

Original Article



Civil Law Perspectives on Private Damage Relief in Climate Change Litigation

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Abstract:

Climate change has emerged as a structural challenge to the global legal system in the 21st century. In recent years, the increasing number of cases where private entities seek damage relief in climate litigation has posed institutional tensions for the traditional civil law system in terms of rights construction, liability attribution, and causal determination. This paper, grounded in the analysis of typical judicial precedents from countries such as the United States, Germany, and the Netherlands, integrates the statutory framework and institutional potential of China's Civil Code to delve into feasible pathways for protecting individual rights in climate-related damages. The paper argues that the trend of civil law application in climate change litigation necessitates a threefold innovation in legal theory and practice: first, promoting the ecological interpretation of civil law and to reconstruct the status of individual rights in climate damage; second, reshaping the tort liability system by introducing proportional liability and climate-specific duties of care; third, developing a mechanism for integrating scientific and judicial approaches in liability attribution. On this basis, constructing a private damage relief system with enforceability, operability, and sustainability can help activate the institutional function of civil law in addressing climate crises, thus achieving a deep integration of the rule of law and ecological civilization.

Keywords: Climate change litigation; Private damages; Civil Code; Ecological interpretation; Tort liability; Attribution science.

1. Introduction

Climate change stands as one of the most profound global risks confronting human society in the 21st century. In recent years, the surge in global climate litigation is remarkable: according to a 2023 report by the United Nations Environment Programme (UNEP), nearly 2,200 climate-related cases were registered worldwide by the end of 2022 (UNEP, Global Climate Litigation Report, 2023), more than doubling the 884 cases recorded in 2017. This exponential growth underscores that climate change has transcended the domains of environmental science and policy, deeply infiltrating the legal systems and judicial practices of nations globally. Faced with escalating extreme weather events and environmental degradation, the traditional administrative regulation path has increasingly exhibited its institutional inertia and execution bottleneck. Consequently, a growing number of

private actors—including residents, farmers, children, civil society organizations, and even corporations—are turning to judicial channels for damage relief and liability accountability, driving the rise of climate justice jurisprudence.

Against this backdrop, the issue of private damages relief in climate litigation has emerged as a core focus of legal scholarship, signaling a shift in climate law from a state-centric regulatory model to a more nuanced individual rights-civil liability framework. This transition not only reflects the resurgence of private law rights protection but also highlights the deepening integration of climate governance with private law institutions. However, the delayed, systemic, and atypical characteristics of climate-related damage pose profound challenges to the constitutive elements of tort,

liability attribution frameworks, and relief mechanisms in traditional civil law. In particular, in terms of causal determination, behavioral liability delimitation, and rights typification, the existing civil law theories and institutional tools are difficult to fully adapt to the logical jump between systemic risks and individual damages.

Therefore, this paper takes the issue of private damage relief in climate litigation as its core research object, aiming to address the following three key questions: First, how can civil law effectively recognize and protect individual rights in climate-related damage through interpretation and expansion; second, how can the traditional tort liability framework be adaptively reconstructed in the context of climate change; third, how can scientific attribution methods be integrated with legal liability mechanisms to overcome causal challenges. Based on the systematic structure of Civil Code and drawing on the practical experience of Germany, the Netherlands, the United States, and other countries, this paper attempts to propose an operational, replicable and scalable civil law approach to respond to the systematic requirements of ecological rule of law for the private relief systems in the new era.

1. Materials, Methods, and Analytical Framework

Against the backdrop of global climate change, the study of private damage relief in climate litigation is not a necessity for academic fields, but also an inevitable requirement for global sustainable development. The existing legal framework exhibits substantial inadequacies in addressing private damage relief in climate litigation—for instance, enforcement difficulties arising from legal disparities across jurisdictions, and the inherent lagging nature of laws in confronting rapidly evolving environmental challenges. Therefore, the research work of this paper not only focuses on theoretical discussions but also conducts a judicial empirical analysis of the existing legal framework, with the aim of proposing more forward-looking and actionable legal recommendations. The research materials of this paper are classified as follows: Foreign Case Law: Selection of typical climate litigation cases, including *Lliuya v. RWE* (Germany), the *Shell case* (Netherlands), the *Erica case* (France), and *Smith v. Fonterra* (New Zealand), with analysis of the adjudicative

rationale. International Treaties and Instruments: Including climate convention documents such as the Paris Agreement, to grasp their framework obligations and normative spirit. Domestic Laws and Judicial Documents: Encompassing the Environmental Tort Liability section (Book VI) of the Civil Code of the People's Republic of China, relevant judicial interpretations, and representative climate damage litigation cases. Beyond the above legislation, this paper has also conducted a comprehensive search of relevant literature on the topic of "civil liability in climate litigation" from databases including CNKI, HeinOnline, and Science, laying the foundation for the literature review.

The research methods employed in this paper primarily consist of comparative legal research, case analysis, and normative analysis. First, comparative legal research involves a systematic comparison of the evolutionary trajectories and adjudicative logics of climate litigation judicial practices across different nations. It aims to summarize the commonalities and differences in damage identification, liability attribution and relief pathways, thereby drawing on mature foreign experiences to promote domestic institutional innovation. Second, the case analysis method is to select typical climate litigation cases for jurisprudential deconstruction and structural analysis. By integrating the causal chain construction, liability attribution logic and relief models outlined in court judgments, this approach reveals how courts engage in dynamic interpretation within institutional constraints, thereby deriving response mechanisms under the private law framework. Third, the normative analysis method involves conducting a structured analysis of climate convention documents such as the Paris Agreement and relevant provisions of the Civil Code of the People's Republic of China. It integrates institutional interpretation to elucidate the legislative spirit of the provisions and systematically applies the rules of the Tort Liability Section (Tort Liability Chapter) to guide practices in climate damage relief. The integrated application of these three methods not only establishes a multi-dimensional analytical framework but also ensures that the research findings hold significant practical application value.

