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The Status of Climate Change Litigation: A Global Review

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THE STATUS OF CLIMATE CHANGE LITIGATION A GLOBAL REVIEW

**THE STATUS OF CLIMATE
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A GLOBAL REVIEW**

The Status of Climate Change Litigation

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Executive Summary

Over the last decade, laws codifying national and international responses to climate change have grown in number, specificity, and importance. As these laws have recognized new rights and created new duties, litigation seeking to challenge either their facial validity or their particular application has followed. So too has litigation aimed at pressing legislators and policymakers to be more ambitious and thorough in their approaches to climate change. In addition, litigation seeking to fill the gaps left by legislative and regulatory inaction has also continued. As a result, courts are adjudicating a growing number of disputes over actions—or inaction—related to climate change mitigation and adaptation efforts.

This report provides judges, advocates, researchers, and the international community with an of-the-moment survey of global climate change litigation, an overview of litigation trends, and descriptions of key issues that courts must resolve in the course of climate change cases. One purpose of this report is to assist judges in understanding the nature and goals of different types of climate change cases, issues that are common to these cases, and how the particularities of political, legal, and environmental settings factor in to their resolution. Another goal is to contribute to a common language among practitioners around the world working to address climate change through the courts.

Part 1 describes environmental, diplomatic, and political circumstances that are making climate change litigation efforts especially important at the present moment:

- Impacts such as heat waves and destructive coastal storms are growing in frequency and severity as a result of human-cause emissions. The costs to governments, private actors, and communities of dealing with these impacts are significant.
- National and international policymakers have struggled to develop effective means of addressing both the underlying causes and the effects of climate change. Climate change mitigation and adaptation policies have emerged slowly and have often set targets based on political feasibility rather

than the consensus scientific understanding of what is required to stabilize the climate at an acceptable level.

- National and international policymakers have succeeded in creating some legal frameworks for climate action. Many nations have laws or policies addressing aspects of the climate problem, and the Paris Agreement provided for a catalogue of national commitments toward the goal of averting average global warming in excess of 1.5°C and 2°C. Litigants have begun to make use of these codifications in arguments about the adequacy or inadequacy of efforts by national governments to protect individual rights vis-à-vis climate change and its impacts.

Part 2 provides a survey of climate change litigation and a discussion of evident and emerging trends:

- Citizens and non-governmental organizations are suing to hold their governments accountable for climate-related commitments. In many instances, the arguments made to challenge government actions or inaction include reference to constitutional and statutory provisions not specific to climate change. In those cases, references to international climate agreements, which embody scientific objectives as well as political ones, often buttress the claim.
- In many cases, challenges to a project or policy identify linkages between resource extraction and climate-related impacts, both in the form of emissions due to combustion of extracted fossil fuels and in the form of impairments to resiliency and adaptive capacity. These challenges seek to make those linkages legally significant and either deserving of consideration or else compelling an alternative approach to natural resource management.
- Building on scientific understanding of the relationship between emissions and climate change, which policymakers (with notable exceptions) have generally adopted as accurate,

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several cases seek to establish liability for entities that generate emissions with full knowledge of those emissions' effects on the global climate.

- Technical understanding of climate change and the quality of predictions about future temperature and weather patterns are improving. Recognizing that adaptation efforts have not kept pace with these improvements, litigants are bringing claims that seek to assign responsibility where failures to adapt result in foreseeable, material harms.
- Litigants are making arguments for climate action based on the public trust doctrine, which assigns the state responsibility for the integrity of a nation's public trust resources for future generations. Such claims raise questions of individuals' fundamental rights and intergenerational equity, as well as concerns about the balance of powers among the judicial, legislative and executive branches or functions of governments.
- Recognizing that both slow-developing and acute environmental stresses push individuals and communities to migrate, the impacts of climate change are certain to generate migration within and across national borders. Cases brought to resolve issues arising from such migration have already been brought, and more are likely to come.
- Most climate change litigation to date has proceeded in courts in developed countries in the northern hemisphere and in Australia and New Zealand. Litigants and courts in the Global South are beginning to make use of burgeoning climate change litigation theories and know how.

Part 3 describes three categories of legal issues that tend to be disputed among the litigants involved in climate change litigation:

- **Justiciability:** Whether a case is justiciable—meaning, whether a court has the authority to hear and resolve the claims raised—turns on questions of the plaintiff's standing and on the court's role relative to that of the government's other branches. Although standards vary, courts generally only grant standing if the alleged causal connection

between the injury and the action (or inaction) complained of is plausible. In climate change cases, this sometimes presents a high bar for plaintiffs. As for separation of powers, particularly in cases that call on a court to assess inaction by a government agency, courts must be able to articulate what authority empowers them to find fault or direct the agency to revise its approach.

- **Sources of climate obligations:** Climate change litigation can draw on various sources of legal authority, including international law, constitutional provisions, statutes, or common law. In some cases, plaintiffs identify more than one of these, or a combination of them, as providing the legal basis for their claims. In instances where a statutory provision spells out climate change mitigation commitments and that statute also authorizes citizens to sue for noncompliance, the task of applying the law to the facts alleged is straightforward. But in cases where plaintiffs ask a court to apply a legal authority that does not expressly contemplate application to climate change, the task is harder and courts tread carefully, lest they be seen as legislating.
- **Remedies:** Courts can only grant remedies authorized by the law. If the remedy sought is more aggressive climate action on the part of a government agency, courts must identify the basis for instructing that agency to comply, or else to specify how exactly the agency should alter its approach.

Summaries of highly significant cases appear throughout this report. Those summaries provide a kaleidoscopic snapshot of the current state of climate change litigation, and also illustrate the circumstances, trends, and issues discussed in Parts 1, 2 and 3.

Introduction



In the 2010s, laws codifying national and international responses to climate change have grown in number, specificity, and importance.¹ As these laws have recognized new rights and created new duties, litigation seeking to challenge either their facial validity or their particular application has followed. So too has litigation aimed at pressing legislators and policymakers to be more ambitious and thorough in their approaches to climate change. In addition, litigation seeking to fill the gaps left by legislative and regulatory inaction has also continued. This report surveys the current state of this global climate change litigation, and provides judges, advocates, researchers and the international community with an overview of trends and issues in climate change lawsuits.

Part 1 of this report notes the circumstances that make climate change litigation efforts especially important just now—most especially the growing urgency of the climate crisis, ratification and entry into force of the Paris Agreement under the United Nations Framework Convention on Climate Change (“Paris Agreement”), and the inclusion of climate action as one of the 17 Sustainable Development

Goals (SDGs) enumerated in the United Nations’ Transforming Our World – the 2030 Agenda for Sustainable Development. (Climate action is also a vital, cross-cutting element of many of the other SDGs.) Part 2 provides a snapshot of the current state of worldwide climate change litigation. It also describes a number of salient current trends in this litigation and likely future ones. Part 3 discusses the recurring legal issues at play in climate change litigation around the world. Strict and comprehensive categorization is made difficult by the diversity of the world’s legal systems, which take varied approaches to the interconnected substantive areas of law that constitute climate change law—namely environmental law, natural resources law, energy law and land use law, as well as constitutional law, administrative law and common law. Nonetheless, this section offers legal professionals, researchers and others an introduction to the common issues that arise in climate change cases when determining justiciability, interpreting legal rights and obligations, and providing remedies. Summaries of highly significant cases appear throughout the report, putting these circumstances, trends, and issues into context.

¹ E. Somanathan et al., National and Sub-national Policies and Institutions, in *Climate Change 2014: Mitigation of Climate Change, Contribution of Working Group III [WG3] to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* 1049, 1050–51 (O.R. Edenhofer et al. eds. 2014) [hereinafter IPCC AR5].

Part 1: The Importance of Climate Change Litigation



Source: UN Department of Economic and Social Affairs, Division for Sustainable Development

Concentrations of greenhouse gases (GHGs) in the atmosphere have already surpassed levels that many scientists consider safe, putting people everywhere in peril. The extraordinary risks posed by climate change are well-established. Sea levels are rising, making more seawater available for the storm surges that wreak destruction on coastlines during coastal storms and threatening to overwhelm coastal communities and small island nations.² Average temperatures are rising and heat waves are growing longer and more intense, threatening to strain infrastructure and agricultural systems, and posing direct threats to human health.³ In addition, more powerful storms, longer-lasting and more severe droughts, and acidifying oceans have already begun to disrupt local and regional economies that rely on having predictable access to particular resources and markets.⁴ The need to address these risks is front and center in the Sustainable Development Goals, the international community's vision for a sustainable future for the planet and its inhabitants. Yet, despite broad scientific consensus on the human causes

of climate change and the risks of climate impacts to human communities, and despite the profound international accord forged through the Paris Agreement and the SDGs, progress toward effective solutions has been slow.

The international community has encountered difficulty in tackling climate change because it is a “super wicked” policy problem, capable of resisting even substantial efforts by policymakers.⁵ Three features in particular make the problem “super wicked.” First, it becomes less tractable over time. That is, the more GHGs we emit, the more committed we are to continuing emissions, the more severe the problem becomes and the less likely we are to find an acceptable solution. Second, the actors who are best positioned to address climate change are those who are primarily responsible for causing it—and who lack incentives to take action. This problem is made worse by an important asymmetry. Those with incentives not to mitigate climate change, such as the companies that own leases to extract coal or other fossil fuels, tend to have concentrated interests and good access to relevant information. Meanwhile, those most likely to bear the burdens of adaptation, including the many millions of individuals who live

2 John A. Church & Peter U. Clark, et al., Ch. 13: Sea Level Change, in IPCC AR5.

3 Thomas Bruckner, Igor Alexeyevich Bashmakov & Yacob Mulugetta et al., Ch. 7: Energy Systems, in IPCC AR5; Kirk R. Smith & Alistair Woodward, et al., Ch. 11: Human Health: Impacts, Adaptation, and Co-Benefits, in IPCC AR5.

4 IPCC, Climate Change 2014: Synthesis Report, Contribution of Working Groups I, II and III to IPCC AR5, at 64–73 (2014) [hereinafter IPCC SR5].

5 Richard J. Lazarus, Super wicked problems and climate change: Restraining the present to liberate the future, 94 Cornell L. Rev. 1153, 1160 (2009).

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in coastal communities, have diffuse incentives and generally lack information about, for instance, the costs and benefits of alternatives to fossil-fueled approaches to energy and transportation. Third, no institution has legal jurisdiction and authority aligned with the global scope of the problem. As a consequence, climate change mitigation—and to a lesser degree adaptation—efforts are often seen as expensive, unnecessary, futile, and remote from policies that yield immediate and politically popular economic benefits.

At the international level, the “super wicked” nature of the climate change problem may be seen in the global community’s incomplete participation in the Kyoto Protocol⁶ and, more recently, the insufficiency of the Intended Nationally Determined Contributions (INDCs) submitted in advance of the Paris Conference and the Nationally Determined Contributions (NDCs) submitted after to reduce atmospheric concentrations of GHGs at a pace sufficient to maintain climate stability.⁷ At the national level, the United States’ (U.S.) historic and recently revived ambivalence about addressing climate change stands out as an especially consequential example of political coalitions struggling toward and falling short of policy change. But the U.S. is not unique for failing to develop and implement policies that address climate change in a coherent fashion.

Litigation has arguably never been a more important tool to push policymakers and market participants to develop and implement effective means of climate change mitigation and adaptation than it is today. Technological developments and non-climate policy initiatives cannot be counted on to stave off climate destabilization. Accordingly, climate-related law and policy is a necessary

component of any rational plan of action. The Paris Agreement provides a crucial legal predicate for pushing governments that have adopted climate-oriented laws to implement them. Until the Paris Agreement’s ratification, no international instrument dealt as thoroughly with the coordination problem of international action on GHG emissions.⁸ Constituents of countries outside the European Union (EU) could not point to an authority beyond their country’s particular constitution, common law, or statutes—or ratification of international human rights agreements—to place climate action within that country into a legally and practically significant context.⁹ The Paris Agreement makes it possible for constituents to articulate more precisely and forcefully concerns about the gaps between current policy and the policy needed to achieve mitigation and adaptation objectives. In ratifying countries in particular, constituents can now argue that their governments’ politically easy statements about rights and objectives must be backed up by politically difficult, concrete measures like restricting coastal development, foregoing development of coal-fueled power plants and imposing fees and taxes on activities reliant on fossil fuels. Lawsuits brought in countries where governments have given express priority to development, such as Pakistan,¹⁰ and in countries where governments are actively addressing climate change, such as the Netherlands, Sweden, and Switzerland, demonstrate that this sometimes means using the courts to push for concrete action.¹¹

Has the Paris Agreement changed the role litigation can play? In general, law embodies a thicket of agreements among the members of society and between them and their government. Litigation serves to test whether particular actions or inactions are compatible with those agreements. Litigation also serves to articulate how stated commitments to defend particular rights must be translated into

6 See O. Edenhofer, et al., Technical Summary, in *Climate Change 2014: Mitigation of Climate Change, Contribution of Working Group III to IPCC AR5*, at 33, 104 (O. Edenhofer et al. eds. 2014) (“The Kyoto Protocol was the first binding step toward implementing the principles and goals provided by the UNFCCC, but it has had limited effects on global GHG emissions because some countries did not ratify the Protocol, some Parties did not meet their commitments, and its commitments applied to only a portion of the global economy (medium evidence, low agreement).”).

7 UNFCCC, *Aggregate effect of the intended nationally determined contributions: an update*, FCCC/CP/2016/2, at 11–12 fig.2 (May 2016), <https://perma.cc/SUW9-KXY5>.

8 Notably, the Paris Agreement does not address emissions from aircraft or marine craft.

9 See section 2.2.1 below.

10 Pakistan’s Intended Nationally Determined Contribution, Nov. 6, 2016, <https://perma.cc/QJH8-9EXM>.

11 See sections 2.2.1 and 2.2.2 below.

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action, notwithstanding changes in the direction of political winds at home or abroad. The Paris Agreement by its own terms does not provide litigants with a cause of action or impose enforceable limits on member countries' national emissions. But it makes it possible for litigants to place the actions of their governments or private entities into an international climate change policy context. Placing actions at the national or regional level into

that context makes it easier, in turn, to characterize those actions as for or against both environmental needs and stated political commitments. Ultimately, while the Paris Agreement does not assign each country a carbon budget, it does offer a basis for deducing a budget from national commitments. It also makes clear that policies leading to net increases in emissions are disfavored.

Part 2: The State of Climate Change Litigation



This section provides a summary of the current state of climate change litigation, including lawsuits' location, their categorization, and recent and emerging trends. It counts as "climate change litigation" cases brought before administrative, judicial and other investigatory bodies that raise issues of law or fact regarding the science of climate change and climate change mitigation and adaptation efforts.¹² Such cases are often identified with keywords, including climate change, global warming, global change, greenhouse gas, GHGs, and sea level rise. However, the presence of one or more keywords is not a necessary condition for inclusion.¹³ Moreover, the presence of keywords is

also not determinative (Cases that make only passing reference to the fact of climate change, its causes, or its effects do not necessarily address in direct or meaningful fashion the laws, policies, or actions that compel, support, or facilitate climate mitigation or adaptation.) Finally, cases that seek to accomplish climate change goals without reference to climate change issues are not included. For example, lawsuits seeking to limit air pollution from coal fired power plants that do not directly raise issues of fact or law pertaining to climate change do not qualify as "climate change litigation" for the purposes of this study. Thus, this report excludes cases where the discussion of climate change is incidental to the holding and immaterial to the future of climate change law.

