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From the rising sea levels to courtrooms: empowering coastal communities in Europe through climate litigation

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The 'Sea Legal Rise' Project

The impacts of climate change on coastal areas are no longer just predictions; they are current and growing threats to human communities and natural ecosystems. These threats lead to long-term consequences, such as property damage, loss of biodiversity and cultural heritage, and displacement. Against this backdrop, climate litigation has emerged as a relevant legal tool for holding public and private actors accountable for negative climate-related externalities, and for advocating climate justice in coastal zones.

In this context, the Sea Legal Rise project[1] conducted a practical legal review of the current state of climate litigation cases in European coastal zones. The initiative was carried out by the Euro-Mediterranean Center on Climate Change in collaboration with Sciences Po Paris's Law School of Environmental Justice and Ecological Transition clinic. The resulting publication is a practical guide entitled *'Fostering Coastal*

Resilience in Europe Using Climate Litigation as an Empowering Legal Tool: A Toolkit for Civil Society in Coastal Areas'. The critical analysis examined the profile of the litigants, the legal grounds invoked and how they were articulated, as well as the legal outcomes based on the role of the courts and the main obstacles encountered in these lawsuits. It can therefore provide important practical guidance to communities seeking justice through legal channels.

Drawing on 17 cases from domestic and regional jurisdictions across Europe, this blog post provides an overview of the Toolkit. It focuses on how courts interpret the rights and obligations of governments and corporations in relation to climate issues, and on the pivotal role of scientific evidence in establishing causality and proving harm.

Climate Litigation in European Coastal Areas: The Current Landscape

The analysed climate litigation in coastal zones spans several jurisdictions: these include France, Germany, Ireland, the UK and Norway, as well as the European level, primarily through the European Court of Human Rights. The most prominent plaintiffs are non-governmental organisations (NGOs), individuals, municipalities and coalitions, while the defendants often include national and local authorities, such as government ministries, as well as private fossil fuel companies.

The core legal strategies of this litigation can be grouped into three categories. The first covers government accountability for inadequate mitigation and adaptation laws and policies. These cases often challenge the implementation of international commitments and explore whether and how climate inaction exacerbates social and economic inequalities. They also push the boundaries of what courts can legally require governments to do to protect vulnerable communities (*Neubauer et al. v. Germany* and *Commune de Grande-Synthe v. France*). Secondly, there are cases that aim to hold corporations accountable for their emissions, thereby emphasising

the need for the private sector to take action against climate change. These lawsuits often address corporate financial contributions to adaptation measures, compliance with targets set out in international agreements and domestic legislation, and accountability for failing to adhere to environmental protection standards (*Notre Affaire à Tous v. Total* and *Asmania et al. v. Holcim*). Third, cases challenge infrastructure projects that intensify the impact of climate change on coastal communities and ecosystems. These cases highlight the negative impact of such projects on climate change by contributing to increased GHG emissions, intensifying coastal hazards, weakening coastal ecosystems, and exacerbating territorial vulnerability by placing critical infrastructure in risk-prone areas (*Greenpeace Nordic Association v Ministry of Petroleum and Energy (People v Arctic Oil)*).

As for the stance of the courts, the results reveal that rulings are confined to elements that are explicitly protected by law, rather than a broader interpretation of legislation being adopted. Several decisions have ensured growing recognition of the obligation to comply with environmental and climate laws. This clarifies the obligations of States and companies to mitigate and adapt to climate change, thus strengthening climate liability. However, the same cases also demonstrate that the courts are reluctant to impose further specific, binding duties and targets on defendants.

The key obstacles identified in climate litigation in European coastal areas can be categorised under three main headings. The first relates to structural and institutional disconnects. Although most of the countries studied have adopted legally binding emission reduction targets for 2050, there are still significant gaps in their implementation. This has resulted in cases highlighting the judiciary's limited ability to compel the government to adopt more ambitious measures, given the considerable discretion held by the executive branch when defining its approach and scope. It also reveals the inadequacy of legal tools that rely solely on present, tangible evidence when addressing forward-looking challenges relating to future harm based

on projections and scenarios (*Friends of the Irish Environment v. Ireland* and *Notre Affaire à Tous v. France*).