This paper constructs a three-tiered analytical framework as follows: First, the institutional

foundation layer. Starting from the Civil Code, this layer analyzes the function of its ecological clauses in determining the rights and status of individuals in climate damage cases. It explores the application and articulation among personal rights—health, rights—ecological rights and proposes the fundamental theoretical proposition of ecologicalization of civil law. Secondly, the liability attribution layer. Focusing on the adaptability of the traditional tort liability system, this layer systematically discusses the civil law absorption path of new liability forms such as proportional liability, prevention obligation, and information disclosure obligation. It explores the significance of functional attribution in reconstructing the existing attribution structure. Finally, the causal and relief layer. Taking the leap logic of systemic risk-individual damage as the entry point, this layer integrates attribution science, judicial presumption and procedural rules to construct an attribution model that bridges civil law and scientific methods. It also analyzes the possibilities of integrating relief pathways such as class actions, injunctive orders, and ecological funds within the civil law system. Through this three-dimensional analysis framework, this paper aims to propose a model of civil law pathways for private relief of climate damage that is theoretically comprehensive, structurally clear, and institutionally feasible. This model not only responds to the practical challenges of the era of ecological rule of law but also expands the applicable boundaries of civil law theory in risk society.

2. Review: The Current Status of Judicial and Legislative Issues Regarding Private Damage Relief in Climate Change Litigation

Human activities, especially uncontrolled greenhouse gas emissions, serve as the key driving force behind the gradual rise in global temperatures. As temperatures continue to climb, we have witnessed a surge in the frequency and intensity of extreme weather events, including heatwaves, torrential rainfall, hurricanes and typhoons. These extreme weather events not only pose a direct threat to the human living environment but also exert far-reaching impacts on agricultural production, water resources management, and natural ecological balance. As the last line of defense in responding to climate change, climate change litigation has quietly emerged in many countries, fulfilling supplementary and interpretative functions through

appropriate judicial channels on various occasions. It is noteworthy that China's climate litigation remains in its embryonic stage. Since 2021, the Supreme People's Court has successively issued documents such as the Types and Statistical Norms for Environmental and Resource Cases (Trial) and the Opinions of the Supreme People's Court on Comprehensively and Accurately Implementing the New Development Philosophy to Provide Judicial Services for Actively and Steadily Promoting Carbon Peaking and Carbon Neutrality, which offer specific operational guidelines and rules for climate change justice. However, as the normative basis and fundamental prerequisite for climate change justice, climate change legislation still lags significantly, leading to challenges regarding the legality of private damage relief lawsuits in the practice of climate litigation.

2.1 The Judicial Status Quo of Private Damage Relief in Climate Litigation

Since the first climate litigation case (City of Los Angeles v. National Highway Traffic Safety Administration, 1986) emerged in 1986, climate litigation has evolved over nearly four decades. Both the civil law system and common law system have amassed a wealth of judicial precedents. In China, however, climate litigation remains in its nascent stage, with private damage relief specifically still under exploration. Faced with the global and complex nature of climate change, numerous countries have accorded legal importance and support to climate action. Whether the defendant is a government or an enterprise, it is commonplace to seek relief for rights infringed by climate change, invoking grounds such as the protection of climate-related human rights and property rights. Among all climate litigations, property rights compensation stands as the most contentious legal issue and the most challenging threshold for countries to overcome (Gao, L. 2022). Such cases rarely succeed due to challenges like questionable standing to sue, difficulty in proving causation, and state sovereign immunity. In the future, private law litigations grounded in property rights as the basis of climate litigation rights are expected to become the predominant litigation type (Kim Bouwer, 2018). To this end, this paper sort out the judicial evolution of private damage relief in climate litigation by examining several enlightening cases.

2.1.1 United States

Climate change litigation in the United States has an early start and a rich corpus of judicial cases. The landmark 2007 case *Massachusetts v. Environmental Protection Agency* first (*Massachusetts v. Environmental Protection Agency*, 2007) confirmed that greenhouse gases fall within the regulatory scope of the Clean Air Act. By establishing plaintiff standing requirements, this case fundamentally altered the rules of traditional climate change litigation, laying the judicial foundation for government regulation of climate pollution and favoring public entities as plaintiffs.

In the subsequent climate litigations, a 2011 Pennsylvania case saw plaintiffs seek compensation from the county government for property erosion caused by storms and other natural forces. (*Jordan v. ST Johns County*, 2011) Later state-level cases like *Held v. Montana* (*Held v. Montana*, 2020), filed by youth and indigenous groups, asserted constitutional or environmental rights claims against government approval or regulation of climate impacts. While many such litigations have not yet resulted in compensation orders, they demonstrate pathways for private parties to pursue climate action through national courts. In 2012, the Native Village of Kivalina in Alaska sued ExxonMobil and 24 other corporations for \$400 million in relocation costs. The case, fraught with legal complexities, hinged in part on whether the plaintiffs' climate tort claims had statutory basis (*Native Village of Kivalina v. Exxonmobil Corporation BP BP BP Aes Dte*, 2012). Although the plaintiff in this case did not secure compensation in the end, the court acknowledged that climate torts by carbon-emitting giants could cause property damage. This signaled a shift in litigation objectives from regulatory enforcement to economic compensation, pressuring corporations to assume financial liability.

Many climate cases in the United States demonstrate courts are increasingly recognizing private damage relief litigation as a supplementary mechanism, particularly in rights protection and policy implementation. While compensation amounts remain undefined, they have spurred exploration of flexible models (e.g., environmental funds, restoration agreements).

2.1.2 Netherlands

The Netherlands has also amassed substantial judicial experience in climate change litigation, exemplified by landmark cases such as *Urgenda Foundation v. Kingdom of the Netherlands* and *Milieudefensie et al. v. Shell*. In 2013, Urgenda, an environmental organization, filed a lawsuit on behalf of 886 Dutch citizens, seeking a court declaration that the Dutch government had failed to use its best efforts to reduce greenhouse gas emissions, thus violating the "duty of care" under Articles 2 (right to life) and 8 (right to private life) of the European Convention on Human Rights (*Urgenda Foundation v. The State of the Netherlands*, 2015). The local court in this case held that a sufficient causal link existed between Dutch greenhouse gas emissions, global climate change and their impacts on life in the Netherlands. Through a three-step syllogism—"environmental rights-human rights protection-state tort"—the court elevated environmental protection duties to judicially reviewable "obligatory conduct," ruling that the Dutch government was obligated to adopt climate change mitigation measures as swiftly and extensively as possible. This case marked the world's first judicial order requiring a state to assume specific emission reduction obligations, establishing the model of "state as climate tortfeasor" and creating institutional space for private relief.

