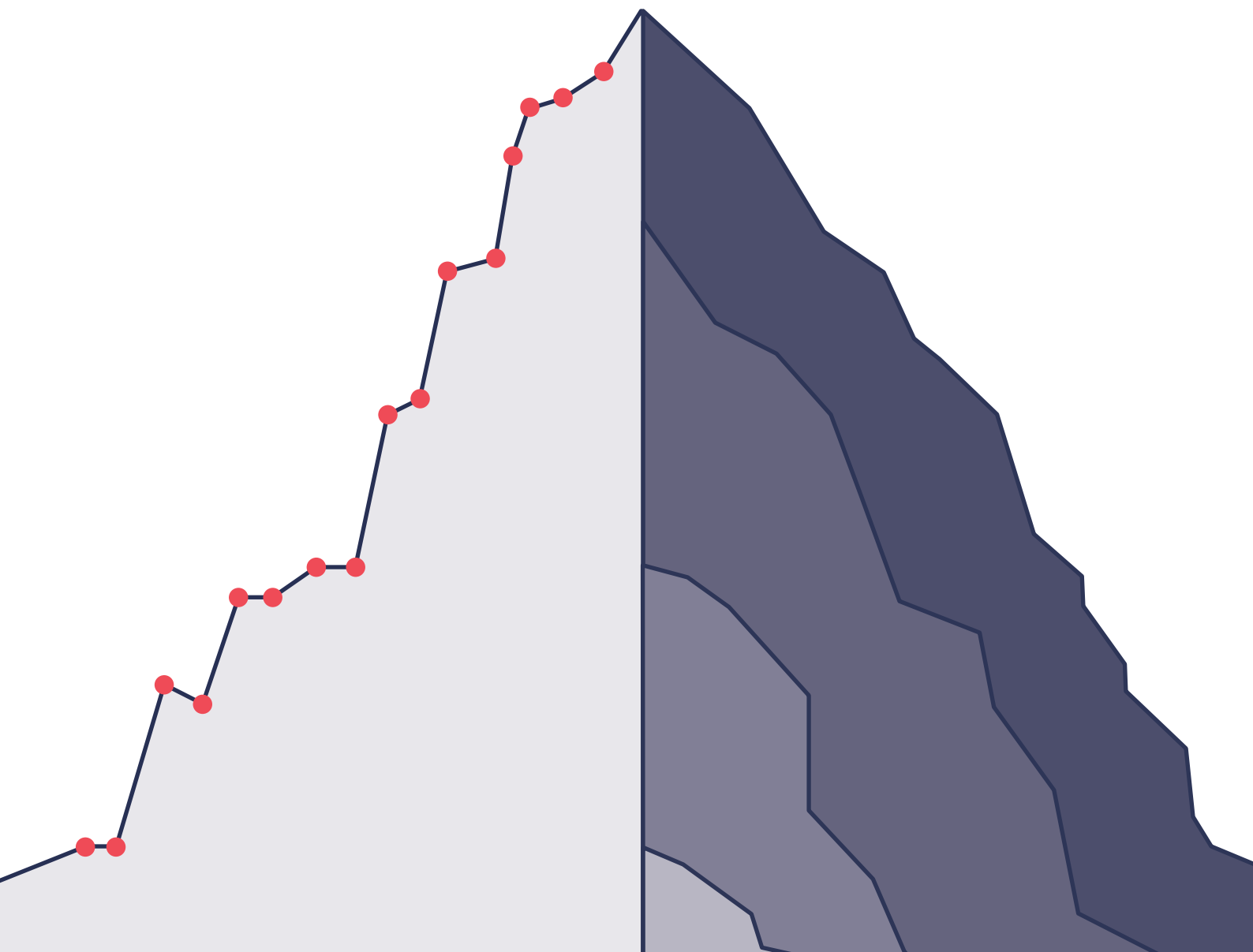


Global trends in climate change litigation: 2019 snapshot

Joana Setzer and Rebecca Byrnes

Policy report

July 2019



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Global trends in climate change litigation: 2019 snapshot

Headline issues

- Climate change litigation continues to expand across jurisdictions as a tool to strengthen climate action, though more evidence of its impact is needed.
- More than 40 per cent of all climate change litigation cases in the United States, and almost a quarter of cases across the rest of the world, have occurred since 1 December 2016.
- Most defendants are governments but lawsuits are increasingly targeting the highest greenhouse-gas-emitting companies.
- Climate change-related claims are also being pursued by investors, activist shareholders, cities and states.
- Climate change litigation in low- and middle-income countries is growing in quantity and importance.

Summary

Climate change litigation is increasingly viewed as a tool to influence policy outcomes and corporate behaviour. Strategic cases are designed to press national governments to be more ambitious on climate or to enforce existing legislation, while cases against major emitters seek compensation for loss and damage. Routine planning and regulatory cases are increasingly including climate change arguments, exposing courts to climate science and climate-related arguments even where incidental to the main claim.

Climate change litigation continues to see a geographic expansion. There are now cases in the Americas, Asia and the Pacific region, and Europe. Several cases are being brought in low- and middle-income countries. The decisions given in Colombia and South Africa for example, are novel and far-reaching in their findings and remedies provided to claimants. However, there are questions around the efficiency and effectiveness of enforcing judgements.