2.1 A survey of climate change litigation

As of March 2017 climate change cases had been filed in 24 countries (25 if one counts the European Union), with 654 cases filed in the U.S. and over 230 cases filed in all other countries combined.¹⁴

¹² Cf. Meredith Wilensky, *Climate Change in the Courts: An Assessment of Non-U.S. Climate Litigation*, 26 *Duke Envtl. L. & Pol'y Forum* 131, 134 (2015); (adopting definition of "climate change litigation" developed by David Markell & J.B. Ruhl, *An Empirical Assessment of Climate Change in the Courts: A New Jurisprudence or Business as Usual?*, 64 *Fla. L. Rev.* 15, 27 (2012): "any piece of federal, state, tribal, or local administrative or judicial litigation in which the . . . tribunal decisions directly and expressly raise an issue of fact or law regarding the substance or policy of climate change causes and impacts."). This definition also guides the collection of cases included in the Sabin Center for Climate Change Law's Non-U.S. Climate Change Litigation chart, available at <https://perma.cc/8CKE-KMQU> (accessed Mar. 3, 2017), as well as the *Climate Change Laws of the World* database, maintained jointly by the Sabin Center for Climate Change Law and the Grantham Research Institute at the London School of Economics.

¹³ For instance, the Australian case, *Ralph Lauren 57 v. Byron Shire Council* contained none of those terms but dealt with the highly germane issue of liability of a local government for decisions related to its policy of managed retreat from sea level rise. [2016] NSWSC 169. The court's March 2016 denial of the motion to dismiss filed by the Shire Council and its insurers prompted the parties to negotiate a settlement, which they agreed to in August 2016. Hans Lovejoy, *How a handful of wealthy Belongil residents*

won the right to keep their seawalls, *Echo Net Daily*, Aug. 24, 2016, <https://perma.cc/HXF9-PXV5>. Neither the court's denial of the motion to dismiss nor the settlement agreement states whether the locality is liable for any of the claims alleged by the plaintiffs, beachfront property owners who had wanted to armor their shoreline parcels and who opposed the local government's proposed policy of managed retreat.

¹⁴ To review these cases, as well as others added after March 2017, visit the Sabin Center-Arnold & Porter Kaye Scholer Climate Change Litigation databases, available at <http://wordpress2.ei.columbia.edu/climate-change-litigation/>.

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In regards to the non-U.S. litigation: Australia has seen more cases than any other non-U.S. country (80); the United Kingdom and the Court of Justice of the EU have both seen about half as many as Australia (49 and 40 respectively); New Zealand and Spain have both seen about one-fifth as many as Australia (16 and 13 respectively);

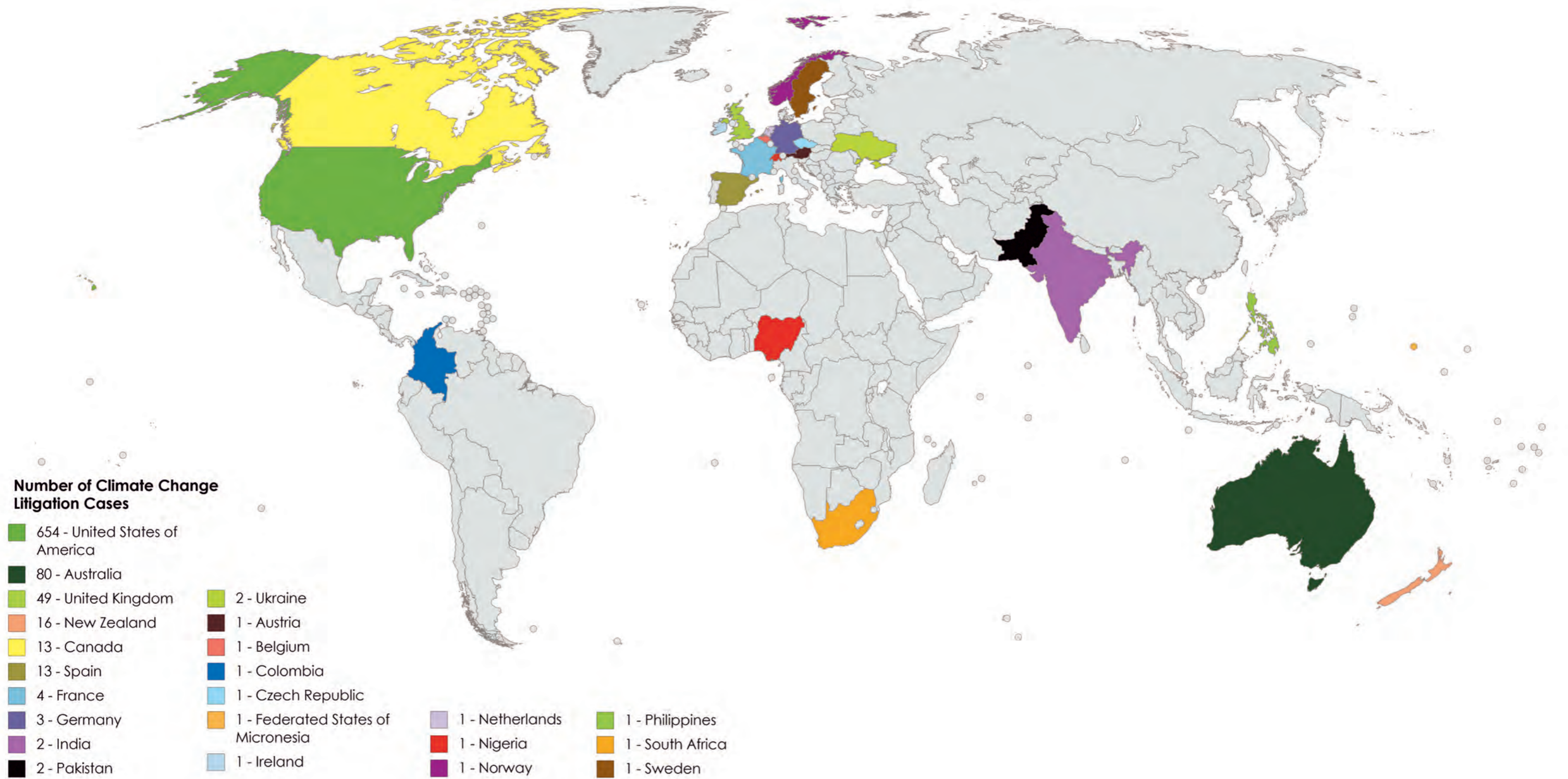
Austria, Belgium, Colombia, the Czech Republic, France, Germany, Greece, India, Ireland, Micronesia, the Netherlands, Nigeria, Norway, Pakistan, the Philippines, South Africa, Sweden, Switzerland, and Ukraine.¹⁵ Both the number of cases in these countries and the number of countries where cases have been filed have grown in the past few years: a

| Region | Country | Number of cases* |
|-------------------------------------------------------|------------------------------|------------------|
| International Court of Justice | | 1 |
| Inter-American Commission on Human Rights | | 1 |
| United Nations Framework Convention on Climate Change | | 1 |
| Africa | Nigeria | 1 |
| | South Africa | 1 |
| Asia Pacific | Australia | 80 |
| | New Zealand | 16 |
| | India | 2 |
| | Micronesia | 1 |
| | Philippines | 1 |
| | Pakistan | 2 |
| Europe | (Court of Justice of the EU) | 40 |
| | United Kingdom | 49 |
| | Spain | 13 |
| | Belgium | 1 |
| | Germany | 3 |
| | Norway | 1 |
| | Switzerland | 1 |
| | Austria | 1 |
| | Czech Republic | 1 |
| | France | 4 |
| | Ireland | 1 |
| | Netherlands | 1 |
| | Sweden | 1 |
| | Ukraine | 2 |
| Latin America and Carribean | Colombia | 1 |
| North America | United States of America | 654 |
| | Canada | 13 |

**The numbers shown here reflect our tally of climate change cases across jurisdictions as of March 2017. It is possible that these numbers omit one or more cases that have already been filed or decided but have not yet come to our attention.*

and there have been four or fewer cases filed in

¹⁵ Sabin Center for Climate Change Law, Non-U.S. Climate Change Litigation: Non-U.S. Jurisdiction, <https://perma.cc/8CKE-KMQU> (accessed Mar. 3, 2017).

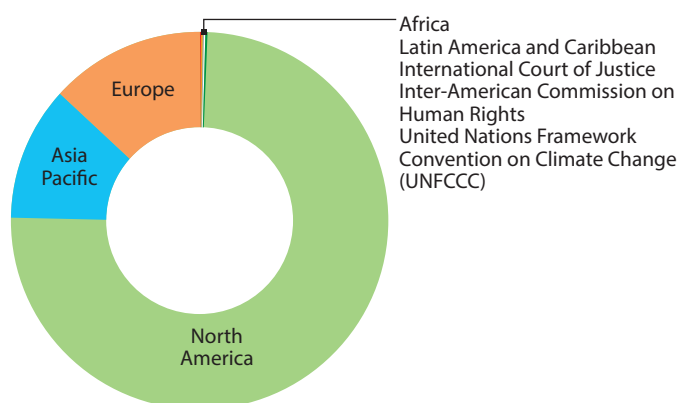


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survey of cases decided before 2014 found them in only 12 countries, including the U.S.¹⁶ Nonetheless, it remains true that “[m]ost countries have experienced little or no climate change litigation.”¹⁷

With notable exceptions¹⁸, governments are almost always the defendants in climate change cases.¹⁹ Government defendants have been called upon to justify decisions large and small. On the large end of the spectrum are cases like *Massachusetts v. U.S. Environmental Protection Agency* and *Urgenda Foundation v. Kingdom of the Netherlands*, which push for more aggressive national climate change mitigation policies, and *Coalition for Responsible Regulation v. U.S. Environmental Protection Agency* and *West Virginia v. U.S. Environmental Protection Agency*, which challenge the legal bases for U.S. mitigation policy. On the small end of the spectrum are cases focused on particular projects, ranging from the expansion of airports and coal mines, to the development of renewable energy generation facilities, to the construction of structures on eroding coast lines. Whereas the cases aimed at large targets tend to focus their arguments on nationally applicable laws governing energy policy and air pollution, the cases aimed at smaller targets—which make up the clear majority of non-U.S. cases—tend to focus on environmental impact assessments and other planning requirements.²⁰ However, several instances of strategic litigation in non-U.S. jurisdictions that seeks to push for more

aggressive mitigation policy have been initiated from 2015 to 2017.²¹



2.2 Trends in climate change litigation

Recent judicial decisions and court filings reveal several trends in regards to the purposes of climate change litigation. Five such trends are described here: holding governments to their legislative and policy commitments; linking the impacts of resource extraction to climate change and resilience; establishing that particular emissions are the proximate cause of particular adverse climate change impacts; establishing liability for failures (or efforts) to adapt to climate change; and applying the public trust doctrine to climate change.

| Climate Change Litigation: | 1 |
|----------------------------|-------------------------------------------------------------------------------------------------------------|
| | Holding governments to their legislative and policy commitments |
| | 2 |
| | Linking the impacts of resource extraction to climate change and resilience |
| The Five Trends | 3 |
| | Establishing that particular emissions are the proximate cause of particular adverse climate change impacts |
| | 4 |
| | Establishing liability for failures (or efforts) to adapt to climate change |
| | 5 |
| | Applying the public trust doctrine to climate change. |

2.2.1 Holding governments to their legislative and policy commitments

As national governments’ political branches articulate commitments to climate change

¹⁶ Wilensky, *supra* note 12, at 151–52.

¹⁷ Michael B. Gerrard & Meredith Wilensky, The role of the national courts in GHG emissions reductions, in Elgar Encyc. of Envtl. L. 359, 369 (Michael Faure ed. 2016).

¹⁸ Most exceptions are U.S. cases brought against corporations in the fossil fuel sector. Non-U.S. exceptions include the recent decision in *Lliuya v. RWE AG*, Az. 2 O 285/15, issued by the Regional Administrative Court of Essen, Germany, and the investigation of 50 firms in the fossil fuel industry (“Carbon Majors”) by the Human Rights Commission of the Philippines.

¹⁹ Wilensky, *supra* note 12, at 138–40; Markell & Ruhl, *supra* note 12, at 60.

²⁰ Gerrard & Wilensky, *supra* note 17, at 366, 368 (“Until the issuance of an important and controversial decision by a Dutch court in 2015, climate change litigation intended to drive the course of climate change policies—whether to encourage their development or to halt it—was noticeably lacking outside of the United States.”); Wilensky, *supra* note 12, at 144 (“The dominance of the EIA and Permitting Group in non-U.S. litigation demonstrates an emphasis on tactical suits aimed at specific projects. . . . In fact, strategic litigation intended to drive climate change policy as a whole is almost absent outside of the U.S.”); Markell & Ruhl, *supra* note 12, at 38–40.

²¹ See *infra* section 2.2.1 (discussing non-U.S. cases seeking to hold governments to legislative and policy commitments on climate change).

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The Netherlands

A Dutch environmental group, the Urgenda Foundation, and 900 Dutch citizens sued the Dutch government, alleging that the government's recent revision of GHG emissions reduction goals amounted to a violation of its constitutionally imposed duty of care. The court in the Hague, agreeing with the plaintiffs, ordered the Dutch state to limit GHG emissions to 25% below 1990 levels by 2020, finding the government's existing pledge to reduce emissions 17% insufficient to meet the state's fair contribution toward the goal, codified in the Paris Agreement, of keeping global temperature increases within 2°C of pre-industrial conditions.

The court concluded that the state has a duty to take climate change mitigation measures due to the "severity of the consequences of climate change and the great risk of climate change occurring." In reaching this conclusion, the court cited (without directly applying) Article 21 of the Dutch Constitution; EU emissions reduction targets; principles under the European Convention

on Human Rights; the "no harm" principle of international law; the doctrine of hazardous negligence; the principle of fairness, the precautionary principle, and the sustainability principle embodied in the UNFCCC; and the principle of a high protection level, the precautionary principle, and the prevention principle embodied in the European climate policy. The court did not specify how the government should meet the reduction mandate, but offered several suggestions, including emissions trading or tax measures.

This decision was pathbreaking in separation of powers jurisprudence because it grounded its instruction to the government to tighten emissions limits on a rights-based analysis rather than through reference to statutory requirements. Subsequent petitions and judicial decisions in Austria, Norway, Switzerland, and Sweden, all relating to governments' obligations to mitigate climate change, have similarly been grounded at least in part on rights-based theories.

mitigation and adaptation through legislation, regulation, and policy those governments' administrative agencies may properly become subject to lawsuits seeking to enforce those commitments.

