was filed under France's 2017 *duty of vigilance* law, which obliges large parent companies to adopt and implement due diligence plans to prevent human rights violations and environmental damage throughout their operations and supply chains. Although still pending, *Casino* exemplifies the use of transnational litigation to address Amazonian deforestation and climate harm through the legal systems of Global North countries, thereby expanding the scope of corporate accountability beyond national boundaries.[25]

Taken together, these comparative developments highlight the global relevance of Brazil's climate damages framework. Unlike jurisdictions still testing the boundaries of corporate accountability, Brazilian courts have already operationalized liability through the illegality of environmentally harmful acts, resulting in concrete monetary awards tied to quantifiable losses. As other systems experiment with hybrid approaches, Brazil's jurisprudence offers a benchmark for quantification methodologies and enforceable corporate climate obligations.

The Brazilian approach to corporate climate liability—rooted in statutory duties to repair environmental harm and refined through case-by-case valuation—thus stands apart in both doctrine and execution. The following Section turns to this domestic framework, outlining how Brazilian courts calculate climate damages and what insights these techniques may offer for emerging transnational corporate climate litigation.

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[23] Lisa Benjamin, *Group Companies and Climate Justice*, 74 Current Legal Probs. 235 (2021).

[24] *Envol Vert et al. v. Casino*, Judicial Court of Saint-Étienne (France, filed 2021).

[25] Maria Antonia Tigre & Anna Maria Cárcamo, *The Protection of the Amazon Forest as a Central Aspect of Climate Mitigation*, *in* Brazil and Climate Justice: Pioneering Climate Litigation for a Global Cause 260–93 (Maria Antonia Tigre, Armando Rocha & Délton Winter de Carvalho eds., Brill | Nijhoff 2025) [hereinafter Tigre & Cárcamo, Protection of the Amazon Forest].

C. *Background & Institutional Context*

As will be detailed in Part III, Brazil is a unique country for climate litigation, given its broad array of applicable legal norms and the expansion of rights resulting from judicial interpretation.[26] Brazilian courts approach climate-related damages through a distinctive environmental liability regime rooted in constitutional and statutory law.[27] Since the 1988 Constitution enshrined the right to an ecologically balanced environment as a *fundamental right*,[28] Brazil has developed a robust framework for holding both public and private actors accountable for environmental harm. Under Brazil's National Environmental Policy, liability for environmental damage is strict and objective—that is, it applies regardless of fault—based on the doctrine known as *teoria do risco integral* (the "integral risk theory").[29] This principle, combined with obligations *propter rem* that attach to the land itself,[30] ensures that successive property owners remain responsible for restoring degraded areas.

In addition, Brazilian law allows the cumulative imposition of both monetary compensation and ecological restoration duties, reflecting a dual focus on reparation and deterrence.[31] Recent regulatory developments have reinforced this approach: under National Council of Justice (*Conselho Nacional de Justiça*—CNJ)[32] Resolution No. 433/2021, judges must consider not only local environmental harm but also broader *climate impacts*, diffuse harm to communities, and the deterrent

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[26] Daniel A. Pamplona & João S. Pires, *Prevention and Remediation Possibilities in Climate Litigation Against Corporations in Brazil*, 55 Conn. L. Rev. 861 (2023); Tigre et al., Climate Change Litigation in Brazil, *supra* note 8.

[27] Caio Borges, *Global Perspectives on Corporate Climate Legal Tactics: Brazil National Report*, Brit. Inst. of Int'l & Compar. L. 1, 59 (2024).

[28] CONSTITUIÇÃO FEDERAL [C.F.] [CONSTITUTION] art. 225 (Braz.), https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm.

[29] Lei No. 6.938, de 31 de agosto de 1981 (Dispõe sobre a Política Nacional do Meio Ambiente) (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l6938.htm.

[30] Súmula 623, Superior Tribunal de Justiça (STJ), Dec. 17, 2018 (Braz.), https://www.stj.jus.br/docs_internet/revista/eletronica/stj-revista-sumulas-2021_48_capSumulas623.pdf. A súmula of the Superior Tribunal de Justiça (STJ) states a consolidated rule of federal law and functions as binding or highly persuasive guidance for lower courts on recurring legal questions.

[31] Súmula 629, Superior Tribunal de Justiça (STJ), Dec. 17, 2018 (Braz.), https://www.stj.jus.br/docs_internet/revista/eletronica/stj-revista-sumulas-2021_48_capSumulas629.pdf.

[32] The National Council of Justice (Conselho Nacional de Justiça—CNJ) is an independent oversight and administrative body that supervises Brazil's entire judiciary. Created in 2004, through a constitutional amendment, its main goal is to promote transparency, efficiency, and accountability within the court system. Unlike the STF, the CNJ does not judge cases. Instead, it develops and enforces policies to improve judicial practices and court administration. To better understand the role of the CNJ, see Davi Everton Vieira de Almeida, *National Council of Justice and the One Test: Democratizing the Brazilian Judiciary*, 29 Pensar: Rev. Ciênc. Juríd. 1, 18 (2024).

value of sanctions when quantifying damages.[33] This explicitly recognizes "climate damage" as a distinct remedial category, alongside environmental and moral damages. Together, these doctrines empower courts to translate unlawful deforestation and its associated GHG emissions into compensable climate harm—while still mandating restoration and measures to prevent recurrence.

In terms of legal norms, environmental protection—and, by extension, climate stability—can be governed by federal, state, district, and municipal laws.[34] This occurs because the Brazilian Constitution defines legislative competence as concurrent, meaning that, according to the Supreme Federal Court (*Supremo Tribunal Federal*—STF), the most protective rule for the environment prevails.[35] This feature makes litigation in Brazil more complex, as it requires knowledge of three regulatory layers, while also offering opportunities at the local and regional levels. Responsibility is shared jointly and severally among the Federal Union, the States, the Federal District, and the municipalities, obliging them to exercise oversight and preventive measures, and thereby exposing governmental entities to liability alongside corporations.[36] Questions about public-law oversight persist: where agency omissions contribute to degradation, courts may impose joint and several civil liability on the State, typically with subsidiary execution.[37] As affirmed by the *Superior Tribunal de Justiça* (STJ), "environmental protection is a duty incumbent upon all levels of government, under the principle of cooperative environmental federalism consolidated by Complementary Law No. 140/2001."[38]

In practice, however, the operational core of damages cases targets private-actor liability, with public defendants appearing chiefly to preserve full reparation. The main legal fields that provide a basis for corporate climate litigation are "in the areas of consumer law, environmental law, corporate law, capital markets law, antitrust

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[33] Article 14, Resolução No. 433, Conselho Nacional de Justiça [CNJ], 27 October 2021 (Braz.), https://atos.cnj.jus.br/files/original140419202111036182 96e30894e.pdf.

[34] To understand how multiple governance can open new frontiers for litigation, see Catherine Higham, Joana Setzer & Emily Bradeen, *Challenging Government Responses to Climate Change Through Framework Litigation*, Grantham Research Inst. on Climate Change & Env't & Ctr. for Climate Change Econ. & Pol'y, London Sch. of Econ. & Pol. Sci. (Sep. 7, 2022), https://www.lse.ac.uk/granthaminstitute/publication/challenging-government-responses-to-climate-change-through-framework-litigation/.

[35] Felipe Franz Wienke & Carlos Alberto Lunelli, *Competência Legislativa em Matéria Ambiental: Um Campo de Indefinição no Federalismo Brasileiro*, 17 Meritum 2 (May/Aug. 2022), http://revista.fumec.br/index.php/meritum/article/view/8993.

[36] Mariana Barbosa Cirne, *A Lei Complementar 140/2011 e as competências ambientais fiscalizatórias*, 18 Rev. de Direito Ambiental 67 (2013).

[37] Súmula 652, Superior Tribunal de Justiça (STJ), Dec. 2, 2021 (Braz.), https://www.stj.jus.br/publicacaoinstitucional/index.php/sumstj/article/viewFile/12730/12823.

[38] Superior Tribunal de Justiça [STJ], *Jurisprudência em Teses—Edição 214: Direito Ambiental II* (2023), https://www.stj.jus.br/sites/portalp/Paginas/Comunicacao/Noticias/2023/07062023-Jurisprudencia-em-teses-traz-nova-edicao-sobre-direito-ambiental.aspx.

law, contract law, human rights law, and civil law."[39] For example, in *Duda Salabert Rosa v. State of Minas Gerais & Taquaril Mineração S.A.*, plaintiffs relied not only on the National Climate Change Policy (*Política Nacional sobre Mudança do Clima*, Federal Law No. 12.187/2009),[40] but also on the State Policy for the Prevention and Combating of Disasters Resulting from Intense Rainfall,[41] as the legal basis for their claims.[42]

Judicial interpretation of the constitutional right to an ecologically balanced environment is another important element in framing the basis for litigation.[43] The STF, in its judgment of *ADO 59*,[44] recognized the constitutional obligation to protect the environment, leaving no room for governmental discretion. In *ADPF 708 (Fundo Clima case)*, the STF recognized that there was a constitutional omission by the Union regarding the resources of the National Climate Fund.[45] The STF found that the executive branch has a constitutional duty to operate and annually allocate the Fund's resources for the purpose of mitigating climate change, and that such resources cannot be subjected to budgetary contingency, in light of the constitutional duty to protect the environment (Federal Constitution, Article 225), Brazil's international rights and commitments (Article 5, § 2), and the constitutional principle of separation of powers (Article 2).

This obligation applies not only to the executive branch but also to the legislative and judicial branches. In line with this constitutional duty, the CNJ created the National Judiciary Environmental Policy through Resolution No. 433/2021.[46] This

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[39] Borges, *supra* note 27.

[40] *Duda Salabert Rosa v. State of Minas Gerais & Taquaril Mineração S.A.*, Ação Popular, Justiça Estadual, Tribunal de Justiça do Estado de Minas Gerais, 7 February 2022 (Petition, Braz.).

[41] Lei No. 15.660, de 6 de julho de 2005 (Institui a política estadual de prevenção e combate a desastres decorrentes de chuvas intensas e dá outras providências) (Braz.), https://leisestaduais.com.br/mg/lei-ordinaria-n-15660-2005-minas-gerais-institui-a-politica-estadual-de-prevencao-e-combate-a-desastres-decorrentes-de-chuvas-intensas-e-da-outras-providencias.

[42] Mariana Barbosa Cirne & Maycon Douglas de Miranda Silva, *Responsabilidade Civil Ambiental do Estado por Omissão e o Princípio do Poluidor-Pagador*, 16 Revista do Direito Público 221 (2021).

[43] Danielle de Andrade Moreira, Ana Lucia B Nina, Carolina de Figueiredo Garrido & Maria Eduarda Segovia Barbosa Neves, *Rights-Based Climate Litigation in Brazil: An Assessment of Constitutional Cases Before the Brazilian Supreme Court*, 16 J. Hum. Rts. Prac. 47 (2024).

[44] *Ação Direta de Inconstitucionalidade por Omissão (ADO) No. 59*, Supremo Tribunal Federal, 3 November 2022 (Braz.).

[45] *Arguição de Descumprimento de Preceito Fundamental (ADPF) No. 708*, Supremo Tribunal Federal, 17 August 2020 (Braz.). For a more in-depth discussion of this issue, see Maria Antonia Tigre & Joana Setzer, *Human Rights and Climate Change for Climate Litigation in Brazil and Beyond: An Analysis of the Climate Fund Decision*, 54 Geo. J. Int'l L. 593 (2022).

[46] Resolução No. 433, Conselho Nacional de Justiça [CNJ], 27 October 2021 (Braz.), https://atos.cnj.jus.br/files/original140419202111036182 96e30894e.pdf.

norm strengthens climate litigation for several reasons. First, Article 3, § 4 explicitly recognizes "environmental law" as a subject matter, with "climate litigation" as a subcategory. Second, it allows resources derived from environmental crimes to be allocated to "restoration projects aimed at mitigating the effects of climate change, particularly those employing renewable energies." This grants judges the power to convert environmental penalties into structural changes in Brazil's energy matrix. Third, Article 14 establishes that "in sentencing for environmental damage, the judge must consider, among other parameters, the impact of such damage on global climate change, the diffuse harm caused to affected peoples and communities, and the deterrent effect against environmental externalities generated by the polluting activity." This provision creates a clear distinction between *environmental damage*, *climate damage*, and *diffuse damages* suffered by communities.

Additionally, the CNJ's *Protocol for the Adjudication of Environmental Cases—Scopes I and II*, guides judges in the use of satellite imagery and remote sensing, and establishes standards for assessing climate impacts.[47] Judges, therefore, must analyze corporate climate litigation in light of these guidelines, which stem from the constitutional duty of environmental protection applicable to the judiciary. The following Section traces how Brazil's institutional and legal architecture has translated these global experiments into enforceable domestic accountability.

II. THE BRAZILIAN CORPORATE CLIMATE LITIGATION LANDSCAPE

Brazil has rapidly emerged as a critical jurisdiction for corporate climate litigation, ranking among the top three countries worldwide for cases seeking climate damages. This prominence is no accident: Brazil's unique legal framework, robust environmental laws, and judiciary with constitutional jurisdiction over environmental rights have created fertile ground for litigation against both domestic and transnational corporations. At the same time, Brazil's role as a leading agricultural and extractive economy—and its staggering rates of deforestation—place it at the center of disputes over the corporate responsibility for GHG emissions. This Part examines the scope and trajectory of corporate climate cases in Brazil.

A. Case Volume and Trajectory Over Time

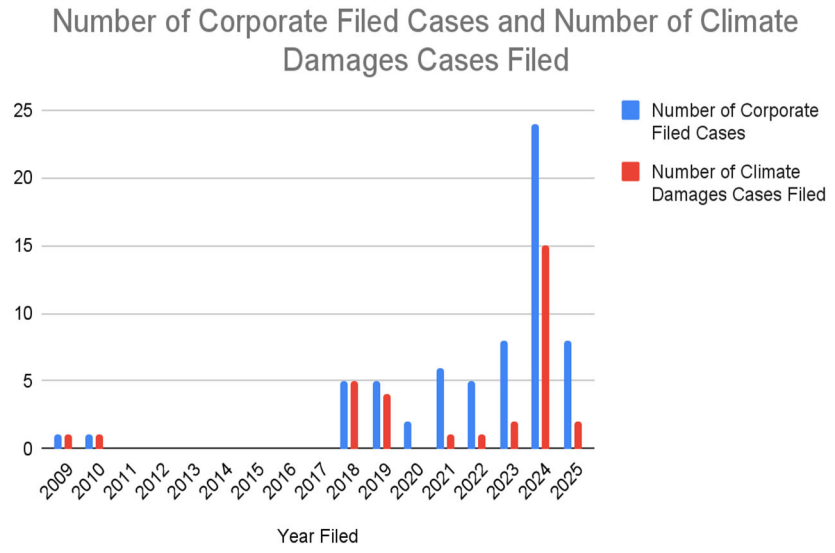
Tigre and Setzer correctly predicted that Brazil would witness a "corporate turn," similar to what has been observed in other jurisdictions where a case against

[47] Protocolo para julgamento de ações ambientais - parâmetros para mensuração do impacto do dano na mudança global do clima (art. 14 da Resolução CNJ n. 433/2021), Conselho Nacional de Justiça (CNJ), 17 September 2023 (Braz.), https://atos.cnj.jus.br/files/compilado192018202410096706d7724dee1.pdf.

the government was favorably decided by the country's apex court.[48] Indeed, Brazil's climate litigation docket has grown sharply in recent years. A total of 337 climate-related cases have been identified nationwide as of November 2025. Of these, 66 were filed against corporate defendants and 43 specifically sought climate damages compensation.[49] Early filings date back to 2009–2012, when isolated suits targeted industrial pollution and localized environmental harm. A long lull followed until 2018, marking the start of the current wave of climate-related enforcement, when both public prosecutors and environmental agencies began framing illegal deforestation as a climate damages issue.

From 2018 to 2022, courts saw a modest but steady rise in corporate filings—typically operating within protected areas of the Amazon. The field expanded rapidly in 2023 and 2024, when over 20 new corporate suits were filed. By 2025, more than half (≈65%) of all corporate climate cases included a damages component, confirming the mainstreaming of monetary remedies alongside injunctive and restoration relief (see Figures 1 & 2).

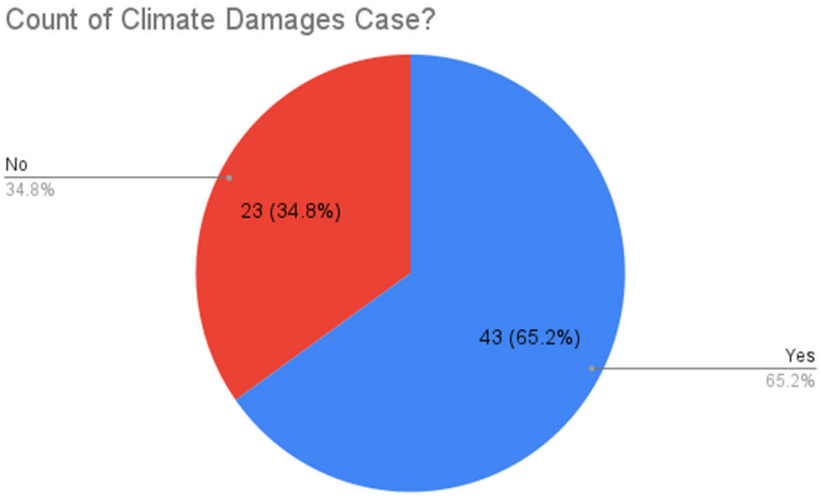
Figure 1: Corporate and Climate Damages Cases by Year (2009–2025) (as of November 2025)



[48] Tigre & Setzer, *supra* note 45.

[49] *See* Sabin Ctr. for Climate Change L., Columbia L. Sch., *Climate Litigation Database*, Brazil jurisdiction search (Nov. 2025), https://www.climatecasechart.com/search?l=brazil; UNEP, Report, *supra* note 3, at 35 ("In Brazil, over 50 climate damages cases have been reported . . . related to illegal deforestation and cattle ranching within the Amazon rainforest.").

Figure 2: Proportion of Corporate Climate Damages Cases (65.2%) as of 2025 (as of November 2025)



The following timeline summarizes key milestones in Brazil's corporate climate damages litigation between 2009 and 2025.

Figure 3: Key Milestones in Corporate and Climate Damages Litigation in Brazil (2009–2025)

Year/Period	Milestone	Significance
2009–2010	First climate-related corporate suits filed, mostly pollution and localized harm.	Marks Brazil's *early experimentation* with linking industrial activity and climate impacts.
2011–2017	Period of relative dormancy.	Environmental enforcement focused on traditional pollution and permitting; climate was rarely invoked.

Year/Period	Milestone	Significance
2018–2019	Wave of *public civil actions* reframing illegal deforestation as climate harm. Expansion of corporate defendant pool (agribusiness, logging, cattle).	Establishes "deforestation = climate damages" narrative; turning point for Amazon-related claims.
2019–2022	First decisions on climate damages.[50] Courts experiment with asset freezes and combined restoration + damages orders.	Courts begin accepting "climate damages" language; early injunctions issued. Sign of judicial willingness to enforce corporate accountability.
2021	CNJ Resolution 433/2021 operationalized; new claims quantify damages using carbon-proxy metrics.	Institutionalization of *climate-specific damages guidance* within the judiciary.
2023–2024	Surge of > 20 corporate filings; first quantified climate damages awards using Amazon Fund benchmarks.	Brazil becomes a global reference for quantifying corporate climate harm.
2025	337 total climate cases; 66 corporate; 43 damages cases (≈65%).	Consolidation of a *second wave* of climate damages litigation in the Global South.

[50] The first case in which a climate damage claim was upheld occurred in 2011 (*MPSP v. Usina Mandu S.A.* (burning of sugarcane straw)), when the court recognized that burning sugarcane straw constitutes a harmful and polluting activity. This case, however, shall not be regarded as the first precedent in climate damage litigation, since the method for calculating the quantum of compensation was left to be determined later, by arbitration, with the amount indicated in the initial claim serving as the upper limit.

The trajectory reflected in Figures 1 and 3 illustrates how Brazil has evolved from sporadic, early experimentation to sustained, institutionally embedded climate damage litigation. The steady rise in corporate suits after 2018—and the sharp surge in 2023 and 2024—signals both the growing sophistication of claimants and an emerging judicial consensus that illegal deforestation generates compensable climate harm. Although parallels can be drawn with transnational cases involving Global South plaintiffs such as *Asmania et al. v. Holcim*[51] and *Lliuya v. RWE*,[52] Brazil stands apart for the volume and methodological depth of its damages cases. In doing so, it has positioned itself as a testing ground for quantifying corporate climate liability within a developing-country context—one whose lessons may soon inform broader transnational approaches to climate justice.