Litigation could encourage private companies and investors to give greater consideration to climate risk. Plaintiffs in several jurisdictions have made claims against investment funds and companies for failing to incorporate climate risk into their decision-making, and for failing to disclose climate risk to their beneficiaries.

As yet there is insufficient evidence of the impacts of climate change litigation. Greater assessment is needed of impacts beyond the courtroom.

Climate change litigation: introduction

This policy report provides an overview of current issues in climate change litigation and focuses on selected cases and developments in the last 12 months (May 2018 – May 2019).¹

Climate change litigation continues to reach the courts and the headlines, with non-government organisations (NGOs), individuals, and subnational governments (cities and states) filing cases. The caselaw reflects the multiple ways in which climate change litigation is influencing public policy by urging increased action on mitigation of greenhouse gases, adaptation to the impacts of climate change, and compensation for climate-associated loss and damage.

Climate change litigation cases can be divided into two broad categories:

- **Strategic cases**, with a visionary approach, that aim to influence public and private climate accountability. These cases tend to be high-profile, as parties seek to leverage the litigation to instigate broader policy debates and change.
- **Routine cases**, less visible cases, dealing with, for example, planning applications or allocation of emissions allowances under schemes like the EU emissions trading system. These cases expose courts to climate change arguments where, until recently, the argument would not have been framed in those terms. Routine cases might also have some impact on the behaviour and decisions of governments or private parties, even if this is incidental to their main purpose (Bouwer, 2018).

In both strategic and routine cases, climate change litigation might aim at and/or result in increased climate change action ('pro' or 'favourable' cases), or at undermining climate change protection or supporting climate policy deregulation ('con' or 'hindering' cases).

Figure 1 below shows the quantity and distribution of climate change cases around the world before and after 2015, showing both the spread of climate change litigation globally to new countries across Asia, Africa, Europe and the Americas, and a significant increase in the number of cases within each country. 2015 was a landmark year for climate change litigation with the

Box 1. Data sources and scope

Our main source is the Climate Change Laws of the World database, an open-access compilation of climate change litigation cases from around the world that is updated continuously. It includes 304 climate cases from 28 national and supranational jurisdictions (excluding the United States), and is maintained jointly by the Sabin Center for Climate Change Law and the Grantham Research Institute on Climate Change and the Environment. Details of cases in the United States are available through a database maintained by the Sabin Center for Climate Change Law and the Arnold and Porter law firm. As of May 2019, over 1,023 cases have been identified in the US alone.

The two databases include cases that are brought before administrative, judicial and other investigatory bodies, and that raise issues of law or fact regarding the science of climate change and climate change mitigation and adaptation efforts.

Methodological issues to note mainly relate to the collection and classification of non-US data, and limit the possibilities for accurate large-sample-size analysis or for making claims about trends in climate change litigation. The non-US database includes selected cases, predominantly in English, and relies partly on plaintiffs reporting the cases and on news coverage. Commercial disputes, which are increasingly administered by dispute resolution bodies, are not included. Nevertheless, it is still possible to analyse trends in high-profile cases, which plays an important role in global climate change policy discourse.

The datasets are available at:

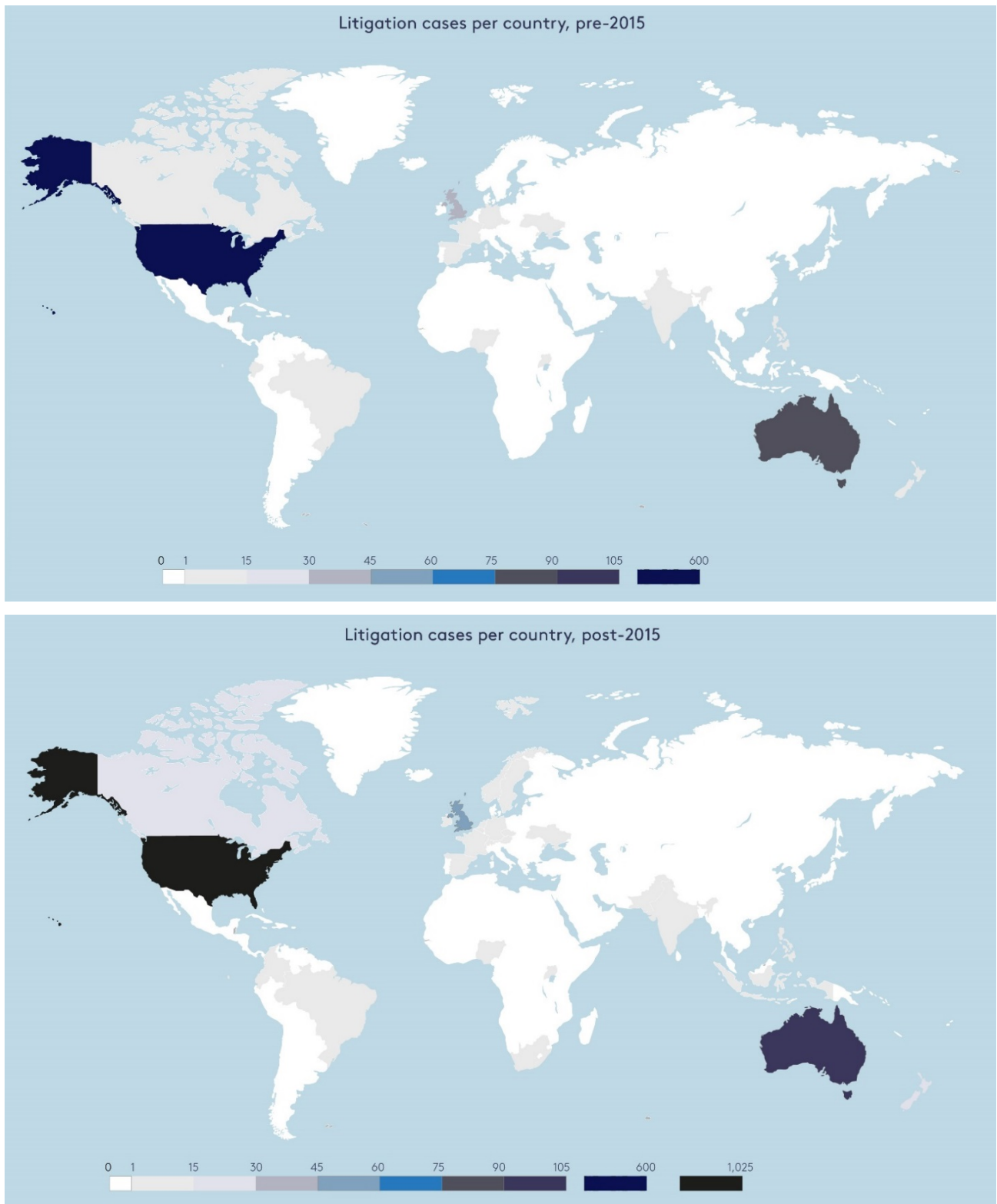
www.lse.ac.uk/GranthamInstitute/climate-change-laws-of-the-world/