The plaintiffs in *Urgenda Foundation v. Kingdom of the Netherlands* brought just such a suit, challenging efforts by a newly elected Dutch Government to back away from the previous Government's mitigation commitments.²² The Hague District Court's June 2015 decision looked to the Netherlands' international commitments, which did not yet include the Paris Agreement,²³

to construe the constitutional duty of care owed by the Dutch government to Dutch citizens and others, and concluded that the duty of care prohibits such backsliding.²⁴

In September 2015, the Lahore High Court Green Bench issued a ruling in *Leghari v. Republic of Pakistan* that was similar in its legal basis to *Urgenda*, though it focused on adaptation rather than mitigation commitments.²⁵ The court concluded that the government's failure to implement the National Climate Change Policy of 2012 and the Framework for Implementation of Climate Change Policy (2014-2030) "offends the fundamental rights of the citizens which need to be safeguarded."²⁶

²² *Urgenda Foundation v. Kingdom of the Netherlands*, [2015] HAZA C/09/00456689, appeal filed.

²³ The Paris Agreement entered into force on November 4, 2016. UNFCCC, Paris Agreement: Status of Ratification, <https://perma.cc/5JCA-KPNR> (accessed Jan. 15, 2017). The Netherlands is only a signatory to the Agreement and has not, as of this writing, ratified it. Id. The significance of this non-ratification is muted by the fact that the European Union, which negotiated at the Paris Conference on behalf of the Netherlands and other member states, ratified the Agreement on October 5, 2016. Id.

²⁴ *Urgenda*, para. 4.70.

²⁵ *Leghari v. Republic of Pakistan* (2015) W.P. No. 25501/2015.

²⁶ Id. para. 8. The court construed these rights as follows: Environment and its protection has taken a center stage in the scheme of our constitutional rights. . . Right to life, right to human dignity, right to property and right to information under articles 9, 14, 23 and 19A of the Constitution read with the constitutional values of political, economic and social justice provide the necessary judicial toolkit to address and monitor the Government's

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Pakistan

In September 2015, an appellate court in Pakistan granted the claims of Ashgar Leghari, a Pakistani farmer, who had sued the national and regional governments for failure to carry out the National Climate Change Policy of 2012 and the Framework for Implementation of Climate Change Policy (2014–2030). The chief concerns of the plaintiff—and the court—were with the need for adaptation efforts: “As Pakistan is not a major contributor to global warming it is actually a victim of climate change and requires immediate remedial adaptation measures to cope with the disruptive climatic patterns.” According to the court, “the delay and lethargy of the State in implementing the Framework offend the fundamental rights of the citizens,” as codified in articles 9 (right to life), 14 (human dignity), 19A (information), and 23 (property) of the Pakistani constitution.

As a remedy, the court 1) directed several government ministries to each nominate “a climate change focal person” to help ensure the

implementation of the Framework, and to present a list of action points by December 31, 2015; and 2) created a Climate Change Commission composed of representatives of key ministries, NGOs, and technical experts to monitor the government’s progress. On September 14 the court issued a supplemental decision naming 21 individuals to the Commission and vesting it with various powers.

This case is an example of litigants grounding claims in a statutory and policy framework that articulates governmental responsibilities with respect to climate change. As the court observed, the responsible government ministry had spelled out 734 “action points” and identified 232 of those as deserving priority. Had the government not spelled out in such detail what should be done to help citizens deal with climate change, it would have been more difficult for the court to conclude that the government’s failure to implement applicable law and policy fell short of protecting Leghari’s constitutional rights.

To vindicate those rights, and in particular to require active responses to an emerging pattern of “heavy floods and droughts,”²⁷ the court ordered the executive branch to, among other things, establish a Climate Change Commission to facilitate climate action.²⁸

Belgium and New Zealand also saw pre-Paris Agreement cases filed alleging failures by their respective governments to adhere to stated national commitments. The theory of the Belgian case, *VZW Klimatzaak v. Kingdom of Belgium*,

which was still pending as of March 2017,²⁹ largely tracks that of the *Urgenda* decision. The New Zealand case, *Thomson v. Minister for Climate Change Issues*, challenged the adequacy of that country’s INDC, which the petitioner alleged fell short of the emissions reductions required by New Zealand’s Climate Change Response Act of 2002.³⁰ A stated purpose of the 2002 Act is to “enable New Zealand to meet its international obligations under the [UNFCCC].”³¹ As the petitioner explained, New Zealand’s INDC “equates to a reduction of 11% below New Zealand’s 1990 emission levels by 2030”—a mitigation effort that “will not, if adopted by other developed countries in combination with appropriate targets set by developing countries, stabilize GHG concentrations in the atmosphere at a

response to climate change. Id. para. 7.

27 Id. para. 6.

28 The first of these was the designation of government officials in key ministries who would thereafter “work closely with the Ministry of Climate Change.” Id. para. 8(i). Another was identification of “adaptation action points,” selected from among the 734 “action items” listed in the Implementation Framework, that could be achieved by the end of 2015. Id. para. 8(ii). Finally, the court also called for the creation of a Climate Change Commission, whose members would include officials from key ministries as well as representatives of NGOs and technical experts, “to assist this Court to monitor the progress of the Framework.” Id. para. 8(iii).

29 *Klimaatzaak.eu, L’Affaire Climat: Le Procès*, <https://perma.cc/4X4D-SX8F> (accessed Jan. 15, 2017) (reporting that the court has yet to specify a schedule for submission of pleadings or conduct of a hearing). *Klimaatzaak* is Dutch for “climate case.”

30 CIV-2015-__ (High Court).

31 Climate Change Response Act 2002 § 3(1)(a).

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level that would prevent dangerous anthropogenic interference with the climate system.”³² The High Court of New Zealand had as of March 2017 yet to issue a judgment in that case.

The Paris Agreement is emerging as a novel and unique anchorage for law suits of this sort. That Agreement integrates national commitments—the INDCs/NDCs—into an international instrument that links them to the common goal of averting warming in excess of 1.5°C and 2°C temperature thresholds.³³ This linkage does not answer technical questions about how to allocate carbon budgets, but it does give some shape to national commitments, even if those commitments are vaguely worded. It also undermines arguments that increments of difference in one nation’s contributions are immaterial to global mitigation and so are not legally cognizable.³⁴ Furthermore, although the Paris Agreement does not prescribe particular national commitments, it does expressly call on national governments to make their mitigation commitments incrementally more stringent and never less so.³⁵ Thus, even if a national government can argue that it never specified a level of emissions reduction it cannot argue that its commitments permit backsliding.

A petition filed in Switzerland in October 2016 makes constitutional arguments akin to those made in *Urgenda*,³⁶ but buttresses them with reference to the Paris Agreement. As the petitioners in *Union of Swiss Senior Women for Climate Protection v. Swiss Federal Council* explain: “[w]ith the Paris Agreement the parties [to the UNFCCC] defined anew the

goal of preventing ‘dangerous disruption of the climate system’” by stipulating warming thresholds of 1.5°C and 2°C above preindustrial levels.³⁷ Taking this as the scientifically and legally stipulated touchstone for Switzerland (and others), the petitioners allege that Switzerland is not on pace to meet its commitment, and that—unlike Swiss compliance with the Kyoto Protocol, which relied heavily on the purchase of emissions offsets—physically and legally adequate mitigation measures require actually reducing net emissions from Swiss sources.³⁸ Petitioners in three other European cases, one dealing with the expansion of Vienna’s airport (the “Austrian case”), *Greenpeace Nordic Association v. Norway Ministry of Petroleum and Energy*, and *PUSH Sweden v. Government of Sweden*, also assert that their respective governments’ legal commitments to climate change mitigation are consistent with and articulated through ratification of the Paris Agreement.³⁹

In the Austrian case, petitioners persuaded the court that authorizing expansion of the Vienna

32 *Thomson v. Minister for Climate Change Issues* at paras. 85, 90.

33 Conference of the Parties Twenty-first Session, U.N. Framework Convention on Climate Change, Paris Agreement, art. 3 para. 2, U.N. Doc. FCCC/CP/2015/10/Add.1 [hereinafter Paris Agreement] (Dec. 12, 2015) (specifying temperature thresholds basic to Agreement’s objectives), id. art. 3 para. 3 (parties shall undertake increasingly stringent nationally determined contributions to mitigation).

34 Cf. *Massachusetts v. EPA*, 549 U.S. 497, 561 (2007) (Roberts, C.J., dissenting).

35 Paris Agreement, art. 3 para. 3.

36 Specifically, the Swiss petitioners ground their claims in articles 10 (right to life), 73 (sustainability principle), and 74 (precautionary principle) of the Swiss Constitution, and in articles 2 and 8 of the European Convention on Human Rights, which Switzerland has ratified. *Union of Swiss Senior Women for Climate Protection v. Swiss Federal Council [Verein KlimaSeniorinnen Schweiz v. Bundesrat]*, at para. 1(a) (filed Oct. 25, 2016), <https://perma.cc/3LGB-3V7H>.

37 See id. para. 60 (“Mit dem Übereinkommen von Paris haben die Vertragsstaaten im Dezember 2015 das Ziel, eine «gefährliche Störung des Klimasystems» zu verhindern, neu definiert. So soll die globale durchschnittliche Erwärmung der Erdatmosphäre im Vergleich zur vorindustriellen Zeit auf «deutlich unter 2 Grad Celsius» gehalten werden. Es sollen Anstrengungen unternommen werden, die Erwärmung auf 1.5 Grad zu begrenzen (Art. 2 Abs. 1 Bst. a Pariser Übereinkommen).”).

38 Id. § 4.3.2 (“[Insufficient measures for the achievement of applicable reduction goals for 2020.] Ungenügende Massnahmen zur Erreichung des geltenden Reduktionsziels für 2020.”).

39 Norway ratified the Paris Agreement on June 20, 2016, Sweden on October 13, 2016. UNFCCC, Paris Agreement: Status of Ratification, supra note 23. On the legal relevance of the Paris Agreement to national commitments, the Norwegian petition states: “The presumption principle, which calls for Norwegian law to be interpreted in accordance with international law, makes international law rules and fundamental principles of international law a part of our national legal system. This means that the Climate Convention, the Paris Agreement and international human rights and environmental principles are relevant sources of law when the limitations in Article 112 of the Constitution are to be determined.” *Greenpeace Nordic Ass’n* at 36. On the same point, the Swedish petition states: “98. By signing the UNFCCC and the Kyoto Protocol, the State has explicitly accepted a duty of care. In order to fulfil this duty, every individual State must to the highest extent possible, in accordance with its own circumstances, implement the best possible measures to reduce greenhouse gas emissions. * * * 102. The Swedish climate targets and Sweden’s accession to international agreements are relevant to the interpretation of these directives. * * * 110. The scope of the duty of care is determined by a combination of factors such as Sweden’s accession to international conventions, nationally adopted environmental goals, environmental legislation, government statements, etc.”. *PUSH Sweden* at paras. 98, 102, 110.

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Austria

Various NGOs and individuals persuaded a panel of the Austrian Federal Administrative Court to overturn the government of Lower Austria's approval of construction of a third runway at Vienna's main airport. The reason: authorizing the runway would do more harm to the public interest than good, primarily because it would be contrary to Austria's national and international obligations to mitigate the causes of climate change. Of the authorities cited by the court, the most important was Austria's Climate Protection Act of 2011, which set emissions reduction targets for various sectors, including the transport sector.

Because a third runway was expected to increase Austria's annual CO² emissions, the court concluded that it would be at odds with the provisions of the 2011 Act as well as with Austria's constitution and its international commitments under EU law and the Paris Agreement.

This case is the first instance of a court determining that climate change mitigation commitments require it to overturn government agency approval of infrastructure development. It is thus a leading example both of a court straightforwardly enforcing a climate mitigation statute and of a court vindicating rights to environmental integrity.

airport would run afoul of the emissions reductions targets set forth in Austria's Climate Protection Law and contradict Austria's climate change mitigation commitments under the Paris Agreement.⁴⁰ In the Norwegian petition, the challenged action is issuance of licenses for deep-sea oil and gas extraction in the Barents Sea. In the Swedish petition, the challenged action is the sale (rather than decommissioning) of coal mines and coal-fired power plants in Germany by Vattenfall, a state-owned energy company. For all three groups of petitioners, the Paris Agreement provides a scientific reference point as well as a legally definitive constraint.⁴¹

2.2.2 Linking the impacts of resource extraction to climate change and resilience

Any thorough catalogue of the activities that result in GHG emissions or reduce communities' resilience to extreme weather events must include resource extraction.⁴² Mining for coal and other combustible

energy sources and drilling for oil and gas yield fossil fuels, the consumption of which emits the GHGs responsible for climate change. Mining and drilling also tend to generate large volumes of pollution in their immediate vicinity, impairing local water resources' quality or quantity or both. Recognizing this, plaintiffs eager for policy to address climate change have begun to challenge environmental review and permitting processes that unduly ignore resource extraction activities' implications for the climate.

In February 2016 the Constitutional Court in Colombia held two statutory provisions to be unconstitutional, preventing regulatory authorities from ignoring the climate-related costs of resource extraction. One provision authorized a national commission to designate particular projects as being in the national strategic interest—a designation that would exempt projects from aspects of local regulatory oversight.⁴³ The other provision is grandfathered in leases and permits for mining and oil and gas in sensitive mountain ecosystems (*páramos*).⁴⁴ The Colombian court found the provisions unconstitutional because they endangered the

40 Austrian Federal Administrative Court case no. W109 2000179-1/291E, <https://perma.cc/6P34-5HYU>.

41 *Greenpeace Nordic Ass'n* at 18–19 (“The Paris Agreement will enter into force on 4 November 2016. The Agreement will then constitute an international law obligation for Norway. . . . In addition to its legal content, the Paris Agreement and the decision document for the Agreement represent a factual basis in the case.”); *PUSH Sweden* at 26 (quoting 2014 Statement of Government Policy regarding emissions reduction goals and upcoming Paris Conference), 33 (quoting June 2016 statement of Environmental Objectives Council regarding needed emissions reductions).

42 At issue in the case were Law No. 1450 of 2011, establishing the National Development Plan 2010–2014, and Law No. 1753 of 2015, establishing

the National Development Plan 2014–2018. The two provisions discussed here both appeared in the latter.

43 Law No. 1753 of 2015 arts. 49–52.

44 *Id.* art. 173.

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Colombia

In *Decision C-035/16 of February 8, 2016*, the Colombian Constitutional Court struck down as unconstitutional provisions of Law No. 1450 of 2011 and of Law No. 1753 of 2015 that threatened high-altitude ecosystems, called *páramos*. The court noted several important features of *páramos*, including their fragility, their lack of regulatory protection, their role in providing Colombia with as much as 70 percent of its drinking water, and the capacity of their soils and vegetation to capture CO² from the atmosphere.

The court highlighted the last of these features in particular, calling *páramos* a “carbon capture system” and explaining that the carbon capture capacity of *páramos* exceeds that of a comparably sized

tropical rainforest. The court decided that statutory provisions that would have allowed for development in the *páramos* were unconstitutional because they would endanger the public’s right to clean water and relieve government agencies of their obligation to justify decisions certain to result in the degradation of environmentally sensitive and valuable areas.