1. Comparison to Broader Corporate Climate Litigation

The trajectory of corporate climate litigation in Brazil reflects and contributes to global debates over private-sector accountability for climate harms. As Ganguly, Setzer, and Heyvaert demonstrate, early corporate climate cases, especially in the United States, were often dismissed on procedural grounds such as standing, causation, and justiciability.[53] Despite their limited immediate success, these lawsuits helped reconceptualize climate change as a justiciable issue of corporate liability and laid the foundations for what they describe as a "second wave" of litigation, informed by advances in attribution science and the *Carbon Majors* study.[54]

Brazil's early corporate climate cases (2009–2010) mirrored this "first-wave" dynamic: isolated, legally fragile, and ineffective in reshaping corporate conduct. The subsequent seven-year gap underscores how difficult it was to sustain climate claims against corporations without a stronger evidentiary and normative foundation. Yet when the surge came in 2018, it bore the hallmarks of the global "second wave," with Brazilian litigants and enforcement bodies drawing on international precedents like *Urgenda v. the Netherlands*[55] and, later, *Milieudefensie v. Shell*,[56] while also testing novel domestic approaches such as strict liability for deforestation-related emissions and damages-based claims.

At the same time, as Ganguly underscores, private climate litigation is not only

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[51] *Asmania et al. v. Holcim*, pending before the Kantonsgericht Zug [Cantonal Court of Zug] (Switz.).

[52] *Luciano Lliuya v. RWE AG*, Zivilsenat des Oberlandesgerichts Hamm [OLG] [Fifth Division for Civil Matters of the Higher Regional Court of Hamm], Sep. 27, 2021 (Ger.).

[53] Geetanjali Ganguly, Joana Setzer & Veerle Heyvaert, *If at First You Don't Succeed: Suing Corporations for Climate Change*, 18 Climate Pol'y 813 (2018).

[54] *Id.* at 849–55.

[55] *Urgenda Foundation v. State of the Netherlands*, HR 20 december 2019, ECLI:NL:HR:2019:2007 (Neth.).

[56] *Milieudefensie et al. v. Royal Dutch Shell plc.*, Hof's-Gravenhage 12 november 2025, ECLI:NL:GHDHA:2024:2100 (Neth.).

expanding in scale but also diversifying in form.[57] Claimants are experimenting with duties of care, human rights arguments, and novel remedies across jurisdictions. Brazil exemplifies this diversification. While agribusiness and forestry actors dominate its corporate climate docket, cases increasingly combine injunctions with demands for compensation for climate damages—an approach that directly links local enforcement strategies to the broader global move toward financial accountability for corporate climate harm.

Compared with the broader trajectory of Brazilian climate litigation, the evolution of corporate-focused cases follows a parallel but more compressed pattern. As documented in earlier research by Tigre, Rocha, and Winter de Carvalho, Brazil's climate litigation history can be divided into three phases: an early, sporadic phase prior to 2014; a period of gradual rights-based expansion from 2014 to 2018; and an acceleration and diversification phase from 2018 onward.[58] Corporate climate litigation in Brazil mirrors the first and third of these phases but largely skips the middle period.

Only two corporate climate cases were filed between 2009 and 2010, followed by a seven-year hiatus with no new filings. Activity resumed in 2018 and 2019, when five cases were filed each year, marking the beginning of a sustained wave of corporate climate litigation. Filings steadily rose from 2020 to 2023, with two, six, five, and eight filings respectively, before a dramatic spike in 2024, when 24 new corporate cases were initiated—15 of which sought climate damages. The momentum has continued into 2025, albeit at a slower pace, with eight additional corporate filings to date, two of which include climate damages claims.[59] Within this broader surge, climate damages suits stand out as the most innovative strand, attaching financial consequences to GHG emissions and embedding a reparative logic into Brazil's evolving climate accountability architecture.

In this sense, Brazilian corporate climate litigation illustrates the convergence of international "second-wave" strategies with domestic legal traditions, while also contributing to the global innovation in private climate claims identified by Ganguly.[60] Its jurisprudence highlights how Global South jurisdictions can adapt global precedents to local environmental realities, pushing the boundaries of private climate litigation beyond the Global North template. This progression underscores the shift from sporadic enforcement toward a structured jurisprudence on corporate climate liability, driven largely by public institutions and deforestation-related claims in the Amazon.

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[57] Geetanjali Ganguly, Breaking New Ground in Private Climate Litigation, *in* Research Handbook on Climate Change Litigation 298 (Francesco Sindico, Kate McKenzie, Gastón A. Medici-Colombo & Lennart Wegener eds., Edward Elgar 2024).

[58] Tigre et al., Climate Change Litigation in Brazil, *supra* note 8.

[59] Updated until November 3, 2025.

[60] Ganguly, *supra* note 57.

B. Plaintiffs and Defendants

The profile of plaintiffs in Brazil's corporate climate litigation confirms that public institutions remain the dominant drivers of climate accountability. As Tigre, Rocha, and Winter de Carvalho note, Brazil's climate litigation landscape has evolved from public-interest and constitutional cases toward a diversified field encompassing private-actor accountability and corporate damages, shaped by strong environmental institutions and an expansive judiciary.[61]

As shown in Figure 4, Public Prosecutors—principally the *Ministério Público Federal* (MPF) and state-level counterparts—account for 27 of the 66 identified corporate climate cases (≈41%), followed by federal environmental agencies such as *Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis* (IBAMA), Brazil's federal environmental protection agency (12 cases, ≈18%). Public defenders represent a smaller but growing share (5 cases, ≈7.5%), often acting on behalf of vulnerable or Indigenous communities.

The aforementioned constitutional duty of environmental protection imposed on the State expands the pool of actors in climate litigation, often including the State for its omission in exercising control.[62] This constitutionally grounded expansion of state responsibility, in turn, may serve as an important justification for the central role of governmental agencies such as IBAMA and *Companhia Ambiental do Estado de São Paulo* (CETESB) as plaintiffs in corporate climate litigation. To avoid further joint liability rulings against the State, these agencies increasingly act as plaintiffs in corporate climate litigation.[63]

Civil-society organizations, community groups, and Indigenous associations appear as plaintiffs in 19 corporate cases (≈29%). Finally, corporations also appear as plaintiffs in two cases.

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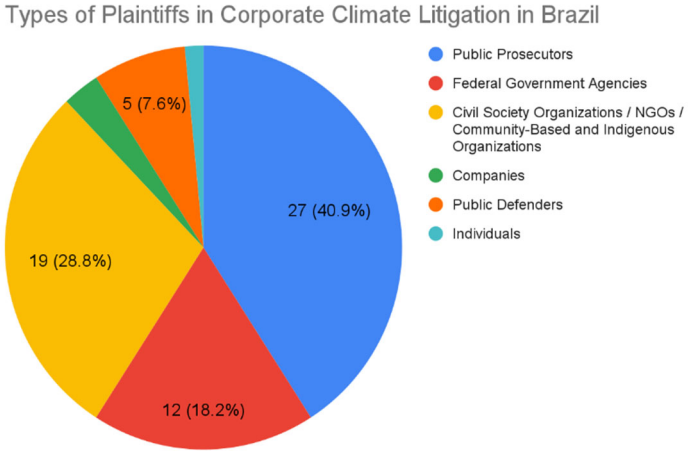
[61] Tigre et al., Climate Change Litigation in Brazil, *supra* note 8.

[62] Pamplona & Pires, *supra* note 26.

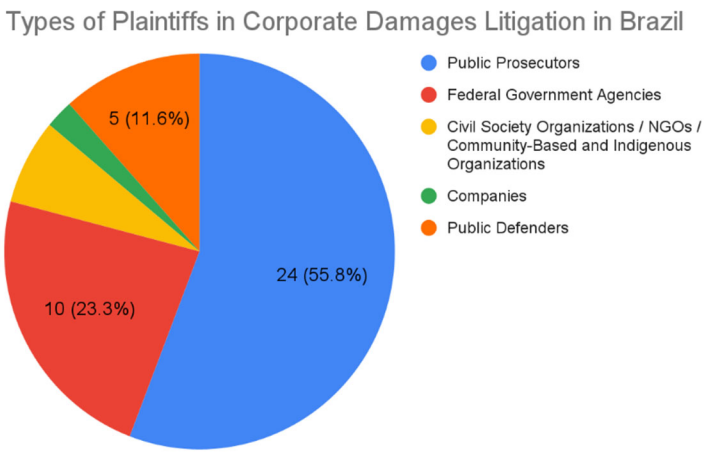
[63] Cirne & Silva, *supra* note 42, at 221–39.

Figure 4: Types of Plaintiffs in Corporate Climate Litigation in Brazil (2007–2025)



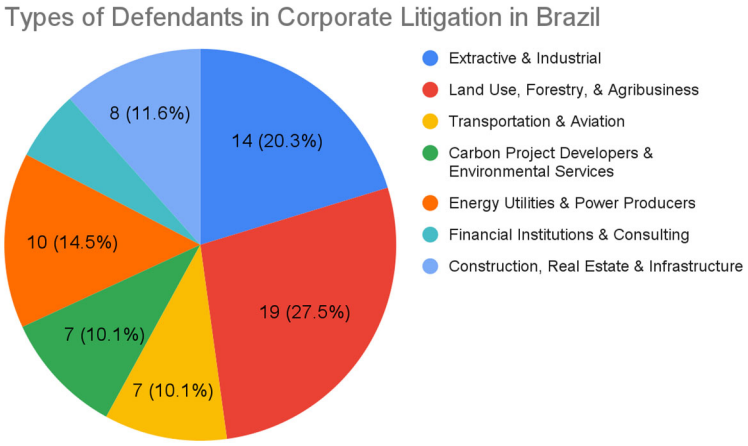
When the focus narrows to climate damages corporate litigation, the concentration becomes even starker. As depicted in Figure 5, Public Prosecutors file more than half (≈56%) of all lawsuits, while federal environmental agencies account for about half of the remaining share (≈23%). This institutional dominance aligns with the country's broader tradition of public civil actions (*ações civis públicas*) as the main avenue for environmental and collective rights litigation, as explained below. It also highlights the extent to which climate accountability in Brazil depends on public capacity and political will, rather than private-sector or community-based mobilization. This profile is unique to Brazil, as elsewhere, the majority of cases are filed by NGOs.

Figure 5*:* Types of Plaintiffs in Corporate Damages Litigation in Brazil (2007–2025)



In Brazil, unlike in other countries, most GHG emissions result from deforestation and land-use change.[64] The Brazilian profile reshapes corporate litigation into new domains, without excluding fossil fuels as a subject of litigation. The composition of defendants in Brazil's corporate climate litigation (Figure 6) reflects the country's economic structure and the centrality of land-use change in national emissions.

Figure 6: Types of Defendants in Corporate Climate Litigation in Brazil (2009–2025)



Land use, forestry, and agribusiness companies dominate Brazil's corporate climate docket, representing roughly 28% of all corporate defendants. These cases typically involve timber exporters, cattle ranching firms, and agro-industrial operators accused of illegal deforestation in the Amazon and Cerrado biomes. Examples include *Amazônia Agroindústria Ltda.*,[65] *Genesisagro S/A*,[66] and *Cachoeira Parecis Agropecuária S/A*,[67] all of which faced claims for operating within protected areas and causing environmental and climate damages. In effect, these cases anchor the emerging jurisprudence on corporate climate damages awards.

[64] Débora Joana Dutra et al., *Challenges for Reducing Carbon Emissions from Land-Use and Land Cover Change in Brazil*, 22 Persp. Ecol. & Conservation 119 (2024).

[65] *Ministério Público Federal v. Diversos réus*, Ação Civil Pública, Justiça Federal, Subseção Judiciária de Redenção/PA, November 2024 (Petition, Braz.).

[66] *Ibama v. Minerva Ribeiro de Barros & Genesis S/A*, Ação Civil Pública, Justiça Federal, Subseção Judiciária de Balsas/MA, 1ª Vara, 11 September 2023 (Petition, Braz.).

[67] *Diversos réus*, *supra* note 65.

A second major bloc comprises extractive and industrial companies (≈21%). These include *Copelmi Mineração S.A.*,[68] *Taquaril Mineração S.A.*,[69] *Usina Mandu S.A.*[70] (later *Tereos Açúcar e Energia Brasil S.A.*), and various timber-processing industries. Suits often combine environmental permitting violations with claims for loss of carbon sinks or increased GHG emissions from industrial activity. The *Usina Mandu* judgment, for example, became one of the first to monetize climate harm from industrial biofuel production.[71] These cases underscore the expanding reach of climate accountability beyond land clearing to the industrial and energy-production sectors.

Energy utilities and power producers represent another substantial cluster (≈15%), featuring companies such as *EDF Norte Fluminense S.A.*,[72] *Litos Energia Ltda.*,[73] and *Karpowership Brasil Energia Ltda.*[74] Litigation in this group typically challenges emission-intensive thermal generation or non-compliance with permitting conditions. Public authorities often appear as co-defendants, reflecting Brazil's joint-liability approach between concessionaires and regulators. These cases exemplify how climate accountability intersects with the country's energy transition.

Carbon-project developers and environmental-service companies (≈10%) form a smaller but rapidly growing category, including *Sustainable Carbon Projetos Ambientais Ltda.*,[75] *Ecomapuá Conservação Ltda.*,[76] and *Wildlife Works Brasil*.[77] Suits

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[68] *Instituto Preservar et al. v. Copelmi Mineração Ltda. & IBAMA*, Ação Civil Pública No. 5030786-95.2021.4.04.7100, Justiça Federal, Seção Judiciária do Rio Grande do Sul, 9ª Vara, 12 August 2022 (Braz.); *Arayara Association of Education and Culture et al. v. FUNAI, Copelmi Mineração Ltda. & FEPAM*, Ação Civil Pública No. 5069057-47.2019.4.04.7100, Justiça Federal, Seção Judiciária do Rio Grande do Sul, 9ª Vara, 8 February 2022 (Braz.); *Arayara Association of Education and Culture v. Copelmi Mineração Ltda. & FEPAM*, Ação Civil Pública No. 5049921-30.2020.4.04.7100, Justiça Federal, Seção Judiciária do Rio Grande do Sul, 9ª Vara, 6 November 2020 (Braz.); *Instituto Internacional Arayara and Fishermen's Colony Z-5 v. Copelmi Mineração Ltda. & FEPAM*, Ação Civil Pública No. 5125450-05.2020.8.21.0001, Tribunal de Justiça do Estado do Rio Grande do Sul, 18 March 2025 (Braz.).

[69] *Duda Salabert Rosa v. State of Minas Gerais & Taquaril Mineração S/A*, Ação Popular, Justiça Estadual, Tribunal de Justiça do Estado de Minas Gerais, 7 February 2022 (Petition, Braz.).

[70] *MPSP v. Usina Mandu S/A*, Apelação No. 0014383-67.2009.8.26.0066, Justiça Federal, Tribunal de Justiça do Estado de São Paulo, 1ª Vara, 20 June 2013 (Braz.).

[71] *Id.*

[72] *Instituto Internacional Arayara v. IBAMA et al.*, Ação Civil Pública, Justiça Federal, Tribunal de Justiça do Estado do Rio de Janeiro, 2ª Vara, 28 October 2022 (Petition, Braz.).

[73] *Id.*

[74] *Federal Public Prosecutor's Office (MPF) v. INEA & Karpowership Brasil Energia Ltda.*, Ação Civil Pública No. 5020957-93.2022.4.02.5101, Justiça Federal, Seção Judiciária do Rio de Janeiro, 17ª Vara, 23 September 2022 (Braz.).

[75] *AMOREMA & AMORETGRAP v. Sustainable Carbon et al.*, Ação Civil Pública, Justiça Federal, Subseção Judiciária de Belém, 20 December 2021 (Petition, Braz.).

[76] *Id.*

[77] *Tuxa Ta Pame v. União Federal, Funai & Wildlife Works Brasil*, Ação Civil Pública

in this group question the legitimacy of carbon offset projects, benefit-sharing with Indigenous and local communities, or alleged greenwashing. As courts begin to assess private actors claiming to mitigate climate change, this line of cases signals a new frontier of corporate accountability.

Transportation and aviation companies account for roughly 10% of defendants, including *Gol Linhas Aéreas S/A*,[78] *Toyota do Brasil Ltda.*,[79] *Nissan do Brasil Automóveis Ltda.*,[80] *Renault do Brasil S.A.*,[81] and several foreign airlines. These suits often relate to emission disclosures, offset marketing, or consumer protection-based climate claims. They highlight Brazil's gradual alignment with global trends in climate disclosure and greenwashing litigation, as seen in Europe and the United States.

Smaller clusters encompass financial institutions and consulting firms (≈6%)—notably *Banco Santander S.A.*,[82] *BNDES Par*,[83] *BB MAPFRE Participações S.A.*,[84] and *Deloitte Touche Tohmatsu*[85]—and construction, real estate, and infrastructure companies (≈11%), such as *Telar Empreendimentos e Participações Ltda.*[86] and *Amazon Imóveis*.[87] These cases signal an incipient shift toward financing and built-environment accountability, where courts explore the responsibility of banks, developers, and auditors for supporting or enabling high-emission projects.

No. 1088085-92.2024.4.01.3700, Justiça Federal, Subseção Judiciária do Maranhão, 3ª Vara, 3 July 2025 (Braz.).

[78] *Instituto Brasileiro de Defesa do Consumidor (IDEC) v. Gol Linhas Aéreas S/A*, interpelação judicial No. 1007633-65.2025.8.26.0100, Tribunal de Justiça de São Paulo (TJSP), Foro Central da Comarca de São Paulo, 18ª Vara Cível, 23 January 2025 (Complaint, Braz.).

[79] *Instituto Saúde e Sustentabilidade v. União Federal et al.*, Ação Civil Pública No. 5009465-87.2022.4.03.6100, Justiça Federal, Seção Judiciária de São Paulo, 2ª Vara Federal, 22 September 2022 (Judicial Order, Braz.).

[80] *Id.*

[81] *Id.*

[82] *AMOREMA & AMORETGRAP v. Sustainable Carbon et al.*, Ação Civil Pública, Justiça Federal, Subseção Judiciária de Belém/PA, 29 December 2021 (Petition, Braz.).

[83] *Conectas Direitos Humanos v. BNDES & BNDESPAR*, Ação Civil Pública, Justiça Federal, Seção Judiciária do Distrito Federal, 21 June 2022 (Petition, Braz.).

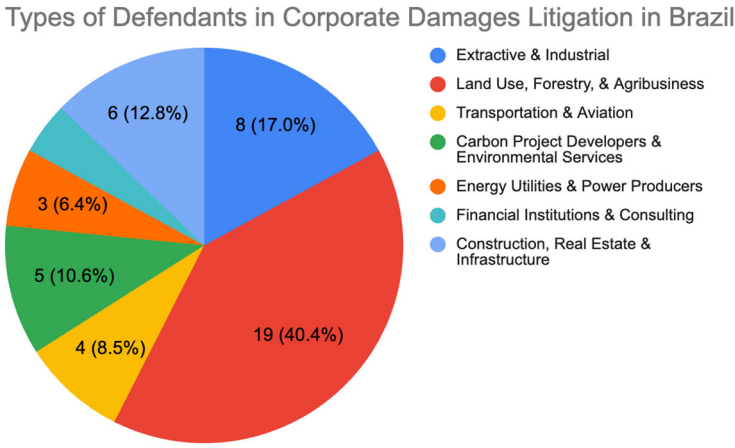
[84] *AMOREMA & AMORETGRAP*, *supra* note 82.

[85] *Id.*

[86] *Conectas Direitos Humanos v. BNDES & BNDESPAR*, Ação Civil Pública, Justiça Federal, Seção Judiciária do Distrito Federal, 21 June 2022 (Petition, Braz.).

[87] *Carbonext Tecnologia em Soluções Ambientais Ltda. v. Amazon Imóveis*, Execução de Título Extrajudicial No. 1072768-63.2021.8.26.0100, Tribunal de Justiça do Estado de São Paulo (TJSP), Foro Central Cível da Comarca de São Paulo, 44ª Vara Cível, 7 October 2021 (Braz.).

Figure 7: Types of Defendants in Corporate Climate Damages Litigation in Brazil (2009–2025)



Based on the distribution shown in Figure 7, land use, forestry, and agribusiness companies account for the largest share of corporate damages litigation in Brazil, representing just over 40% of all defendants. This confirms the sector's central role in climate-related harm, as deforestation and land-use change remain the country's primary sources of emissions. Extractive and industrial firms follow with 17%, reflecting a significant but secondary concentration of cases tied to mining, biofuel production, and related industrial activities. Construction, real estate, and infrastructure defendants represent about 13%, while carbon project developers and environmental service companies make up roughly 11%, underscoring the growing scrutiny of Brazil's voluntary carbon market. Transportation and aviation (8%), energy utilities and power producers (6%), and financial institutions and consulting firms (6%) appear less frequently but collectively illustrate the gradual diversification of corporate accountability beyond land-use and extractive sectors.