<http://climatecasechart.com/us-climate-change-litigation/>

¹ For the 2018 snapshot, see Nachmany and Setzer (2018).

first-instance outcome of the Urgenda case bringing climate change litigation into the limelight, bolstered by increased international attention on climate change arising from the adoption of the Paris Agreement in December 2015. More than 40 per cent of all climate change litigation cases in the United States, and almost a quarter of cases across the rest of the world, have occurred since 1 December 2016. Given that the first US case occurred in 1986 and in 1994 for the rest of the world, this represents a significant surge in climate change litigation.

Figure 1. Maps to show location and quantity of climate cases before and after 2015



Sources: Authors, using www.lse.ac.uk/GranthamInstitute/climate-change-laws-of-the-world/ and <http://climatecasechart.com/us-climate-change-litigation/>

Overview of outcomes, objectives, plaintiffs and defendants

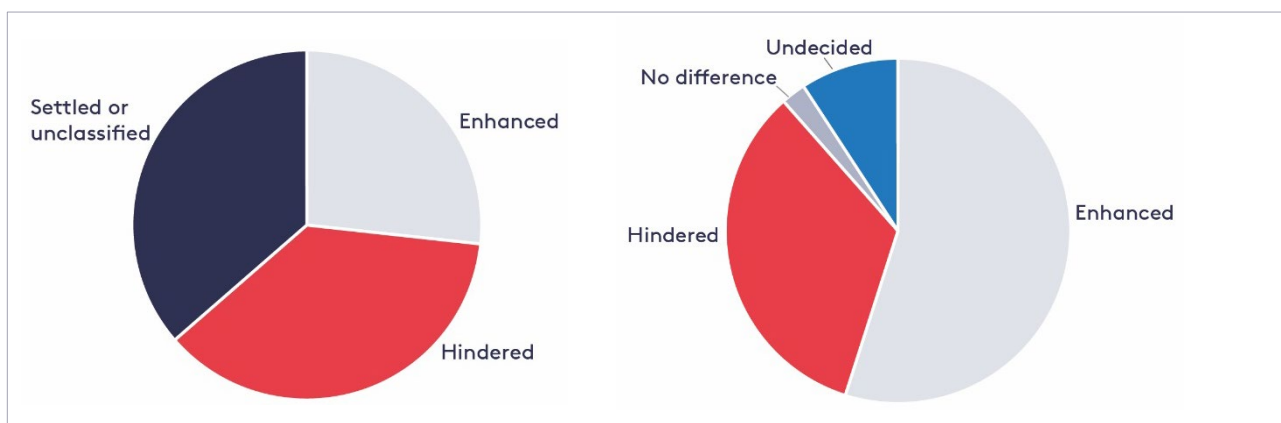
In the United States, an analysis of *outcomes* of 873 climate lawsuits between 1990 and 2016 found that, for those which have been decided and for which data is available, more outcomes favoured 'hindering' positions (n = 309) compared with 'favourable' positions (n = 224), with a ratio of about 1.4 :1 (McCormick, Glicksman et al., 2018).² A review of the *objectives* of 154 climate lawsuits filed in 2017 and 2018 – the first two years of the Trump Administration – shows that more 'favourable' climate protection cases were filed (n=129) compared with 'hindering' cases (n=25), with a ratio of about 4:1 (Adler, 2019). (See Figure 2a for outcomes of US litigation and Box 2 for trends in climate change litigation related to Trump's deregulation efforts.) While many of these cases are still ongoing, 41 had been decided by May 2019 and of these cases only three were decided in favour of the Trump administration's deregulation efforts and therefore 'hindered' climate change policy. The remaining 38 could be considered 'favourable' to climate policy by upholding climate change regulation (Institute for Policy Integrity, 2019).