The court framed its protection of rights in this decision as responsive to climatic changes that would make resources like the water flowing from *páramos* even more valuable in the future. It can thus be read as taking the need for adaptation to climate change into account when interpreting the significance of constitutionally protected rights that do not explicitly reference climate change.

public’s right to clean water, and they abrogated government agencies’ obligation to justify decisions that would result in the degradation of environmentally sensitive and valuable areas. Crucially, the court characterized *páramos* as valuable both for providing Colombia with much of its drinking water and because their soils and vegetation capture CO² from the atmosphere at greater rates than a tropical rainforest with similar acreage.⁴⁵

In *Ali v. Federation of Pakistan*, the petitioner has challenged various government actions and inactions relating to approval of development of the Thar coal field, which is expected to produce 4.5 to 60 million metric tons of coal annually.⁴⁶ According to the petitioner, because of the local environmental degradation, displacement, and coal-fed GHG emissions that will result from that development, its approval amounts to a three-fold violation: of constitutionally protected “Fundamental Rights”; of rights relating to the environmental degradation expected to result from burning coal to generate

electricity; and of the public trust doctrine as it relates to Pakistan’s atmosphere and climate. The Lahore High Court had as of March 2017 not yet issued a judgment in that case.

The petition in *Greenpeace Nordic Association v. Ministry of Petroleum and Energy* similarly argues that the Norwegian Ministry’s lease of blocks of the Barents Sea to oil and gas developers violates constitutional protections. Article 112 of Norway’s constitution provides that Norwegians have a “right to an environment that is conducive to health and to a natural environment whose productivity and diversity are maintained.” Petitioners allege that maintenance of that environment requires staying within a global emissions budget consistent with the 1.5°C or 2°C warming thresholds recognized by the Paris Agreement, and that the Barents Sea leases would allow for the extraction of fossil fuels and related emission of GHGs in excess of that budget. That case was also still pending in March 2017.

2.2.3 Establishing that particular emissions are the proximate cause of particular adverse climate change impacts

Although several courts have recognized the scientific consensus regarding the causal relationship

⁴⁵ Constitutional Court, Feb. 8, 2016, Decision C-035/16, at para. 142.

⁴⁶ *Ali v. Pakistan*, Constitutional Petition No. ____ / I of 2016, at para. xxvi, <https://perma.cc/6AFA-2ZL5>; see also Muhammad Imran Rashid et al., Coal as an Energy Source for Mitigating Energy Crisis in Pakistan, 4 J. ENG. & TECH. 127, 128–29 (July-Dec. 2014), <https://perma.cc/66NK-GZH6>.

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Norway

In *Greenpeace Nordic Association and Nature & Youth v. Ministry of Petroleum and Energy* two environmental NGOs filed suit seeking a declaratory judgment from the Oslo District Court that Norway's Ministry of Petroleum and Energy violated the Norwegian constitution by issuing a block of oil and gas licenses for deep-sea extraction from sites in the Barents Sea.

The petition alleges several key facts: the licenses would allow access to as-yet undeveloped fossil fuel deposits in a manner inconsistent with the climate change mitigation required to avert global warming of 1.5°C and possibly even 2°C in excess of pre-industrial levels; and the area made accessible by the licenses would be the northernmost yet developed, and would border the ice zone, presenting extraordinary risks to the highly sensitive Arctic environment from potential spills and emissions of black carbon. The petition also alleges violation of article 112 of the Norwegian Constitution, which establishes a "right to an environment that is conducive to health and to a natural environment whose productivity and diversity are maintained."

The petition also cites other constitutional provisions including those requiring government action to be consistent with the precautionary principle; the no harm principle as it applies both domestically and to citizens of other countries; and human rights protections. In addition to these national sources of legal authority, the petition also points out that Norway's issuance of oil and gas licenses contradicts its commitments under the Paris Agreement.

Much as the *Urgenda* plaintiffs used national and international commitments to construe the climate mitigation implications of the duty of care embodied in the Dutch constitution, this petition argues for a similar interpretation of the right to environmental integrity protected by the Norwegian constitution. It would have been possible to make a similar argument before Norway ratified the Paris Agreement and that Agreement entered into force, but those events lend specificity and context to the constitutional right at the core of the petition.

between anthropogenic GHG emissions, climate change, and the adverse impacts resulting from climate change,⁴⁷ no court has yet found that particular GHG emissions relate causally to particular adverse climate change impacts for the purpose of establishing liability. Indeed, the Intergovernmental Panel on Climate Change describes the key causal mechanism of climate change as "well-mixed greenhouse gases" in the atmosphere.⁴⁸ Such mixing obscures particular contributions and makes attribution of harm difficult. Yet the law generally assigns liability only when particular contributions can be related to particular effects.

Plaintiffs in the U.S. and Germany have sought—unsuccessfully, so far—to establish that particular

emitters have proximately caused them particular injuries. The leading U.S. cases are *Connecticut v. American Electric Power* and *Kivalina v. ExxonMobil*. The Connecticut plaintiffs sought an injunction capping emissions from power plants;⁴⁹ the *Kivalina* plaintiffs sought damages for their injuries from fossil fuel companies;⁵⁰ both sets of plaintiffs grounded their claims against private companies in a theory of public nuisance under federal common law. In both cases the courts concluded that the federal Clean Air Act had displaced federal common law claims, and so did not reach the substantive question of proximate cause.⁵¹

47 See, e.g., *Urgenda* at para. 4.14; *Mass. v. EPA* at 498; *Coalition for Responsible Regulation v. EPA*, 684 F.3d 132 (D.C. Cir. 2012), aff'd in part, *Utility Air Regulatory Group v. EPA*, 134 U.S. 2427 (2014); and *Greenpeace New Zealand v. Northland Regional Council*, [2007] NZRMA 87, at para. 7.

48 IPCC AR5, WG1 § 6.3.

49 564 U.S. 410 (2011).

50 696 F.3d 849 (9th Cir. 2012), cert. denied, 133 S. Ct. 2390 (2013).

51 *Connecticut*, 564 U.S. at 415 ("The Clean Air Act and the Environmental Protection Agency action the Act authorizes, we hold, displace the claims the plaintiffs seek to pursue."); *Kivalina*, 696 F.3d at 856 ("We need not engage in that complex issue and fact-specific analysis in this case, because we have direct Supreme Court guidance. The Supreme Court has already determined that Congress has directly addressed the issue of domestic greenhouse gas emissions from stationary sources and

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Germany (and Peru)

In November 2015, Saúl Luciano Lliuya, a Peruvian farmer who lives in Huaraz, Peru, filed a claim for damages in a German court against RWE, Germany's largest electricity producer.

Lliuya's suit alleges that RWE, having knowingly contributed to climate change by emitting substantial volumes of GHGs, bears some measure of responsibility for the melting of mountain glaciers near Huaraz, population 120,000. That melting has given rise to an acute threat: Palcacocha, a glacial lake located above Huaraz, has experienced a 30-fold volumetric increase since 1975 and a four-fold increase since 2003. Lliuya based his claim on paragraph 1004 of the German Civil Code, which provides for nuisance abatement and injunctive relief. He asked the court to declare that RWE was partly responsible for the costs arising from the lake's growth. He also asked the court to order RWE to reimburse him for measures he had already taken to protect his home and to provide

a Huaraz community association with €17,000 for the purpose of building siphons, drains, and dams to protect the town. That amount is 0.47 percent of both (1) the estimated cost of protective measures; and (2) RWE's estimated annual contribution to global GHG emissions.

The court dismissed Lliuya's requests for declaratory and injunctive relief, as well as his request for damages. The court noted several grounds for its decision, but none was more important than its finding that no "linear causal chain" linked RWE's emissions to the dangers and costs described by Lliuya as resulting from melting glaciers. This legal conclusion goes a step beyond what any other court, including the U.S. courts that decided the *AEP v. Connecticut* and *Village of Kivalina* cases, has stated on the question of whether a given entity's emissions can be said to have proximately caused injury via impacts of climate change.

In *Lliuya v. RWE AG*, Saul Lliuya, a Peruvian farmer, filed suit in a German court against a German utility. Lliuya sought damages to offset the costs of protecting his town from melting glaciers, for which he alleged RWE is partly responsible.⁵² Two of the several reasons stated by the court for dismissing Lliuya's claim went to causation. The first reason was evidentiary: the plaintiff had asked the court to specify RWE's precise annual contribution to global emissions rather than submitting an estimate. The second reason was more emblematic: the court found that no "linear causal chain" linked the alleged injury and RWE's emissions—rather many emitters had created the risk of flood confronting Lliuya's town such that the root cause of the risk could not be ascribed to RWE in particular.⁵³

In *Greenpeace Southeast Asia et al.*, environmentalists and Filipino citizens filed a petition with the Philippine Commission on Human Rights, a tribunal empowered to investigate allegations and issue recommendations but not to issue orders that carry the force of law.⁵⁴ The petitioners submitted factual allegations that identify 50 corporations as "Carbon Majors," responsible for a cumulative 21.71% of the anthropogenic GHGs emitted from 1751 to 2010.⁵⁵ The petitioners also characterize the relationship between climate change, ocean acidification, and potential

has therefore displaced federal common law. *Am. Elec. Power*, 131 S.Ct. at 2530, 2537"). The closest courts have come to such an answer have been decisions about standing, for which the bar is lower than "tort-like causation." See *Mass v. EPA*, 549 U.S. at 524; *Connecticut v. Am. Elec. Power Co.*, 582 F.3d 309, 346 (2d Cir. 2009), rev'd on other grounds, 564 U.S. 410 (2011); *Comer v. Murphy Oil USA*, 585 F.3d 855, 865 (5th Cir. 2009).

⁵² Az. 2 O 285/15 Essen Regional Court [2015].

⁵³ [David Loses the Fight Against Goliath], FRANKFURTER ALLGEMEINE

ZEITUNG, Dec. 15, 2016, <https://perma.cc/LX3R-7SVE> ("A flood risk would however not be attributed singly to RWE AG.") "Eine Flutgefahr wäre jedoch der RWE AG nicht individuell zuzuordnen.")

⁵⁴ Republic of the Philippines, Commission on Human Rights, <http://198.23.173.74/chr/> (accessed Mar. 4, 2017); *Greenpeace Southeast Asia and Philippine Rural Reconstruction Movement, Petition To the Commission on Human Rights of the Philippines Requesting for Investigation of the Responsibility of the Carbon Majors for Human Rights Violations or Threats of Violations Resulting from the Impacts of Climate Change* [hereinafter *Petition of Greenpeace Southeast Asia*], <https://perma.cc/2S8R-TTKN>.

⁵⁵ *Petition of Greenpeace Southeast Asia* at 3–4 (citing R. Heede, Carbon Majors: Accounting for Carbon and Methane Emissions 1854–2010, Methods and Results Report (Apr. 7, 2014), <https://perma.cc/CVY4-YANG>).

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physical and economic harms facing Filipinos.⁵⁶ Based on these facts and arguments grounded in international human rights law, the petitioners requested that the Commission “[c]onduct an investigation into the human rights implications of climate change and ocean acidification and the resulting rights violations in the Philippines, and whether the investor-owned Carbon Majors have breached their responsibilities to respect the rights of the Filipino people.”⁵⁷ In December 2015 the Commission agreed to undertake an investigation, which was in progress as of March 2017.⁵⁸

In addition to arguing that climate change-related injuries are proximately caused by particular emitters, the parties seeking relief in each of these cases have proposed various ways for tribunals to apportion responsibility for those injuries among named defendants and others. The proposals all resemble the “market share” theory of how to allocate damages fairly in product liability cases in the U.S.,⁵⁹ a theory that, notably, has seldom been implemented successfully. So far, however, no court or tribunal has endorsed or suggested any approach to establishing and defining proximate causation in this context.

2.2.4 Establishing liability for failure to adapt and the impacts of adaptation

As the impacts of climate change have grown in frequency and severity, plaintiffs have sought redress for decisions that arguably amplified those impacts

or failed to avert foreseeable harms caused by them. Meanwhile, government-led adaptation measures have also inspired plaintiffs to seek injunctive relief or compensation for alleged injury to their property rights. The following examples from the U.S. and Australia illustrate each of these types of adaptation-related case.

In the U.S. the scope of local, state, and national governments’ sovereign immunity plays a key role in cases dealing with liability for failure to adapt.⁶⁰ Two sets of consolidated cases brought in 2005 in the aftermath of Hurricane Katrina illustrate this point: *In re Katrina Canal Breaches Litigation*,⁶¹ and *St. Bernard Parish Government v. United States*.⁶² Both focused on the role of the Mississippi River Gulf Outlet (MRGO) shipping channel in propagating the hurricane’s storm surge into the city of New Orleans. Since the Army Corps of Engineers finished excavating MRGO in 1968, natural wave action, storms, and the wakes of large ships had caused it to widen from 500 feet to nearly 2000 feet, such that by 2005 its banks sat close to levées built to protect New Orleans neighborhoods from flooding. As with many cases focused on adaptation, climate change featured in the background rather than the text of these cases: A changing climate forces decisions by public and private actors about how to deal with shifting shorelines and more frequent and powerful coastal storms, and it creates uncertainties by pulling coastlines and weather patterns away from their historical norms.

In these cases plaintiffs sought damages for the effects of the Katrina storm surge propagated via MRGO into New Orleans under two distinct theories: that the Corps had been negligent, and that the Corps’ management of the channel had effectuated a temporary uncompensated taking of property damaged in

⁵⁶ *Id.* at 13–17.

⁵⁷ *Id.* at 30. The petition’s prayer also includes five subsidiary requests, but, as the petition itself states, “At the heart of this petition is the question of whether or not the Respondent Carbon Majors must be held accountable—being the largest corporate contributors of greenhouse gases emissions and having so far failed to curb those emissions despite the companies’ knowledge of the harm caused, capacity to do so, and potential involvement in activities that may be undermining climate action—for the human rights implications of climate change and ocean acidification.” *Id.* at 17 (emphasis in original).

⁵⁸ *Greenpeace International*, First national human rights investigation into climate change impacts proceeds despite opposition from fossil fuel companies, Dec. 8, 2016, <https://perma.cc/DDJ3-4UY8>.

⁵⁹ See *Sindell v. Abbott Laboratories*, 26 Cal. 3d 588 (1980) (apportioning liability to manufacturers of diethylstilbestrol, a synthetic form of estrogen prescribed to pregnant women to prevent miscarriage, because it was determined to have caused plaintiff’s cancer but it was impossible to determine which manufacturer had produced the particular doses that her mother took while pregnant with her).

⁶⁰ For a fuller discussion of this issue, see Jennifer Klein, Potential Liability of Governments for Failure to Prepare for Climate Change (Aug. 2015), <http://bit.ly/2jtwRyK>.

⁶¹ 696 F.3d 436, 441 (5th Cir. 2012) (en banc).

⁶² 121 Fed. Cl. 687 (2015). The Army Corps of Engineers has appealed this decision to the Federal Circuit Court of Appeals. *St. Bernard Parish Government et al. v. United States*, Case No. 16-2301 (Fed. Cir.).