A second relevant limitation concerns the interpretation and enforcement of legal provisions. Establishing legal standing is a key obstacle for claimants because it is difficult to prove a causal link between the defendant's actions and specific harm relating to the claimant's legal interests. Coastal communities may struggle to provide proof of a direct, significant and specific territorial impact linked to a particular source, given that climate change is a phenomenon with multiple sources and indiscriminate global effects. Other legal obstacles to climate justice in coastal climate litigation include the courts' failure to recognise sufficient redress with regard to procedural rights in environmental matters, the non-recognition of the right to a healthy environment, and the non-comprehensive analysis of climate-related impacts, especially Scope 3 emissions, in environmental licensing processes (*Greenpeace Nordic and Nature & Youth v. Ministry of Energy*).

Finally, the mismatch between climate change and legal practice was identified as a major obstacle. The lack of coordination between the legal field and climate-relevant knowledge indicates that legal systems continue to lag behind scientific data. This discrepancy not only undermines the effectiveness of legal decisions, but also highlights the urgent need for legal systems to adapt in order to address the complex, systemic, global and transdisciplinary challenge of climate change (*Asmania et al. v. Holcim* and *Greenpeace Nordic and Others v. Norway*).

Climate Justice in Legal Practice: The Role of Science in Establishing Causality for Climate Impacts in Coastal Areas

The global and widespread nature of the causes and impacts of climate change affects large groups and requires innovative reasoning within the legal framework,

notably regarding the body of evidence. The analysed climate litigation cases highlight the need to adjust the rationale behind some procedural and substantive norms to adequately address the diffuse nature of climate change-related challenges to the language of rights and obligations.

One of the most challenging aspects of these climate cases is proving causation, i.e. establishing a link between specific actions or omissions and concrete or potential impacts, individualised harms and their victims. In this sense, claimants must establish a causal chain, mapping the logical connection from the defendant's actions or inactions that contributed to the harm, and demonstrating its impact on a particular victim, whether an individual or a community.

As for the legal reasoning for establishing the causality, the analysis of the cases revealed some common standards. The first of these is the 'but for' test, in which plaintiffs argue that the harm would not have occurred in its current form without the defendant's action or omission. This reasoning aims to demonstrate that the defendant's actions or inactions were a factual cause of the injury, which would not have occurred in the same way without them. A second method of proving causation is the 'substantial factor' standard. According to this, when multiple parties contribute to specific, indivisible harm, an individual can be held responsible if their wrongful actions or inactions have significantly contributed to the extent and scope of the harm inflicted, even if this occurred alongside other relevant factors. A third option is to demonstrate causation by showing that defendants materially contributed to increasing a risk. When it is difficult to achieve scientific certainty about the direct causation of a fact or event, claimants argue that the defendant's conduct materially increased the risk of harm occurring. By focusing on risk enhancement rather than exclusive causation, this doctrine asserts that even partial contributions to climate change can establish liability when the harm is indivisible.

While the multiple sources and indiscriminate global effects of climate change make it difficult for coastal communities to prove a direct, significant and particular impact linked to a specific source, litigants have leveraged heterogeneous evidence of the impacts of climate change to strengthen their claims. In this sense, the cases revealed the important role played by attribution science in establishing legal causation, as scientific tools can provide robust technical evidence to demonstrate not only that climate change has contributed to the harm, but also the extent to which it has done so. This causal link can be demonstrated in various ways, ranging from scientific and technical evidence such as environmental reports, health studies, risk assessments and academic articles to community-based and testimonial evidence such as witness statements and personal accounts.