Outside the United States, 43 per cent of the 304 cases brought between 1994 and May 2019 have led to an outcome that is considered favourable to advancing climate change efforts, while 27 per cent of cases analysed have hindered climate change efforts (see Figure 2b for outcomes of non-US litigation) – a ratio of about 1.6:1. The analysis reviewed whether climate law and/or policies were amended after a judgment to include more stringent requirements to respond to climate change (favourable), or if climate change obligations were weakened (hindered), or were not amended at all. The analysis includes cases in which the plaintiff was seeking an outcome that would have an adverse impact on climate mitigation or adaptation efforts but did not succeed (for example, in *Wildland Ltd. and the Welbeck Estates v. Scottish Ministers*,³ the plaintiffs sought to overturn the approval of a windfarm development but were unsuccessful).

Figure 2. Outcomes of climate change litigation cases

a) United States: 1990–2016

b) Outside the United States: 1994–May 2019



Sources: McCormick, Glicksman et al. (2018); www.lse.ac.uk/GranthamInstitute/climate-change-laws-of-the-world/

The majority of climate-related cases are brought by citizens, corporations and NGOs against governments (85 per cent of cases analysed from the database in the US; 81 per cent of cases analysed in the rest of the world).

While governments have remained the main defendant type (in over 80 per cent of cases) over the period under analysis, 1994–May 2019, the number of corporations as plaintiffs has fallen both in relative and absolute terms, while the number of NGOs has increased (see Figure 3). The increased prominence of NGOs in high-profile cases suggests that this is an area in which NGOs

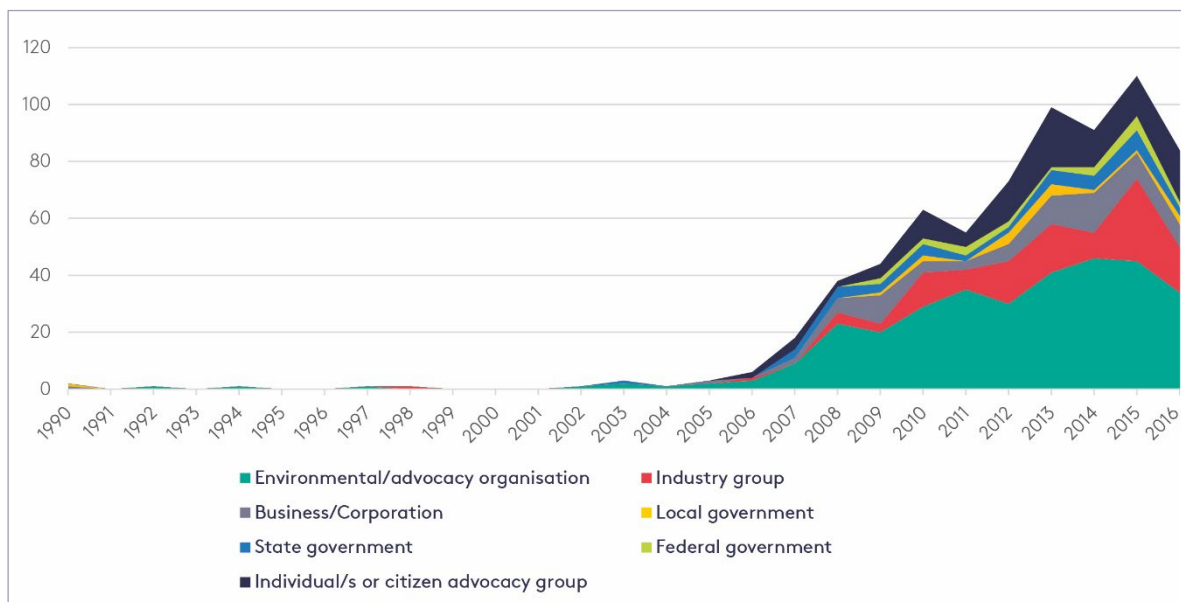
² Note that this analysis was undertaken by McCormick, Glicksman et al. in their 2018 paper. 305 cases were classified as settled or indeterminate, in some cases because they had not yet been decided.

³ All of the non-US cases mentioned are summarised in the Climate Change Laws of the World database (www.lse.ac.uk/GranthamInstitute/climate-change-laws-of-the-world/), and in Sabin's database (<http://climatecasechart.com/search-non-us/>). All of the US cases are available in Sabin's database (<http://climatecasechart.com/us-climate-change-litigation/>). You can use the 'free text' option to search for the case names.