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the storm, in violation of the U.S. Constitution.⁶³ The Fifth Circuit Court of Appeals rejected the negligence claim in *In re Katrina Canal Breaches*, finding that the waiver of sovereign immunity provided for by Federal Tort Claims Act did not extend to the Corps' management of the MRGO.⁶⁴ In *St. Bernard Parish Government* the Federal Court of Claims accepted that MRGO's management had effectuated a temporary taking, a claim to which sovereign immunity does not apply.

The terms "climate change" and "sea level rise" also do not appear in the New South Wales Supreme Court's denial of a motion to dismiss in *Ralph Lauren 57 v. Byron Shire Council*.⁶⁵ Yet, the case arose from the Shire Council's struggle to decide what to do about the local effects of sea level rise. Specifically, over the course of several years, the Council initially proposed a policy of managed retreat, then withdrew the proposal but did not formally repudiate it. Meanwhile, residents were prohibited from armoring their stretches of shoreline, even though hard shoreline armoring installed by the Council in the 1960s and 70s was amplifying erosion on their stretches. These residents sued to challenge various aspects of the Council's land use plans, demanding compensation as well as authorization to install rock, concrete, and rubble shoreline barriers to prevent further erosion. After the court denied the Council's motion to dismiss the residents' claims, the parties settled, leaving unresolved the question of whether the Council was liable for the effects of the armoring it had installed or of its proposed policy of managed retreat.

Conservation Law Foundation v. ExxonMobil, recently filed in the federal district court in Boston, Massachusetts, is a national and international test case for the theory that plaintiffs can prevail on claims arising from the threat of potential injury

attributable to a failure to adapt to climate change.⁶⁶ The plaintiffs in that case summarize their chief concerns about a petroleum products distribution and bulk storage terminal owned and operated by ExxonMobil in this way:

"ExxonMobil's failure to adapt the Everett Terminal to increased precipitation, rising sea levels and storm surges of increasing frequency and magnitude puts the facility, the public health, and the environment at great risk because a significant storm surge, rise in sea level, and/or extreme rainfall event may flood the facility and release solid and hazardous wastes into the Island End River, Mystic River, and directly onto the city streets of Everett."⁶⁷

A decision for the plaintiffs in this case would create a blueprint for others to follow, identifying facilities where statutory violations can be used as leverage to compel adaptation to risks arising from climate change impacts. Because coastal terminals like the one in Everett are a commonplace, and indispensable for the distribution of petroleum products and natural gas, such a blueprint would be highly significant and almost certainly generative of a small wave of litigation. Furthermore, because private facility owners—unlike governments—lack the shield of sovereign immunity, fewer legal options would help them to avoid investing in adaptation measures.

2.2.5 Applying the public trust doctrine to climate change

The public trust doctrine is a widely recognized common law duty on the sovereign of a given jurisdiction to act as trustee for present and future generations by maintaining the integrity of the public trust resources in that jurisdiction.⁶⁸

63 These theories were not only distinct but also mutually exclusive: whereas federal district courts had jurisdiction over the first, only the Court of Federal Claims had jurisdiction over the second. Thus a plaintiff could not present both even by arguing one in the alternative.

64 *In re Katrina Canal Breaches Litig.*, 696 F.3d at 441, cert. denied sub nom., *Lattimore v. U.S.* 133 S. Ct. 2855 (2013).

65 [2016] NSWSC 169.

66 Complaint, paras. 70–88, *Conservation Law Foundation v. ExxonMobil Corp.*, Case No. 1:16-cv-11950 (D. Mass.), <https://perma.cc/P55L-9T9Q>. The plaintiffs also allege violations of the Clean Water Act that do not hinge on the effects of climate change. *Id.* paras. 194–96, 200–02, 210.

67 *Id.* para. 183.

68 See Michael C. Blumm & Rachel D. Guthrie, *Internationalizing the Public Trust Doctrine: Natural Law and Constitutional and Statutory Approaches to Fulfilling the Saxion Vision*, 45 U.C. DAVIS L. REV. 741 (2011-2012) (surveying applications of doctrine in Asia, Africa, and South America); see also *Alec L. v. Jackson*, 863 F. Supp. 2d 11, 13 (D.D.C. 2012), *aff'd sub*

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U.S. (*Juliana v. United States*)

Twenty-one youth plaintiffs filed a lawsuit in federal district court against the U.S. government, asking the court to compel the government to take action to reduce CO₂ emissions so that atmospheric CO₂ concentrations will be no greater than 350 parts per million by 2100. The plaintiffs alleged that the “nation’s climate system” was critical to their constitutional rights to life, liberty, and property, and that the defendants had violated their substantive due process rights by allowing fossil fuel production, consumption, and combustion at “dangerous levels.” The plaintiffs also alleged that the government’s failure to control CO₂ emissions constituted a violation of their constitutional right to equal protection before the law, as they were

being denied the fundamental rights afforded to prior and present generations. Finally, the plaintiffs alleged that defendants had failed to fulfill their obligations under the public trust doctrine.

This decision contains a novel application of the public trust doctrine—one that may be overturned on appeal, but is consistent with an international groundswell of cases in which litigants have implicated that doctrine in their challenges to inadequate government climate change mitigation or adaptation efforts. At least one court has already referred to it in support of a decision to invite plaintiffs to amend their claims to include one resembling those argued in *Juliana*.

Arguments that the doctrine compels government-led or -supported climate change mitigation and adaptation efforts have appeared in Ukraine, the Philippines, Pakistan, and multiple U.S. state and federal courts.

Plaintiffs seeking application of the doctrine to climate change mitigation in Ukraine, the Philippines, and Pakistan have met with modest success. In *Environmental People Law v. Cabinet of Ministers of Ukraine* a Ukrainian court addressed the question of whether the Ukrainian government had a constitutional responsibility to regulate “air” as a natural resource “on behalf of and for the people of Ukraine.”⁶⁹ Though the court held that the government did have such a duty, it did not direct the government to do more than report on its progress toward compliance with its obligations under the Kyoto Protocol.⁷⁰ In the Philippines, a petition for an extraordinary writ from the Supreme Court identified the public trust doctrine as one of the bases for its

request that the government help to mitigate climate change by curtailing motorized vehicle traffic and enabling bicycle and foot traffic.⁷¹ The petitioner in the case of *Ali v. Pakistan* also cites the public trust doctrine as a legal basis for her claims against governmental approval of coal fields in the Thar Desert because of the foreseeable direct and indirect environmental degradation that will ensue.⁷²

In the U.S. various groups of plaintiffs organized by Our Children’s Trust have argued before multiple administrative bodies and courts of law that the public trust doctrine compels state or federal government action on climate change. There is general consensus among courts that the proposed application of the doctrine “represents a significant departure from the doctrine as it has been traditionally applied,”⁷³ but disagreement on several key issues persists. One point of disagreement is whether the public trust doctrine sounds in federal law at

nom., *Alec L. ex rel. Looz v. McCarthy*, 561 F. App’x 7 (D.C. Cir. 2014), cert. denied, 135 S. Ct. 774 (2014) (“traditionally, the doctrine has functioned as a restraint on the states’ ability to alienate submerged lands in favor of public access to and enjoyment of the waters above those lands.”).

69 *Environmental People Law v. Cabinet of Ministers of Ukraine* (Kyiv Dist. Admin. Ct. 2011).

70 *Id.*

71 Petition for a Writ of Kalikasan and Continuing Mandamus, *Segovia v. Climate Change Commission*, Special Civil Action No. ___, at 23 (S.C. Feb. 17, 2014), <https://perma.cc/W7XD-L8HH> (“the Trustee—the person or entity given the trust, i.e. the Government, is duty-bound to properly care for and manage the thing held in trust – the life-sources of Land, Air and Water for the people.”).

72 *Ali*, Constitutional Petition No. ___ / 1 of 2016.

73 *Alec L.*, 863 F. Supp. 2d at 13.

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all, or only in state law.⁷⁴ Another is whether the public trust doctrine extends to the atmosphere, or whether obligations derive from climate impacts on ocean and coastal resources.⁷⁵ A third arises from the question of what—assuming the doctrine does apply to climate change—the proper role of the courts is in relation to the legislature and executive.⁷⁶

2.3 Emerging trends in climate change litigation

Two further trends seem likely to emerge in the coming years: a growing number of cases dealing with migrants seeking temporary or permanent relocation from their home countries or regions owing at least in part to climate change; and more climate change litigation in the Global South.

2.3.1 “Climate refugees”

The term “climate refugee” is occasionally used in news reports and advocacy documents, but it is difficult to apply it usefully in a legal or practical sense.⁷⁷ The prevailing legal definition of refugee, established by the U.N. Refugee Convention, excludes migrants displaced solely by changes to their environment.⁷⁸ The term may even be misleading, as it implies that displacement caused by climate change is or will be

predominantly international rather than domestic.⁷⁹ Nonetheless, the term does convey that climate-driven displacement is in the offing, and does so in a way that highlights the lack of an existing legal framework capable of dealing with that displacement.

A handful of cases in Australia and New Zealand offer a partial preview of how “climate refugees” will feature in climate change litigation.⁸⁰ But the discussion in those cases of whether climate change impacts provide legally sufficient cause to authorize immigration does not presage the full scope of what we can expect to see as climate change-related pressures drive rates of intra- and international migration higher in the coming years and decades. “Climate refugee” litigation is also likely to arise over internal disaster recovery and resettlement efforts, international efforts to facilitate or directly support resettlement within or outside a country of origin, and access to resources within and across national borders amid shifting populations and changing climates.

2.3.2 More litigation in the Global South

Several factors suggest that climate change litigation will appear with increasing frequency in the Global South. In many instances, this appearance may owe simply to the steady proliferation of laws and financial resources focused on mitigation, adaptation, and sustainable development more generally. In others, climate change litigation may

74 Compare *PPL Montana, LLC v. Montana*, 565 U.S. 576, 604 (2012), and *Alec L. ex rel. Loorz v. McCarthy*, 561 Fed. Appx. 7, 8 (D.C. Cir. 2014) with *Juliana v. United States*, No. 6:15-CV-01517-TC, 2016 WL 6661146, at *23 (D. Or. Nov. 10, 2016).

75 See *Chernaik v. Brown*, No. 16-11-09273, 2015 WL 12591229, at *6–8 (Or. Cir. Ct. 2015); *Foster v. Wash. Dep’t of Ecol.*, No. 14-2-25295-1, 2015 WL 7721362, at *4 (Wash. Super. Ct. 2015); *Sanders-Reed ex rel. Sanders-Reed v. Martinez*, 350 P.3d 1221, 1225 (N.M. Ct. App. 2015).

76 See e.g., *Sanders-Reed ex rel. Sanders-Reed v. Martinez*, 350 P.3d 1221, 1225 (N.M. Ct. App. 2015); *Kanuk v. State*, 335 P.3d 1088 (Alaska 2014); *Funk v. Wolf*, 144 A.3d 228, 252 (Pa. Commw. Ct. 2016) (“mandamus will not lie because Petitioners lack a clear right to performance of requested activities, and that declaratory relief would serve no practical purpose.”).

77 See Katrina Miriam Wyman, Responses to Climate Migration, 37 HARV. ENVTL. L. REV. 167, 196–200 (2013) (examining critically proposed legal definitions); Jane McAdam, Why a Climate Change Displacement Treaty Is Not the Answer, 23 INT’L J. REFUGEE L. 2, 13 (2011) (“From a policy perspective, it would seem to be both practically impossible and conceptually arbitrary to attempt to differentiate between those displaced people who deserve ‘protection’ on account of climate change, and those who are victims of ‘mere’ economic or environmental hardship.”).

78 United Nations Convention Relating to the Status of Refugees, at 33(1), opened for signature July 28, 1981, 189 U.N.T.S. 150; see also Jane McAdam & Ben Saul, An Insecure Climate for Human Security? Climate-Induced Displacement and International Law, in *Human Security and Non-Citizens: Law, Policy and International Affairs* 357 (Alice Edwards & Carla Ferstman eds. 2010).

79 Most migration triggered by environmental change occurs within national borders. Office of the U.N. High Comm’r for Refugees, Forced Displacement in the Context of Climate Change: Challenges for States Under International Law, Submission to the 6th session of the Ad Hoc Working Group on Long-Term Cooperative Action Under the Convention (AWG-LCA 6), at 4 (May 20, 2009); see Marta Picchi, Climate Change and the Protection of Human Rights: The Issue of “Climate Refugees”, 13 U.S.-CHINA L. REV. 576, 579 (2016) (“in this essay, the author used the concept of ‘climate refugees’ to characterize people forced to abandon their place of origin because of an environmental stressor, regardless of whether or not they cross an international border.”).

80 *Ioane Teitiota v. The Chief Executive of the Ministry of Business, Innovation and Employment*, [2015] NZSC 107 (noting relevance of climate change to decision to immigrate but granting application for visa on other grounds); *In re: AD (Tuvalu)*, [2014] Cases 501370-371 (New Zealand) (rejecting application for refugee status); RRT Case Number 0907346, [2009] RRTA 1168, (Refugee Review Tribunal, 10 Dec. 2009) (Australia); Refugee Appeal No. 72189/2000 (Refugee Status Appeals Authority, S. Joe, Aug. 17, 2000) (New Zealand).

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follow in the wake of mutually reinforcing national and international legal developments, such as the Paris Agreement and national legislation adopted in pursuit of commitments announced in pre-Agreement INDCs and post-Agreement NDCs. More specifically, where REDD+ and the Green Climate Fund prompt national legislative or regulatory measures, disputes over those measures and the resources they govern are likely to follow. Another factor that seems likely to promote climate change litigation is more straightforward: the proliferation and diffusion of climate change litigation know-how will make it easier to find capable lawyers with experience arguing tested legal theories,⁸¹ particularly because several NGOs stand ready to provide counsel for such cases. In sum, a growing, increasingly coherent, and increasingly well-worn body of law may provide grounds for litigation aimed at dealing with climate change-related impacts through mitigation and adaptation efforts.

⁸¹ See, e.g., General Secretariat of the Organization of American States, *Climate Change: A Comparative Overview of the Rights Based Approach in the Americas* 61–66 (Nov. 2016), <https://perma.cc/LGQ9-MS8U> (summarizing cases adjudicated in the Americas that deal directly or indirectly with climate change after describing legal background for those cases).

Part 3: Legal Issues in Climate Change Litigation



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Global climate change litigation raises a number of common issues which recur in numerous jurisdictions. As an initial matter, courts and advocates may encounter questions of justiciability, including questions of standing and separation of powers principles. Once a court reaches the merits of justiciable claims, there are a broad range of potential sources of legal rights and obligations, including international law, constitutional law, common law, statutory or legislative law, and national policy. Finally, courts that find a valid legal basis for a claim and a violation of the law must still address the question of remedy. This section details the ways in which these issues arise at the different stages of climate change litigation.

3.1 Justiciability

Justiciability refers in general to a person's ability to claim a remedy before a judicial body when a violation of a right has either occurred or is likely to occur.⁸² The term implies access to appropriate mechanisms to protect recognized rights. A case is said to be justiciable in a particular forum if that forum both is capable of deciding the matter and considers it appropriate to do so. The justiciability analysis entails both legal and prudential questions. First is the

question of whether the court is legally empowered to adjudicate the case – this typically depends on the constitutional grant of authority to the court. Second is the question of whether it would be imprudent for the court to adjudicate the case – the court typically has discretion to determine this matter based on the facts before it.