Milieudefensie et al. v. Shell unveiled a more promising approach to climate change civil liability. The court effectively constructed a domestic legal obligation—grounded in soft law and scientific consensus—requiring private actors to align their conduct with the Paris Agreement's objectives (Sarah Downs, 2024). The judgment emphasized that the company's inadequate emission reduction efforts caused health damage and lifestyle disruption to the plaintiff group, constituting an infringement of private rights. For the first time, private parties were explicitly recognized as tort victims, with civil liability used to confirm corporate climate obligations and protect private rights. Therefore, the judicial evolution of private damage relief in Dutch climate litigation is summarized in Table 1 below.

Table 1

Dimensions	Evolution Trend
Plaintiff status	From public interest organizations as the mainstay → inclusion of citizen collectives → private individuals directly asserting civil law rights
Type of defendant	National governments → transnational corporations
Legal basis	Human rights protection and public law liability → civil law tort and reliance interests
Relief Path	Behavioral orders → private compensation claims and setting of corporate behavioral obligations
Court's attitude	Gradually judicial activism, emphasis on rights protection, and breaking through restrictions on traditional causal attribution

2.1.3 France

France has been a trendsetter in the field of civil liability for climate, with a number of judicial actions brought against the French State and private entities (Dentons, 2022). In the early 2000s, climate litigation in France primarily centered on environmental public welfare protection, where private individuals typically voiced their concerns indirectly through environmental organizations and NGOs as part of the general public. As the impacts of climate change intensified, courts gradually deepened their understanding of actionable damages caused by climate change. In the *L'Affaire du Siècle* case, the court's ruling formally confirmed the state's legal responsibility for climate inaction for the first time, acknowledging that state actions caused ecological damage (*préjudice écologique*) and treating this as an actionable legal interest. The ruling emphasized the protection of environmental rights for current and future generations. (CDMFUND, 2021) Although the case did not directly support private compensation claims, it established the judicial foundation for State climate responsibility and recognized ecological damage as an object of judicial relief, paving the way for individuals to file related derivative claims.

Another significant case is the TotalEnergies corporate climate responsibility case, in (Vves Tussaud, 2025) which the plaintiffs (multiple NGOs and communities in the affected areas) alleged that the company failed to properly assess climate risks and implement mitigation measures based on the 2017 *Loi sur le devoir de vigilance* (Corporate Due Diligence Law). Although the case is still under trial, it has explicitly incorporated the tortious risk of climate change into corporate liability assessments and acknowledged that the plaintiffs have a reasonable legal basis to file claims against the company based on specific potential damages. This case marks the introduction of private damage claims into the realm of multinational corporate liability, breaking the paradigm where the State was the sole defendant and affirming that private parties can act as right holders to pursue corporate climate negligence liability. The judicial evolution of private damage relief in French climate litigation demonstrates a trend from indirect liability to direct compensation and from administrative claims to civil recovery, reflecting the French judiciary's evolving logic of increasingly prioritizing individual rights protection in climate governance (see Table 2).

Table 2

Dimensions	Evolution trend
Plaintiff status	From public interest litigation dominated by environmental NGOs → expansion to affected citizen collectives → final allowance for private individuals to directly assert rights based on civil law
Type of defendant	Initially focused on national and local governments for non-fulfillment of climate obligations → extension to large enterprises, particularly multinational fossil energy corporations
Legal basis	Early emphasis on human rights and public law obligations (e.g., environmental rights) → expansion to private law channels such as civil

	tort, reliance interests, and contractual obligations
Relief Path	From initial behavioral orders (e.g., requiring states to reduce emissions) → transition to substantive measures like individual compensation claims and establishment of corporate due diligence obligations
Court's attitude	From passive response and restraint → evolution toward judicial activism and rights protection orientation, with attempts to break through limitations of traditional causal attribution

2.1.4 Germany

In the early stages of climate litigation, within the framework of the German Basic Law (Grundgesetz), courts primarily viewed environmental protection as a public law obligation of the State, with private litigation typically limited to procedural review in administrative proceedings (e.g., planning permits, environmental assessments). Courts long held a reserved stance toward civil liability claims filed by private individuals for climate change, deeming them lacking in direct causation and a statutory basis for claims. The *Lliuya v. RWE* case (Wikipedia, 2025) stands as a landmark case in Germany and globally, being the first private climate damage lawsuit to be filed in a general court and receiving partial procedural recognition. The plaintiff, Peruvian mountain residents whose homes faced the risk of lake collapse due to Andean glacier melting from global warming, sought to hold RWE—Germany's largest energy company—liable for dam construction costs in proportion to its

global emissions (approximately 0.47%). The Essen Regional Court initially dismissed the case for lack of specific causation, but the 2017 appellate court ruling determined the case contained legally actionable causal claims and allowed it to proceed to the evidence-gathering stage—marking the world's first private climate damage lawsuit to enter the merits trial stage. This case represents the first time a German court confirmed that private parties may assert civil liability for climate damage, establishing that extraterritorial damage does not inherently negate liability.

The judicial evolution of private damage relief in German climate litigation has shown a recent trend toward transitioning from symbolic claims to substantive judicial review, particularly focusing on allocating climate liability of major emitters to overseas victims. While this process has been gradual, it has yielded significant breakthroughs in plaintiff standing, attribution theory, and judicial attitudes, as summarized in Table 3.