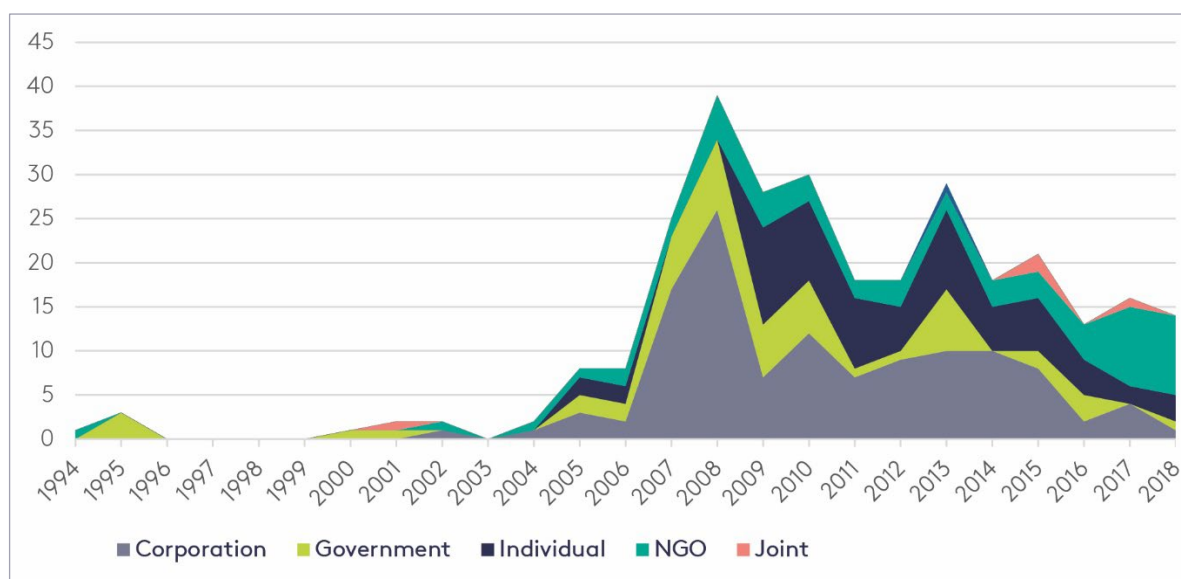
are increasingly engaged. While US data on plaintiff-type is only complete up to 2016, it shows a key role for NGOs in climate protection before the courts. An analysis of cases pertaining to US federal climate change policy during the Trump presidency filed in 2017 and 2018 shows that, at least for this group of cases, this trend has continued. Of the 129 cases that sought to advance and uphold climate protections, NGOs made up the vast majority of applicants (66 per cent), followed by governments at 22 per cent. By contrast, of the 25 cases that sought to undermine climate protections, the vast majority were brought by industry at around 60 per cent, followed by NGOs at around 23 per cent (Adler, 2019).

Figure 3. Trends in applicants bringing climate change litigation cases, showing increased participation by NGOs

a) United States: 1990–2016



b) Outside the United States: 1994–2018



Sources: McCormick, Glicksman et al. (2018); www.lse.ac.uk/GranthamInstitute/climate-change-laws-of-the-world/

The majority (around 80 per cent) of cases focus on mitigation rather than adaptation. Citizens are more likely than any other applicant group to bring cases focused on adaptation, with almost half of cases brought by citizens focusing on adaptation, compared with only around one-fifth of those brought by corporations, and much fewer for governments and NGOs, including environment and industry advocacy groups.

Box 2. Climate change litigation in the United States under the Trump Administration

Since the start of its mandate, the Trump Administration has undertaken an extensive programme of climate change deregulation (as shown by Sabin's climate deregulation tracker at <http://columbiaclimatelaw.com/resources/climate-deregulation-tracker/>).

To challenge these efforts, over 20 suits have defended the federal climate policies of the previous administration. They have raised a variety of claims under statutory, administrative and constitutional law. Plaintiffs have also brought lawsuits under the Freedom of Information Act, seeking records from the Trump Administration on its climate-related actions and communications. To date, more than two-and-a-half years into the Trump Administration, no rollback of a climate regulation brought before the courts has survived a legal challenge.

Lawsuits seeking to enforce consideration of climate change as part of environmental review and permitting – both in terms of a project's potential greenhouse gas emissions and how climate change impacts may affect a decision or project – continue to be a dominant trend. Many of these suits often challenge fossil fuel extraction and infrastructure projects.

In the face of federal opposition to climate policy, plaintiffs continue to bring innovative claims. More than a dozen local governments, one state, and a trade association have filed lawsuits against major fossil fuel companies, alleging that they have continued to produce fossil fuels while knowingly concealing the climate risks. Plaintiffs also continue to argue before state and federal courts that the sovereign's responsibility to preserve the integrity of natural resources in its territory – the public trust doctrine – requires it to address climate change. In effect (and explicitly in some cases), these plaintiffs are seeking recognition of a right to a stable climate.

However, industry, conservative NGOs and others have also brought suits to support climate change deregulation, reduce climate protections generally or at the project level, and to target climate protection supporters. Lawsuits have also challenged the novel efforts of states like California, Illinois, New York and Connecticut, which are creatively discouraging fossil fuel use. These suits claim that these states are overstepping their legal bounds.

Strategic litigation against governments and public bodies

Much of the activity in strategic climate change litigation consists of lawsuits against governments and public bodies. These lawsuits seek increased mitigation ambition, enforcement of existing mitigation and adaptation goals, or consideration of climate change as part of environmental review and permitting (e.g. by mandating that a project's potential greenhouse gas emissions and climate change impacts be taken into account in determining planning approval for a decision or project).