The doctrine of justiciability varies by jurisdiction. According to the U.S. Supreme Court, a justiciable controversy “must be definite and concrete, touching the legal relations of parties having adverse legal interests...It must be a real and substantial controversy admitting of specific relief through a decree of a conclusive character, as distinguished from an opinion advising what the law would be upon a hypothetical state of facts.”⁸³ The English House of Lords has applied a similar but more general standard for justiciability, holding that a controversy is non-justiciable if there are “no judicial or manageable standards” by which to judge the case.⁸⁴

While the precise contours of the justiciability doctrine differ, there are two elements that are common to many jurisdictions. The first is a requirement that plaintiffs must have standing to bring the case. As detailed below, the criteria for

⁸² International Commission of Jurists, *Courts and the Legal Enforcement of Economic, Social and Cultural Rights: Comparative experiences of justiciability* (2008), <https://perma.cc/YU9F-YCNR>.

⁸³ *Aetna Life Ins. Co. v. Haworth*, 300 U.S. 227, 240–41 (1937).

⁸⁴ *Buttes Gas and Oil Co. v. Hammer* (No 3) [1982] AC 888, at 938.

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U.S. (Mass v. EPA)

A group of states, local governments, and environmental organizations petitioned for review of an U.S. EPA order denying a petition for rulemaking to regulate GHG emissions from motor vehicles under the U.S. Clean Air Act.

Two key issues were: (1) whether EPA had statutory authority to regulate greenhouse emissions under the Act, and (2) whether EPA could decline to regulate greenhouse emissions based on policy judgments that fall outside the scope of the regulatory considerations outlined in the Act. The Supreme Court held that EPA did have statutory authority to regulate because CO² and other GHGs fall within the Act's broad definition of "air pollutant" and that EPA cannot deny a petition to regulate on grounds that are not enumerated in the Act. The court remanded to EPA, instructing the agency to either issue an endangerment finding for GHGs or

provide a basis for not issuing the endangerment finding that is grounded in the statute. On remand, EPA issued a positive endangerment finding that GHGs from motor vehicles do endanger public health and welfare.

The question of whether the plaintiffs—or anyone—had standing to sue over EPA's denial of a petition for rulemaking was a key point of dispute in the case, and one emphasized by the dissenting justices in their explanation of why they would have decided the case differently. The Court's determination that Massachusetts and other states had standing to sue relied on "the special position and interest of Massachusetts." As the Court explained, "It is of considerable relevance that the party seeking review here is a sovereign State and not . . . a private individual."

standing are closely linked to the principle that there be a real "case and controversy" and "manageable standards" to guide the adjudication of the case. The second is a requirement that the judicial resolution of the case must not violate the principle of the separation or balance of powers.

3.1.1 Standing

The legal definition of "standing," or *locus standi*, varies among countries, and may be more or less open or restrictive depending on which country and legal system (civil or common law) one is operating in.⁸⁵

In essence, the term refers to the criteria one must satisfy in order to be a party to a legal proceeding. These criteria are typically aimed at ensuring that the parties have a sufficient stake in the outcome of the case and that the claims brought by the parties are capable of judicial resolution. For example, some jurisdictions require plaintiffs to show that they

have suffered or will suffer an injury that is caused by the defendant's allegedly unlawful behavior, and that the adjudicating body is capable of providing a remedy that will eliminate or otherwise mitigate that injury.

Standing criteria may pose a barrier to climate change litigation. For example, it may be difficult for an individual plaintiff to establish an adequate causal connection between a defendant's allegedly unlawful actions or inaction and an injury that is linked to climate change impacts. This is a particular challenge in jurisdictions that require plaintiffs to establish a "particularized injury" for standing purposes. However, some jurisdictions allow individuals and groups to sue based on injuries that are general to the public, thus making it easier for plaintiffs to pursue climate-related claims.

In the U.S., the question of standing has been central to climate change litigation. In *Massachusetts v. EPA*, several states, cities and environmental non-governmental organizations (NGOs) sued the federal government, challenging the decision not to regulate GHG emissions from new motor vehicles under the

⁸⁵ See generally, George Pring & Catherine Pring, *Environmental Courts and Tribunals*, in *DECISIONMAKING IN ENVTL. L.* (L. Paddock, R. Glicksman & N. Bryner, eds. 2016) ("Standing rules around the world range from very restrictive to very open"); Matt Handley, *Why Crocodiles, Elephants, and American Citizens Should Prefer Foreign Courts: A Comparative Analysis of Standing to Sue*, 21 *REV. LITIG.* 97 (2002).

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Clean Air Act. The U.S. Supreme Court relied on the plaintiff states' special status as quasi-sovereigns within the federal system, and on their sovereign rights and responsibilities vis-à-vis prospective loss of coastal land, to find that they had standing to sue.⁸⁶ By contrast, in *Comer v. Murphy Oil USA*, the Fifth Circuit Court of Appeals found that plaintiff landowners harmed by Hurricane Katrina lacked standing to sue fossil fuel and chemical companies for alleged civil conspiracy because their injuries were not fairly traceable to the companies' conduct.⁸⁷ Specifically, the court found that the causal chain between the GHG emissions generated by those companies' activities and the damages caused by Hurricane Katrina was too attenuated.

Standing battles have not been unique to the United States. In *Urgenda Foundation v. Kingdom of the Netherlands*, the Hague District Court held that Urgenda had standing on its own behalf, due to a Dutch law which allows non-governmental organizations to bring a court action to protect the general interests or collective interests for other persons, but – “partly for practical reasons” – the 886 individual claimants involved in the suit were not granted standing separate from that of Urgenda.⁸⁸ In the Australian case of *Dual Gas Pty Ltd. v. Environment Protection Authority*, the Victorian Civil and Administrative Tribunal found several plaintiffs who objected to approvals granted to a new power station, alleging that it would emit GHGs that contribute to climate change, had standing to sue under the Environmental Protection Act.⁸⁹ The court there explained:

“...despite the global nature of the GHG issue, there must still be a materiality threshold in relation to the type or size of the works or emissions that is relevant to whether a person's interests are genuinely affected, as opposed to being too remote or too general. The emission of a few tonnes of GHG from a small factory in Gippsland would not in our view give rise to standing under s 33B(1) to an objector in Mildura even though

it represents an incremental GHG increase. It is unnecessary for us to determine where the line of materiality might be drawn. As we noted in our introduction, the DGDP is a major power station that will generate up to 4.2 million tonnes of GHG per annum over a 30 year projected life cycle and increase Victoria's GHG emissions profile by 2.5% over 2009 levels. In our view, this clearly raises potential issues of material interest or concern to all Victorians, and creates an almost unique level of “affected interests” and standing compared to the more usual sort of works approval matters that come before the Tribunal.”⁹⁰

The New South Wales Land and Environment Court reached a similar result in *Haughton v Minister for Planning and Macquarie Generation*, holding that the plaintiff's suit was prompted not just by “intellectual or emotional concern,” but by a legally cognizable “special interest” in the alleged harms.⁹¹

The question of standing to bring climate-related litigation has received far less attention from courts in developing countries. For example, in *Leghari v. Pakistan*, the High Court of Pakistan noted that the petitioner was a citizen seeking to enforce fundamental rights but did not otherwise discuss the issue of standing.⁹² In *In re Court on its own motion v. State of Himachal Pradesh and others*, India's National Green Tribunal initiated the case on its own, consistent with its prior interpretation of the authority granted to the court by statute, and thus standing was not an issue.⁹³ Other cases where standing issues were never briefed or discussed by the court include *Greenpeace Southeast Asia et al.*, *Gbemre v. Shell Petroleum Development Company of Nigeria Ltd*, and the Colombian case, *Decision C-035/16 of February 8, 2016*.

⁹⁰ Id. para. 134.

⁹¹ [2011] NSWLEC 217, paras. 101–102.

⁹² *Leghari v. Pakistan*, (2015) W.P. No. 25501/2015 (Supplemental Decision) at 3.

⁹³ While the authorizing statute (the India National Green Tribunal Act of 2010) does not expressly authorize the tribunal to initiate proceedings without an application, it does not expressly forbid the tribunal from doing so, and the tribunal has exercised such suo motu jurisdiction on numerous occasions. See Gitanjali Nain Gill, *Environmental Justice in India: The National Green Tribunal and Expert Members*, 5 TRANSNAT'L ENVTL. L. 175 (2016).

⁸⁶ *Mass. v. EPA*, 549 U.S. at 526.

⁸⁷ *Comer v. Murphy Oil USA*, 585 F.3d 855, 860 (5th Cir. 2009).

⁸⁸ *Urgenda*, paras. 1-408, 1-409.

⁸⁹ *Dual Gas Pty Ltd. v. Environment Protection Authority* [2012] VCAT 308.

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3.1.2 Separation or Balance of Powers

The principle of separation or balance of powers dictates that one branch of government cannot exceed the authority granted to it by the constitution or other laws and intrude on the authority of another branch. While this doctrine is typically evoked as a matter of constitutional law, it also applies in non-constitutional systems to the extent that there are policies, laws and regulations outlining the respective powers of each branch of government. The underlying question here is whether the courts are the appropriate forum to hear and resolve questions of equity, rights, and obligations in regards to climate change.

Separation of powers principles have factored prominently in U.S. climate change litigation. Standing, discussed just above, reflects separation of powers concerns, as courts ostensibly invoke the doctrine in order to limit themselves to exercising the judicial power, rather than the legislative or executive powers reserved for other branches of government. However, separation of powers principles also take on other forms. In *Connecticut v. AEP* a federal district court judge in New York concluded that climate change was a “patently political” and “transcendently legislative” issue, and that the political question doctrine barred the court from hearing the case.⁹⁴

The Second Circuit Court of Appeals reversed this aspect of the decision, concluding that regulation of climate change-causing emissions was not an inherently political question, and that the court was well within its purview to hear a public nuisance suit against GHG emissions sources.⁹⁵ The U.S. Supreme Court eventually declined to hear the substantive claims, for a somewhat different reason, though one also premised in separation of powers concerns. The U.S. Supreme Court concluded that Congress, in enacting the federal Clean Air Act and authorizing the U.S. Environmental Protection

Agency to address climate change, had “displaced” the judiciary’s authority to provide a remedy for such public nuisance claims.⁹⁶

Separation of powers principles were also addressed by the Hague District Court in *Urgenda*.⁹⁷ There, the government defendant argued that the remedy sought by plaintiffs (a court order requiring the State to limit GHG emissions) would violate the separation of powers doctrine by taking a decision that should be left to democratically elected leaders and placing it in the hands of the judiciary. The court disagreed, finding that Dutch law actually requires the judiciary to assess the actions of political bodies when the rights of citizens are at stake, even if the resolution of the case has political outcomes. The court explained that *Urgenda*’s claim “essentially concerns legal protection [of rights]” and therefore requires judicial intervention.⁹⁸

This aspect of the *Urgenda* decision is not surprising: generally speaking, the adjudication of disputes concerning constitutional or human rights falls squarely within the powers of the judicial branch. Indeed, there are other climate change cases involving the protection of constitutional and human rights where courts have exercised jurisdiction over rights-related disputes without even discussing the separation of powers doctrine, presumably because there is no dispute that such disputes fall within the courts’ domain. These cases include *Leghari v. Federation of Pakistan*, *In re Court on its own motion v. State of Himachal Pradesh and others*, and *Gbemre v. Shell Petroleum Development Company of Nigeria Ltd.*

3.2 Sources of Legal Rights and Obligations

Once a matter is determined to be justiciable and a court has jurisdiction to hear the matter, the case turns to the substantive merits. As climate change litigation has expanded attorneys and judges have engaged with a multiplicity of legal theories relying on a variety of sources of legal rights and obligations.

⁹⁴ *Connecticut v. Am. Elec. Power*, 406 F. Supp. 2d 265, 267 (S.D.N.Y. 2005).

⁹⁵ *Connecticut v. Am. Elec. Power*, 582 F.3d 309 (2d Cir. 2009).

⁹⁶ *Am. Elec. Power v. Connecticut*, 564 U.S. at 415; see also *Kivalina*, 696 F.3d at 856 (finding that plaintiffs’ federal common law claims pertaining to climate change had been displaced by the regulation of greenhouse gas emissions under the Clean Air Act).

⁹⁷ *Urgenda*, paras. 4.94-4.107

⁹⁸ *Id.* para. 4.98.

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Philippines

Greenpeace Southeast Asia and numerous other organizations and individuals filed a petition asking the Philippine Human Rights Commission to investigate a general issue—"the human rights implications of climate change and ocean acidification and the resulting rights violations in the Philippines"—and a more specific one—"whether the investor-owned Carbon Majors have breached their responsibilities to respect the rights of the Filipino people."

The core factual allegation of the petition draws on research identifying particular entities' quantum of responsibility for anthropogenic GHG emissions since 1751. The petition names 50 of those entities, all publicly traded corporations, as respondents.

It identifies multiple sources of human rights, but draws most heavily on the UN Human Rights Commission's Guiding Principles on Business and Human Rights. Responses submitted by those entities have either implied or stated explicitly that the Commission lacks jurisdiction or authority to compel answers from them to Greenpeace's petition.

Like *Lliuya v. RWE*, this investigation focuses on whether the law should attach liability to the causal relationship between the act of emitting GHGs and the adverse climate impacts that eventually result. However, because the Commission's authority is limited to investigating and issuing recommendations, the stakes are somewhat lower.

3.2.1 International law

3.2.1.1 Human rights

The core international human rights treaties do not recognize a freestanding right to a clean environment, or to a stable climate. However, it has long been recognized that inadequate environmental conditions can undermine the effective enjoyment of other enumerated rights, such as the rights to life, health, water, and food. Consistent with this recognition, the right to a clean environment has been codified in international human rights treaties, soft law instruments, regional human rights agreements, national constitutions, and sub-national constitutions.⁹⁹ The relationship between human rights and climate change has been more recently the subject of attention from a variety of bodies.¹⁰⁰ The climate change and human rights discourse was instigated in large part by litigation.

In December 2005, the Chair of the Inuit Circumpolar Conference submitted a petition to the Inter-

American Commission on Human Rights (IACHR) requesting relief for human rights violations resulting from the impacts of global warming and climate change. The petition alleged that the U.S.—the largest cumulative emitter of GHG emissions at that time—had violated the Inuit's human rights by failing to adopt adequate GHG controls.¹⁰¹ Although the Commission never issued a decision, the petition did succeed in drawing public attention to the severe effects of global warming on the Inuit and instigating further discussion about the human rights implications of climate change.¹⁰²

In a less well-known decision from that same year the Federal Court of Nigeria in *Gbemre v. Shell Petroleum Development Company of Nigeria Ltd* held that Shell's flaring of methane from its gas production activities on the Niger Delta violated

⁹⁹ Office of the High Commissioner for Human Rights, Report of the Office of the United Nations High Commissioner for Human Rights on the Relationship Between Climate Change and Human Rights, U.N. Doc. A/HRC/10/61 (Jan. 15, 2009), <https://perma.cc/N45M-3VES>.