Table 3

Dimensions	Evolution trend
Plaintiff status	From collective organizations/NGOs as the mainstay → gradual inclusion of overseas individuals/communities in legal proceedings
Attribution Logic	From traditional direct causation → recognition of "proportional liability" and "global contribution liability"
Court's attitude	From evasive rulings → advancement to procedural review and initiation of substantive evidence-gathering
Types of litigation	Predominance of public law constitutional review → gradual acceptance of civil tort litigation

2.1.5 New Zealand

As one of the first Pacific island nations to establish a modern environmental legal system, New Zealand's climate litigation system is characterized by being dominated by a public law dominance with gradual integration of private law liability

mechanisms, as outlined in Table 3. A notable case is *Smith v. Fonterra Co-Operative Group Ltd*, where Michael John Smith alleged that the defendant's greenhouse gas emissions caused sea-level rise and erosion of his ancestral lands, seeking to impose ordinary tort liabilities (public nuisance, negligence) and a novel climate tort cause of

action(Smith v Fonterra Co-Operative Group,[2025](#)).Although the plaintiff did not prevail in Smith, the case charted a path for private climate relief in New Zealand. The court highly recognized the legitimacy of private damage claims and endorsed the development of novel liability

theories, particularly within the context of moral and intergenerational justice. This case stands as a milestone in the privatization of climate litigation, signaling a judicial openness to expanding private law remedies.

Table 4

Dimensions	Evolution Trend
Plaintiff status	Predominance of environmental organizations and civil society → emergence of diverse entities including Māori tribes, local governments, and individual residents
Type of defendant	National governments and environmental agencies → exploration of corporate liability, particularly for major emitters (energy, agriculture, etc.)
Legal basis	Administrative and environmental law (e.g., RMA) → integration of tort law, public law reliance duties, and cultural rights (e.g., Treaty of Waitangi)
Relief Path	Environmental protection orders (e.g., project suspension, policy review) → addition of private rights protection and claims for health and property damage compensation
Court's attitude	Prudent yet open, emphasizing policy legality and procedural justice → increasing emphasis on judicial review power and support for novel damage relief theories

2.2 Legislative Status of Private Damage Relief in Climate Litigation

2.2.1 Current Status of International and Regional Legislation

2.2.1.1 United States

As a common law country, the United States indirectly regulates climate issues at the federal level primarily through the following legal frameworks:

Table 5

Legal Basis	Relevance to Private Damage Relief
Clean Air Act	Used to compel environmental regulators to regulate greenhouse gases, but primarily focuses on public enforcement and does not directly support private tort damage claims.
National Environmental Policy Act (NEPA)	Requires federal projects to conduct environmental impact assessments, but only provides procedural safeguards, making it difficult for private parties to assert property or personal injury claims.
Federal Tort Claims Act (FTCA)	Can be used to sue federal agencies for failure to respond to climate disasters, but is constrained by the "governmental discretion exemption" principle.
Common Law Nuisance	Multiple private litigations have alleged excessive greenhouse gas emissions by energy companies based on this doctrine, but most were dismissed in federal courts under the "political question doctrine".

Although the federal approach is limited, certain state laws offer potential breakthroughs for private

damage relief. Some states have enacted binding Climate Acts, such as New York's CLCPA (Climate

Leadership and Community Protection Act) and Massachusetts' Global Warming Solutions Act, which serve as legal bases for private parties to invoke. While no explicit compensation mechanisms exist yet, these laws facilitate courts in granting individuals standing to sue.

2.2.1.2 EU Member States

As the problem of climate change intensifies, the EU has progressively constructed a multi-level legal framework to provide a legitimating basis for private parties to institute litigation for climate-related impacts. Although the EU legal system premised on member state sovereignty, its provisions on human rights protection, environmental target-setting, and corporate obligations have notably enhanced the feasibility and justiciability of private relief pathways.

First, Article 2 (right to life) and Article 8 (right to private and family life) of the European Convention on Human Rights (ECHR) have been widely invoked by the European Court of Human Rights (ECtHR) to interpret how climate inaction infringes individual rights (Council of Europe, 1950). Second, the EU-level European Climate Law (Regulation (EU) 2021/1119) establishes a legal target of achieving climate neutrality by 2050. While

primarily oriented toward policy coordination and goal-setting, this regulation explicitly requires member states to establish effective, transparent, and inclusive national implementation mechanisms, creating an institutional foundation for private oversight and accountability (EU, 2021). Additionally, the Corporate Sustainability Due Diligence Directive (CSDDD) draft—currently in the legislative process—further strengthens the legal obligations of large enterprises to assume environmental and human rights protections in supply chains (European Commission, 2023). The draft stipulates that where enterprises fail to reasonably prevent or mitigate environmental and human rights damage, aggrieved private parties may initiate civil litigation for compensation—signaling the EU's gradual construction of a legal architecture transitioning from policy orientation to private law liability.

In summary, the EU is providing increasingly robust legal tools for private damage relief in climate change through human rights treaties and legislative documents. This not only guides member state legislation but also facilitates a proactive judicial response to private environmental rights. The legislative landscapes of member states France and the Netherlands are outlined below.

Table 6

Dimensions	Netherlands	France	Germany
Legislative Basis	Article 6 of the Civil Code + ECHR provisions	Climate and Resilience Act + Environmental Charter	Climate Protection Act + Article 20a of the Basic Law
Types of Private Rights of Action	Corporate behavioral obligations + indirect protection of human rights	State inaction claims, mixed public-civil law actions	Exploration of corporate emission liability and proportional responsibility
Civil Compensation Mechanism	"Mandatory emission reduction" obligations established, but no compensation mechanism yet	Clear establishment of "major ecological damage" compensation system	Exploring "proportional liability" in practice

2.2.2 The United Nations and the Development Trend of International Law

In recent years, the United Nations and its related international law mechanisms have progressively acknowledged the tangible impact of climate change on individual rights and private damages. Although there are currently no mandatory treaties

or norms that directly authorize individuals to claim compensation, a number of legal and policy advancements have provided indirect support and institutional prospects for private damage relief.