Increasing mitigation ambition – example cases

Urgenda Foundation v. State of the Netherlands is the first case to argue successfully for the adoption of stricter emissions reduction targets by a government. In October 2018 the Court of Appeal of the Hague rejected all the Dutch Government's objections, including that the 2015 District Court decision infringed the principle of the balance of powers. It upheld that the Government must reduce emissions by at least 25 per cent on 1990 levels by 2020. On 24 May 2019 the case was heard before the Supreme Court.

Juliana v. U.S., the ongoing landmark US constitutional youth climate lawsuit, was heard on 4 June 2019 before the Ninth Circuit Court of Appeals in Portland, Oregon. Youth plaintiffs assert that the Government's actions that cause climate change violate their constitutional rights to life, liberty and property. At the time of writing the judges were yet to decide if the case should continue to trial and if the federal government should halt new fossil fuel extraction projects while the court decides the case. The consequences could impact far beyond this suit.

High profile cases such as *Urgenda* and *Juliana* have influenced the filing of similar cases in other jurisdictions. *Friends of the Irish Environment v. Ireland* is challenging the Irish Government's National Mitigation Plan. This is the first time a climate change case has been heard in the Irish High Court (in January 2019), and the judgement is yet to be delivered. In Canada, *ENvironment*

JEUnesse v. Canadian government is claiming government failure to protect the fundamental rights of young people. In France, four NGOs have submitted a formal notice to the French Prime Minister and 12 members of the Government for its inadequate efforts to effectively tackle climate change, in violation of a statutory duty to act (*Notre Affaire à Tous and Others v. France*). The group launched an online petition in support of the case, which after one month of its launch had gathered a record 2 million signatures.

From national to supranational jurisdictions, the People's Climate Case, the first case brought against the European Parliament and European Council in an effort to force law-makers to increase ambition, was dismissed on procedural grounds in May 2019. The European General Court stated that the plaintiffs (10 families from Portugal, Germany, France, Italy, Romania, Kenya, Fiji and Sáminuorra, the Swedish Saami Youth Association) are not sufficiently or directly affected by EU policies to challenge these in court, but it acknowledged that "every individual is likely to be affected one way or another by climate change". The plaintiffs plan to appeal before 15 July 2019.

Enforcement of existing goals – example cases

Litigants also go to court to enforce existing legislation. These cases are likely to be brought in low- and middle-income countries, aiming to put in action policies and laws that remain 'on the books' (see Box 3). In *Future Generations v. Ministry of the Environment and Others*, 25 youth plaintiffs in Colombia filed a special constitutional claim to combat deforestation in the Amazon rainforest, on the basis of infringement of existing legislation and, ultimately, of fundamental rights (to a healthy environment, life, health, food and water). The Supreme Court delivered a novel judgment on appeal, recognising the Colombian Amazon as a "subject of rights", entitled to protection, conservation, maintenance and restoration; it also ordered the Government to formulate and implement action plans to address deforestation. But enforcement of the decision has proved challenging. Over the past year significant deforestation continued (Sierra, 2019), prompting the plaintiffs to seek a declaration that the Government and other defendants have failed to fulfil the orders of the Supreme Court.

Box 3. Climate change litigation in low- and middle-income countries

Climate lawsuits remain concentrated in high-income countries – the top countries are the United States with over 1,000 cases, followed by Australia (97), the United Kingdom (46), New Zealand (16), Canada (14), and Spain (13). However, despite significant capacity constraints, the number of legal cases in low- and middle-income countries has been growing in quantity and importance.

Thirty-six judicial and administrative cases have been identified, in Pakistan, India, the Philippines, Indonesia, South Africa, Colombia and Brazil. Litigants in these cases are seeking to hold governments to account for implementation and enforcement of existing mitigation and adaptation goals, embedding concerns about climate change in wider disputes over constitutional rights, environmental protection, land use, disaster management and natural resource conservation (Peel and Lin, forthcoming).

Climate change litigation in low- and middle-income countries has already seen initial positive and innovative outcomes. These include the recognition of human rights as a legitimate basis for holding government to account for climate change (*Ashgar Leghari v. Federation of Pakistan* – see Box 4); recognition of a non-human entity as the subject of rights (*Future Generations v. Ministry of the Environment and Others*); and recognition of climate change as a relevant consideration in environmental planning (*EarthLife Africa Johannesburg v. Minister of Environmental Affairs and Others*).

Innovative outcomes like these are most likely to occur in jurisdictions where litigants are overcoming or using procedural requirements for access to environmental justice, and where there are progressive legislation and/or progressive judicial approaches to address climate change (Setzer and Benjamin, forthcoming).

Box 4. Strengthening the connection between climate change and human rights

A number of important recent climate change cases, against both governments and private entities, have employed rights-based arguments, signalling a ‘human rights turn’ in climate change litigation (Peel and Osofsky, 2018). A human rights basis for litigation on climate change, first accepted in *Ashgar Leghari v. Federation of Pakistan*, has had increasing resonance with judges in some strategic cases, despite challenges with regards to establishing causality, and the future and extra-territorial intrinsic characteristics of climate change impacts (see, for example, the recent decision of the Dutch Court of Appeal in the Urgenda case – described above).