Interestingly, while much of the global corporate climate-litigation discourse continues to focus on large fossil fuel, oil, and gas producers, the Brazilian experience shows a markedly different profile of corporate defendants. Whereas the Grantham Institute's 2025 Snapshot reports that many corporate cases globally still center on fossil fuel expansion and supply-side challenges,[88] litigation in Brazil is dominated by land-use and forestry actors, followed by industrial and energy-sector firms (rather than purely upstream oil and gas firms). This diversity in defendants reflects

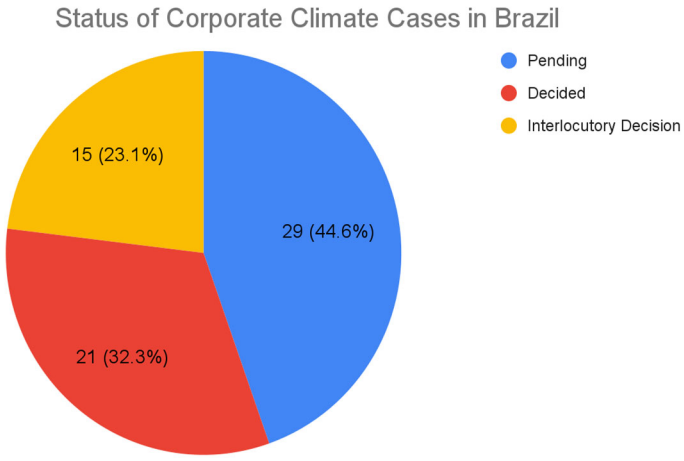
[88] Setzer & Higham, 2025 Snapshot, *supra* note 13, at 16–20 (reporting that more than half of all corporate-targeted climate cases globally involve fossil-fuel producers and major emitters in the oil and gas sector).

Brazil's distinctive climate-emissions anatomy—where deforestation, agro-industry, and land-use change contribute far more to national GHG emissions than many traditional fossil fuel sources. More than that, it suggests that corporate climate accountability may need sharply different contours in the Global South.[89] It underlines how liability strategies, valuation methodologies, and enforcement pathways cannot simply be transplanted from the Global North's fossil fuel-centric model. Instead, they must adapt to local emission profiles, sectoral structures, and regulatory traditions as invoked in Brazil's jurisprudence.[90]

C. Case Trajectories and Judicial Engagement

The procedural landscape of Brazil's corporate climate litigation reveals a system still in formation but increasingly active. As shown in Figure 8, nearly 45% of corporate climate cases remain pending, reflecting both the recent acceleration of filings and the inherently slow pace of complex environmental litigation in Brazil. Roughly 32% have reached a merits decision, while 23% have had an interlocutory decision, typically preliminary injunctions, procedural dismissals, or evidentiary rulings.

Figure 8: Status of Corporate Climate Cases in Brazil (as of November 2025)

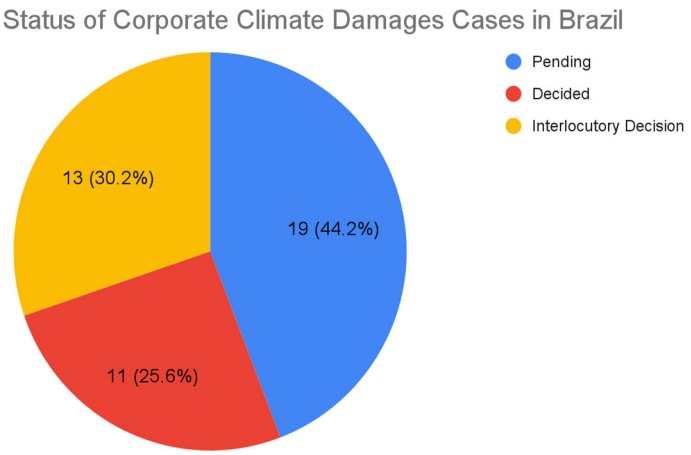


[89] *Id.* at 22 (noting that corporate defendants in Global South jurisdictions increasingly include agribusiness, land-use, and forestry actors, in contrast with Global North litigation patterns).

[90] Joana Setzer & Catherine Higham, *Global Trends in Climate Change Litigation: 2024 Snapshot Report* 10 (London Sch. of Econ. & Pol. Sci. 2024) (finding that oil, gas, and energy companies remain the most frequent corporate defendants worldwide, though litigation is diversifying to include financial and land-use sectors).

A similar profile appears in climate damage cases, where roughly 44% remain pending, 27% have been decided, and 30% have had interlocutory decisions (Figure 9). The decided cases are discussed below.

Figure 9: Status of Corporate Climate Damages Cases in Brazil
(as of November 2025)



D. Comparative Touchpoints

The comparative landscape of corporate climate damages litigation highlights the originality of Brazil's approach. While Global North jurisdictions have struggled to overcome causation barriers and have yet to deliver compensatory climate judgments against major fossil fuel companies, Brazil's judiciary has already operationalized monetary liability through deforestation-related claims. A study from March 2025 (therefore, not including several of the Brazilian cases discussed in this Article) found 68 climate damages brought worldwide, 54% of which were in the United States.[91] Of these cases, the fossil fuel industry is the target in 54% (the primary target in the United States), and ExxonMobil, Shell, Chevron, ConocoPhillips, and BP each had more than 20 cases filed against them.

Zero Carbon Analytics' assessment noted that, until March 2025, no oil and gas company had been held financially liable for climate change damages. Still, they found some financial impact to oil and gas companies from climate litigation, citing a 2024 Zero Carbon Analytics study, which found that firms experience an average of a 0.41% fall in stock returns after a climate-related filing or unfavorable court

[91] Zero Carbon Analytics, *Companies Face Financial Risks from Growing Climate Damage Litigation*, Briefing (3 March 2025), https://zerocarbon-analytics.org/archives/energy/companies-face-financial-risks-from-growing-climate damage-litigation.

decision.[92] For Carbon Majors, the average fall is larger: 0.57% after a filing and 1.50% following an unfavorable decision.[93]

By contrast, Brazilian courts have taken a pragmatic route: they link illegal deforestation directly to quantifiable GHG emissions and apply a social cost of carbon to calculate damages. This method—anchored in statutory strict liability rather than contested attribution science—bridges the gap between global ambition and enforceable domestic law. It transforms environmental liability into a vehicle for climate reparations without departing from Brazil's established civil and environmental law framework. In this sense, Brazil stands as an early test case of how Global South jurisdictions can translate the "polluter-pays" principle into measurable corporate climate accountability, while Global North systems remain largely at the threshold of theory.

III. LEGAL BASES AND LIABILITY REGIMES IN BRAZIL

Having identified 43 corporate climate damage suits, we now turn to the legal scaffolding that sustains them. Part III, therefore, examines the diverse legal foundations and liability regimes that underpin climate-related litigation and environmental accountability in Brazil. It begins by outlining the constitutional grounds that establish environmental protection and climate stability as fundamental rights and state duties. It then analyzes the liability frameworks that govern environmental and climate damages, highlighting how civil, administrative, and criminal regimes intersect through principles such as strict liability and obligations *propter rem*. The following Section explores consumer law and greenwashing claims, illustrating how consumer protection mechanisms have emerged as an important avenue for addressing misleading environmental advertising and sustainability representations.

The analysis then turns to administrative and regulatory enforcement actions, focusing on the role of public agencies, prosecutors, and regulatory bodies in sanctioning and preventing environmental and climate-related harms. Building on this, the Section on corporate responsibility under Brazilian environmental law discusses the duties of private actors and the evolution of jurisprudence holding corporations accountable for deforestation, emissions, and inadequate due diligence. Finally, the Part concludes with an examination of the application of international legal principles in Brazilian courts, emphasizing how global climate norms, human rights obligations, and transnational legal arguments inform domestic adjudication and enforcement practices. Framing these doctrines up front makes the subsequent discussion of remedies and quantification legible to an international audience.

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[92] Misato Sato et al., *Impacts of Climate Litigation on Firm Value*, 7 Nature Sustainability, 1461 (2024).

[93] *Id.*

A. Constitutional Foundations for Environmental and Climate Protection

The Brazilian Constitution provides one of the most comprehensive constitutional bases for environmental and climate protection worldwide, embedding ecological balance as a fundamental right and state duty. Article 225 expressly recognizes the shared responsibility of both the government and society for safeguarding an ecologically balanced environment.[94] This shared duty naturally broadens the scope of liability and creates fertile ground for corporate climate litigation.[95] Paragraph 3 of Article 225 further establishes the independence and non-excludability of civil, criminal, and administrative liabilities.[96] Importantly, Article 225 is enshrined as a *cláusula pétrea*, a perpetual clause immune to dilution through constitutional amendments.[97] Furthermore, the Constitution anchors the principle of intergenerational equity, framing Brazil's constitutional approach to climate governance.[98]

The social and environmental function of property, a critical concept in addressing climate-related harm to forests, derives from the combined reading of Article 170, item VI and Article 5, item XXIII.[99] The first establishes that the economic order must respect its environmental function; the second, conditions the right to property on its social function. Together, they delineate environmental and climate limits on the exercise of economic freedoms. These limits are reinforced by Article 186, item II, which mandates that productive activities be conducted within environmental and climate boundaries.[100] The constitutional protection of the Amazon as national patrimony (Article 225, § 5) further elevates the biome's status, with significant implications for the recognition of collective moral damages in environmental law.[101]

Brazilian courts have relied on these constitutional principles to balance fundamental rights and impose substantive environmental constraints. In *ADI 4066 (Chrysotile Asbestos)*,[102] the STF held that individual and economic freedoms

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[94] CONSTITUIÇÃO FEDERAL [C.F.] [CONSTITUTION] art. 225 (Braz.). *See also* Pamplona & Pires, *supra* note 26.

[95] Borges, *supra* note 27.

[96] CONSTITUIÇÃO FEDERAL, art. 225, para. 3 (Braz.).

[97] *Id.* art. 60, § 4º.

[98] Vásquez Torreblanca, *The Environmental Rule of Law, Intergenerational Equity and Climate Litigation in Latin America*, 8 Católica L. Rev. 83 (2024).

[99] CONSTITUIÇÃO FEDERAL, arts. 5, XXIII; 170, VI.

[100] Borges, *supra* note 27.

[101] Primeira Turma define critérios objetivos para reconhecer dano moral coletivo em casos de lesão ambiental, Superior Tribunal de Justiça (STJ), June 5, 2025 (Braz.), https://www.stj.jus.br/sites/portalp/Paginas/Comunicacao/Noticias/2025/05062025-Primeira-Turma-define-criterios-objetivos-para-reconhecer-dano-moral-coletivo-em-casos-de-lesao-ambiental.aspx.

[102] *Ação Direta de Inconstitucionalidade (ADI) No. 4066*, Supremo Tribunal Federal,

(Articles 1, item IV; and 170)[103] are limited by the constitutional duty to protect health and the environment. Relying on scientific evidence of asbestos' harm, the STF invalidated laws permitting its use—affirming that courts may intervene when existing legal frameworks fail to ensure adequate protection.[104]

Beyond shared responsibility, the Constitution delineates specific state obligations[105] under Article 225, § 1.[106] These include duties to (i) preserve and restore essential ecological processes;[107] (ii) protect biodiversity and regulate research on genetic resources;[108] (iii) designate and safeguard specially protected areas;[109] (iv) require Environmental Impact Assessments (EIAs) for projects with significant environmental risks;[110] (v) regulate the use of hazardous substances;[111] and (vi) protect fauna and flora against extinction or ecological imbalance.[112] Collectively, these provisions define a robust preventive and precautionary framework for environmental governance.

The judiciary has interpreted these obligations to encompass state liability for omission.[113] The STJ held that "the civil liability of the Public Administration for environmental damage arising from its omission in oversight is joint and several in nature, but subsidiary in execution."[114] In subsequent rulings, the Court expanded this principle, recognizing that "the State's liability for environmental damage resulting from its failure to monitor or supervise—whenever it contributes, directly or indirectly, to environmental degradation—is strict, joint and several, and unlimited."[115]

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29 November 2017 (Braz.).

[103] CONSTITUIÇÃO FEDERAL, art. 170, VI.

[104] Borges, *supra* note 27.

[105] Nicholas S. Bryner, *Brazil's Green Court: Environmental Law in the Superior Tribunal de Justiça (High Court of Brazil)*, 29 Pace Env't L. Rev. 470 (2012).

[106] Felipe Franz Wienke & Carlos Alberto Lunelli, *Competência Legislativa em Matéria Ambiental: Um Campo de Indefinição no Federalismo Brasileiro*, 17 *Meritum* 2 (May/Aug. 2022).

[107] CONSTITUIÇÃO FEDERAL, art. 225, § 1º, I.

[108] *Id.* § 1º, II.

[109] *Id.* § 1º, III.

[110] *Id.* § 1º, IV.

[111] *Id.* § 1º, V.

[112] *Id.* § 1º, VIII.

[113] Danielle de Andrade Moreira & Stela Luz Andreatta Herschmann, *The Awakening of Climate Litigation in Brazil: Strategies Based on the Existing Legal Toolkit*, Rev. Direito, Estado & Sociedade, no. 59 (2021), https://revistades.jur.puc-rio.br/index.php/revistades/article/view/1821.

[114] Súmula 652, Superior Tribunal de Justiça [STJ], Dec. 2, 2021 (Braz.), https://www.stj.jus.br/publicacaoinstitucional/index.php/sumstj/article/viewFile/12730/12823.

[115] Superior Tribunal de Justiça [STJ], *Jurisprudência em Teses—Edição 214: Direito Ambiental II* (2023), https://www.stj.jus.br/sites/portalp/Paginas/Comunicacao/Noticias/2023/07062023-Jurisprudencia-em-teses-traz-nova-edicao-sobre-direito-ambiental.aspx.

This jurisprudence means that, even in corporate climate litigation, the government frequently appears as a co-defendant, reflecting the shared constitutional duty to protect the environment. Constitutional litigation thus serves as a cornerstone of Brazil's climate jurisprudence, providing a normative foundation that links fundamental rights, intergenerational equity, and environmental responsibility.

B. Civil and Environmental Liability Frameworks

Brazil's civil and environmental liability regimes provide the core legal infrastructure for holding both public and private actors accountable for climate-related harm. These frameworks blend statutory, constitutional, and jurisprudential elements to address a broad spectrum of climate-environmental damage, ranging from direct emissions to the cascading effects of climate change itself.

According to Moreira and her co-authors, civil liability for climate damage encompasses claims that invoke traditional tort and environmental liability to address harm arising from GHG emissions.[116] These may involve direct climate damage—where emissions themselves cause injury—or indirect climate damage, stemming from the broader impacts of climate change.[117] According to Rafaela Rosa, direct climate damage is based on proof of measurable harm to the climate system.[118] In contrast, indirect climate damage is based on the harmful effects of climate change or on the losses arising from the impact on the climate system.[119] Some possible examples include crop losses caused by prolonged droughts or the increase in diseases and health problems associated with extreme heat. To date, no cases involving indirect climate damage have been identified in Brazil,[120] underscoring the novelty of this emerging field.

Returning to direct damages, they are regulated under CNJ Resolution 433/2021, which defines "climate-environmental damage" as the *climate dimension of environmental damage*—requiring courts to assess the relationship

[116] Broadly, de Andrade Moreira et al. classify climate litigation cases in Brazil according to the different measures addressed, namely (i) mitigation, (ii) adaptation, (iii) civil liability for climate damage, and/or (iv) climate risk assessment. de Andrade Moreira et al., Brazilian Climate Litigation 2024, *supra* note 10, at 18–19.

[117] To differentiate between direct and indirect damage, Rafaela Rosa characterizes the former as direct climate damage, based on proof of significant deleterious effects on the climate system, while the latter is grounded in the harmful effects of climate change or in the losses resulting from the impact on the climate system.

[118] Rafaela Santos Martins da Rosa, Dano climático: conceito, pressupostos e responsabilização 311, 400 (São Paulo: Tirant Brasil 2023).

[119] *Id.*

[120] *Panorama da Litigância Climática no Brasil* (Danielle de Andrade Moreira et al. eds., 2d ed., Ed. dos Autores 2025) (Braz.), https://juma.jur.puc-rio.br/_files/ugd/f72dea_2ba7506fbc224f818e2529fe157b5655.pdf.

between environmental degradation and global climate change.[121] Such claims may target individuals, corporations, or public authorities, seeking reparation for harm caused either to the climate system or, through its disruption, to communities, ecosystems, or the public at large.[122] As of 2024, Brazil had recorded 51 cases invoking these theories, though many involve individual landowners accused of illegal deforestation and are therefore excluded from this corporate-focused analysis.[123] In 2025, the importance of this study was reinforced by the remarkable increase to a total of 249 cases of civil liability for climate-related damage.[124] All cases analyzed in this Article involve direct damages. As of November 2025, we identified 43 instances of corporate climate damage cases.

The application of liability regimes in climate cases—whether strict or fault-based—directly shapes the ease or difficulty of proving corporate responsibility. This Section, therefore, examines how these regimes operate in Brazil and how they interact with international principles and norms increasingly cited in climate litigation. In this regard, *MPSP v. Usina Mandu S.A.* (burning of sugarcane straw) provides a leading precedent.[125] The court squarely applied the polluter-pays principle, emphasizing that it is not a permit to pollute through compensation, but a preventive and dissuasive mechanism that allocates the costs of harm to those who caused or benefited from it.[126] The judgment further anchored solidary liability to reach indirect polluters and beneficiaries, clarifying that administrative fines do not substitute civil repair, which stands independently under Article 225, § 3 of the Constitution.[127] The court endorsed objective, risk-integrated liability for environmental harm (Law 6.938/81, Article 14, § 1),[128] eschewing fault inquiries and traditional excluders; and characterized air pollution and ecological degradation as injuries burdening future generations—thereby justifying robust civil remedies.[129]

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[121] Danielle de Andrade Moreira, Victória Lourenço de Carvalho Gonçalves & Maria Eduarda Segovia, *Aspectos conceituais e práticos da responsabilização civil por dano ambiental-climático no Brasil*, 113 Rev. de Direito Ambiental 341, 344 (2024).

[122] *Id.*

[123] *Panorama da Litigância Climática no Brasil*, *supra* note 120, at 19.

[124] *Id.*

[125] For the procedural history of the case, see *Apelação* No. 0014383-67.2009.8.26.0066, *supra* note 70; *MPSP v. Usina Mandu S.A.*, Embargos Infringentes No. 0014383-67.2009.8.26.0066/50000, Justiça Estadual, Tribunal de Justiça do Estado de São Paulo, 1ª Câmara Reservada ao Meio Ambiente, 13 February 2014 (Braz.); *MPSP v. Usina Mandu S.A.*, *Liquidação por Arbitramento* No. 0005535-08.2020.8.26.0066, Justiça Estadual, Tribunal de Justiça do Estado de São Paulo, Comarca de Barretos, 1ª Vara Cível, 24 February 2021 (Braz.).

[126] *Embargos Infringentes* No. 0014383-67.2009.8.26.0066/50000, *supra* note 125.

[127] *Apelação* No. 0014383-67.2009.8.26.0066, *supra* note 70 (Negrini Filho, J., dissenting); *Embargos Infringentes* No. 0014383-67.2009.8.26.0066/50000, *supra* note 125.

[128] *Apelação* No. 0014383-67.2009.8.26.0066, *supra* note 70 (Negrini Filho, J., dissenting); *Embargos Infringentes* No. 0014383-67.2009.8.26.0066/50000, *supra* note 125.

[129] *Embargos Infringentes* No. 0014383-67.2009.8.26.0066/50000, *supra* note 125.

A recurring question in Brazilian climate litigation concerns the legality of GHG-intensive activities. Should courts defer to administrative permits authorizing such operations, or may they recognize certain activities—like fossil fuel extraction or large-scale deforestation—as intrinsically unlawful given constitutional and environmental duties? Early corporate cases have argued that permits cannot legitimize inherently unsustainable activities that conflict with the Constitution's environmental and intergenerational obligations. As Rafaela Rosa notes, this tension signals a deeper conceptual shift: climate litigation increasingly challenges the very boundaries of legality, moving beyond formal compliance toward the substantive question of whether certain economic activities are compatible with constitutional climate duties.[130]

To date, most Brazilian cases have focused on manifestly unlawful conduct, such as illegal deforestation or violations of permitting requirements, where statutory breaches provide clear grounds for liability. Yet this jurisprudence has a broader significance: it lays the conceptual foundation for future cases questioning whether even with a permit, fossil fuel-intensive operations might be legally impermissible in themselves.[131] In this way, traditional environmental liability serves as a doctrinal bridge toward a more expansive conception of climate responsibility.

Brazil's civil liability regime is anchored in the National Environmental Policy (Law No. 6,938/1981)[132] and the National Policy on Climate Change (Law No. 12,187/2009),[133] both designed to reconcile economic development with environmental and climate protection. Brazilian law adopts a model of strict civil liability (*responsabilidade civil objetiva*), grounded in the theory of integral risk (*teoria do risco integral*).[134] This doctrine holds polluters liable for environmental harm irrespective of fault or intent. Article 14, § 1 of Law No. 6,938 provides that "the polluter is obliged, regardless of fault, to indemnify or repair the damages caused to the environment and to third parties affected by its activity."[135] These statutes have enabled an advanced framework for prevention, mitigation, and compensation of environmental harms caused by private actors.[136] Unsurprisingly, most current corporate climate litigation relies on these laws, together with civil liability doctrines and permitting rules, as the primary legal bases for

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[130] da Rosa, *supra* note 118, at 384–85.