First, Article 8 of the Paris Agreement establishes a "loss and damage mechanism" to recognize the inevitable damage endured by Global South countries and affected communities in the face of

climate disasters (UNFCCC, 2015). Although this article does not explicitly grant individuals the right to direct relief, the "Loss and Damage Fund" established under its auspices is gradually exploring pathways to open application channels for communities and even individuals (UNFCCC, 2023). Second, the human rights law framework offers critical normative support. In 2021, the United Nations Human Rights Council adopted Resolution 48/13, formally recognizing "the right to a clean, healthy and sustainable environment" as a human right. This provides a legal basis for individuals to assert environmental rights when states fail to fulfill their climate obligations ((UNFCCC, 2021). In addition, the International Court of Justice (ICJ) and the International Tribunal for the Law of the Sea (ITLOS) initiated advisory opinion proceedings in 2023 at the request of multiple states, aiming to interpret whether states have violated international obligations in the context of climate change. This process is expected to advance the legal recognition of private damage within the international public law liability system (ICJ, 2023). Concurrently, the United Nations Committee on the Rights of the Child also issued General Comment No. 26, emphasizing that the systematic infringement of children's rights by climate change constitutes a breach of international

human rights obligations, and endorsing future climate litigation brought in the name of children (CRC, 2023).

In conclusion, the United Nations and the field of international law are transitioning from policy advocacy to legal construction in addressing private damages. Although a unified and mandatory international legal liability system has not yet been formed, international treaties, human rights jurisprudence, and institutional funds have collectively established multi-dimensional support, charting a clear course for the legislative development of private climate rights.

2.2.3 The Current Legislative Status of China

Against the backdrop of China's proposal and advancement of the dual carbon goals, climate litigation remains in an exploratory phase, particularly with respect to private damage relief in climate lawsuits, which has yet to be engaged in judicial practice. Despite the diverse forms of normative supply for climate litigation, both in terms of systematic macro-objectives and the interest orientation of norms, the legal framework for private damage relief requires proactive exploration. The current status of relevant legislation is as follows:

Table 7

Laws and Regulations	Content and Limitations
Environmental Protection Law Air Pollution Prevention and Control Law	Provide administrative penalties and accountability mechanisms for environmental torts and pollution (including corporate emissions); support environmental public interest litigation through judicial interpretation, but do not explicitly include greenhouse gas/climate damages —plaintiff qualifications are primarily limited to environmental NGOs that can prove infringement of public interests.
Articles 1234–1235 of the Civil Code	Define the ecological environmental damage compensation system, requiring restoration of the damaged environment and compensation for ecological losses; still take the environment as the object of interest, without extending to cases of private health or property damage.

3. Comment: Based on the Above Judicial Evolution and Legal System

In extraterritorial judicial practices, private entities' initiation of damage relief litigation concerning climate change has gradually become normalized, particularly in EU countries (such as the Netherlands, France, and Germany),

Commonwealth law countries (such as New Zealand and the United States), and regional human rights mechanisms (such as the European Court of Human Rights). Courts have demonstrated a trend of progressively expanding private litigation rights. However, this development still entails numerous controversies and institutional bottlenecks in terms of theoretical foundations, legal frameworks, and

judicial operations, which merits in-depth reflection and reference.

3.1 Difficulties in Causation Attribution and Institutional Adaptation

One of the greatest jurisprudential obstacles to private damages relief in climate litigation lies in how to establish causation in law. Traditional civil law tort liability is constructed upon a trinity of "identifiable harmful conduct—materialized damage—legally justifiable causation", imposing on the plaintiff the full burden of proof. However, damage caused by climate change often results from multi-source superposition, cross-border diffusion, and spatio-temporal delays. With numerous actors and globally pervasive damages, courts face profound challenges in causal attribution(Mayer, B. 2019).

Take the German case of *Lliuya v. RWE* as an example. In this case, Peruvian resident Lliuya alleged that German energy company RWE should bear the flood control costs for the threat to his residence, arguing that RWE's long-term carbon emissions exacerbated the melting of Andean glaciers. In 2017, the Higher Regional Court of Hamm (OLG Hamm) ruled that despite the case involving complex global climate mechanisms, RWE's conduct was legally deemed to have sufficient causal nexus, thereby ordering the case to proceed to the evidence-gathering phase. This marked the first time a court in climate litigation explicitly recognized that private parties could claim proportional liability for cross-border climate damage. Although the plaintiff's claim was ultimately dismissed in the 2025 judgment due to insufficient factual grounds, the case broke new ground for the institutional adaptation of causal presumption. This evolution signals a transition from the traditional direct causation standard to the risk contribution liability model. The risk contribution model emphasizes that it is unnecessary for the defendant's conduct to be the sole or direct cause of damage; instead, it suffices to prove that the conduct makes a significant contribution to the overall risk to trigger the liability mechanism(Setzer, J., & Byrnes, R. 2019). Widely applied in environmental pollution and pharmaceutical product liability, this model is being gradually introduced into climate law to address the dilemmas of multiple causes for one effect and systemic attribution challenges.

In civil law countries, courts have also sought to alleviate the causal conundrum through the duty of care doctrine. For example, in the Dutch case of *Milieudefensie v. Shell*, the court did not require the plaintiff to prove that Shell's emissions caused direct damage; instead, it ordered Shell to reduce global emissions by 45% by 2030 on the basis that as a major carbon emitter, Shell owed a reasonable duty of care in global emission reduction efforts. This case signifies the court's adoption of breach of duty as a threshold for liability review in lieu of causal proof, thus establishing a structural approach to attribution(Setzer, J., & Higham, C. 2022).

Furthermore, in *Juliana v. United States*, while the court ultimately abstained from rendering a substantive judgment due to political questions, multiple judicial tiers conducted substantive reviews of the validity of the climate causal chain. In the district court ruling, Judge Aiken noted that the plaintiffs have sufficiently alleged that the federal government bears identifiable and redressable liability for irreversible climate damages, citing climate model data from NASA, IPCC, and others to demonstrate a scientifically foreseeable causal pathway between policy actions and future climate risks. This exemplifies that with advancements in climate scientific tools, courts are shifting their interpretation of causal attribution standards from a deterministic model to one of probabilistic and attributability assessment.