The 17 cases studied revealed some key attribution data, summarised in the Toolkit alongside key scientific tools, data sources, and methodological approaches that can support the establishment of causation in climate litigation. The first type refers to **greenhouse gas emissions data attributable to a defendant** (whether a private company or a public sector organisation). This data may be obtained through

a) **mandatory legal reporting:** The EU's Environmental Impact Assessment (EIA) Directive requires Member States to ensure that project developers provide information on emissions data in EIA reports (when necessary for assessing significant environmental impacts). These reports are submitted to national authorities, but access to the data still varies by country in practice. The Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards will make mandatory reporting on emissions accessible via the European Single Access Point from 2028;

b) the **voluntary disclosure of emissions** and sustainability strategies by private actors: The Carbon Disclosure Project (CDP) is a global voluntary initiative through which European companies report on their emissions, climate risks and strategies; Voluntary

National Reviews (VNRs) of the UN Sustainable Development Goals (SDGs) provide national-level information on climate action and sustainability progress.;

c) via **external data and analytical tools** that can be used to evaluate State and corporate climate performance in relation to carbon budgets and decarbonisation pathways: Climate TRACE is a satellite and AI-based monitoring system of GHG emissions from major sources worldwide; The World Resources Institute's Climate Data Explorer provides data on national emissions and allows comparisons over time; and the Carbon Majors Database (Climate Accountability Institute) provides historical emissions data for major fossil fuel companies around the world..

A second useful type of data is **scientific analysis of the climate impacts associated with GHG emissions.** These analyses provide

a) **written reports** (such as those of the Intergovernmental Panel on Climate Change (IPCC)), providing authoritative global assessments of climate science, climate impacts and emissions-related risks; or

b) **mapping and modelling tools** (such as Copernicus Climate Change Service (C3S)): EU datasets and tools providing climate projections, impact indicators and historical trend data for various sectors and regions; coastal flood and sea-level rise maps which allow the comparison of long-term sea level outcomes across different warming scenarios..

Thirdly, **attribution science uses scientific methods to link specific climate impacts to GHG emissions.** This includes

a) **emissions attribution** linking actors to impacts: climate model tools can link emissions from specific sources to global climate outcomes, such as FaIR (Finite Amplitude Impulse Response;

b) **extreme weather events attribution:** event attribution models that compare real-world scenarios with counterfactuals (i.e. without human emissions) in order to estimate the contribution of anthropogenic climate change to specific events, such as CMIP;

c) **Future impact attribution** models the damage related to climate hazards by integrating exposure, vulnerability and hazard data (e.g. CLIMADA (ETH Zurich). It enables counterfactual comparisons to be made in order to assess losses that could be avoided.

Finally, the fourth type of data includes **written statements** about facts, such as expert affidavits and **context-specific scientific assessments** carried out privately by the litigating parties or third-party actors involved in the case.

Climate Science as a Catalyst for Climate Legal Accountability

Analysis of the cases revealed that the impact of climate change on coastal areas has, to date, been addressed indirectly in climate litigation, with coastal impacts considered as part of other arguments. However, although climate litigation is still emerging as a legal tool to address these impacts, case law in this area is becoming increasingly relevant. Science plays a critical role in this context. More accurate attribution science is likely to be pivotal in strengthening the body of evidence and legal liability for climate-related impacts affecting public and private entities, thereby empowering affected communities to demand climate justice in coastal areas. As scientific methods advance, thereby enabling more accurate quantification of the contributions of different actors to climate change risks and impacts, this could provide powerful evidence for claims relating to harm, violations of duty of care and human rights, as well as government and corporate social responsibility. Consequently, while legal and scientific entrenchment is still in its developmental phase, climate litigation is becoming influential in holding public and private parties

accountable for their negative contribution to climate change. Incremental progress is therefore steadily gaining momentum, and coastal protection is becoming an increasingly important issue for stakeholders and jurisdictions alike in climate litigation cases.

Footnotes:

(1) This report was written by Salomé Calley, Eléa Daguenet, Margaux Escudier and Louis Yodo, students at the Sciences Po Law School Clinic. They were supervised by the tutors Elisa Fiorini Beckhauser (CMCC Foundation) and Mathilde Luna Joly (University of Bologna). The scientific coordination was provided by Jean-François Benoit (Sciences Po) and Giulia Galluccio (CMCC Foundation).

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