Another ongoing and potentially important precedent could result from an investigation by the Philippines Commission on Human Rights. The so-called *Carbon Majors Inquiry* aims to determine the impact of climate change on the enjoyment of human rights in the Philippines and the responsibility of the world’s largest fossil fuel producers in this connection. The way the Commission has framed the investigation as a dialogue highlights the voices and experiences of the climate-vulnerable, with a focus on the responsibilities of corporations. The Commission has already held hearings in the Philippines, New York and London. It is now preparing a set of recommendations to the Government of the Philippines and it will issue a fact-finding report with legal conclusions that may influence future litigation efforts (Savaresi and Setzer, 2018).

Human rights are also at the core of a claim filed in May 2019 before the UN Human Rights Committee by a group of eight citizens from the Torres Strait Islands, a wilderness region containing the most northerly part of the Great Barrier Reef. The islanders are requesting that the Australian Government reduce its greenhouse gas emissions and adopt adequate coastal defence measures, in full consultation with the island communities.

Human rights will likely continue to be intrinsic to future cases, given increasing acceptance of the impacts of climate change on health, livelihood, shelter and other fundamental rights, as well as the clearer enforcement mechanisms that exist within the international human rights regime compared with international environmental law (Setzer and Vanhala, 2019).

Strategic cases against private corporations

Strategic climate change litigation is increasingly targeting particular private actors – mostly fossil fuel and cement companies, also referred to as ‘Carbon Majors’. Underpinning these claims is the argument that a small group of corporations’ greenhouse gas emissions over time have significantly contributed to climate change (Heede, 2014).

Two waves of strategic private climate change litigation can be identified (Ganguly et al., 2018). The first wave of tort cases began in the early 2000s, mostly framed as ‘public nuisance’ claims. These cases were largely unsuccessful. A second wave started in 2015 and is still underway. This new wave benefits from the growth and consolidation of climate science in the last decade, alongside better localised data on climatic changes, the increased possibility of quantifying the proportional contribution of the world’s largest emitters to climate change, and developments in attribution science (see Box 5 below).

Holding fossil fuel companies to account for loss and damage

In the past year a spate of public nuisance suits against fossil fuel companies has sought damages potentially amounting to billions of dollars to cover the costs of adaptation (e.g. the cost of infrastructure to protect against sea level rise and other physical impacts of climate change). These lawsuits are also novel in that they were brought by US state governments and municipalities such as the State of Rhode Island, and the cities of New York, San Francisco and Oakland, rather than citizens or NGOs. The plaintiffs allege that fossil fuel companies continued to produce fossil fuels while knowingly concealing the climate risks. In July 2018 the federal district court for the Northern District of California acknowledged that fossil fuels have led to global warming and sea level rise, but dismissed the San Francisco lawsuit due to the legal challenges in establishing liability for climate change. The case continues on appeal.

Using similar arguments, *Pacific Coast Federation of Fishermen's Associations v. Chevron Corp.*, filed in November 2018, is the first legal action aiming to promote climate change protections brought by a private industry group. The lawsuit seeks to hold 30 fossil fuel companies responsible for major losses suffered by crabbers in California and Oregon as a result of algae blooms attributed to global warming poisoning shellfish. The plaintiffs demand that petroleum interests finance the changes needed to sustain the crab-fishing industry in the future.

Incorporating climate risk into investments

In the case of *Conservation Law Foundation, Inc. v. Shell Oil Products US*, a citizen suit has been filed against Shell, alleging that the company failed to incorporate climate risks in its investments (in this case, a bulk storage and fuel terminal in Rhode Island). More cases of this nature are expected, particularly as investors and insurers pay attention to the growing gap between scientific understanding of climate change and adaptation efforts.

A further example is the case filed by shareholder *Sarah Von Colditz against ExxonMobil*, some of its executives (current and former) and board members, alleging they misled investors by understating how much risk climate change poses to the company's assets. This is the third lawsuit that Exxon has faced over alleged misrepresentation of asset values to investors. Another is the fraud action filed in October 2018 by the *New York Attorney General v. Exxon Mobil Corp.* The Von Colditz complaint also says that Exxon's behaviour and other pending litigation against the company damage its credibility and reputation.

Disclosure of climate risk

In addition to litigation for failing to incorporate climate risk into investment decisions, several cases have sought to require improved disclosure of climate risk to investors and shareholders. For example, in July 2018, Mark McVeigh, a 23-year-old member and beneficiary of the pension fund REST, filed a lawsuit against the fund, arguing that its failure to provide adequate information relating to its exposure to climate-related risks prevents him from making an informed judgment about the management and financial condition of the fund (*McVeigh v. Australian Retail Employees Superannuation Trust [REST]*).

While disclosure in itself does not insulate a firm from climate-related litigation (because the information could be found to be misleading, weak or lacking in rigour), failing to report climate risks and/or comply with recommendations is likely to increase litigation risk. Another incentive for disclosure comes from groups of investors who have embarked on engagement activities with the highest emitting companies, pushing them to increase disclosure levels (e.g. the Transition Pathway Initiative and Climate Action 100+).

Box 5. Science and climate change litigation

Science continues to play a central role in climate change cases. In cases that seek to establish the liability of greenhouse gas emitters for harm, climate science can be critical to determining whether litigants have standing to sue. Science is an essential part of new litigation cases, substantiating that defendants' actions have caused the plaintiffs harm.