¹⁰⁰ See generally UNEP, Climate Change and Human Rights (2016), <https://perma.cc/BF65-E7UP>.

¹⁰¹ Sheila Watt-Cloutier, Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States (Dec. 7, 2005) [hereinafter Inuit Petition]. The Inuit live in arctic regions of Alaska, Canada, Greenland, and Russia that have experienced especially rapid and disruptive climate change impacts, including significantly warmer temperatures than normal, reduced sea ice, higher rates of coastal erosion, and disruptions to ecosystems that affect food chains. Duane Smith, Climate Change In The Arctic: An Inuit Reality, UN Chronicle, Vol. XLIV No. 2 (June 2007).

¹⁰² Hari M. Osofsky, The Inuit Petition as a Bridge? Beyond Dialectics of Climate Change and Indigenous Peoples' Rights, 31 AM. INDIAN L. REV. 675 (2007).

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human rights to a clean and healthy environment protected under the Nigerian constitution and the African Charter on Human and Peoples' Rights.¹⁰³ The contribution of GHGs to global climate change was among the allegations recognized by the court.

More recently, international human rights law has been both the subject of and an element within climate change litigation. In *Greenpeace Southeast Asia et al.*, environmentalists and Filipino citizens have petitioned the Philippine Commission on Human Rights to investigate whether a group of "Carbon Majors" have violated Filipinos' human rights under domestic and international law.¹⁰⁴ In *Urgenda*, the plaintiffs alleged the Dutch government's backsliding on its GHG emissions commitment violated, among other things, human rights protected under international law. The Hague District Court did not adopt that argument, but did refer to international human rights law in reaching its determination that there had been a violation of the government's duty of care. In *Leghari v. Pakistan* the Lahore High Court Green Bench reached a similar conclusion. Plaintiffs in similar suits brought in Norway, Belgium, and Switzerland have also alluded to international human rights and obligations.

3.2.1.2 Refugee law

In the coming decades, climate change will displace millions of people from their homes. Current estimates of the number of "climate refugees" and "environmental migrants" by 2050 range from 25 million to 1 billion people, and the number could soar still higher later in the century if GHG emissions are not seriously reduced. Yet, there is no international agreement on the rights of persons displaced by climate change or the obligations of countries with respect to them. A couple of early cases from New Zealand preview how courts may approach such cases.

In *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* a Kiribati citizen appealed the denial of refugee status to the New

Zealand courts, arguing that the effects of climate change on Kiribati, namely rising ocean levels and environmental degradation, are forcing citizens off the island. The Supreme Court of New Zealand concluded that climate-induced displacement did not qualify the applicant for refugee status under international human rights law, including the 1951 United Nations Convention relating to the Status of Refugees. The Court noted, however, that its decision does not rule out the possibility "that environmental degradation resulting from climate change or other natural disasters could . . . create a pathway into the Refugee Convention or protected person jurisdiction."¹⁰⁵

In re: AD was another case before the New Zealand courts, in which a family from Tuvalu appealed after they were denied resident visas, similarly arguing that they would be at risk of suffering the adverse impacts of climate change if they were deported to Tuvalu.¹⁰⁶ Pursuant to the Immigration Act 2009, the New Zealand Immigration and Protection Tribunal found that the family had established "exceptional circumstances of a humanitarian nature, which would make it unjust or unduly harsh for the appellants to be removed from New Zealand." However, while the Tribunal acknowledged that climate change impacts may affect enjoyment of human rights, it explicitly declined to reach the question of whether climate change provided a basis for granting resident visas in this case, and instead based its finding of "exceptional circumstances" on other factors, including the presence of the husband's extended family in New Zealand, the family's integration into the New Zealand community, and the best interests of the children.

3.2.2 The Right to a Clean or Healthy Environment

Nations around the world have assured their citizens of a constitutional right to a clean or healthy environment. According to a 2012 survey, there are at least 92 countries that have granted constitutional status to this right, and a total of 177 countries recognize the right through their constitutions, environmental legislation, court decisions, or

¹⁰³ *Gbemre v. Shell*, FHC/B/CS/53/05.

¹⁰⁴ *Petition of Greenpeace Southeast Asia*, supra note 53.

¹⁰⁵ [2015] NZSC 107, para. 13.

¹⁰⁶ [2014] NZIPT 501370-371.

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India

In *In re Court on its own motion v. State of Himachal Pradesh and others*, India's National Green Tribunal (NGT) Principal Bench in New Delhi acted *sua sponte* under the authority granted it by its enabling statute and ordered authorities in Himachal Pradesh to undertake several measures to protect against environmental harms made more likely and extreme by climate change. The primary legal basis for the NGT's decision is Article 21 of India's constitution, which provides for a fundamental right to what the NGT calls a "wholesome, clean, decent environment."

The NGT concluded that the government of Himachal Pradesh had violated its obligations under article 21 and other provisions by failing to restrict development and road and pedestrian traffic in and around the increasingly touristed area

accessible via the Rohatang Pass. This area is marked by melting glaciers and deforestation, and the NGT concluded that the emission of black carbon from vehicle traffic is a chief cause of the glacial melting. The NGT concluded both that global warming heightens the need to take protective measures of a region sensitive to emissions and deforestation, and that that "there is a need to tackle global warming" in order to avert the sort of environmental degradation at issue in the case.

As with the Colombian case, this decision applies a law not written to address climate change in a way that compels governments to support and encourage more effective climate change adaptation efforts. Its holding is thus rooted in rights that the court views as being compromised by a combination of changing environmental circumstances and government inaction.

ratification of an international agreement.¹⁰⁷ Courts around the world have begun to reckon with the implications of this right in the age of climate change.

In *In re Court on its own motion v. State of Himachal Pradesh and others*, India's National Green Tribunal Principal Bench in New Delhi invoked constitutional protection of the environment and ordered authorities in Himachal Pradesh to undertake several measures to protect against environmental harms made more likely and extreme by climate change.¹⁰⁸ In *Decision C-035/16 of February 8, 2016*, the Colombian Constitutional Court struck down as unconstitutional statutory provisions that threatened high-altitude ecosystems, called *páramos*, which are known not only to provide water but also to sequester carbon dioxide.¹⁰⁹ In *Greenpeace Nordic Association and Nature & Youth v. Ministry of Petroleum and Energy* two environmental NGOs filed suit seeking a declaratory judgment

from the Oslo District Court that Norway's Ministry of Petroleum and Energy violated the Norwegian constitution by issuing a block of oil and gas licenses for deep-sea extraction from sites in the Barents Sea.

Other cases that have invoked a constitutional or domestic right to a clean or healthy environment include: the Austrian Federal Administrative Court's rejection in February 2017 of a third runway at Vienna airport (noting that constitutions of Austria and the region of Lower Austria both enshrine commitments to sustainability and environmental protection), *Gbemre v. Shell Petroleum Development Company of Nigeria Ltd* (finding that Shell's gas flaring violated the constitutionally protected right to a "pollution-free and healthy environment"), and *Leghari v. Federation of Pakistan* (finding that government's failure to prepare for and respond to climate change violated the constitutionally protected right to a "healthy and clean environment"). As discussed above, there are other cases where plaintiffs alleged violations of other types of rights – such as the right to life – but these cases did not entail allegations of a domestically protected right to a clean environment.

107 David Boyd, *The Constitutional Right to a Healthy Environment*, ENV'T SCI. & POL'Y FOR SUSTAINABLE DEV., July-Aug. 2012.

108 *State of Himachal Pradesh*, M.A. Nos. 389/2014, 1145/2015, 1250/2015, 324/2016 & 325/2016 (Nat'l Green Tribunal).

109 Constitutional Court, Feb. 8, 2016, Decision C-035/16.

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Thus far, however, very few countries have seen fit to address climate change constitutionally. The Dominican Republic's constitution is unusual for doing so. Under "The Organization of the Territory," that constitution provides for a "plan of territorial ordering that assures the efficient and sustainable use of the natural resources of the Nation, in accordance with the need of adaptation to climate change..."¹¹⁰ The constitution of Tunisia does so as well.¹¹¹ Constitutional provisions like these can provide governments with uniquely important foundations and persistent motivation to enact and implement policies that address climate change and its impacts. International agreements like the Paris Agreement and the Marrakech Accord of 2016 cannot substitute for such provisions, even in combination with the national laws that implement nationally determined contributions.

3.2.3 Common law: Tort, Nuisance and Negligence

Common law jurisdictions recognize causes of action for tort, nuisance, and negligence cases, all of which are gradually developed and refined through case law. Plaintiffs in these jurisdictions have begun to use these as a basis for bringing lawsuits pertaining to the damage caused by climate change – the idea being that a government or private actor that contributes to climate change is committing a tort, causing a nuisance, or behaving negligently and the plaintiff should therefore be entitled to some form of judicial relief for the damages caused by that unlawful behavior. Civil law jurisdictions may recognize similar causes of action within their respective legal codes – the Dutch code, for example, recognizes that the government owes a duty of care to its citizens, and this was the basis for the *Urgenda* decision discussed above.

However, the theories of tort, nuisance, and negligence are not available in civil law jurisdictions as a general matter. U.S. plaintiffs have pursued several common law actions based on injuries caused

by climate change, but have had very little success to date. One key barrier to these claims is the doctrine of displacement, whereby statutory and regulatory codifications of law displace the common law when the codification speaks directly to the question at issue (thus eliminating any common law cause of action). In *AEP v. Connecticut*, plaintiff states, cities and NGOs claimed that the CO² emissions from four private power companies and the Tennessee Valley Authority contribute to global warming and therefore constitute a public nuisance under federal law, and sought an injunction ordering the companies to lower their emissions. The U.S. Supreme Court determined that any existing federal common law cause of action had been displaced by the Clean Air Act, which authorizes EPA to regulate GHG emissions from power plants and other sources.¹¹² In *Native Village of Kivalina*, the Ninth Circuit extended this holding to a federal public nuisance claim against a number of energy producers—including ExxonMobil, BP, Chevron and other fossil fuel companies—for climate change damages associated with defendants' activities.¹¹³ Notably, plaintiffs in *Native Village of Kivalina* alleged that direct emissions associated with the energy companies' operations contributed to climate change—they did not address indirect, or downstream, emissions associated with defendants' extractive activities, such as those that would be at issue in a case against federal agencies for mineral leasing.

Common law suits also face challenges associated with the difficulty of establishing a causal connection between the defendant's actions and an injury to the plaintiff. In *Comer v. Murphy Oil USA*, plaintiff property owners alleged that certain power and chemical companies' GHG emissions contributed to climate change, which in turn exacerbated the harmful effects of Hurricane Katrina, constituting a private nuisance (as well as a public nuisance, trespass, negligence, unjust enrichment, fraudulent misrepresentation and civil conspiracy).¹¹⁴

110 Constitution of the Dominican Republic, art. 194, <https://perma.cc/ZCJ8-VGGK> (accessed Feb. 21, 2017).

111 Tunisia's Constitution of 2014 (translated by the Constitution Project) art. 45, <https://perma.cc/4RFF-TXZT>.

112 *Am. Elec. Power*, 564 U.S. at 424.

113 *Kivalina*, 696 F.3d at 858.

114 *Comer v. Murphy Oil USA*, 607 F.3d 1049, 1054 (5th Cir. 2010), petition for writ of mandamus denied sub nom. In *re Comer*, 562 U.S. 1133 (2011).

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Australia

In *Ralph Lauren 57 v. Byron Shire Council* a group of plaintiffs who own property along Belongil Beach in New South Wales, Australia sought damages from the local government authority, the Byron Shire Council, to cover the costs of erecting shoreline protections on their parcels and to compensate for lost value to their properties from encroaching seas. The plaintiffs alleged that the need for those protections and the cause of the properties' partial loss of value was the fault of the Council, which years before constructed a form of hard shoreline armoring. The plaintiffs argued that the Council was negligent for installing hard shoreline armoring that displaced wave action to plaintiffs' adjacent portions of beach, worsening erosion there; or, alternatively, that the council's armoring constitutes an instance of public nuisance.

After the plaintiffs' suit survived a motion to dismiss in March 2016, the Council's insurers, who had been steering the defense in the case, agreed to

a settlement that bars the Council from removing existing coastal armoring (chiefly rock, concrete, and rubble barriers) on the plaintiffs' parcels unless the plaintiffs agree to such removal. If the plaintiffs want to add to that armoring, they must apply within one year of the settlement, dated August 2016. They must then make the requested additions within one year of approval of their application. Any subsequent repairs or additions may only be proposed after 20 years, and the Council has not guaranteed that such proposals would be approved.

This case illustrates how common law claims can be wielded in opposition to adaptation efforts. It is very likely a harbinger of the large number of similar disputes that can be expected to arise as governments stumble forward in efforts to facilitate or compel retreat from coastlines threatened by rising sea levels and increasingly powerful coastal storms.

The case involved a convoluted procedural history, featuring a dismissal in district court, a reversal at the Fifth Circuit, an *en banc* decision to vacate the reversal due to failure to muster a quorum, plaintiffs' filing of a writ of mandamus asking the Supreme Court to reinstate the panel decision, the denial of the writ, plaintiffs' re-filing of their case in district court, and dismissal based on *res judicata* grounds – though not on the merits.¹¹⁵ As noted earlier, the case was ultimately rejected on standing grounds, because the plaintiffs could not establish that their injuries were fairly traceable to the companies' GHG emissions. If such a case were to proceed to trial, plaintiffs would have an even higher burden to satisfy in showing the activities caused the harm.

Problems confronting common law causes of action are, again, not limited to the United States.

In *Macquarie Generation v. Hodgson*, a case from Australia, the plaintiff claimed that the license for a coal-fired power plant should be interpreted as containing a common law condition which limited the plant's CO₂ emissions to the level that would be achieved by exercising reasonable care for the environment. The lower court held in favor of the plaintiffs, but this decision was reversed on appeal. The Court of Appeal reasoned that the plaintiff could not prevail because they had not alleged that the CO₂ emissions from the plant actually caused a nuisance, and there was no independent legal basis for interpreting the license as containing an implied limitation on CO₂ emissions.¹¹⁶ In dicta, the court also suggested that it would be difficult to have an actionable nuisance based on CO₂ emissions "because CO₂ is colourless, odourless and inert."¹¹⁷

Another case, *Lliuya v. RWE AG*, was dismissed on grounds similar to those articulated in *Comer v.*

¹¹⁵ See *Comer v. Murphy Oil USA, Inc.*, 839 F. Supp. 2d 849, 855–68 (S.D. Miss. 2012) (dismissing re-filed complaint on preemption, political question, standing, *res judicata* and collateral estoppel grounds), *aff'd*, 718 F.3d 460 (5th Cir. 2013).

¹¹⁶ *Macquarie Generation v. Hodgson*, [2011] NSWCA 424, at paras 35–67.
¹¹⁷ *Id.* para 45.