Of course, such institutional adaptation has also sparked academic controversy. On the one hand, some scholars argue that excessive relaxation of the causal threshold may give rise to legal uncertainty and blurred corporate liability boundaries, thereby leading to the overextension of liability(Joshua T. Brinkman. 2017). On the other hand, some studies have pointed out that when confronting systemic risks, if the direct causality of individual cases remains the prerequisite for attribution, the law will fail to address contemporary risks, eroding the judiciary's responsiveness and sense of justice(Mayer, B. 2019). As a result, many legal systems are exploring the integration of multiple causal attribution approaches. For example, some courts have attempted to apply statistical attribution models, scientific attribution projections, and ecological plausibility standards to strike a balance between traditional evidence and big data modeling. Additionally, legislative proposals advocate introducing a burden of proof reversal

mechanism in specific fields—particularly in cases involving extreme climate events and infrastructure damage—to afford private victims more substantial avenues for relief (European Commission. 2023).

In conclusion, the institutional adaptation to the causal attribution dilemma in climate litigation demonstrates a trend of transition from strict legal formalism to substantive fairness. While upholding the rule of law, courts are progressively constructing a causal attribution framework that integrates risk assessment, scientific modeling, and proportional liability. This not only holds practical significance for expanding private damage relief pathways but also drives the interaction and integration between climate law and traditional civil law.

3.2 Functional Imbalance between Public Law Standing and Private Law Compensation

The rapid development of climate litigation has, to a certain extent, promoted states to fulfill climate commitments, enhance policy transparency, and boost public participation. However, in terms of actual relief effectiveness, a structural imbalance persists: public law standing remains strong, while private law compensation remains weak. This imbalance is primarily reflected in the fact that most climate cases target government inaction, proceeding through constitutional review or challenges to policy legality. Although these cases yield symbolic victories and normative momentum, they often fail to provide direct legal redress for health, property, or personal damage suffered by private individuals. This asymmetry in litigation functions has constrained progress toward substantive justice in climate adjudication. Its roots lie not only in choices of judicial pathways but also in the structural limitations of existing legal systems—specifically in their liability foundations, attribution logics, and procedural mechanisms. This manifests in three key aspects:

Firstly, most states' climate responsibilities are anchored in international treaty obligations (e.g., the Paris Agreement) or national policy legislation (e.g., National Climate Action Laws or carbon neutrality strategies). These constitute typical soft obligations and directional goals, designed primarily to guide governmental legislative and administrative action rather than to furnish individuals with a specific basis for rights claims. Such obligations often lack clear legal responsible

parties, enforcement mechanisms, and consequences for breach, rendering them difficult to translate into actionable private rights. For example, both the Klimaschutzgesetz and the Zero Carbon Act set medium- to long-term emission reduction targets and planning mechanisms but do not explicitly empower individuals to claim compensation for policy non-compliance. Courts frequently avoid substantive review by citing rationales such as policies falling outside the scope of judicial review or obligations lacking individualized right attributes. Consequently, while citizens may initiate policy evaluation lawsuits through public interest organizations, seeking civil compensation or tort relief based on individual damage remains challenging.

Second, judicial prudential self-restraint regarding climate policies circumscribes the space for individual claims. Climate policies rely heavily on technical assessment and political coordination, involving macro-level matters like energy structures, industrial transitions, and fiscal arrangements. Courts generally adopt a stance of judicial deference, deeming it inappropriate to intervene. This prudentialism manifests in civil law jurisdictions as profound respect for legislative discretion and administrative decision-making, and in common law systems through the political question doctrine. For example, in *Juliana v. United States*, the U.S. Federal Court of Appeals held: Although plaintiffs advance compelling constitutional claims, courts cannot formulate or enforce national climate policies, as this exceeds judicial competence. This implies that even if private parties can demonstrate actual damage from climate policies, courts are reluctant to conduct substantive review, precluding the conversion of claims into civil rights.

Third, the current private law system struggles to accommodate the complex attribution structure of climate damage. Traditional tort law emphasizes direct, specific causal links between individual injurious conduct and individual damage. By contrast, climate damage is highly systemic and uncertain, characterized by multiple causes for a single effect, long causal chains, cross-border diffusion, and delayed damage manifestation. Victims often cannot prove a legally attributable direct causal relationship between a particular actor's emissions and their specific health, property, or environmental damage—a critical factor in the

failure of private litigation (Joana Setzer, & Lisa C. Vanhala, 2019). Additionally, private law damage relief is rooted in the principle of restoration, typically requiring assessments of damage severity and compensation amounts. Yet climate damage often involves progressive, difficult-to-quantify, and future-oriented risks. Courts face challenges not only in calculating reasonable compensation but also in allocating risk and distributing liability within the system. Even in Germany's *Lliuya* case, where the plaintiff sought only 0.47% of flood control costs, the court exhibited deep conservatism toward the proportional liability model, underscoring that the system remains ill-prepared to shoulder systemic risk liabilities.

In conclusion, for climate litigation to transition from a policy declaration tool to a rights relief mechanism, it must bridge the functional divide between public law standing and private law redress. This requires integrating climate law into personal rights protection systems to address the tangible interests of private individuals amid climate crises.

3.3 Intersection and Integration of Human Rights Law and Civil Law Approaches

In the evolution of climate litigation, the boundaries between civil tort law and human rights law have progressively blurred, giving rise to a trend of deep intersection and integration. This convergence represents an inevitable response to the dilemmas of causation proof challenges and unclear rights under traditional civil law frameworks, as well as an institutional manifestation of the rights-based reconstruction of climate law theory and practice. While the integration of human rights law and civil law has expanded private relief pathways, this institutional hybridization has also posed a series of theoretical and practical challenges.