[131] *Id.*

[132] Lei No. 6.938, de 31 de agosto de 1981, Diário Oficial da União [D.O.U.] de 2.9.1981 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l6938.htm.

[133] Lei No. 12.187, de 29 de dezembro de 2009, Diário Oficial da União [D.O.U.] de 29.12.2009 (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l12187.htm.

[134] de Andrade Moreira & Luz Andreatta Herschmann, *supra* note 113.

[135] Lei No. 6.938, de 31 de agosto de 1981 (Dispõe sobre a Política Nacional do Meio Ambiente) (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l6938.htm.

[136] Tigre & Setzer, *supra* note 45.

accountability.[137] Based on this principle, the STJ has developed a robust jurisprudence expanding the scope of liability and remedies.[138]

Corporate responsibility is further reinforced under the Environmental Crimes Law (Law No. 9,605/1998), which explicitly extends liability to legal entities.[139] Article 2 establishes that corporations are administratively, civilly, and criminally liable whenever (a) the infraction results from a decision by their legal representative or governing body, and (b) the act benefits or serves the entity's interests. This provision has been used to hold directors, managers, auditors, and agents accountable for failing to prevent unlawful acts within their control. Importantly, the law specifies that the liability of legal entities does not exclude that of natural persons and permits courts to pierce the corporate veil (Article 4) when corporate personality obstructs reparation of environmental damage.[140] These features make Brazil's regime one of the most globally expansive in terms of corporate accountability.[141]

The definition of "polluter" in the National Environmental Policy further widens liability to encompass both natural and legal persons, whether public or private, who directly or indirectly contribute to environmental degradation.[142] Environmental obligations in Brazil are thus attached to property rather than solely to persons. Under the Forest Code, the duty to restore or reforest land binds both current and former owners.[143] The STJ's Precedent No. 623 confirms that environmental obligations are of a *propter rem* nature and may be enforced against either or both owners at the creditor's discretion.[144]

IBAMA v. Minerva Ribeiro de Barros and Genesisagro S/A[145] exemplifies this principle. The case involved illegal deforestation of nearly 190,960 hectares of native Cerrado vegetation, one of Brazil's legally protected biomes, in an area designated as a Legal Reserve. In this case, the company Minerva was identified as the owner

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[137] de Andrade Moreira & Luz Andreatta Herschmann, *supra* note 113.

[138] Bryner, *supra* note 105.

[139] Lei No. 9.605, de 12 de fevereiro de 1996 (Braz.), Dispõe sobre as sanções penais e administrativas derivadas de condutas e atividades lesivas ao meio ambiente, e dá outras providências, https://www.planalto.gov.br/ccivil_03/leis/l9605.htm.

[140] Borges, *supra* note 27.

[141] *Id.*

[142] Lei No. 6.938, de 31 de agosto de 1981 (Braz.), Dispõe sobre a Política Nacional do Meio Ambiente, seus fins e mecanismos de formulação e aplicação, e dá outras providências, https://www.planalto.gov.br/ccivil_03/leis/l6938.htm.

[143] Lei No. 12.651, de 25 de maio de 2012, Diário Oficial da União [D.O.U.] de 28.5.2012 (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/l12651.htm.

[144] Súmula 623, Superior Tribunal de Justiça (STJ), Dec. 17, 2018 (Braz.), https://www.stj.jus.br/docs_internet/revista/eletronica/stj-revista-sumulas-2021_48_capSumulas623.pdf.

[145] *Ibama v. Minerva Ribeiro de Barros & Genesis S/A*, Ação Civil Pública, Justiça Federal, Subseção Judiciária de Balsas/MA, 1ª Vara, 11 September 2023 (Petition, Braz.).

of Fazenda Miranda, with deforestation verified in the legal reserve area without authorization. There had been deforestation prior to the company's ownership, which was also sought to be remedied through the responsibility of the current owner. This case is also notable because *Operation Custódia Carvão* uncovered the illegal sale of native charcoal, holding the steel companies that purchased the illegal product accountable for being part of the responsibility chain. The plaintiff, IBAMA, used remote sensing data to show that the area continued to be exploited even after it had been embargoed by IBAMA, with no regeneration measures implemented.[146] The STJ reaffirmed in Precedent No. 629 that environmental lawsuits may combine obligations to restore and to compensate, significantly broadening available remedies.[147]

Finally, Article 36 of the Law of the National System of Conservation Units—SNUC (Law No. 9,985/2000)—establishes that all enterprises with potential for significant environmental degradation must provide environmental compensation and maintain preservation areas.[148] This requirement has particular relevance for corporate actors whose operations intersect with Brazil's protected biomes, reinforcing the preventive and restorative character of Brazil's liability system.

In sum, Brazil's civil and environmental liability frameworks—anchored in strict, risk-integral responsibility and supported by an expansive interpretation of the *polluter-pays* principle—offer a distinctive model within the global landscape of climate litigation. The combination of constitutional duties, statutory precision, and jurisprudential innovation has produced a legal environment where preventive, reparatory, and dissuasive remedies coexist and apply across both public and private actors. This architecture not only facilitates accountability for direct environmental harm but also lays the groundwork for claims addressing the climate dimension of environmental degradation. As international courts and domestic systems converge around shared principles of due diligence and reparation, Brazil's experience demonstrates how traditional environmental liability can evolve into a functional vehicle for corporate climate responsibility, bridging national enforcement and global climate governance.

C. Consumer Law and Greenwashing Litigation

Consumer protection law has emerged as a promising avenue for addressing corporate greenwashing and misleading environmental claims in Brazil. The Brazilian Consumer Protection Code (Law No. 8,078/1990) guarantees consumers

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[146] *Id.*

[147] Súmula 629, Superior Tribunal de Justiça (STJ), Dec. 17, 2018 (Braz.), https://www.stj.jus.br/docs_internet/revista/eletronica/stj-revista-sumulas-2021_48_capSumulas629.pdf.

[148] Lei No. 9.985, de 18 de julho de 2000, Regulamenta o art. 225, § 1º, incisos I, II, III e VII da Constituição Federal, institui o Sistema Nacional de Unidades de Conservação da Natureza e dá outras providências (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l9985.htm.

the right to seek redress for damages caused by defective or hazardous products or services, and its underlying principles—information, transparency, and good faith—provide fertile ground for climate-related accountability.[149] As corporations increasingly market sustainability commitments, Brazilian courts have begun to recognize that deceptive or exaggerated environmental claims can constitute violations of both consumer and environmental rights.

The STJ has extended consumer protection logic to environmental matters, emphasizing the vulnerability of the environment as a collective good. In Precedent No. 618, the STJ shifted the burden of proof in environmental damage cases, holding that entities engaged in potentially polluting activities must demonstrate the harmlessness of their conduct.[150] This interpretation draws on the precautionary principle and reflects the consumer law rationale that the burden should fall on the stronger, more informed party.[151] The precedent thus reinforces a structural analogy: in environmental disputes, the environment itself is treated as the most vulnerable consumer in need of protection.

Efforts to curb greenwashing, that is, false or misleading representations of environmental performance, also intersect with other regulatory frameworks. The Brazilian Securities Law[152] imposes disclosure obligations on corporations whose sustainability statements may affect investors' decisions, while the Competition Law[153] prohibits anti-competitive practices, including misleading advertising that distorts market fairness. These statutes expand the scope of potential claims beyond consumer deception to include corporate transparency and market integrity, enabling plaintiffs and regulators to challenge climate-related misrepresentation through multiple legal pathways.

Transparency, in particular, has become a cornerstone of Brazilian environmental jurisprudence. Under Theme 13,[154] the STJ recognized a constitutional right of access to environmental information, which applies to both public and private entities performing environmentally relevant activities. The STJ held that public authorities must: (a) proactively publish, online, environmental documents not subject to confidentiality (active transparency); (b) ensure that any

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[149] Lei No. 8.078, de 11 de setembro de 1990 (Código de Defesa do Consumidor) (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l8078.htm.

[150] Súmula 618, Superior Tribunal de Justiça (STJ), Mar. 1, 2021 (Braz.), https://www.stj.jus.br/docs_internet/revista/eletronica/stj-revista-sumulas-2021_48_capSumulas618.pdf.

[151] Bryner, *supra* note 105.

[152] Lei No. 7.913, de 9 de dezembro de 1989, Diário Oficial da União [D.O.U.] de 11.12.1989 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l7913.htm.

[153] Lei No. 12.529, de 30 de novembro de 2011, Diário Oficial da União [D.O.U.] de 1.12.2011 (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2011/lei/l12529.htm.

[154] Tema 13, Superior Tribunal de Justiça (STJ), May 24, 2022 (Braz.), https://processo.stj.jus.br/repetitivos/temas_repetitivos/pesquisa.jsp?novaConsulta=true&tipo_pesquisa=I&cod_tema_inicial=13&cod_tema_final=13.

person or entity may request access to unpublished environmental information (passive transparency); and (c) recognize the right to demand the production of environmental data not yet held by the administration. This jurisprudence strengthens the evidentiary and informational foundations for consumer and climate-related claims by requiring proactive disclosure and enabling judicial scrutiny of omissions or false statements.

Litigation grounded in Environmental, Social, and Governance (ESG) standards can thus rely on these transparency instruments to reinforce claims of misrepresentation or omission.[155] As corporate sustainability narratives increasingly intersect with consumer protection norms, courts are poised to use information and disclosure duties as both preventive and remedial tools, ensuring that corporations' environmental claims align with their actual performance and legal obligations.

In sum, consumer- and transparency-based litigation represents a new frontier in Brazil's climate accountability landscape. By integrating consumer law principles, evidentiary flexibility, and access-to-information jurisprudence, Brazilian courts are developing mechanisms capable of addressing not only overt environmental harm but also the subtler, yet equally consequential, risks of greenwashing and corporate misinformation in the climate transition.

D. Administrative and Regulatory Enforcement Mechanisms

Administrative enforcement plays a central role in Brazil's environmental and climate governance, ensuring that constitutional and statutory obligations are effectively implemented. As noted, the 1988 Constitution, in Article 23, item VI, establishes that environmental protection falls under common jurisdiction.[156] This means that all federative entities share administrative responsibility for safeguarding the environment, and if one fails, all may be held jointly and severally liable for the resulting harm. This constitutional framework strengthens the role of the State, not only in regulatory matters but also in oversight and enforcement.

On this basis, the STJ has held that the Brazilian legal system grants all federative entities the environmental police power (*poder de polícia ambiental*), which encompasses both oversight authority, governed by the principle of shared competences, and permitting authority, subject to the principle of mitigated concentration of competences.[157] In practice, this means that administrative enforcement is a shared and dynamic responsibility across levels of government.[158]

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[155] Superior Tribunal de Justiça [STJ], *Jurisprudência em Teses—Edição 214: Direito Ambiental II* (2023) (Braz.), https://www.stj.jus.br/sites/portalp/Paginas/Comunicacao/Noticias/2023/07062023-Jurisprudencia-em-teses-traz-nova-edicao-sobre-direito-ambiental.aspx.

[156] Mariana Barbosa Cirne, *A Lei Complementar 140/2011 e as competências ambientais fiscalizatórias*, 18 Rev. de Direito Ambiental 67 (2013).

[157] Borges, *supra* note 27.

[158] *Jurisprudência em Teses—Edição 214*, *supra* note 155.

Environmental agencies at the federal level, such as IBAMA and ICMBio, as well as their state and municipal counterparts, not only may, but must act to ensure environmental protection. The exercise of this police power has evolved through successive regulatory reforms. Notably, Decree No. 6,514 of 2008 transformed IBAMA's enforcement system by establishing a detailed typology of infractions that was later adopted by states and municipalities.[159] The decree reorganized administrative procedures, expanded categories of infractions, and increased applicable fines. However, enforcement is subject to procedural limits: the environmental authority must conclude the administrative proceeding within five years, and a case may not remain inactive for more than three years, under penalty of prescription.[160]

IBAMA's Normative Instruction No. 15/2023 further enhanced administrative enforcement by authorizing general preventive and remote embargoes of areas where irregular activities are detected, including vegetation suppression, forest exploitation, and the use of fire in Indigenous lands and other public areas of the Legal Amazon.[161] This mechanism reinforces preventive state action and reflects Brazil's growing reliance on remote sensing and digital monitoring technologies in environmental oversight.

Beyond traditional environmental agencies, sectoral regulators are also increasingly relevant for climate accountability. The Securities and Exchange Commission of Brazil (*Comissão de Valores Mobiliários*—CVM) may hold companies liable for failing to disclose ESG or climate-related information as required by CVM Resolution No. 59/2021.[162] This rule obliges publicly listed companies to disclose sustainability risks, emissions-related data, and transition strategies, aligning Brazil's regulatory environment with emerging international reporting standards.

Together, these administrative and regulatory mechanisms illustrate how Brazil's enforcement architecture combines preventive, corrective, and transparency-based tools. They ensure that environmental and climate obligations are not confined to judicial arenas but actively implemented through oversight, permitting, and disclosure duties that extend across the public and private sectors.

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[159] Decreto No. 6.514, de 22 de julho de 2008, Diário Oficial da União [D.O.U.] de 23.7.2008 (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2008/decreto/d6514.htm.

[160] Súmula 467, Superior Tribunal de Justiça (STJ), Oct. 25, 2010 (Braz.), https://www.stj.jus.br/docs_internet/jurisprudencia/tematica/download/SU/Verbetes/VerbetesSTJ.pdf.

[161] Instrução Normativa No. 15, de 1 de junho de 2023, Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis [IBAMA] (Braz.), https://www.ibama.gov.br/component/legislacao/?legislacao=139323&view=legislacao.

[162] Comissão de Valores Mobiliários [CVM], Resolução CVM No. 59, de 22 de dezembro de 2021, Diário Oficial da União [D.O.U.] de 23.12.2021 (Braz.), https://conteudo.cvm.gov.br/legislacao/resolucoes/resol059.html.

E. Corporate Environmental and Climate Responsibility

Corporate environmental and climate responsibility in Brazil rests on an expansive statutory foundation that defines both direct and indirect liability. Article 3, item IV, of the National Environmental Policy Act (Law No. 6,938/1981) defines a "polluter" as "any natural or legal person, public or private, directly or indirectly responsible for an activity that causes environmental degradation."[163] Complementarily, Article 3, item III, defines "pollution" as the degradation of environmental quality resulting from activities that directly or indirectly harm health, safety, and well-being; create adverse conditions for social and economic activities, negatively affect biota; impair aesthetic or sanitary conditions; or release materials or energy in violation of environmental standards.[164] This open-ended definition provides a broad foundation for corporate litigation and allows courts to capture a wide range of environmentally harmful conduct.

The precautionary principle, codified in Article 4 of the same statute, underpins corporate environmental responsibility by establishing "the imposition upon polluters and predators of the obligation to restore and/or compensate for damages caused, and upon users the duty to contribute to the utilization of environmental resources for economic purposes."[165] Together with the polluter-pays principle, it imposes a duty to internalize negative externalities and to allocate the costs of environmental degradation to those who profit from it.[166] The polluter-pays principle thus serves a preventive and dissuasive function, seeking to correct the imbalance between privatized profits and socialized environmental costs.

The National Environmental Policy Act also addresses the liability of financial actors. Article 12 provides that government financing entities and agencies must condition project approval on proof of the relevant environmental permits and compliance with the rules, criteria, and standards established by the *Conselho Nacional de Meio Ambiente* (CONAMA), Brazil's National Environmental Council.[167] In this way, financiers may be held liable as indirect polluters when they enable environmentally harmful activities. The same Article requires such entities to include, in financed projects, the performance of works and the acquisition of equipment aimed at controlling environmental degradation and improving environmental quality. Decree No. 99,274 of June 6, 1990, further regulates this obligation.[168] Article 23 of the decree requires that financing entities and agencies

[163] Lei No. 6.938, de 31 de agosto de 1981, D.O.U. de 2.9.1981, p. 16.921 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l6938.htm.

[164] Borges, *supra* note 27.

[165] Lei No. 6.938, *supra* note 163.

[166] de Andrade Moreira & Luz Andreatta Herschmann, *supra* note 113.

[167] Lei No. 6.938, *supra* note 163.

[168] Decreto No. 99.274, de 6 de junho de 1990, Diário Oficial da União [D.O.U.] de 7.6.1990 (Braz.), https://www.planalto.gov.br/ccivil_03/decreto/antigos/d99274.htm.

condition the granting of incentives on proof of environmental permitting and compliance with environmental norms.

Corporate responsibility also extends to internal governance. The Brazilian Corporation Law (Law No. 6,404/1976) establishes the duties of care and diligence for corporate directors (Article 153), holding them civilly liable for damages caused through negligence, intent, or violations of law or the company's bylaws (Article 158).[169] These provisions have served as a basis for arguments seeking to hold directors accountable for environmental damages caused by corporate actions or omissions.

The Anti-Corruption Law (Law No. 12,846/2013) complements this framework by providing that corporate liability does not exclude the individual liability of directors, managers, or any natural person who is an author, co-author, or participant in the unlawful act, to the extent of their culpability (Articles 3 and 4).[170] This rule is particularly relevant in environmental crimes involving corruption, such as fraud, in permitting procedures or misuse of public funds for environmentally harmful projects. Together, these statutes create a comprehensive system in which both entities and individuals may be held accountable for acts or omissions contributing to environmental or climate harm.

The role of the Brazilian judiciary in shaping corporate climate liability has become increasingly prominent. Evolving from a traditional view that confined directors' civil liability to fault-based conduct, case law and legislation have progressively expanded the scope of liability to encompass environmental and climate-related harms. Courts now have the authority to impose financial and restrictive penalties, such as the loss of tax benefits and denial of access to public financing, establishing precedents for climate accountability. However, practical challenges remain. The recognition of directors' personal liability for environmental crimes is still rare, and the quantification of climate damages poses significant methodological difficulties. The absence of a standardized approach to carbon valuation has led to inconsistent compensation amounts, hindering the full internalization of climate-related externalities.

A more recent and forward-looking development is the use of ESG frameworks in litigation.[171] These standards are being invoked to assess corporate conduct against voluntary sustainability commitments and to demonstrate inconsistencies between corporate disclosures and actual practices. By incorporating ESG criteria into judicial reasoning, courts can evaluate whether companies have met their self-

[169] Lei No. 6.404, de 15 de dezembro de 1976, Diário Oficial da União [D.O.U.] de 17.12.1976 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l6404consol.htm.

[170] Lei No. 12.846, de 1º de agosto de 2013, Diário Oficial da União [D.O.U.] de 2.8.2013 (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2013/lei/l12846.htm.

[171] Alessandra Lehmen, *Advancing Strategic Climate Litigation in Brazil*, 22 German L.J. 1471 (2021).

imposed environmental and climate obligations, expanding the normative reach of corporate responsibility beyond statutory compliance.

In sum, Brazil's framework for corporate environmental and climate responsibility combines statutory precision, judicial innovation, and emerging ESG-based scrutiny. It holds potential for bridging traditional environmental accountability and the evolving demands of climate governance, particularly as courts, regulators, and financial actors increasingly converge around shared principles of prevention, transparency, and reparation.

F. Application of International and Transnational Legal Principles

The incorporation of international and transnational legal principles into Brazil's domestic framework has been central to the evolution of climate and environmental jurisprudence. Human rights occupy a distinct and elevated position in the Brazilian legal system. Article 4 of the Federal Constitution establishes that the prevalence of human rights is a guiding principle of Brazil's international relations,[172] while Article 5, paragraph 2[173] enshrines their dynamic and expandable nature by allowing new rights and guarantees to emerge from international treaties ratified by Brazil.[174] Interpreting this provision, the STF has recognized the supralegal normative status of international human rights treaties incorporated into Brazilian law.

This understanding has been applied to climate-related matters. In ADPF 708, the STF extended this doctrine to the Paris Agreement, confirming its direct domestic effect and reinforcing the constitutional duty of the State to implement its provisions.[175] The STF thus placed the Paris Agreement within Brazil's constitutional architecture for environmental protection, treating it as a binding instrument that informs the interpretation of state obligations under Article 225 of the Constitution.[176]

Further strengthening this normative hierarchy, Article 5, paragraph 3 provides that international human rights treaties and conventions approved by each House of Congress in two rounds of voting, with a three-fifths majority, acquire the same status as constitutional amendments.[177] This mechanism creates a bridge between domestic constitutional law and international human rights law, reinforcing Brazil's openness to global norms and providing a pathway for international climate obligations to gain constitutional force.

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[172] CONSTITUIÇÃO FEDERAL [C.F.] [CONSTITUTION] art. 4 (Braz.).

[173] *Id.* art. 5, § 2º.