So far, the greatest challenge for scientists and lawyers has been to establish a causal link between a particular source or group of sources of greenhouse gas emissions and specific climate-related harms. In legal terms, this means establishing the human influence on events once known as 'acts of God' (Marjanac et al., 2017). However, this will become easier as **attribution science** – the study of the relationship between climate change and weather events and impacts – continues to develop (McCormick, Glicksman et al., 2018; McCormick, Simmens et al., 2018). Indeed, new climate lawsuits are drawing on these advancements, as observed in claims against governments for failure to adapt to climate change or to adequately prepare for flood events. Courts might be more open to the notion of individual corporate responsibility for climate harm if partial or contributory causation can be scientifically proven with respect to the defendant's conduct.

Looking ahead

Climate change litigation continues to expand across jurisdictions as a tool to strengthen climate action. Yet, evidence on the impacts of climate change litigation is still mostly anecdotal (Setzer and Vanhala, 2019). In part, this reflects the more general challenge of assessing the impact of any litigation beyond the courtroom, especially given that many cases are still ongoing. The nascent state of climate change litigation exacerbates this challenge even more.

Assessing the impact of climate change litigation cases depends on a number of variables, including time scales and the type of impact being considered. Policy changes made following a high-profile case might be reversed by a new government. Routine cases, while less visible, might also impact the behaviour and decisions of governments or private parties. Impact might be found in policy and regulatory change, in lack of change, or might be hidden in legal settlements. It might be reflected in reputational damage, or in the extent to which concern about litigation influences the disclosure of physical, liability and transition risks by companies in the industrial and the financial sectors. It might also manifest in media discourses surrounding the issue.

Moreover, litigation is often a lengthy, costly and risky process, and in certain contexts it can result in broader political backlash, which defeats the original aim of the litigants. For example, litigation might require climate mitigation that leads to the adoption of geoengineering technologies or the displacement of communities for the construction of wind or solar farms. Civil society actors themselves may become subject to litigation intended to limit their ability to police environmental harms (termed 'strategic litigation against public participation' – SLAPP – suits) or suffer criticism from sectors of society that disagree with the adoption of environmental or climate protections.

These ambiguities illustrate that, as with all avenues to tackle climate change, litigation is nuanced and can have a variety of flow-on effects. However, the rise in strategic and routine cases, a ramp-up in legal action by NGOs, the expansion of climate change suits into other areas of law, and improvements in climate science suggest that the increase in climate change litigation is likely to continue. It is therefore important that climate change litigants carefully consider which new cases to bring, how to bring them, and assess the potential impacts of litigation within the wider context of efforts to enhance climate change mitigation and adaptation action globally.

References

- Adler D (2019) *US climate change litigation in the age of Trump: Year two*. Sabin Centre for Climate Change Law. <http://columbiaclimatelaw.com/files/2019/06/Adler-2019-06-US-Climate-Change-Litigation-in-Age-of-Trump-Year-2-Report.pdf>
- Bouwer K (2018) The unsexy future of climate change litigation. *Journal of Environmental Law*, 30(3): 483–506
- Ganguly G, Setzer J, Heyvaert V (2018) If at first you don't succeed: Suing corporations for climate change. *Oxford Journal of Legal Studies*, 38: 841–868
- Heede R (2014) Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854–2010. *Climatic Change*, 122(1-2): 229–241
- Institute for Policy Integrity (2019) *Roundup: Trump-era deregulation in the courts*. <https://policyintegrity.org/deregulation-roundup>
- Marjanac S, Patton L, Thornton J (2017) Acts of God, human influence and litigation. *Nature Geoscience*, 10: 616–619
- McCormick S, Glicksman RL, Simmens SJ, Paddock L, Kim D, Whited B (2018) Strategies in and outcomes of climate change litigation in the United States. *Nature Climate Change* 8: 829–833
- McCormick S, Simmens SJ, Glicksman RL, Paddock L, Kim D, Whited B, Davies W (2018) Science in litigation, the third branch of U.S. Climate Policy. *Science* 357(6355): 979–980
- Nachmany M, Setzer J (2018) *Global trends in climate change legislation and litigation: 2018 snapshot*. London: Grantham Research Institute on Climate Change and the Environment. <http://www.lse.ac.uk/GranthamInstitute/publication/global-trends-in-climate-change-legislation-and-litigation-2018-snapshot/>
- Peel J, Lin J (forthcoming, 2019) Transnational Climate Litigation: The Contribution of the Global South. *American Journal of International Law* 113(3)
- Peel J, Osofsky HM (2018) A rights turn in climate change litigation? *Transnational Environmental Law* 7(1): 37–67
- Savaresi A, Setzer J (2018) *The carbon majors inquiry comes to London*. London: Grantham Research Institute on Climate Change and the Environment. <http://www.lse.ac.uk/GranthamInstitute/news/the-carbon-majors-inquiry-comes-to-london/>
- Setzer J, Benjamin L (forthcoming) Climate litigation in the Global South: constraints and innovations. *Transnational Environmental Law*
- Setzer J, Vanhala L C (2019) Climate change litigation: a review of research on courts and litigants in climate governance. *WIREs Climate Change*. <https://doi.org/10.1002/wcc.580>
- Sierra SA (2019) The Colombian government has failed to fulfill the Supreme Court's landmark order to protect the Amazon. *Dejusticia*, 5 April. <https://www.dejusticia.org/en/the-colombian-government-has-failed-to-fulfill-the-supreme-courts-landmark-order-to-protect-the-amazon/>