First, the misalignment between right types and remedies constitutes a primary tension. Human rights law primarily focuses on declaratory judgments and policy injunctions, aiming for structural improvements; civil law, by contrast, emphasizes specific damage and individual redress, pursuing *ex post* compensation. How to reconcile the establishment of universal obligations with individual damage awards in judicial decisions presents a coordination challenge that courts must address (Peel J., & Osofsky, H.M., 2020). Second, the proportionality between rights and obligations

remains ambiguous. As a component of human rights, climate rights lack clear demarcation, with obligation bearers encompassing not only states but also enterprises and institutions. Under civil law systems, defining the liability boundaries of various actors—particularly how to achieve fair burden-sharing in multiple-cause, single-effect scenarios—requires continuous judicial exploration (Burger, M., Horton, R. & Wentz, J. 2020). Finally, issues of institutional constitutionality and judicial role boundaries have become increasingly salient. Derived from international law, human rights law often grants courts broad discretionary powers, while civil law is strictly circumscribed by domestic legislation. When courts apply human rights obligations in conjunction with private law provisions, they must balance judge-made law against constitutional legitimacy to avoid political-legal conflicts.

4. Solution: The Civil Law Approach to Private Damage Relief in Climate Litigation

The non-traditional characteristics of climate damage are manifested in: complex causal chains, multiple damage subjects, ambiguous rights nature, and dynamic liability attribution. These features challenge the liability structure of clear tortfeasors—distinct causal links—quantifiable damage in traditional civil law. Therefore, civil law must undergo in-depth adaptation in its theoretical framework and institutional mechanisms, addressing the judicial realities of climate damage from an ecological value orientation. This paper proposes that institutional innovation and structural reconstruction of the civil law approach should be advanced along the following three dimensions.

4.1 Ecologicalization of Civil Law: The Legislative Model of the Civil Code on Individual Rights in Climate Damage

Civil law has long been anchored in individual centralism, with its rights structure constructed around private interest claims. However, in climate damage cases, plaintiffs are mostly individual citizens, farmers, youth, or even public interest groups. They suffer not traditional physical injury or property loss, but long-term, indirect, and complex atypical damages such as deteriorating respiratory health, diminished future life opportunities, and ecosystem degradation. To address the judicial realities of climate damage, the civil law system must undergo a value

transformation toward ecological holism. In this context, although China's Civil Code does not directly establish climate rights clauses, its legislative structure and article arrangements—creating interpretive space, diversifying rights pathways, defining boundaries, and setting foundational principles(Lin Y.& Yang Zh,2025)—demonstrate initial multi-level and gradual inclusion of ecological rights, providing a sound legal basis for individuals to assert rights in climate damage contexts.

Creating Interpretive Space: Ecological Construction in Open-Ended Clauses Creating interpretive space refers to legal provisions using open language to reserve interpretive possibilities for future judicial determinations of environmental risks. Article 1234 of the Civil Code states: Where the ecological environment is damaged, the liable party shall bear compensation liability in accordance with the law. It does not limit liability to person or property, but employs the more flexible and abstract concept of ecological environment. This open expression allows for interpreting climate security, carbon sink degradation, and individual life-health risks in extreme climate events as falling within civil law protection. Similarly, the general provision on personal dignity in Article 990 has been used by courts to interpret environmental rights and the right to a healthy life, providing a rights basis in climate infringement litigation.

Diversifying Rights Pathways: Embedding Ecological Rights in Existing Frameworks Diversifying rights pathways emphasizes embedding ecological significance within traditional rights frameworks to generate new institutional functions. The Civil Code's Personal Rights (Articles 990–1000) establishes clauses on the right to health, right to peaceful living, and right to environmental tranquility, providing rights assertion interfaces for individuals facing health threats or life disturbances from climate pollution, air anomalies, or heatwave disasters. For example, heatstroke caused by the urban heat island effect could invoke the right to health to claim that administrative departments failed to fulfill statutory duties, thereby prompting state obligation performance. (Burger, M.,Horton,R. & Wentz, J. 2020).Additionally, Contract Law principles like good faith and pre-contractual obligations can be interpreted as the civil law basis for environmental

protection duties or carbon emission disclosure obligations, serving as junctures for climate legal interests between individuals and enterprises.

Defining Boundaries: Delimiting Climate Rights and Balancing Scopes The expansion of ecological civil law rights cannot be unlimited; internal boundaries must be set. Article 1245 of the Civil Code, stipulating that liability for ecological damage is limited to legality, is a typical boundary clause. It restricts ecological damage claims to causing damage to others, clarifying that civil law protects concrete interest-related damages rather than abstract natural legal interests. In climate litigation, this requires courts to determine whether plaintiffs have suffered differential damage from specific conduct (e.g., government climate planning failures, excessive corporate emissions), thus defining the scope of private standing and avoiding the over-publicization of civil law. This model also supports courts in conducting proportionality reviews and exercising judicial restraint when balancing public interest—private damage tensions.

Setting Foundational Principles: Establishing the Principled Status of Climate Rights. While some scholars argue that climate change litigation should be positioned as public interest litigation due to climate's public welfare nature(Li Ch. & Lu H.2024), the core of civil law ecologicalization lies in recognizing individuals' fundamental rights in the ecological environment. Article 134, stipulating that civil subjects shall not violate the law or public order and good customs in civil activities, has been interpreted by courts to include environmental protection principles, serving as the normative source of ecological liability in private law. Further, Article 1165 on high-risk liability lays a jurisprudential foundation for incorporating high-emission, high-carbon industries into strict liability systems. These foundational clauses, though not designed specifically for climate damage, provide civil law normative principles and review benchmarks for subsequent climate litigation(Setzer, J., & Higham, C. 2022).

Therefore, based on the Civil Code, the following theoretical positioning should be strengthened: individuals affected by climate damage are not merely protected entities of public law interests but should be recognized as rights subjects in private law. Their claims extend beyond post-injury compensation to persistent protection requests for

the integrity of the living environment. This recognition of private law rights is the logical starting point for constructing climate civil law.