[174] Recurso Extraordinário 466.343, Supremo Tribunal Federal, 5 June 2009 (Braz.), https://www.stf.jus.br/imprensa/pdf/re466343.pdf.

[175] *Arguição de Descumprimento de Preceito Fundamental (ADPF) No. 708*, Supremo Tribunal Federal, 17 August 2020 (Braz.).

[176] Tigre & Setzer, *supra* note 45.

[177] CONSTITUIÇÃO FEDERAL, art. 5, § 3º.

The Constitution also expressly protects the rights of vulnerable groups, including Indigenous peoples (Article 231)[178] and Quilombola communities (Article 68 of the Transitory Constitutional Provisions).[179] Building on these provisions, Brazil has incorporated the right to free, prior, and informed consultation under International Labour Organization (ILO) Convention No. 169 through Decree No. 5,051/2004[180] and Decree No. 10,088/2019.[181] These instruments ensure that affected communities participate meaningfully in decisions concerning projects with environmental or climate impacts, reflecting both domestic and international recognition of procedural environmental rights.

This framework has been invoked in recent litigation, particularly by subnational actors. The Pará State Public Defender's Office (*Defensoria Pública do Estado do Pará*—DPE-PA) relied on the United Nations Framework Convention on Climate Change (UNFCCC), incorporated by Federal Decree No. 2,652/1998,[182] together with ILO Convention No. 169, in four lawsuits challenging carbon credit projects carried out on public lands without free, prior, and informed consultation of local communities. In *Defensoria Pública do Estado do Pará & ITERPA v. RMDLT Property Group et al.* (Project 997), also known as a "carbon land-grabbing" case, the DPE-PA argued that such projects violated both national and international legal standards on environmental governance and Indigenous rights.[183]

Despite these developments, corporate climate litigation in Brazil has relied on human rights arguments only sporadically. The few existing cases primarily concern the protection of Indigenous and traditional communities affected by large-scale environmental or carbon-related projects. Nevertheless, the use of Articles 6 and 7 of ILO Convention No. 169, which enshrine the right to free, prior, and informed consultation, demonstrates the potential of human rights norms to shape accountability in climate governance.[184]

In sum, Brazil's constitutional and judicial openness to international law provides fertile ground for the domestic application of transnational climate principles. The

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[178] *Id.* art. 231.

[179] *Id.* art. 68 (Transitory Constitutional Provision).

[180] Decreto No. 5.051, de 19 de abril de 2004, Diário Oficial da União [D.O.U.] de 20.4.2004 (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2004-2006/2004/decreto/d5051.htm.

[181] Decreto No. 10.088, de 5 de novembro de 2019, Diário Oficial da União [D.O.U.] de 6.11.2019 (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/decreto/d10088.htm.

[182] Decreto No. 2.652, de 1º de julho de 1998, Diário Oficial da União [D.O.U.] de 2.7.1998 (Braz.), https://www.planalto.gov.br/ccivil_03/decreto/d2652.htm.

[183] *Public Defender's Office of the State of Pará v. RMDLT Property Group et al.*, Ação Civil Pública, Justiça Estadual, Vara Agrária de Castanhal/PA, 1ª Região Agrária, 24 July 2023 (Petition, Braz.).

[184] Pablo Policzer & José Aylwin, *No Going Back: The Impact of ILO Convention 169 on Latin America in Comparative Perspective*, 13 Sch. Pub. Pol'y Pubs. 1 (2020).

integration of human rights, environmental protection, and global climate obligations allows Brazilian courts to interpret domestic duties in light of international standards, aligning national jurisprudence with emerging global norms of due diligence, prevention, and intergenerational justice. Although still underdeveloped in corporate climate cases, this interaction between domestic and international law is poised to play an increasingly important role in shaping Brazil's contribution to global climate accountability.

Together, these legal bases and liability regimes form a coherent architecture that anchors Brazil's approach to environmental and climate accountability. The constitutional foundations establish environmental protection as a fundamental right and state duty, while the civil and environmental liability frameworks operationalize that duty through strict, risk-integral responsibility. Consumer protection law, administrative enforcement, and corporate liability rules expand this framework, ensuring that both public and private actors remain subject to preventive, reparatory, and deterrent obligations. The growing integration of international and transnational principles, including human rights and climate treaties, further reinforces the domestic legal order and aligns it with global standards of due diligence and reparation. This multi-layered system provides the normative and institutional groundwork for the development of climate damages jurisprudence in Brazil, which now increasingly turns to the question of remedies, valuation, and the quantification of harm arising from climate-related degradation.

IV. REMEDIES AND QUANTIFICATION OF CLIMATE DAMAGES

Remedies in Brazilian corporate climate cases extend beyond financial compensation to encompass injunctive measures, transparency mandates, and forward-looking orders to reduce emissions. As in other Latin American jurisdictions, courts combine traditional environmental reparation with governance-oriented and participatory forms of relief. Building on comparative scholarship, climate remedies can be understood along a continuum of *affordable* and *onerous* measures, which helps explain the varied levels of compliance across the region.[185] *Affordable remedies*—such as suspending administrative actions or reinstating environmental permitting requirements—tend to be implemented more readily, as they impose limited fiscal and political costs. *Onerous remedies*, by contrast, demand structural reforms to extractive or high-emission economic models and often require inter-institutional coordination and sustained budgetary support.[186]

[185] Juan Auz, *The Political Ecology of Climate Remedies in Latin America and the Caribbean: Comparing Compliance Between National and Inter-American Litigation*, 16 J. Hum. Rts. Prac. 182, 190–94 (2024).

[186] *Id.* at 196–98.

In Brazil, this distinction helps illuminate why certain environmental and climate judgments achieve swift compliance, while others, particularly those addressing deforestation or fossil fuel activities, face resistance. The judiciary's remedial practice reflects both ends of this spectrum: preventive injunctions to halt ongoing harm, declaratory orders to ensure transparency and accountability, and compensatory remedies for environmental and climate damages. Yet compliance often hinges on whether judicial measures align with or disrupt the prevailing development model.

Dernbach and Parenteau highlight that global climate remedies are increasingly hybrid and multi-dimensional, combining deterrent, restorative, and transformative objectives.[187] These approaches move beyond restitution, embedding judicial orders within broader systems of climate governance and adaptive regulation. Similarly, Maria Antonia Tigre demonstrates that courts are expanding the remedial toolkit through non-pecuniary and symbolic measures, such as formal recognition of rights, youth participation mandates, and oversight mechanisms to protect vulnerable groups and future generations.[188]

Brazilian courts, while grounded in a robust constitutional framework for environmental protection, have begun to reflect these global trends. They employ restorative and deterrent remedies in parallel, from injunctions mandating reforestation and emissions disclosure to damages awards for climate-related degradation. Remedies in Global South contexts often operate at the intersection of reparation and regulatory innovation, with judges acting as institutional bridge-builders who translate constitutional principles into operational climate governance tools.

Against this backdrop, the following Section examines the range of remedies sought and awarded in Brazil's corporate climate litigation, emphasizing how courts approach the quantification of harm in deforestation and emission-related cases. It considers how plaintiffs frame claims for climate damages, how courts conceptualize causation and valuation, and the extent to which judicial outcomes influence corporate conduct and environmental governance. By linking remedies to quantification practices, this Part situates Brazil within the broader Global South debate on how courts can balance reparation, deterrence, and systemic transformation in the face of the climate crisis.

A. Remedies Available to Plaintiffs in Corporate Climate Litigation

Plaintiffs in Brazilian corporate climate litigation seek a wide range of remedies that combine traditional environmental reparation with governance-oriented and

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[187] John C. Dernbach & Patrick A. Parenteau, Env't L. Inst., Judicial Remedies for Climate Disruption: A Preliminary Analysis 9–15 (2023), https://cjp.eli.org/curriculum/judicial-remedies-climate-disruption-preliminary-analysis.

[188] Maria Antonia Tigre, *"Small" Voices, Big Wins: Analyzing Remedies in Children's Climate Cases*, 82 Wash. & Lee L. Rev. 1009, 1022–24 (2025) [hereinafter Tigre, *Small Voices Big Wins*].

preventive relief. These include injunctions to halt harmful activities, declaratory and transparency orders, and compensation for both material and moral damages, as well as more structural or forward-looking measures aimed at reducing emissions or restoring ecosystems. Brazilian law provides multiple procedural avenues for pursuing these remedies, reflecting the understanding that environmental protection is a collective right belonging to all.

*1. Public Civil Action (*Ação Civil Pública*)*

The principal instrument for pursuing these remedies is the *ação civil pública*, established by Law No. 7,347/1985.[189] It enables the protection of diffuse and collective interests by imposing liability for moral and material damages caused to the environment (Article 1(I)), to consumers (Article 1(II)), and to other collective legal interests (Article 1(IV)).[190] Of the 66 cases of corporate climate litigation analyzed in this study, 61 were public civil actions. Under Brazilian law, the right to file this action is not restricted to the Public Prosecutor's Office but extends to a range of institutional actors expressly identified in Article 5 of Law No. 7.347/1985.[191] These include the Public Prosecutor's Office, the Public Defender's Office, the Union, the States, the Federal District, the municipalities, autonomous government agencies, public companies, foundations, mixed-capital companies, and civil associations established for at least one year whose institutional purposes include the protection of diffuse or collective interests. This broad standing framework reflects Brazil's commitment to ensuring access to justice in the defense of collective rights, particularly in environmental and climate litigation. Plaintiffs may request both compensatory remedies—such as indemnification or ecosystem restoration—and preventive or deterrent measures, including injunctions to cease unlawful practices or to compel compliance with emission reduction obligations.

The STJ has confirmed that public civil actions may combine multiple remedies. Under STJ Precedent No. 629,[192] courts may order the cumulation of obligations to act or refrain from acting alongside indemnification, ensuring that monetary compensation does not preclude restoration or other obligations. This reflects the integral-risk doctrine that characterizes Brazilian environmental law, where liability is strict and cumulative rather than substitutive.

In deforestation-related climate cases, claims often rely on the polluter-pays principle on the basis that the climate externality constitutes a social cost that must be internalized by the agent causing harm rather than distributed to society at

[189] Lei No. 7.347, de 24 de julho de 1985, Diário Oficial da União [D.O.U.] de 25.7.1985 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l7347orig.htm.

[190] Bryner, *supra* note 105.

[191] *Id.*

[192] Súmula 629, Superior Tribunal de Justiça (STJ), Dec. 17, 2018 (Braz.), https://www.stj.jus.br/docs_internet/revista/eletronica/stj-revista-sumulas-2021_48_capSumulas629.pdf.

large.[193] Damages may be classified as material (economic or ecological losses) or moral (collective non-pecuniary harm). Material reparation follows two approaches: (a) *in natura restoration*, the preferred option, which seeks to return the environment to its original state—for example, through reforestation or soil decontamination; and (b) *monetary compensation*, when restoration is technically or physically impossible, calculated to reflect the full extent of the loss.[194] Courts have increasingly recognized the possibility of claiming climate damages as an autonomous category of harm, as illustrated by *Federal Public Prosecutor's Office v. Rezende*,[195] involving deforestation-related GHG emissions.

*2. Popular Action (*Ação Popular*) and Other Procedural Tools*

Another avenue is the *ação popular* (popular action), guaranteed by Article 5, item LXXIII of the Federal Constitution and regulated by Law No. 4,717/1965.[196] It allows any citizen to bring an action to annul acts harmful to public property, administrative morality, the environment, or cultural heritage. While rarely used in climate-specific contexts, it reinforces the principle of participatory environmental enforcement. The case *Duda Salabert Rosa v. Minas Gerais State & Taquaril Mineração S.A.*[197] illustrates courts' cautious approach: the action was dismissed for procedural inadequacy, underscoring the need for more tailored procedural strategies in climate claims.

Plaintiffs and public entities may also resort to civil inquiries (*inquéritos civis*) conducted by the Public Prosecutor's Office (*Ministério Público*) under Article 8 of Law No. 7,347/1985.[198] These inquiries precede public civil actions and are key mechanisms for gathering evidence, including environmental data, expert reports, and corporate disclosures. Authorities must respond to information requests within 15 days, and failure to do so may constitute a criminal offense under Article 10. This pre-litigation instrument strengthens access to information and can lay the foundation for transparency-based remedies. Although these entities are entitled to use this legal instrument, no civil inquiries were identified among the 66 cases analyzed, despite the fact that 25 public civil actions (*ações civis públicas*) were filed directly by the Federal

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[193] de Andrade Moreira & Luz Andreatta Herschmann, *supra* note 113.

[194] Borges, *supra* note 27.

[195] *Ministério Público Federal v. de Rezende*, Ação Civil Pública No. 1005885-78.2021.4.01.3200, Justiça Federal, Seção Judiciária do Amazonas, 7ª Vara Federal Ambiental e Agrária, 16 April 2021 (Preliminary Decision, Braz.).

[196] Lei No. 4.717, de 29 de junho de 1965 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l4717.htm.

[197] *Duda Salabert Rosa v. State of Minas Gerais & Taquaril Mineração S.A.*, Ação Popular, Justiça Estadual, Tribunal de Justiça do Estado de Minas Gerais, 7 February 2022 (Petition, Braz.).

[198] Lei No. 7.347, de 24 de julho de 1985, Diário Oficial da União [D.O.U.] de 25.7.1985 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l7347orig.htm.

or State Public Prosecutor's Office. This suggests a strategic preference for direct judicial action over preliminary investigative procedures, possibly reflecting the urgency and evidentiary sufficiency perceived in climate-related claims.

Additionally, judicial interpellations (*interpelações judiciais*) under Articles 726–729 of the Code of Civil Procedure allow interested parties to notify others through the judiciary, creating a formal record of the communication.[199] In climate cases, interpellations can be used to demand environmental data or corporate climate risk disclosures, thereby formalizing a corporation's awareness of potential harm and reinforcing liability in subsequent actions.

3. Financial, Regulatory, and Transparency Remedies

Brazilian environmental statutes also authorize courts and regulators to impose financial and operational restrictions as remedial measures. Article 14 of the National Environmental Policy Act provides for the loss of tax incentives and ineligibility for public financing as sanctions for environmental harm, converting unlawful profit into financial loss.[200] Companies may lose access to public credit from institutions such as the National Bank for Economic and Social Development (BNDES), serving as a deterrent against environmentally harmful conduct.[201] Similarly, Article 21 of Law No. 9,605/1998 authorizes the suspension of corporate activities in whole or in part as a penalty for environmental crimes.[202] Such orders serve as coercive measures to enforce compliance with restoration or emission-reduction obligations.

Disclosure and transparency remedies are also increasingly important. Under both the Law of Popular Action[203] and the Law of Public Civil Action,[204] individuals may request official documents and environmental certificates from public authorities even before initiating proceedings. This facilitates early evidence collection and supports climate risk litigation. The Brazilian Securities and Exchange Commission (*Comissão de Valores Mobiliários*—CVM) enforces these disclosure duties through Law

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[199] Lei No. 13.105, de 16 de março de 2015 (Cód. Proc. Civ. [C.P.C.]) arts. 726–29 (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13105.htm.

[200] Lei No. 6.938, de 31 de agosto de 1981 (Dispõe sobre a Política Nacional do Meio Ambiente) (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l6938.htm.

[201] BNDES, *BNDES Aprova Nova Regra e Amplia Veto a Clientes com Embargo por Desmatamento Ilegal* (Dec. 15, 2023), https://www.bndes.gov.br/wps/portal/site/home/imprensa/noticias/conteudo/bndes-aprova-nova-regra-e-amplia-veto-a-clientes-com-embargo-por-desmatamento-ilegal.

[202] Lei No. 9.605, de 12 de fevereiro de 1996 (Dispõe sobre as sanções penais e administrativas derivadas de condutas e atividades lesivas ao meio ambiente, e dá outras providências) (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l9605.htm.

[203] Lei No. 4.717, de 29 de junho de 1965, Diário Oficial da União [D.O.U.] de 5.7.1965 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l4717.htm.

[204] Lei No. 7.347, de 24 de julho de 1985, Diário Oficial da União [D.O.U.] de 25.7.1985 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l7347.htm.

No. 6,385/1976[205] and CVM Resolution No. 59/2021,[206] which require publicly held companies to disclose climate and ESG-related information. Sanctions include fines, warnings, temporary disqualifications, and suspensions of market activities.[207]

The case *IBAMA v. Alto Norte Indústria, Comércio e Exportação de Madeiras Ltda.* (illegal timber stockpile in Colniza and climate damage)[208] illustrates the expansion of liability in relation to preventive measures, given the interim injunction that ordered: (i) the suspension of the company's right to participate in credit lines offered by official financial institutions, with notification of such decision to the Central Bank of Brazil (*Banco Central do Brasil*—BACEN); (ii) restrictions on access to tax incentives and fiscal benefits granted by public authorities at all three levels of government (federal, state, and municipal); and (iii) the freezing of Alto Norte's assets in the amount of R$2,224,949.63.[209] The ruling further provided, on a subsidiary basis, for the possibility of other forms of asset seizure.

In addition, Article 60 of the Consumer Defense Code (*Código de Defesa do Consumidor*) allows courts to order corrective advertising in cases of false or misleading green claims, a remedy particularly relevant to greenwashing litigation.[210] Companies found to have misled consumers about the environmental performance of products or services may be compelled to issue corrective communications to restore transparency and public trust.[211]

Finally, the Anti-Corruption Law (Law No. 12,846/2012) introduces a parallel framework for corporate sanctions, including fines, disqualification from public contracts, and publication of judicial decisions.[212] These mechanisms can be applied in environmental or climate-related corruption cases, such as fraudulent permitting or false sustainability reporting.

Taken together, these procedural and substantive mechanisms reveal that remedies in Brazilian corporate climate litigation operate across three complementary

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[205] Lei No. 6.385, de 7 de dezembro de 1976, Diário Oficial da União [D.O.U.] de 9.12.1976 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l6385.htm

[206] Resolução CVM No. 59, de 22 de dezembro de 2021, Diário Oficial da União [D.O.U.] de 23.12.2021 (Braz.), https://www.cvm.gov.br/export/sites/cvm/legislacao/resolucoes/anexos/001/resol059.pdf.

[207] *Id.*

[208] *IBAMA v. Alto Norte Indústria, Comércio e Exportação de Madeiras Ltda.*, Ação Civil Pública No. 1000200-41.2018.4.01.3606, Justiça Federal, Seção Judiciária de Mato Grosso, Vara Federal Cível e Criminal de Juína/MT, 8 March 2019 (Preliminary Decision, Braz.).

[209] *Id.*

[210] Lei No. 8.078, de 11 de setembro de 1990 (Código de Defesa do Consumidor) (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l8078.htm.

[211] Borges, *supra* note 27.

[212] Lei No. 12.846, de 1º de agosto de 2013, Diário Oficial da União [D.O.U.] de 2.8.2013 (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2013/lei/l12846.htm.

dimensions. Preventive remedies—such as injunctions, suspension of harmful activities, and loss of public financing—aim to halt ongoing or imminent environmental degradation, reflecting the precautionary principle and the State's duty to prevent harm before it occurs. Reparative remedies—including in natural restoration, compensation for material and moral damages, and corrective advertising—address harm already suffered and seek to restore environmental integrity while internalizing climate externalities. Transformative remedies, finally, combine deterrence and governance reform: they include corporate disclosure mandates, transparency orders, and judicially supervised plans for emissions reduction or ecosystem recovery.

As Auz observes, these measures often straddle the line between judicial enforcement and institutional transformation, functioning as hybrid tools of climate governance.[213] Similarly, Dernbach and Parenteau identify the rise of "adaptive" and "systemic" remedies that reorient corporate behavior through structural injunctions and regulatory innovation.[214] Building on this trend, Tigre highlights how non-pecuniary and symbolic measures—such as participatory monitoring and recognition of the rights of future generations—expand the meaning of redress beyond compensation alone.[215] These are less common in corporate climate litigation but can still be a part of the range of remedies requested. This tripartite structure—preventive, reparative, and transformative—provides a conceptual bridge between domestic environmental law and emerging global climate jurisprudence. It underscores that the Brazilian judiciary is not only adjudicating liability but also shaping institutional pathways for long-term climate compliance and accountability.

B. Decided Climate Damages Cases

Brazil's emerging jurisprudence on corporate climate damages provides one of the earliest domestic examples of how courts operationalize the concept of climate harm within established environmental-liability frameworks. Of the 43 identified corporate climate damage cases, nine have so far resulted in judicial recognition and quantification of climate harm, primarily in contexts involving illegal deforestation, unlawful burning, or irregular industrial operations. While the overall number remains modest, these decisions collectively demonstrate the increasing capacity of Brazilian courts to translate GHG emissions into compensable harm under the National Environmental Policy Act[216] and Article 225 of the Constitution.[217]

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[213] Auz, *supra* note 185, at 195–98.