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Murphy Oil USA. There, a Peruvian farmer alleged that the GHG emissions generated by a large German utility constituted a nuisance under German law. The farmer sought damages to offset the costs of protecting his town from melting glaciers; the damages requested (0.47 percent of the estimated cost of protective measures) corresponded with the company's annual contribution to global GHG emissions (also 0.47 percent). The court rejected the claim, in part because it found that there was no "linear causal chain" linking the alleged injury to the company's emissions.¹¹⁸

Plaintiffs have also begun to use common law claims to hold government actors accountable for failure to prepare for and adapt to climate change. In *Ralph Lauren 57 v. Byron Shire Council* a group of property owners in New South Wales, Australia sought damages from the local government authority to cover the costs of erecting shoreline protections on their parcels and to compensate for lost value to their properties from encroaching seas. The two legal theories advanced by the property owners to support their claim were: (i) that the local government was negligent for installing hard shoreline armoring that has since displaced wave action to their properties, worsening erosion and causing damage, and (ii) that the shoreline armoring constituted a public nuisance. The lawsuit survived a motion to dismiss, but was ultimately settled before it could be resolved on the merits. In *In re Katrina Canal Breaches*, property owners sought damages from the U.S. government for its management of water management infrastructure, arguing that the government's negligent management of the channel had contributed to damages caused by Hurricane Katrina.¹¹⁹ Plaintiffs in that case were denied a remedy based on the government's sovereign immunity from a negligence claim. But in *St. Bernard Parish Government* the Federal Court of Claims found that the same management of the

same infrastructure effectuated a temporary taking, a claim to which sovereign immunity does not apply.

3.2.4 Statutory authority and national policy

In a number of instances, statutes or national policies have codified climate change obligations for private and public actors, and disputes have then arisen over those obligations' legality, applicability, or implementation.

In the European Union the development of the EU Emissions Trading System (ETS) under the Kyoto Protocol led to a number of cases, both before EU courts and in national courts. The majority of EU ETS cases were challenges to the scheme and subsequent regulations. There were several lawsuits filed against the Directive establishing the scheme, challenging its applicability to certain sectors or countries.¹²⁰ When legislation was passed in 2008 to incorporate aviation emissions in the EU into the Scheme, another suit was initiated by the aviation industry.¹²¹ Numerous other suits were filed during and after the process of Member States' development of National Allocation Plans (NAPs).¹²² In Spain, for example, at least eleven cases arose out of Spain's implementation of the EU ETS through Royal Decree 1866/2004, which approved its NAP for the 2005-2007 period. Sources challenged their assignment of emissions credits in the NAP and requested an increase in emissions allowances.¹²³

In the U.S., significant litigation has taken place under the federal Clean Air Act, the National Environmental Policy Act (NEPA) and the Endangered Species Act. The first Clean Air Act case was *Massachusetts v. EPA*, where the Supreme Court held that GHGs fell

118 David verliert den Kampf gegen Goliath, FRANKFURTER ALLGEMEINE ZEITUNG, Dec. 15, 2016, <https://perma.cc/X6WQ-LVJ3> ("Eine Flutgefahr wäre jedoch der RWE AG nicht individuell zuzuordnen").

119 *In re Katrina Canal Breaches Litig.*, 696 F.3d at 441, cert. denied sub nom., *Lattimore v. U.S.* 133 S. Ct. 2855 (2013).

120 *Société Arcelor v. Premier Minister*, Case C-127/07, [2008] E.C.R. I-09895 (dismissing challenge of Directive 2003/87/EC under the principle of equality); *Arcelor SA v. Parliament*, Case T-16/04 [2010] E.C.R. II-00211, (dismissing a challenge of Directive 2003/87/EC on the basis that it violated several principles of common law); *Poland v. Commission*, Case T-183/07, [2009] E.C.R. II-03395 (dismissing challenge of Directive 2003/87/EC).

121 *Air Transp. Ass'n of Am. v. Secretary of State for Energy & Climate Change*, No. C-366/10, [2011] E.C.R. I-13755 (challenging U.S. airlines' inclusion in EU's Emission Trading Scheme).

122 European Commission, Climate Action: National Allocation Plans, <https://perma.cc/P4ZW-7RLQ> (accessed Mar. 4, 2017).

123 E.g., Judgment No. 5347/2008 of October 6, 2008, Supreme Court of Spain, Administrative Litigation Division (Section 5) Appeal No. 100/2005.

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within the Clean Air Act's definition of "air pollutant" and thus the EPA had the authority to regulate them (as well as a corresponding obligation to determine whether regulation was necessary to protect the public health and welfare). Since that decision, there have been a variety of lawsuits challenging both the Clean Air Act regulations that EPA has promulgated respecting the control of GHG emissions¹²⁴ as well as EPA's failure to promptly issue regulations for certain sources of GHGs.¹²⁵

The cases brought under NEPA involve federal agencies' obligation to consider climate change when conducting environmental reviews for federal projects. There have been a number of successful NEPA cases asserting that these agencies failed to account for the full scope of GHG emissions associated with projects – for example, GHG emissions from the combustion of coal that will be produced as a result of a federal coal mining permit.¹²⁶ Litigants have also begun to use NEPA to challenge agency failures to adequately account for the effects of climate change on the project and its surrounding environment – but thus far, there have not been any decisions overturning a federal environmental review on these grounds.¹²⁷

Finally, the Endangered Species Act has provided a basis for legal challenges where federal agencies have failed to account for climate change when making decisions about the listing and conservation of threatened and endangered species. Most of the courts overseeing these cases have held that the

current and future effects of climate change must be considered when deciding whether to list a species and determining that species' critical habitat.¹²⁸

Australian climate change litigation has been largely dominated by cases surrounding environmental impact assessment (EIA) and environmental permitting.¹²⁹ These cases generally arise in the context of Australia's federal and state EIA and planning laws, particularly the New South Wales Environmental Planning and Assessment Act of 1979 and the Victoria Planning and Environmental Act of 1987. Some cases have focused on permitting emissions sources, frequently with the aim of preventing coal-fired energy production through targeting proposed coal mines and power generation facilities.¹³⁰ While Australian state courts have generally agreed that direct GHG emissions should be considered in the permitting process, they have not usually found emissions sufficient to justify rejection of a proposed project,¹³¹ and they have diverged in regards to indirect, or "downstream," emissions.¹³² Other cases have focused on whether proposed construction projects adequately accounted for future climate change impacts and the proper role for "reverse EIA"—assessment of the potential impacts of climate change on a proposed project—in permitting.¹³³

South Africa, as of March 2017, provides another example of a country where EIAs must consider climate change. That follows from the South African High Court's rejection of approval for development of a coal-fired power plant on the grounds that climate

124 See *West Virginia v. EPA*, No. 15-1306 (D.C. Cir.); *North Dakota v. EPA*, No. 15-1381 (D.C. Cir.); *Americans for Clean Energy v. EPA*, No. 16-1005 (D.C. Cir.). Summaries and pleadings for each of these cases are available from the Sabin Center-Arnold & Porter Kaye Scholer U.S. Climate Change Litigation database: <http://wordpress2.ei.columbia.edu/climate-change-litigation/>.

125 *Americans for Clean Energy v. EPA*, No. 16-1005 (D.C. Cir.); *Center for Biological Diversity v. EPA*, 722 F.3d 401 (D.C. Cir. 2013). Summaries and pleadings for each of these cases are available from the Sabin Center-Arnold & Porter Kaye Scholer U.S. Climate Change Litigation database: <http://wordpress2.ei.columbia.edu/climate-change-litigation/>.

126 Michael Burger & Jessica Wentz, *Downstream and Upstream Greenhouse Gas Emissions: The Proper Scope of NEPA Review*, 41 HARV. ENVTL. L. REV. 2016; Jessica Wentz, *Climate Change and Environmental Impact Assessment*, in *DECISION MAKING IN ENVTL. L.* vol II 283 (Michael Faure general ed. 2016).

127 See Jessica Wentz, *Considering the Effects of Climate Change on Natural Resources in Environmental Review and Planning Documents Guidance for Agencies and Practitioners* (Sept. 2016),

128 See id.

129 Wilensky, supra note 12, at 153–57.

130 In *Terminals Pty Ltd. v. Greater Geelong City Council*, [2005] VCAT 1988, local residents challenged the permitting of a chemical storage facility. All other cases within the category were challenges to proposed coal mines or coal-fired power plants.

131 E.g., *Re Australian Conservation Foundation*, [2004] 140 LGERA 100 (holding that the assessment panel must consider the impacts of GHG emissions on the environment); *Greenpeace v Redbank Power*, [1994] 86 LGERA 143, 153-55 (finding that the project should be approved despite climate change impacts).

132 See *Gray v. Minister for Planning* [2006] 152 LGERA 258; *Xstrata Coal Queensland v Friends of the Earth* [2012] QLC 013.

133 See, e.g., *Taip v. East Gippsland Shire Council*, [2010] VCAT 1222 (holding that EIA must consider expected impacts of climate change—chiefly sea level rise—on area subject to planning scheme amendment).

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South Africa

South Africa's High Court was recently asked to determine whether, under the National Environmental Management Act 107 of 1998, "relevant" considerations for environmental review of plans for the 1200 megawatt, coal-fired Thabametsi Power Project include the project's impacts on the global climate and the impacts of a changing climate on the project. Notably, the project would operate until about 2060. The court, after observing that the statute does not expressly contemplate climate change, held that such considerations are nonetheless relevant and that their absence from the environmental review of the project made its approval unlawful. The court cited several reasons, including South Africa's commitments under the Paris Agreement, for its conclusion that climate change is indeed a relevant consideration for the environmental review of the

Thabametsi Project. Because the review approved by the Minister of Environmental Affairs effectively ignored climate change, the court held it to be legally invalid.

This case will likely have substantive as well as procedural significance. By holding that at least some South African environmental reviews conducted pursuant to the 1998 National Environmental Management Act must consider climate change and its impacts, the court has not only declared those factors "relevant" to environmental reviews but—owing to South Africa's commitments under the Paris Agreement and Marrakech Accord—has also created a substantive hurdle that may prevent the Department of Environmental Affairs from authorizing a project found to have significant and adverse climate impacts.

change and its impacts are relevant considerations for the EIA of such a project.

In some instances, and in an increasing number of them, countries have adopted national climate laws or policies that can provide a basis for litigation. For example, the Austrian federal administrative court's recent rejection of a proposal to expand Vienna airport grounded that decision firmly on the numeric GHG emissions reduction requirements imposed by Austria's 2011 Climate Protection Act on the transportation sector.¹³⁴ Similarly, in *Thomson v. Minister for Climate Change Issues*, petitioners alleged that the country's INDC was inadequate because it fell short of what was required by New Zealand's Climate Change Response Act 2002. The purpose of the Act, which was to "enable New Zealand to meet its international obligations under the [UNFCCC]," provided the domestic legal hook that was needed to bring the legal challenge with respect to the INDC.¹³⁵ In *Leghari v. Federation of Pakistan*, the Lahore High

Court referred to Pakistan's 2012 National Climate Policy and Framework and determined that the government's failure to implement that framework violated the fundamental rights of Pakistani citizens. There, the existing policy framework provided the basis both for evaluating the lawfulness of government action (or, more accurately, inaction) and for specifying a remedy (the full and expedient implementation of the framework).

3.2.5 Hybrid Approaches: Duty of Care and Public Trust

Some sources of legal rights and obligations incorporate constitutional, common law and statutory elements. For example, in *Urgenda*, the Hague District Court found that the government must "do more to avert the imminent danger caused by climate change" because it owed its citizens a "duty of care to protect and improve the living environment."¹³⁶ This duty was codified in the Dutch constitution, but a similar duty also exists in common law, as the concept of "negligence" is typically defined as a breach of the duty of due care owed to

¹³⁴ See Klimaschutzgesetz [Climate Protection Act], Bgbl. I Nr. 106, 4 (Nov. 2011), <https://perma.cc/2HR2-VB5Q>.

¹³⁵ Climate Change Response Act 2002 § 3(1)(a).

¹³⁶ *Urgenda*, at 1 (summary)

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another person. The court explicitly recognized this link, noting that it must consider whether there had been an “unlawful hazardous negligence on the part of the State” to determine whether the State had breached its duty.

The approach adopted in *Urgenda* can be and is being adapted to other jurisdictions that have also imposed a “duty of care” on government actors. Indeed, litigants have filed a similar case in Sweden, *PUSH Sweden, Nature & Youth Sweden, et al. v. Government of Sweden*, which alleges that the national government has breached its duty of care towards the citizens by allowing a state-owned company to divest from (rather than decommissioning) coal mining and coal power assets. The complaint notes that “[t]he scope of the duty of care is determined by a combination of considerations such as Sweden’s accession to international conventions, nationally adopted environmental goals, environmental legislation, [and] government statutes”¹³⁷ as well as the Swedish constitution.¹³⁸

The use of the public trust doctrine can also be thought of as a hybrid approach to litigation: it is primarily a common law doctrine, but it may also be

informed by constitutional and statutory provisions – for example, constitutional provisions requiring the government to protect or manage resources in the public interest. Through the Our Children’s Trust litigation, several suits have alleged that failure to mitigate climate change breaches government’s duty under the public trust doctrine. Public trust claims have also been filed in Pakistan, Philippines, and Ukraine. (See Section 2.2.5.)

3.3 Remedies/Targets

The cases discussed in the preceding sections, and profiled in the next, illustrate that global climate change litigation in some instances seeks conventional remedies, but in others seeks remedies of a dramatically unconventional scale and scope. The conventional remedies include declaratory judgments on the legality of contested actions or inactions, injunctions to undertake certain actions or to halt others, and the imposition of liability and award of damages for harms suffered by plaintiffs.¹³⁹

Unconventional remedies include injunctions aimed at changing basic features of national energy and transportation policy.¹⁴⁰

137 Id. para. 95.

138 Id. para. 92.

139 See, e.g., *Lliuya v. RWE AG*.

140 See, e.g., *Urgenda, Ali v. Republic of Pakistan*.

Conclusion

Litigation has emerged as an important feature of ongoing efforts to promote climate change mitigation and adaptation efforts. This owes in large part to the growing number of national laws that address climate change directly and so provide footholds for litigants seeking to hold governments and private actors to account for obligations to mitigate or adapt. It also owes to the cohering role played by the Paris Agreement, which puts national laws and policies into a global context and thereby enables litigants to construe governments' commitments and actions as being adequate or inadequate. As climate change litigation has proliferated, it has addressed a widening scope of activities, ranging from coastal development to

infrastructure planning to resource extraction—in effect tracing through legal efforts the long and varied list of ways in which climate change affects ecosystems, societies, and individuals' rights and interests. It has also encountered a growing list of legal issues, such as the causal showing required to establish liability and the relevance of the public trust doctrine to governments' approaches to climate change mitigation and adaptation. In addition to proliferating, climate change litigation also seems to be growing in ambition and effectiveness: cases across the world provide examples of litigants holding governments to account for the actions or inactions that bear upon those litigants' rights amid changes to weather and coastlines.





**United Nations
Environment Programme**

P.O. Box 30552 - 00100 Nairobi, Kenya
Tel: +254 20 762 123 4
Email: publications@unep.org
www.unep.org