4.2 Reconstructing the Adaptive Framework of Civil Liability

Traditional civil liability construction relies on the tripartite logic of identifiable injurious conduct—direct damage consequences—clear causal chain. However, climate litigation involves numerous liable parties, long-term accumulation of emissions, unevenly distributed and often global damage, making it difficult for plaintiffs to satisfy the strict constitutive elements of tort law. Therefore, the civil liability system requires functional reshaping in three aspects:

(1) Introducing a Proportional Liability Mechanism

Liability for conduct in climate damage is contributory rather than determinative. In the German case of *Lliuya v. RWE*, the court accepted the plaintiff's assertion of RWE's 0.47% global emissions share as the basis for attribution, inaugurating the proportional liability approach. This model enables courts to make quantitative judgments on the defendant's risk contribution to overall climate change, no longer requiring their conduct to be the sole or primary cause of damage. Applicable to both enterprises and cases of government policy failure, this mechanism addresses the attribution dilemma in multiple-cause, single-effect scenarios.

(2) Establishing Climate Duty of Care and Preventive Obligations

Under Articles 1165 (High-Risk Liability) and 1251 (Preventive Obligations) of the Civil Code, courts may rule that an enterprise's failure to adopt feasible emission control measures, disclose environmental information, or mitigate climate risks constitutes a breach of the duty of care. This obligation is explicitly codified in the EU's draft Corporate Sustainability Due Diligence Directive (CSDDD), requiring enterprises to identify, prevent, and mitigate actions with adverse environmental impacts (European Commission, 2022). Although China's Civil Code has not fully adopted the concept of climate obligations, judicial practice has interpreted flawed environmental policies as managerial negligence by enterprises or governments, providing a practical foundation for

liability construction.

(3) Expanding Diverse Liability Forms

Climate damage claims primarily seek preventive and structural relief. Civil law should transcend the single model of monetary compensation to encourage the following forms: restoration of the original state (e.g., vegetation rehabilitation, ecological reconstruction), cessation of infringement (e.g., mandatory emission caps, technological improvements),

Behavioral orders (e.g., climate information disclosure, environmental impact assessments), vicarious liability (establishing damage funds for collective compensation).

In essence, climate liability should transcend the traditional *ex post* compensation logic and, in conjunction with climate policy objectives, shift toward a risk management and conduct regulation model.

4.3 Developing a Mechanism for Integrating Scientific and Legal Attribution Methods

Attribution represents the most challenging aspect of climate litigation. The lengthy causal chains and complex variables of climate change render it difficult for courts to make definitive judgments under traditional evidentiary standards. To address this, adjudicative methods should be developed that integrate interdisciplinary approaches:

(1) Attribution Science

Climate attribution models can quantify the probability increase rate of human emissions on specific extreme events (e.g., human activities tripling the likelihood of a heatwave). As Peel and Osofsky have demonstrated, such scientific models have been admitted by courts in the U.S. and Europe to establish reasonable probabilistic causation (Peel J., & Osofsky, H.M., 2020). Courts may draw on the statistical causation principle in product liability to introduce methods such as: Counterfactual modeling: Assessing whether damage would have occurred in the absence of emissions; Risk augmentation: Requiring only proof that the defendant's conduct significantly increased the probability of damage.

(2) Adopting Presumptive Attribution and Rebuttal Mechanisms

Drawing from the burden of proof reversal

mechanism in environmental torts (e.g., Article 1242 of the Civil Code), courts may shift the burden of proof to emitting enterprises or governments: if they cannot demonstrate that their emission reduction efforts were adequate or that their emissions did not increase systemic risks, attribution may be presumed, with proportional compensation or behavioral orders applied.

(3) Institutionalized Support for Attribution Tools

Develop the following mechanisms to enhance judicial operability: first, a national climate damage database that can provide attribution evidence and emission maps; second, an expert witness engagement mechanism to assist the court in understanding scientific attribution chains; third, a court judgment consistency system to promote uniform standards and reduce attribution standard fragmentation. In short, institutional construction can enhance the transparency and predictability of attribution, establishing a technical foundation for judicial discretion in future climate cases.

Conclusion

As one of the most severe global challenges in the 21st century, climate change is no longer confined to discussions of scientific models and policy agendas, but is increasingly embedded in the core domains of judicial discretion and jurisprudential construction. With the widespread rise of climate litigation—particularly the growing judicial demands of private entities seeking damage relief—the traditional legal system faces profound pressure for institutional transformation. Against the backdrop of strong constraints in existing public law approaches and lagging administrative remedies, private litigation has assumed an important institutional role in facilitating climate governance, enforcing accountability, and realizing intergenerational justice.

A comprehensive analysis of the Civil Code's institutional framework and extraterritorial case experience reveals that civil law exhibits a high degree of openness and adaptability, capable of accommodating the complex characteristics of climate damage through interpretive development and institutional evolution. The three pathways proposed in this paper—ecologicalization of civil law, adaptive reconstruction of liability structures, and interdisciplinary integration of attribution mechanisms—collectively sketch the basic contours

of future climate civil law:

First, the ecologicalization of civil law is manifested not only in statutory protection of the ecological environment but also in the extension of rights logic: through legislative techniques such as creating interpretive space—diversifying rights pathways—defining boundaries—setting foundational principles, it has achieved both substantive acceptance of ecological values and established an institutional foundation for individual rights claims in climate damage cases. Second, in the face of the structural, pluralistic, and policy-delayed nature of climate torts, the attribution pathways and liability logic of civil law should be reconstructed: with proportional liability, preventive obligations, information disclosure duties, etc., as core mechanisms, climate-harming conduct can be regulated in the behavioral dimension, held accountable in the consequential dimension, and subjected to judicial review in the procedural dimension. Finally, the attribution dilemma should not serve as a pretext for judicial avoidance of climate justice. By introducing attribution science, presumptive rules, reasonable doubt models, and judicial interpretation mechanisms, civil law can achieve causal chain construction that is scientifically sound—jurisprudentially recognized—judicially practicable, providing a tangible relief space for private rights in ecological damage.

In summary, climate change has posed unprecedented challenges to civil law while offering opportunities for institutional innovation. Future civil law will no longer merely be the order law of civil society but should become one of the core systems for addressing global risks, safeguarding ecological public interests, and upholding intergenerational justice. The establishment of a private damage relief system in climate litigation is not only the result of internal systemic renewal in civil law but also a profound response to the rule of law concepts and ecological civilization goals of human society.

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