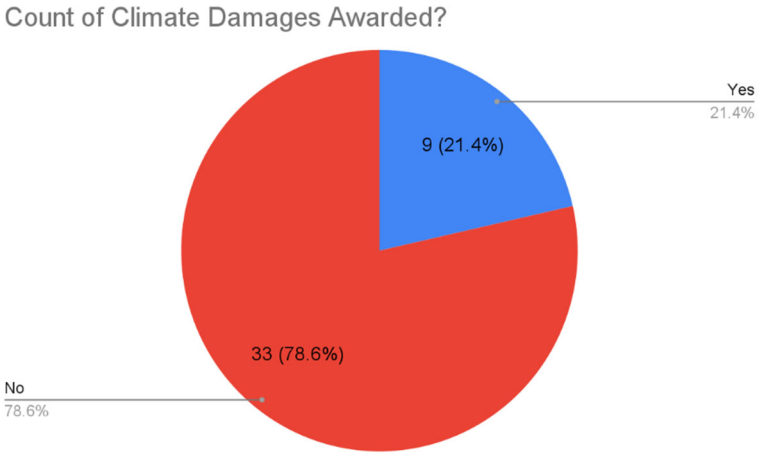
[214] Dernbach & Parenteau, *supra* note 187.

[215] Tigre, *Small Voices Big Wins*, *supra* note 188, at 1037–43.

[216] Law No. 6.938, de 31 de agosto de 1981, Diário Oficial da União [D.O.U.] de 2.9.1981 (Braz.), https://www.planalto.gov.br/ccivil_03/leis/l6938.htm.

[217] CONSTITUIÇÃO FEDERAL [C.F.] [CONSTITUTION] art. 225 (Braz.).

Figure 10: Count of Climate Damages Awards in Corporate Climate Litigation (as of November 2025)



Courts have applied diverse methodologies to assess and quantify climate damages, reflecting both institutional innovation and a lack of uniformity. Judicial valuation has relied on four main pathways: (i) carbon-proxy calculations, where tCO_2e is estimated from the area burned or cleared and multiplied by a carbon price;[218] (ii) social-cost-of-carbon estimates, adopted in federal actions against deforesters;[219] (iii) reference benchmarks drawn from the Amazon Fund (367 tCO_2e per hectare);[220] and (iv) the six-step ABRAMPA–IPAM methodology,[221] now incorporated into the Judicial Protocol for Environmental Litigation and endorsed by the CNJ.[222] These approaches transform abstract climate injury into financially

[218] For example, in *Embargos Infringentes* No. 0014383-67.2009.8.26.0066/50000, *supra* note 125; *Apelação* No. 0014383-67.2009.8.26.0066, *supra* note 70.

[219] For example, in *IBAMA v. Souza Brilhante EIRELI*, Ação Civil Pública No. 1003478-16.2018.4.01.3100, Justiça Federal, Seção Judiciária do Amapá, 6ª Vara Cível, 19 December 2018 (Petition, Braz.), at 17–18.

[220] For example, in *Federal Prosecution Service (MPF) v. Aristoteles Socrates Onassis, Luiz Carlos Corso, Maria do Bom Conselho Ermino da Silva, and Pacheco Comércio de Laticínios e Frios Ltda.*—Environmental Public Civil Action (Illegal Deforestation in Manicoré) Ação Civil Pública No. 1041323-63.2024.4.01.3200, Justiça Federal, Seção Judiciária do Amazonas, 7ª Vara Federal Ambiental e Agrária, 22 November 2024 (Petition, Braz).

[221] Associação Brasileira dos Membros do Ministério Público de Meio Ambiente (ABRAMPA) & Instituto de Pesquisa Ambiental da Amazônia (IPAM), *Nota Técnica: Sobre a exigibilidade e a quantificação do dano climático no âmbito da responsabilidade civil por desmatamento ilegal da vegetação nativa* (Sep. 13, 2024), https://abrampa.org.br/file?url=/wp-content/uploads/2024/09/Nota-Tecnica-Dano-Climatico-ABRAMPA-IPAM-13.09.2024_.pdf

[222] Resolução No. 433, Conselho Nacional de Justiça [CNJ], 27 October 2021 (Braz.),

enforceable obligations, combining monetary awards with injunctive and preventive measures.

The decisions collectively reveal a judiciary willing to move beyond declaratory findings toward enforceable orders. Courts are coupling compensation for atmospheric harm with asset freezes, financing restrictions, and corporate governance measures aimed at deterrence. Remedies granted in these cases fall broadly into three categories: (i) material damages, where judges quantify climate harm in financial terms; (ii) collective moral damages, addressing diffuse social and intergenerational impacts; and (iii) structural or preventive injunctions, focused on halting unlawful practices and restoring affected ecosystems.

The following Sections analyze these developments in three parts. The first outlines how courts have recognized and monetized climate damages, focusing on early precedents such as *MPSP v. Usina Mandu S.A.* The second reviews methodologies used for calculating and monetizing harm, including judicial reliance on carbon proxies, the social cost of carbon, and the CNJ-guided valuation models. The third analyzes the expansion of moral and collective damages claims—especially those connected to carbon-credit markets and Indigenous communities—illustrating how climate justice considerations are gradually entering the realm of corporate accountability.

1. Judicial Recognition and Denial of Climate Damages

The landmark case, *MPSP v. Usina Mandu S.A.* (burning of sugarcane straw), established the foundation for recognizing atmospheric injury as compensable climate damage under Brazilian law.[223] This early test of climate damages quantified them using a CO_2-and-carbon-price proxy. In October 2009, fire destroyed approximately 54 hectares of sugarcane at Fazenda Marinheiro, in Barretos, São Paulo, during a state-imposed ban on open burning near *Áreas de Preservação Permanente* (APPs). In Brazil, APPs are legally protected buffer zones—such as riverbanks, steep slopes, and hilltops—kept intact to safeguard water, soil, and biodiversity.[224] São Paulo's environmental agency, CETESB,[225] issued an

https://atos.cnj.jus.br/files/original140419202111036182 96e30894e.pdf.

[223] TJSP, *Embargos Infringentes* No. 994.09.253926-9, rel. Des. João Negrini Filho, 2014.

[224] An *Área de Preservação Permanente* (APP), or Permanent Preservation Area, is a legal category under Brazil's Forest Code (*Lei da Vegetação Nativa*, Law No. 12.651/2012) that designates specific areas—such as riverbanks, hilltops, mangroves, and certain slopes—as subject to mandatory protection due to their ecological functions. APPs are intended to preserve water resources, biodiversity, soil stability, and the integrity of ecosystems, and they may not be deforested or degraded, regardless of land ownership. *See* Lei No. 12.651, de 25 de maio de 2012, Diário Oficial da União [D.O.U.] de 28.5.2012 (Braz.).

[225] The *Companhia Ambiental do Estado de São Paulo* (CETESB) is the São Paulo State Environmental Agency, responsible for implementing state environmental policy, monitoring air and water quality, permitting polluting activities, and imposing administrative sanctions for environmental infractions. CETESB was created in 1968 and today operates as an agency under

administrative fine, and the State Public Prosecutor's Office (MPSP) brought a public civil action seeking civil indemnification for environmental and climate harm.[226]

The trial court imposed R$400,000 in environmental damages;[227] the appellate court initially reversed for lack of "objective proof" of climate harm.[228] On *embargos infringentes*,[229] however, a new majority adopted the dissenting opinion of Justice João Negrini Filho,[230] who grounded liability in Article 225, § 3 of the Constitution[231] and Article 14, § 1 of Law No. 6.938/1981,[232] applying strict and cumulative liability (*teoria do risco integral*). Justice Negrini Filho proposed a carbon-based proxy: estimate 15 tCO_2 per hectare burned, multiply by the area, and value at the BM&F Bovespa carbon price.[233] In 2020 liquidation proceedings, the court fixed compensation at R$215,655.50 plus correction and interest.[234] The case confirmed that proxy-based carbon valuation may be adopted even absent precise measurement and that monetary awards can serve deterrent and educational functions for corporate actors.

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the São Paulo State Secretariat for the Environment. *See* CETESB, *Histórico da CETESB*, https://cetesb.sp.gov.br/institucional/historico (last visited Nov. 4, 2025).

[226] *Apelação* No. 0014383-67.2009.8.26.0066, *supra* note 70.

[227] The public civil action was initially decided by the 1ª Vara Cível of Barretos (Judge Alex Ricardo dos Santos Tavares), Proc. No. 066.01.2009.014383-7/000000-000. The judgment text is not publicly available, but the appellate court records indicate that it awarded R$400,000 in damages. *Apelação* No. 0014383-67.2009.8.26.0066, *supra* note 70.

[228] *Apelação* No. 0014383-67.2009.8.26.0066, *supra* note 70 (majority) ("não há nos autos prova capaz de permitir a valoração do dano ambiental, menos ainda com o critério utilizado pelo autor, de cálculo do proveito econômico obtido com a colheita de cana de açúcar e produção de açúcar, presumivelmente, na ocasião. Da mesma forma não se sustenta o arbitramento feito pela sentença, de forma subjetiva e aleatória.") (authors' translation).

[229] *Embargos infringentes* were a special appellate procedure under Brazil's former Code of Civil Procedure that allowed a party to seek rehearing when an appellate panel's decision was not unanimous, so that the dissenting opinion could be reconsidered by a broader bench. *See* Cód. Proc. Civ. [C.P.C.] art. 530 (1973) (Braz.), repealed by Lei No. 13.105, de 16 de março de 2015, art. 1.072, II, Diário Oficial da União [D.O.U.] de 17.3.2015 (Braz.).

[230] *Embargos Infringentes* No. 0014383-67.2009.8.26.0066/50000, *supra* note 125, at 5–10 (Negrini Filho, J., dissenting).

[231] CONSTITUIÇÃO FEDERAL [C.F.] [CONSTITUTION] art. 225, § 3º (Braz.) ("Conducts and activities considered harmful to the environment subject violators, individuals or legal entities, to criminal and administrative sanctions, regardless of the obligation to repair the damages caused.").

[232] Lei No. 6.938, de 31 de agosto de 1981, art. 14, § 1º, Diário Oficial da União [D.O.U.] de 2.9.1981 (Braz.) ("Without prejudice to applicable penalties, the polluter is obliged, regardless of fault, to indemnify or repair damages caused to the environment and to third parties affected by its activity.").

[233] *Embargos Infringentes* No. 0014383-67.2009.8.26.0066/50000, *supra* note 125 (Negrini Filho, J., dissenting) (citing *Apelação* No. 0014383-67.2009.8.26.0066, *supra* note 70).

[234] *Liquidação por Arbitramento* No. 0005535-08.2020.8.26.0066, *supra* note 125.

Usina Mandu remains significant for three reasons. First, it confirmed that precise measurement is not required for establishing compensable atmospheric injury, provided a scientifically reasonable proxy exists. Second, it recognized carbon pricing as an admissible valuation yardstick, allowing the judiciary to internalize climate externalities through financial remedies. Third, it reframed indemnification as both compensatory and deterrent, explicitly linking the award to intergenerational justice concerns. In this sense, *Usina Mandu* is Brazil's closest analogue to cases like *Lliuya v. RWE AG* in Germany[235] or *Smith v. Fonterra Co-operative Group* in New Zealand,[236] which similarly explore the translation of climate harm into quantifiable judicial relief. This approach contrasts with cases in the United States and Europe, where courts have typically relied on restoration costs or the social cost of carbon as benchmarks, rather than tying compensation directly to market-priced emissions from the specific incident.[237]

Subsequent cases have refined or tested these principles, as will be shown in the calculations of damages section. In *IBAMA v. Souza Brilhante EIRELI*, the federal court in Macapá awarded R$1,447,650.20 using ECLAC parameters to price the social cost of carbon.[238] In contrast, *IBAMA v. Madeireira Madevi Ltda.* rejected climate damages for lack of technical proof, limiting compensation to local environmental degradation.[239] *IBAMA v. Alto Norte Indústria, Comércio e Exportação de Madeiras Ltda.* upheld interim relief freezing assets worth R$2,224,949.63 and suspended access to credit lines and tax incentives, illustrating how courts use financial levers to ensure reparations.[240] In *IBAMA v. Floresta Verde Ltda.*, the judge

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[235] *Luciano Lliuya v. RWE AG*, Zivilsenat des Oberlandesgerichts Hamm [OLG] [Fifth Division for Civil Matters of the Higher Regional Court of Hamm], Sep. 27, 2021 (Ger.).

[236] *Smith v. Fonterra Co-Operative Group Limited*, [2025] NZHC 1605 (N.Z.).

[237] For examples of courts relying on restoration costs, see *State of Louisiana ex rel. Guste v. M/V Testbank*, 752 F.2d 1019, 1026–27 (5th Cir. 1985) (en banc) (measuring damages for chemical spill by the cost of restoring natural resources); *Friends of the Earth v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 185 (2000) (recognizing restoration-based remedies in environmental civil suits). For reliance on the "social cost of carbon," see *R (Friends of the Earth Ltd.) v. Secretary of State for Transport* [2020] EWCA (Civ) 214 [¶¶ 222–25] (U.K.) (criticizing government failure to account for the SCC in Heathrow expansion decision); *see also* U.S. Gov't Accountability Off., GAO-20-254, *Social Cost of Carbon: Identifying a Federal Entity to Address the National Academies' Recommendations Could Strengthen Regulatory Analysis* 1–2 (2020) (describing SCC as used in U.S. regulatory impact analysis).

[238] *IBAMA v. Souza Brilhante EIRELI*, Ação Civil Pública No. 1003478-16.2018.4.01.3100, Justiça Federal, Seção Judiciária do Amapá, 6ª Vara Cível, 14 March 2023 (Amended Decision, Braz.).

[239] *IBAMA v. Madeireira Madevi Ltda.*, Ação Civil Pública No. 1000656-73.2018.4.01.3902, Justiça Federal, Seção Judiciária do Pará, 2ª Vara Federal Cível e Criminal de Santarém/PA, 22 October 2024 (Braz.).

[240] *IBAMA v. Alto Norte Indústria, Comércio e Exportação de Madeiras Ltda.*, Ação Civil Pública No. 1000200-41.2018.4.01.3606, Justiça Federal, Seção Judiciária de Mato Grosso, Vara

fixed R$1,000,000 in damages based on the gravity of harm and the polluter's capacity, emphasizing deterrence over formulaic quantification.[241]

Taken together, these rulings show a judiciary gradually internalizing climate externalities through existing strict-liability doctrine while continuing to demand credible technical substantiation. Courts are most receptive to quantification methods grounded in national data and accepted administrative metrics, and least receptive to speculative or uncorroborated calculations.

2. Calculation of Climate Damages

Quantification of climate damages in Brazil has evolved through judicial practice, administrative guidance, and scientific collaboration. The earliest pathway—seen in *Usina Mandu*—used a simple carbon-proxy method that multiplied the burned area (in hectares) by an estimated emissions factor (15 tons of CO_2 per hectare) and applied the prevailing carbon market price at BM&F Bovespa. This "proxy valuation" offered an accessible but legally novel way to monetize atmospheric injury.

One of the first cases seeking climate damages was *Public Ministry of the State of São Paulo v. United Airlines et al.* (Airline Companies Case).[242] In December 2010, the São Paulo Public Prosecutor's Office sought judicial relief compelling the airline companies to undertake forest restoration within the same watershed area, in an amount sufficient to offset all GHG emissions and other pollutants resulting from the operations of São Paulo International Airport, located in Cumbica, Guarulhos.[243]

Subsequent cases expanded this logic while testing more sophisticated valuation tools. In *IBAMA v. Souza Brilhante EIRELI*,[244] the federal court in Macapá adopted the social cost of carbon as the quantification basis, relying on parameters developed by the Economic Commission for Latin America and the Caribbean (ECLAC)[245]

Federal Cível e Criminal de Juína/MT, 8 March 2019 (Preliminary Decision, Braz.).

[241] *IBAMA v. Indústria, Comércio, Importação e Exportação de Madeiras Floresta Verde Ltda.*, Ação Civi No. 1000083-80.2019.4.01.3908, Justiça Federal, Seção Judiciária do Pará, Vara Federal Cível e Criminal de Itaituba/PA, 18 June 2024 (Appeal, Braz.).

[242] *Public Ministry of the State of São Paulo v. United Airlines et al.*, Recurso Especial No. 0046991-68.2012.4.03.9999, Justiça Federal, Superior Tribunal de Justiça, 14 December 2020 (Braz.).

[243] *Public Ministry of the State of São Paulo v. United Airlines et al.*, Ação Civil Pública No. 0046991-68.2012.4.03.9999, 23 December 2010 (Petition).

[244] *Souza Brilhante EIRELI*, Ação Civil Pública No. 1003478-16.2018.4.01.3100, *supra* note 238.

[245] ECLAC is one of the five regional commissions of the United Nations, established in 1948 and headquartered in Santiago, Chile. Its main objective is to promote the sustainable economic development of the region among its member countries. ECLAC works by providing analyses, data, and public policy recommendations aimed at fostering sustainable and inclusive social and economic development. Economic Commission for Latin America and the Caribbean

rather than the Organisation for Economic Co-operation and Development (OECD) figures used in the complaint.[246] The court ordered the payment of R$1,447,650.20 as compensation for GHG emissions from illegal deforestation.[247]

Similarly, *IBAMA v. Indústria, Comércio, Importação e Exportação de Madeiras Floresta Verde Ltda.* (lumber deposit in Itaituba and climate damage) assessed R$1,000,000 in damages using a hybrid approach that considered the gravity of harm, the offender's fault, and financial capacity, emphasizing deterrence rather than a fixed per-ton valuation.[248] In another federal case, *IBAMA v. Alto Norte Indústria, Comércio e Exportação de Madeiras Ltda.*, a preliminary injunction was granted concerning climate damage in March 2019, in the amounts requested, even though the judge made no express reference to climate issues in the decision.[249] These cases were part of one of the early attempts at climate damages, in which IBAMA filed nine public civil actions against logging companies in December 2018, seeking compensation based on the social cost of carbon.[250]

The *Amazônia Protege* Program, launched by the MPF, systematized these judicial practices into a reproducible methodology. In its fourth phase, filed in 2024, prosecutors brought 195 public civil actions (including 20 against corporate defendants) using a five-step calculation formula: (1) determine the average carbon stock per hectare in the biome; (2) identify the deforested area through satellite image (e.g., the *Programa de Cálculo do Desflorestamento da Amazônia* (Program to Calculate Deforestation in the Amazon) of the *Instituto Nacional de Pesquisas Espaciais* (National Institute for Space Research) (PRODES/INPE), or MapBiomas); (3) multiply these two values to determine total stock; (4) convert to CO_2 equivalent (tCO_2e) using the 3.66 index; and (5) apply a benchmark price of $5.00 per ton, as used by the Amazon Fund.[251] The 3.66 CO_2e index was derived

(ECLAC), *About ECLAC*, U.N. Econ. Comm'n for Lat. Am. & the Carib., https://www.cepal.org/en/about (last visited Nov. 1, 2025).

[246] *Souza Brilhante EIRELI*, Ação Civil Pública No. 1003478-16.2018.4.01.3100, 19 December 2018 (Petition), at 21–22.

[247] *Souza Brilhante EIRELI*, Ação Civil Pública No. 1003478-16.2018.4.01.3100, *supra* note 238, at 2.

[248] *Indústria, Comércio, Importação e Exportação de Madeiras Floresta Verde Ltda.*, Ação Civil No. 1000083-80.2019.4.01.3908, *supra* note 241.

[249] *IBAMA v. Alto Norte Indústria, Comércio e Exportação de Madeiras Ltda.*, Ação Civil Pública No. 1000200-41.2018.4.01.3606, Justiça Federal, Seção Judiciária de Mato Grosso, Vara Federal Cível e Criminal de Juína/MT, 8 March 2019 (Preliminary Decision, Braz.).

[250] *IBAMA v. Souza Brilhante EIRELI*, Ação Civil Pública No. 1003478-16.2018.4.01.3100, Justiça Federal, Seção Judiciária do Amapá, 6ª Vara Cível, 19 December 2018 (Petition, Braz.), at 17–18.

[251] Decreto No. 6.527, de 1º de Agosto de 2008 (Braz.), Dispõe sobre o estabelecimento do Fundo Amazônia pelo Banco Nacional de Desenvolvimento Econômico e Social—BNDES, https://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2008/Decreto/D6527.htm. The Amazon Fund has a Technical Committee responsible for evaluating the methodology for calculating the

from the valuation methodology developed by the Public Prosecutor's Office of the State of Mato Grosso.[252] In addition, ecosystem services claims may be included, such as impacts on water conservation and climate regulation. According to *Instituto de Pesquisa Ambiental da Amazônia* (IPAM), deforestation in the Amazon Forest is equivalent to emissions of 179.25 tons of carbon.[253]

As a preliminary injunction, the MPF requested the temporary suspension of the Rural Environmental Registry (*Cadastro Ambiental Rural*—CAR) for the offenders, to prevent access to bank credit in accordance with Article 16 of CNJ Resolution No. 433.[254] Courts in these cases frequently accepted satellite data from PRODES/INPE and MapBiomas, as well as IPAM's Carbon Calculator, as reliable evidence of emissions.[255] This avoids some of the evidentiary hurdles that are common in climate litigation.

This prosecutorial method converged with the six-step ABRAMPA–IPAM model[256] later endorsed by the CNJ in its 2024 Judicial Protocol for Environmental Litigation.[257] The CNJ framework formally recognized that climate damages are a subset of environmental damages and defined the social cost of carbon as the financial value of the damages—*marginal damage*—caused by each extra ton of carbon emitted into the atmosphere. Applying the polluter-pays principle, the Protocol instructs judges to consider both direct restoration and monetary

deforestation area and the amount of carbon per hectare used in emission calculations. Under this methodology, the value of 100 tC/ha (tons of carbon per hectare) of biomass was adopted, equivalent to 367 tCO_2e/ha (tons of carbon dioxide equivalent per hectare).

[252] For the parameters applicable to irregular deforestation cases, see Ministério Público do Estado de Mato Grosso, Valoração do Dano Ambiental: Casos Aplicados ao Estado de Mato Grosso 7–24 (n.d.), https://pjedaou.mpmt.mp.br/wp-content/uploads/2017/10/VALORACAO_DANO_AMBIENTAL_MT_PJEDAOU-1.pdf (last visited Nov. 4, 2025) (setting forth the conditioning parameters and methodologies).

[253] Conselho Nacional de Justiça [CNJ]., Guia rápido para o protocolo de julgamento de ações ambientais [Quick Guide for the Protocol of Environmental Actions Adjudication] 23 (2025) (Braz.), https://www.cnj.jus.br/wp-content/uploads/2025/06/versao-final-guia-rapido-para-o-protocolo-de-julgamento-de-acoes-ambientais.pdf.

[254] Resolução No. 433, Conselho Nacional de Justiça [CNJ], 27 October 2021 (Braz.), https://atos.cnj.jus.br/files/original140419202111036182 96e30894e.pdf.

[255] Instituto de Pesquisa Ambiental da Amazônia (IPAM), *Calculadora de Carbono Online*, https://carboncal.org.br/pt/home (last visited Nov. 5, 2025).

[256] The ABRAMPA–IPAM six-step model is a practical framework incorporated into the CNJ's Judicial Protocol for Environmental Litigation to assist judges in the adjudication of environmental and climate cases. The methodology structures judicial analysis by guiding courts to: (1) identify the environmental or climate harm and the applicable legal framework; (2) assess the available scientific and technical evidence; (3) establish the causal link between the conduct and the harm; (4) identify those responsible and the corresponding legal obligations; (5) define appropriate preventive, restorative, compensatory, or adaptive remedies; and (6) establish mechanisms for monitoring and ensuring compliance with judicial decisions.

[257] Resolução No. 433, *supra* note 254.

equivalence, effectively institutionalizing carbon accounting in environmental adjudication.[258]

Courts have also relied on other administrative benchmarks. Some rulings reference the Amazon Fund's assumption of 100 tC/ha (or 367 tCO_2e/ha) as the standard carbon density for valuation.[259] Others apply the OECD[260] or World Bank shadow price of carbon, which ranges from $40–80 per ton.[261] Despite these efforts, Brazil still lacks a unified pricing standard: judicial awards for a ton of CO_2 have ranged from $5 to $60, depending on which parameter is adopted.

As a possible solution to this quantification challenge, *Federal Public Prosecutor's Office v. Federal Government, State of Pará, and CAAP* (international carbon credit contract in Pará and illegalities) offers an interesting approach. In this case, the Public Defender's Office of the State of Pará sought to hold the State of Pará liable for mitigating and repairing climate damages through vegetation restoration and sustainable extractivism projects in the Nossa Senhora dos Navegantes community, in an area equivalent in size to the vegetation suppressed. This remedy aimed to maintain extractive activities, maintain ecological and climatic balance, and preserve the community's traditional lifestyle and ethnoecological knowledge. The MPF also requested that the State of Pará be condemned to pay collective moral damages in the amount of R$200,000,000.00 (equivalent to 20% of the contract value), for the sale of revenues from environmental assets derived from the exclusive and legitimate usufruct of traditional peoples and communities, conducted without their free, prior, and informed consent before the contract's execution.[262] In this context, calculating damages as a percentage of the carbon credit contract value appears to be a more reliable strategy than relying on a future expert valuation.

Furthermore, quantification techniques are no longer confined to deforestation cases. In *Instituto Arayara v. Copel, Instituto Água e Terra and others* (UTE Figueira),[263] an NGO challenged irregular permitting of a coal-fired thermoelectric

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[258] Borges, *supra* note 27.

[259] *MPF-AM v. Anderson Henrique Figueiredo, Paula Geovania da Silva, Selma Oliveira Campos e Companhia Agricola do Rio Puruzinho Car*, Ação Civil Pública No. 1043253-19.2024.4.01.3200, Justiça Federal, Seção Judiciária do Amazonas, 7a Vara Federal Ambiental e Agrária, 18 August 2025 (Preliminary Decision, Braz.).

[260] OECD, Effective Carbon Rates (2018), https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/carbon-pricing-and-energy-taxes/effective-carbon-rates-2018-brochure.pdf.

[261] World Bank, *Carbon Pricing Dashboard*, https://carbonpricingdashboard.worldbank.org/what-carbon-pricing (last visited Nov. 5, 2025).

[262] *Federal Public Prosecutor's Office v. Federal Government, State of Pará, & CAAP*, Ação Civil Pública, Justiça Federal, Seção Judiciária do Estado do Pará, June 2025 (Petition, Braz.).

[263] *Instituto Saúde e Sustentabilidade e Defensoria Pública da União v. União Federal et al.*, Ação Civil Pública No. 5009465-87.2022.4.03.6100, Justiça Federal, Seção Judiciária de São Paulo, 2ª Vara Cível, September 2022 (Braz.).

plant alleged to have emitted GHG unlawfully for over two decades. The plaintiffs sought compensation based on the social cost of carbon, annulment of the plant's permits, and suspension of operations pending proper permitting. This case, the first in Brazil's energy sector to claim climate damages, underscores the judiciary's growing acceptance of carbon-based metrics beyond land-use contexts.

In sum, Brazilian courts have moved from ad hoc quantification to increasingly standardized carbon-accounting techniques. The combination of ABRAMPA–IPAM methodologies, CNJ guidance, and administrative data sources now forms an emerging evidentiary canon for valuing climate damages in both deforestation and industrial emissions cases.

3. Collective Moral Damages and Climate Justice Claims

Beyond material compensation, a distinctive Brazilian innovation lies in the pursuit of collective moral damages to redress non-economic, intergenerational, and distributive dimensions of climate harm.[264] Plaintiffs frequently request that such damages be allocated to public funds—such as the Diffuse Rights Fund (*Fundo de Defesa de Direitos Difusos*—FDD)[265] or the Socio-environmental Fund of the State of Pará—or have sought measures such as the blocking of the Rural Environmental Registry (*Cadastro Ambiental Rural*—CAR),[266] with the aim of mobilizing financial mechanisms to repair climate-related damages.

The *Public Defender's Office of the State of Pará v. Associação dos Ribeirinhos e Moradores et al.* (Project 2620, "forest carbon grabbing")[267] illustrates this approach.

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[264] de Andrade Moreira & Luz Andreatta Herschmann, *supra* note 113.

[265] The Diffuse Rights Fund (*Fundo de Defesa de Direitos Difusos*—FDD) is a public fund created by Law No. 7,347/1985 and managed by the Ministry of Justice and Public Security, with the purpose of remedying damages caused to collective rights, such as the environment, cultural heritage, consumer rights, and other diffuse interests. *O que é o Fundo de Defesa de Direitos Difusos—FDD*, Ministério da Justiça e Segurança Pública (2024) (Braz.), https://www.gov.br/mj/pt-br/assuntos/seus-direitos/consumidor/direitos-difusos/institucional.

[266] The Rural Environmental Registry (*Cadastro Ambiental Rural*—CAR) is a mandatory public electronic database for all rural properties and land holdings in Brazil, established by the Forest Code—Law No. 12,651/2012. Its purpose is to integrate and provide environmental information regarding land use, thereby supporting environmental control, monitoring, planning, and efforts to combat deforestation. Registration in the CAR has been invoked in climate litigation, since only landholders with an active CAR registration are eligible to access benefits such as rural credit, incentive programs, and environmental policies. Mariana Barbosa Cirne, Isabella Maria Martins Fernandes & Renato Gabriel Alencar da Veiga, *O papel do CAR e do PRA na melhoria da qualidade ambiental dos estados amazônicos,* in *10 anos de Código Florestal Brasileiro: Lei n. 12.651 de 12 de maio de 2012* (Márcia Dieguez Leuzinger, Lorene Raquel de Souza & Mariana Barbosa Cirne eds., CEUB & ICPD 2022), https://repositorio.uniceub.br/jspui/bitstream/prefix/15910/3/E-BOOK%20Co%CC%81digo%20Florestal%20Brasileiro.pdf.

[267] *Public Defender's Office of the State of Pará v. Associação dos Ribeirinhos e Moradores et al.*, Ação Civil Pública No. 0806464-92.2023.814.0015, Justiça Estadual, Vara Agrária de Castanhal/PA, 19 July 2023 (Petition, Braz.).

The plaintiffs sought R$5,000,000 in collective moral damages to be directed to the Eastern Amazon Fund, arguing that carbon-credit contracts had been executed on public lands without free, prior, and informed consent of traditional communities.[268] The case framed collective moral climate damages as an instrument of climate justice, seeking not only compensation but also empowerment and recognition for affected populations. According to the framework proposed by Giacomini, climate justice can be understood from a three-dimensional perspective encompassing: (1) *distributive justice*, related to the guarantee of rights and the equitable distribution of climate burdens and benefits; (2) *recognition justice*, aimed at respecting cultural identities and diverse epistemologies; and (3) *procedural justice*, ensuring the participation and protagonism of traditionally marginalized groups in decision-making processes.[269]

A related settlement in *Public Defender's Office v. Brazil AGFOR LLC and others* (Project 2252—Carbon Credits and "Forest Carbon Grabbing") achieved compensation for affected communities and commitments to assess the socio-environmental impacts of carbon-credit projects, advancing distributive and procedural justice.[270] The agreement stipulated that individual cases would be assessed to define the criteria, amounts, and procedures for compensation, with the assistance of the Public Defender's Office. Notably, the settlement also included a commitment to assess the socio-environmental impacts faced by families as a result of the project—including fishing and agro-extractive activities—thereby advancing toward the recognition of justice.[271] In this context, beyond challenging the illegality of such co-optation of Indigenous peoples,[272] collective climate moral damages may serve as an important legal instrument for integrating climate justice into an economic debate.[273]

Other cases have adapted the collective moral damages framework to urban and industrial pollution. In *Health and Sustainability Institute v. Federal Union and*

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[268] Decreto Estadual No. 3.46, de 2019, Diário Oficial do Estado do Pará [D.O.E.P.] (Braz.), https://www.seap.pa.gov.br/decretos (last visited Nov. 2, 2025).

[269] Giada Giacomini, Indigenous Peoples and Climate Justice: A Critical Analysis of International Human Rights Law and Governance (Palgrave Macmillan 2022).

[270] *Public Defender's Office of the State of Pará v. Estado do Pará, Instituto de Desenvolvimento Florestal e da Biodiversidade do Estado do Pará (IDEFLOR-BIO) & Terra Meio Ambiente*, Ação Civil Pública, Justiça Estadual, Vara Agrária da Comarca de Castanhal/PA, 20 July 2025 (Petition, Braz.).

[271] Giacomini, *supra* note 269.

[272] Gabriel Mantelli, Maurício Terena, Isabela Bicalho & Marie-Louise Siemons, *Decolonizing Climate Litigation: An Analysis of Indigenous Climate Litigation in Brazil*, *in* Brazil and Climate Justice: Pioneering Climate Litigation for a Global Cause 221 (Maria Antonia Tigre, Armando Rocha & Délton Winter de Carvalho eds., Brill | Nijhoff 2025) [hereinafter Mantelli et al., *Decolonizing Climate Litigation*].

[273] Elena Aydos, Sven Rudolph & Achim Lerch, *'I Know What I Must Do. It's Just . . . !' Justice in Emissions Trading Design and the Recent Reforms in New Zealand*," 14 Carbon & Climate L. Rev. 118 (2020).

others (emission of pollutants by motor vehicles),[274] plaintiffs sought R$1,000,000 for collective moral damages, arguing that the government's failure to regulate vehicular emissions under IBAMA Normative Instruction No. 23/2021[275] caused harm to public health and the climate system.[276] The requested compensation was to be allocated to the Diffuse Rights Fund for air-quality monitoring projects. Similarly, in *Instituto Preservar, AGAPAN, and Núcleo Amigos da Terra v. Federal Union and others* (Climate Emergency in Rio Grande do Sul),[277] the plaintiffs sought recognition of climate damages arising from state inaction in implementing environmental and climate legislation, and requested R$10,000,000 in collective moral damages, along with the creation of a multidisciplinary technical body to co-design reparation strategies with local communities. Given the magnitude, extent, and complexity of the climate damages caused by the defendants, the plaintiffs requested an interim injunction ordering the creation of an independent and multidisciplinary technical body capable of jointly developing participatory methodologies with affected populations, providing qualified technical information, and addressing informational and technical asymmetries. This would allow impacted communities to effectively participate in decision-making processes concerning the reparation and compensation of the damages suffered. The plaintiffs also requested that all defendants be condemned to pay R$10,000,000.00 as collective moral damages for environmental and climate harm. The court, however, denied the injunction, citing the potential economic disruption of halting thermoelectric operations.[278]

Indigenous and traditional peoples have also employed climate damages litigation to assert their rights against corporate actors in the voluntary carbon market. In *AMOREMA and AMORETGRAP v. Sustainable Carbon and others* (Carbon Credits and Extractive Reserves),[279] two Indigenous associations sought moral and material damages for alleged violations arising from carbon-credit

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[274] *Instituto Saúde & Sustentabilidade v. União Federal et al.*, Ação Civil Pública No. 5009465-87.2022.4.03.6100, Justiça Federal, Seção Judiciária de São Paulo, 2ª Vara Cível, 27 September 2022 (Braz.).

[275] Instrução Normativa No. 23, de 29 de dezembro de 2021, Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis [IBAMA] (Braz.), https://www.ibama.gov.br/component/legislacao/?legislacao=138786&view=legislacao.

[276] *Instituto Saúde & Sustentabilidade*, Ação Civil Pública No. 5009465-87.2022.4.03.6100, 26 April 2022 (Petition).

[277] *Instituto Preservar, AGAPAN & Núcleo Amigos da Terra v. Federal Union et al.*, Ação Civil Pública, Justiça Federal, Seção Judiciária de Porto Alegre/RS, 9ª Vara, 6 July 2023 (Petition, Braz.).

[278] *Id.*

[279] *Public Defender's Office of the State of Pará v. Associação dos Ribeirinhos e Moradores et al.*, Ação Civil Pública No. 0806464-92.2023.814.0015, Justiça Estadual, Vara Agrária de Castanhal/PA, 19 July 2023 (Petition, Braz.).

transactions within the Mapuá and Terra Grande–Pracuúba Extractive Reserves.[280] However, the quantification of the material and moral damages to be compensated remains pending and will depend on further evidentiary proceedings. Another claim for collective environmental moral damages remains to be determined by the court in the future. In *Instituto Arayara v. Copel, Instituto Água e Terra and Others*,[281] the plaintiffs requested the award of collective environmental moral damages in an amount to be set by the court and allocated to the population of Figueira, Paraná, specifically for use in just energy transition activities, aimed not only at training the local population for sustainable jobs but also at promoting the creation of such employment opportunities.

It is important to note that the Attorney General's Office (AGU), by issuing Opinion No. 00012/2024/CONSUNIAO/CGU/AGU,[282] opened new possibilities for economic instruments. By recognizing Brazil's international commitments to combat the effects of the climate emergency through the reparation of environmental damage and the allocation of resources for the protection and improvement of the environment, the opinion allowed that compensation for climate damages could be directed to special funds established by law, such as the National Climate Change Fund (FNMC or *Fundo Clima*), created by Law No. 12,144 of 2009,[283] and the National Fund for Benefit Sharing (FNRB), created by Law No. 13,123 of 2015.[284] These measures represent new opportunities for managing and applying compensation for climate damages.

These developments reveal that Brazilian climate damages litigation has expanded from compensatory restoration toward distributive and participatory remedies that reflect broader notions of justice. The three-dimensional lens—distributive (redistribution of burdens and benefits), recognition (respect for identity and knowledge), and procedural (inclusive decision-making)—articulated by Giacomini and reflected in judicial practice, is increasingly visible in the remedial phase of such cases.[285]

Collective moral damages thus serve both symbolic and practical purposes: they affirm community standing and channel financial resources toward structural reforms, community resilience, and environmental restoration. As a result, Brazilian

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[280] Mantelli et al., *Decolonizing Climate Litigation*, *supra* note 272.

[281] *Instituto Saúde e Sustentabilidade e Defensoria Pública da União v. União Federal et al.*, Ação Civil Pública No. 5009465-87.2022.4.03.6100, Justiça Federal, Seção Judiciária de São Paulo, 2ª Vara Cível, September 2022 (Braz.).

[282] Advocacia-Geral da União (AGU), *Parecer No. 00012/2024/CONSUNIAO/CGU/AGU* (Dec. 20, 2024), https://www.gov.br/agu/pt-br/comunicacao/noticias/ParecerAGU00122024.pdf.

[283] Lei nº 12.144, de 2009, Diário Oficial da União [D.O.U.] (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l12144.htm.

[284] Lei nº 13.123, de 2015, Diário Oficial da União [D.O.U.] (Braz.), https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13123.htm.

[285] Giacomini, *supra* note 269.

courts are gradually embedding climate justice into the remedial architecture of corporate liability, aligning domestic environmental law with emerging international standards.

Still, enforcement may remain a persistent challenge. Many corporate climate damages judgments in Brazil are in early procedural stages or depend on provisional measures such as asset freezes and injunctions. Courts have increasingly relied on preventive remedies—such as freezing defendants' assets up to the estimated value of climate harm—to ensure eventual compensation. Yet collecting awarded amounts remains complex, as defendants may dissolve, transfer, or undervalue assets. These obstacles mirror broader enforcement difficulties in Brazilian environmental litigation and underline that robust remedies depend not only on legal doctrine but on institutional capacity and sustained monitoring.

4. Lessons from Unsuccessful Claims

Nevertheless, it is necessary to draw lessons from cases in which climate-related claims were dismissed. In the judgment of *IBAMA v. Madeireira Madevi Ltda.*, the judge dismissed the request for compensation for the social cost of carbon, reasoning that "there is no consensus—which in fact becomes impossible due to the evident scientific uncertainties surrounding the issue—nor any jurisprudential, legal, or doctrinal parameters for establishing the alleged damage."[286] This demonstrated that, despite the existence of judicial norms and guidelines issued by the judiciary itself, the recognition of climate damage may still be challenged by individual judicial interpretation.

IBAMA v. Madeireira Madevi Ltda.[287] illustrates the evidentiary and methodological hurdles that continue to limit judicial recognition of climate-specific harm. In that decision, the court partially upheld the claim, finding strict liability for environmental damage arising from the illegal acquisition and deposit of timber without proof of lawful origin. The court ordered monetary compensation for environmental degradation, the suspension of tax incentives, and a ban on access to public financing until the environmental liabilities were regularized.[288] Yet, it declined to award additional compensation for climate damages, citing the absence

[286] *IBAMA v. Madeireira Madevi Ltda.*, Ação Civil Pública No. 1000656-73.2018.4.01.3902, Justiça Federal, Seção Judiciária do Pará, 2ª Vara Federal Cível e Criminal de Santarém/PA, 22 October 2024 (Braz.).

[287] *IBAMA v. Gabriel Indústria & Comércio de Madeiras EIRELI*, Ação Civil Pública No. 1000185-42.2018.4.01.3907, Justiça Federal, Seção Judiciária do Pará, Vara Federal Cível e Criminal de Tucuruí/PA, 14 November 2023 (Braz.).

[288] *IBAMA v. Madeireira Madevi Ltda.*, Ação Civil Pública No. 1000656-73.2018.4.01.3902, Justiça Federal, Seção Judiciária do Pará, 2ª Vara Federal Cível e Criminal de Santarém/PA, 22 October 2024 (Braz.) (holding the defendant strictly liable for environmental damage caused by illegal timber acquisition and ordering monetary compensation; denying additional climate damage compensation for lack of technical evidence quantifying GHG emissions).

of technical reports or studies quantifying the GHG impacts of the conduct. The judgment thus reaffirmed the polluter's duty to repair environmental harm while drawing a line between proven local degradation and unsubstantiated global climate effects. This reasoning reflects the persistent challenge of evidentiary causation—not yet doctrinally settled in Brazilian jurisprudence—and underscores that, without robust technical substantiation, courts remain hesitant to translate environmental violations into measurable climate-specific loss.

It may be said that the Brazilian judiciary appears relatively resistant to corporate climate litigation claims, particularly those classified as global emissions-responsibility claims.[289] In the case seeking compensation for aviation emissions, *Public Prosecutor's Office of the State of São Paulo v. United Airlines and Others* (Airline Companies Case), both the trial judge and the São Paulo Court of Justice held that the environmental permitting procedure for Guarulhos Airport, together with the operational authorization issued by the National Civil Aviation Agency (ANAC), were sufficient to address efforts concerning measurement and mitigation of emissions by the aviation sector.[290] In *Instituto Preservar, AGAPAN, and Núcleo Amigos da Terra v. Federal Union and Others* (Climate Emergency in the State of Rio Grande do Sul), the interlocutory decision acknowledged that, although

> the effects of climate change on the planet are recognized—as acknowledged by international organizations and widely reported by the media—the adaptation process of nations has been slower than desirable, resulting in environmental damage to present and future generations occurring gradually and, perhaps, irreversibly.[291]

Nevertheless, the judge denied the injunction, holding that suspending the operation of a thermoelectric plant would cause even greater harm to consumers than maintaining its activity. The urgency of adopting climate measures, therefore, was not sufficient to justify the granting of interim relief. It thus appears that the category of global emissions-responsibility claims against carbon-major producers does not receive the same judicial responses as localized damages claims where illegality is present.

An important lesson from the judicial treatment of localized damages claims where illegality is found concerns the need for caution in seeking future judicial quantification of climate damages. This is because the claim for recognition of the social cost of carbon was dismissed in the *IBAMA v. Madeira Nova Aliança Ltda.*

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[289] Setzer & Higham, 2025 Snapshot, *supra* note 13.

[290] *Public Ministry of the State of São Paulo v. United Airlines et al.*, Recurso Especial No. 0046991-68.2012.4.03.9999, Justiça Federal, Superior Tribunal de Justiça, 14 December 2020 (Braz.).

[291] *Instituto Preservar, AGAPAN & Núcleo Amigos da Terra v. Federal Union et al.*, Ação Civil Pública, Justiça Federal, Seção Judiciária de Porto Alegre/RS, 9ª Vara, 6˙July 2023 (Petition, Braz.).

decision due to the absence of any technical study or expert report.[292] Decisions regarding financial instruments have faced similar challenges. In *AMOREMA and AMORETGRAP v. Sustainable Carbon and Others* (Carbon Credits and Extractive Reserves), the claim was dismissed on the grounds that there was no direct or indirect damage to any diffuse or collective right, much less to the environment or climate. The court reasoned that carbon credits granted and certified by internationally accredited institutions in voluntary markets, as part of duly verified environmental preservation activities, do not cause harm to local communities, and that the extractive reserve constitutes public property.[293]

Still, even in unsuccessful cases, climate litigation can effectively send a long-term signal to polluters, who must face costly trials and reputational costs, encouraging behavioral change.[294] The Brazilian experience offers a laboratory for understanding the potential and limitations of corporate climate litigation in the Global South. This Section distills the main findings from the preceding Sections, emphasizing doctrinal, procedural, and strategic insights. By holding companies accountable for clearly illegal acts such as unauthorized deforestation, Brazilian courts are building the foundation for more ambitious claims that challenge whether permitted corporate activities—like fossil fuel extraction—can ever be lawful in a climate-constrained world. Corporate liability for illegal deforestation is just the beginning; the next frontier is questioning whether climate-damaging business models are unlawful even when the law permits them.

The role of the Brazilian judiciary in corporate accountability for climate-related harm has been substantially shaped by precedents that strengthen transparency and access to environmental information. The STJ,[295] in adjudicating the *Incidente de Assunção de Competência* (IAC 13), consolidated legal theses that broaden the State's duty of publicity and provide society with essential tools for oversight.

The Court established a presumption of transparency in environmental matters, shifting the burden of justifying any refusal to disclose information to the public administration under judicial review. This understanding goes beyond the mere disclosure of pre-existing data, securing the public's right not only to request

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[292] *IBAMA v. Madeira Nova Aliança Ltda.*, Ação Civil Pública No. 1000275-31.2019.4.01.3902, Justiça Federal, Seção Judiciária do Pará, 2ª Vara Federal Cível e Criminal de Santarém/PA, 7 October 2024 (Braz.).

[293] *Associação dos Moradores da Reserva Extrativista Mapuá et al. v. Sustainable Carbon—Projetos Ambientais Ltda et al.*, Ação Civil Pública No. 1045416-11.2021.4.01.3900, Justiça Federal, Seção Judiciária do Pará, 9ª Vara Federal Ambiental e Agrária, 26 April 2024 (Braz.).

[294] Newell, *supra* note 2, at 134 (citing Int'l Council on Hum. Rts. Pol'y, The Human Rights Dimensions of Climate Change: A Rough Guide 9 (Draft Paper, 2008)).

[295] Brazil, Superior Tribunal de Justiça (STJ), Incidente de Assunção de Competência (IAC) nº 13, Relator Min. Herman Benjamin, Second Panel, 22 June 2022, https://processo.stj.jus.br/processo/revista/documento/mediado/?componente=ITA&sequencial=2020716&num_registro=202002233813&data=20220622&tipo=51&formato=PDF.

specific information but also to demand the production of data that does not yet exist, constituting a landmark in the democratization of information and in environmental accountability.

In addition, the STJ decision validated the Public Prosecutor's prerogative to directly require registries (*cartórios*) to annotate information of institutional interest, thereby expediting oversight and the defense of the environment. These theses provide civil society and oversight bodies with a robust legal framework to monitor corporate activities and, consequently, to advance accountability for practices that affect the climate.[296]

Taken together, these rulings illustrate both the promise and the fragility of climate damages adjudication in Brazil. The judiciary has begun to internalize the climate externality within the broader system of environmental liability, employing carbon-based metrics to convert diffuse atmospheric harm into actionable claims. Yet inconsistency in valuation and evidentiary standards still hampers predictability. Cases grounded in illegal deforestation or burning have met greater success, while those addressing broader emissions responsibility remain constrained by causation hurdles and judicial caution. The consolidation of CNJ guidelines and ABRAMPA methodologies signals an important step toward standardization—one that may soon influence comparative jurisprudence across the Global South.

IBAMA v. Madeireira Madevi Ltda. illustrates the evidentiary and methodological hurdles that continue to limit judicial recognition of climate-specific harm. In that decision, the court partially upheld the claim, finding strict liability for environmental damage arising from the illegal acquisition and deposit of timber without proof of lawful origin. The court ordered monetary compensation for environmental degradation, the suspension of tax incentives, and a ban on access to public financing until the environmental liabilities were regularized.[297] Yet, it declined to award additional compensation for climate damages, citing the absence of technical reports or studies quantifying the GHG impacts of the conduct. The judgment thus reaffirmed the polluter's duty to repair environmental harm while drawing a line between proven local degradation and unsubstantiated global climate effects. This reasoning reflects the persistent challenge of evidentiary causation—not yet doctrinally settled in Brazilian jurisprudence—and underscores that, without robust technical substantiation, courts remain hesitant to translate environmental violations into measurable climate-specific loss.

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[296] Donna Minha, *Lights, Camera, (Climate) Action: Bringing Corporations into the Spotlight in Human Rights-Based Climate Litigation*, 60 Stan. J. Int'l L. 28 (2024).

[297] *IBAMA v. Madeireira Madevi Ltda.*, Ação Civil Pública No. 1000656-73.2018.4.01.3902, Justiça Federal, Seção Judiciária do Pará, 2ª Vara Federal Cível e Criminal de Santarém/PA, 22 October 2024 (Braz.) (holding the defendant strictly liable for environmental damage caused by illegal timber acquisition and ordering monetary compensation; denying additional climate damage compensation for lack of technical evidence quantifying GHG emissions).

C. Comparative Touchpoints

Efforts to quantify and award monetary climate damages remain highly uneven across jurisdictions. While Brazil has advanced the furthest in operationalizing damages for GHG emissions through deforestation, other national and subnational systems are experimenting with models that intertwine tort law, attribution science, and economic valuation. These comparative developments underscore both the originality of Brazil's strict-liability framework and the broader search for workable methodologies to transform emissions into legally cognizable harm.

1. The United States: Attribution Science and the Search for a Judicial Carbon Tax

In the United States, monetary climate damage claims remain at the frontier of both science and legal theory. Despite a proliferation of municipal and state suits against fossil fuel companies, no court has yet awarded compensatory climate damages. The central obstacle is not valuation, but causation—specifically, how to link global emissions to localized harm within the traditional architecture of tort law.

The new generation of state and municipal lawsuits has focused on deception and public nuisance, seeking damages for the costs of adaptation, abatement, and infrastructure resilience rather than for quantified global warming losses per se.[298] Cases such as *City of Honolulu v. Sunoco LP*[299] and *Vermont v. ExxonMobil Corp.*[300] illustrate this evolution. Both allege that oil and gas companies misled consumers and investors about the climate risks of their products, causing the state or municipality to incur costly adaptation expenses. While styled as tort claims, these suits effectively pursue financial redress for systemic harms. Yet courts have not yet reached the merits stage on damages, and defendants continue to challenge jurisdiction and preemption.

A 2025 *Nature* study by Callahan and Mankin developed a model to "draw quantitative linkages between individual emitters and particularized harms," estimating economic losses from extreme heat attributable to "carbon majors" between 1991 and 2020.[301] The model inspired Vermont's Climate Superfund Act—the first statute allowing a state attorney general to recover damages from fossil

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[298] *See* U.N. Env't Programme and Sabin Center, Global Climate Litigation Report: 2023 Status Review 52 (2023) and U.N. Env't Programme and Sabin Center, Global Climate Litigation Report: 2025 Status Review (2025).

[299] *City of Honolulu v. Sunoco LP*, 39 F.4th 1101 (9th Cir. 2022) (declining to exercise federal question jurisdiction and remanding the case back to Hawaii state court where litigation is ongoing).

[300] *Vermont v. ExxonMobil Corp.*, No 2:21-cv-260, 2024 WL 446086 (D. Vt. Feb. 6, 2024) (remanding, for want of federal jurisdiction, the case from federal district court back to state court where litigation is ongoing).

[301] T.J. Callahan & J.S. Mankin, *Carbon Majors and the Scientific Case for Climate Liability*, *Nature* (23 Apr. 2025).

fuel companies based on their historical emissions.[302] Yet the model remains contested. Industry plaintiffs challenging climate superfund statutes have argued that the statutes improperly aggregate separate corporate entities and cannot accurately distinguish the worldwide emissions attributable to one producer as opposed to another.[303]

Federal courts have not yet endorsed such attribution-based quantifications. In *Lliuya v. RWE AG*,[304] a Peruvian farmer sought damages from a German utility for climate-related glacier melt; although heard in Germany, the case heavily influenced U.S. debates about individualized causation. Earlier academic proposals—such as Jonathan Zasloff's "judicial carbon tax," which framed climate damages as a tort-based surrogate for carbon pricing—remain theoretical.[305] Kirsten Engel's response highlighted the mismatch between global harm and individualized compensation, arguing instead for abatement remedies.[306] Together, these experiments show that in the United States, the central hurdle remains not valuation itself, but legal causation—the link between diffuse emissions and specific, compensable loss. There is no commonly accepted method of evaluating damages, and causation is a significant problem.[307] U.S. cases have not generally reached the stage of decisions on quantifying damages.

More recently, Adi Gal has advanced a fundamental critique of climate damages as a *category error* within tort law, arguing that global, diffuse, and collective harms cannot be meaningfully mapped onto bilateral fault and compensation relationships.[308] Gal contends that monetizing planetary harm through piecemeal litigation risks producing arbitrary outcomes and distributive inequities: wealthy jurisdictions may succeed in obtaining damages, while poorer, more affected states lack comparable access.[309] She warns that such damages would be retroactive and speculative, imposing liabilities for historically lawful conduct

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[302] *See* Complaint, *Chamber of Commerce v. Moore*, No. 2:24-cv-01513 (D. Vt. Dec. 30, 2024) (industry suit challenging the Act) (noting that the Act "does not differentiate" among relevant categories of emissions and that it is "impossible to measure accurately and fairly" the impacts attributable to a particular entity).

[303] *See id.*

[304] *Lliuya v. RWE AG*, Oberlandesgericht Hamm (Ger.) (May 28, 2025) (dismissing for lack of imminent risk).

[305] Jonathan Zasloff, *The Judicial Carbon Tax: Reconstructing Public Nuisance and Climate Change*, 55 UCLA L. Rev. 1827 (2008).

[306] Kirsten Engel, *Damages, Injunctions, and Climate Justice: A Reply to Jonathan Zasloff*, 58 UCLA L. Rev. Discourse 189 (2011).

[307] Daniel Farber, *Basic Compensation for Victims of Climate Change* (2007) 155 U. Penn. L. Rev. 1605.

[308] Adi Gal, *Rethinking Climate Damages: The Legal Limits of Climate Reparations through Tort Law*, 52:59 Ecol. L. Qua. 59 (2025).

[309] *Id.* at 224–27.

without democratic legitimacy.[310]

These critiques underscore a key contrast with Brazil's model. Whereas the United States seeks to extend tort concepts to a global commons problem—requiring probabilistic attribution to specific emitters—Brazil embeds climate damages within an existing *strict-liability* environmental regime, where illegality and quantification are defined by domestic statute rather than by contested scientific modeling. The American debate remains anchored in questions of causation, fairness, proportionality, and proof; Brazil's approach, by contrast, treats the emission itself—when arising from unlawful deforestation—as sufficient to trigger liability.

2. Europe: Symbolic and Moral Climate Damages

European courts have recognized the existence of "climate damage" as a justiciable harm, even where quantification proves impossible. In *Notre Affaire à Tous v. France*, the Administrative Court of Paris acknowledged the State's failure to meet its emissions targets as an actionable omission and awarded the plaintiffs €1 in *moral prejudice*.[311] The award's symbolic character has been criticized for failing to generate deterrence.[312] Unlike Brazil, French courts have not yet recognized a quantifiable *ecological* or *climate* damages component separable from moral harm. In many cases, plaintiffs seek compensation, but leave the actual allocation and calculation of those costs to the court at a later point.[313]

The French case also contrasts sharply with Brazil's 2021 decision in *Ministério Público Federal v. de Rezende*, which applied the Amazon Fund's benchmark of $5 per ton of CO_2 to illegal deforestation emissions.[314] Leucci observed that although this value may understate the true social cost of carbon, Brazil's methodology represents a rare judicial use of a consistent, nationally endorsed price per ton of CO_2 for calculating damages.[315] European courts, by contrast, have largely avoided explicit pricing methodologies, preferring declaratory or injunctive relief.

3. Indonesia: Judicial Quantification of Deforestation-Linked Emissions

Indonesia offers the most direct parallel to Brazil. Since 2017, its courts have issued a series of landmark decisions awarding climate damages for illegal land

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[310] *Id.* at 230–32.

[311] *Notre Affaire à Tous v. France*, Tribunal administratif de Paris, Feb. 3, 2021 (Fr.).

[312] Francesca Leucci, *The Economics of Climate Damage Assessment in Courts*, in *Corporate Accountability and Liability for Climate Change* 292, 293 (2024) (arguing that damages must approximate real losses to provide optimal care incentives).

[313] Marta Torre-Schaub, *Remedies and Remedial Dynamics in Climate Change Litigation: Opportunities and Challenges* 234 (11 June 2024).

[314] *Id.* at 308–09 (discussing *de Rezende*).

[315] *Id.* at 311.

clearing by palm oil producers.[316] In these cases, Indonesian judges quantified emissions from forest burning, multiplied them by an adopted social cost of carbon, and ordered monetary compensation payable to the State. The Indonesian judiciary's willingness to assign monetary value to emissions—even in the absence of statutory guidance—has inspired similar claims in Brazil's federal courts and underscores a broader South–South dialogue on quantifying ecological loss through carbon metrics.

4. Switzerland and Transnational Litigation: Quantified Loss and Damage

A growing subset of transnational cases seeks compensation for climate loss and damage by apportioning responsibility among emitters. In *Asmania et al. v. Holcim AG*,[317] plaintiffs from island states sued a Swiss cement producer, requesting monetary contributions to adaptation projects proportionate to the company's historical share of global GHG emissions.[318] Wewerinke-Singh describes this approach—linking corporate liability to relative global emissions—as "an approach that holds significant promise for loss-and-damage litigation."[319] These cases illustrate a gradual move toward global quantification frameworks that combine attribution science with reparations-style reasoning.

5. Comparative Reflections

Across jurisdictions, two models emerge. First, the scientific-causation model—dominant in the United States and Europe—seeks to apportion liability through attribution studies and probabilistic reasoning but remains hampered by evidentiary complexity and political resistance. Second, the ecological-accounting model—exemplified by Brazil and Indonesia—derives quantifiable climate damages from existing environmental law mechanisms, translating physical emissions into monetary obligations through a social-cost-of-carbon proxy. Each pathway reveals different strengths: while the former pursues conceptual precision, the latter delivers enforceable outcomes.

Brazil's approach thus occupies a unique middle ground between symbolic recognition and technical abstraction. By embedding carbon valuation within the country's long-standing strict-liability and *obrigação propter rem* doctrines, Brazilian courts have achieved a form of pragmatic reparations—assigning value to atmospheric harm without awaiting global consensus on the "true" price of carbon. These comparative touchpoints confirm that corporate climate accountability is not

[316] *See Minister of Environment v. PT Kalista Alam*, Civ. Ct. (Meulaboh) (2017); *Ministry of Environment & Forestry v. PT Jatim Jaya Perkasa* (2018); *v. PT Palmina Utama* (2018); *v. PT Arjuna Utama Sawit* (2020); *v. PT Asia Palem Lestari* (2021); *v. PT Rambang Agro Jaya* (2021).

[317] *Asmania et al. v. Holcim AG*, Cantonal Ct. of Zug, A1 2023/9 (Switz. Jan. 31, 2023).

[318] Margaretha Wewerinke-Singh, *The Rising Tide of Rights: Addressing Climate Loss and Damage through Rights-Based Litigation*, 12(3) Transnat'l Env't L. 537, 546 (2023).

[319] *Id.* at 551.

progressing along a single trajectory but rather through converging experiments in causation, valuation, and enforcement across legal cultures.

D. Future Directions

Brazil's jurisprudence on corporate climate liability is poised to expand beyond deforestation. Three vectors are likely to define the next frontier. First, ESG and disclosure-based litigation is growing, as investors and regulators increasingly demand accurate reporting of climate risks and emissions. CVM Resolution 59/2021 already requires listed companies to disclose sustainability data, opening new avenues for greenwashing claims and securities-based climate accountability.

Second, the Brazilian Emissions Trading System Act (Law No. 15.042/2024) introduces a regulated carbon market that will intersect with corporate liability regimes. Future litigation may test whether carbon-credit fraud or mismanagement of emission allowances constitutes compensable climate harm, extending corporate responsibility into financial and market-based domains.

Third, the emerging focus on carbon market oversight—including the Pará State Public Defender's "carbon land-grabbing" cases—signals a broader shift from compensatory remedies to structural governance of mitigation and adaptation finance. Together, these developments suggest that Brazil's early innovations in quantifying deforestation-related damages could evolve into a comprehensive architecture for corporate climate accountability across sectors.

CONCLUSION

Corporate climate litigation in Brazil illustrates how a Global South jurisdiction can transform long-standing environmental liability doctrines into concrete mechanisms for climate accountability. The Brazilian experience demonstrates that strict liability, the integral-risk theory, and *propter rem* obligations—originally crafted to address pollution and deforestation—can be adapted to quantify and remedy climate harm. Through CNJ Resolution 433/2021 and an active judiciary, Brazilian courts have begun to assess damages from illegal deforestation, combining restoration obligations with financial compensation.

This jurisprudence situates Brazil at the frontier of a "second generation" of corporate climate litigation: one that moves beyond declaratory and injunctive relief toward reparations and deterrence. The approach contrasts with Global North trajectories still struggling to establish causation and enforceability. By embedding climate harm within existing environmental-damage frameworks, Brazilian courts offer a replicable model for operationalizing the polluter-pays principle in developing-country contexts.

At the same time, the limits of this model remain evident. Most cases are still pending, and enforcement depends heavily on institutional capacity and political will. The concentration of plaintiffs in public agencies highlights the fragility of

civil-society access, while inconsistent carbon valuation methodologies hinder uniform compensation. The next stage of development will require clearer guidance on climate damage quantification, integration of ESG and disclosure obligations, and coordination with emerging carbon-market regulations.

Ultimately, Brazil's trajectory underscores that corporate climate accountability cannot be confined to experiments in the Global North. As the world seeks equitable pathways for climate reparations, the Brazilian model—anchored in strict liability, constitutional environmental rights, and judicial innovation—offers a compelling vision of how domestic courts can convert deforestation's carbon footprint into legal responsibility and financial reparation. In doing so, it bridges the gap between environmental protection and climate justice, turning the chainsaws that once fueled deforestation into instruments of accountability in the courtroom.