7-2023

Modelling Climate Litigation Risk for (Re)Insurers

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By Martin Lockman

July 2023

The Sabin Center for Climate Change Law develops legal techniques to fight climate change, trains law students and lawyers in their use, and provides the legal profession and the public with up-to-date resources on key topics in climate law and regulation. It works closely with the scientists at Columbia University's Earth Institute and with a wide range of governmental, non-governmental and academic organizations.

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Funding Disclosure: Preparation of this report was supported in part by a grant from Willis Towers Watson.

Acknowledgments: The author is deeply indebted to Michael Burger, Susan Doering, and Michelle Radcliffe for their thoughtful comments on this paper, and for their unstinting generosity with their time and advice. This paper could not have been written without the expertise of the sixteen specialists interviewed on background for this report (*see* note 28 and accompanying text). In addition, this paper was significantly strengthened by the comments of participants in a risk modelling roundtable hosted by Willis Towers Watson in London on April 19, 2023. Finally, the author is grateful to Willis Towers Watson for their support of this project.

EXECUTIVE SUMMARY

In response to the growing threat of climate change, the insurance industry has made significant investments in modelling and quantifying physical climate risks.[1] However, the emerging risk of climate litigation has proven particularly difficult to model. In 2015 Mark Carney, then-Governor of the Bank of England and Chairman of the Financial Stability Board, warned that climate litigation poses "long-tail risks" for insurers that may be "significant, uncertain and non-linear."[2] Since that warning, the number of climate-related cases has more than doubled,[3] and the scope and financial significance of climate litigation has become increasingly clear. However, insurers and regulators still struggle to identify and quantify exposure to climate litigation risk.[4]

Modelling Climate Litigation Risk for (Re)Insurers assembles a toolkit to help academics, attorneys, insurance practitioners, and industry regulators model (re)insurer climate litigation risk. Section 2 of this report discusses the categories of climate litigation, and creates a definition of "climate litigation risk" tailored towards (re)insurer risk evaluation. Using this definition, Section 3 next systematically categorizes the risks, commercial opportunities, and operational flexibility that climate litigation presents to (re)insurers. Section 4 then discusses qualitative and quantitative techniques used to model these climate litigation risks, and outlines a simple climate litigation risk model for (re)insurers. Finally, annexes to this report (1) review regulations that require companies to assess and disclose their exposure to climate litigation; (2) outline key academic, industry, and

[1] MARYAM GOLNARAGHI & THE GENEVA ASSOCIATION TASK FORCE ON CLIMATE CHANGE RISK ASSESSMENT, CLIMATE CHANGE RISK ASSESSMENT FOR THE INSURANCE INDUSTRY: A HOLISTIC DECISION-MAKING FRAMEWORK AND KEY CONSIDERATIONS FOR BOTH SIDES OF THE BALANCE SHEET 8 (2021), https://www.genevaassociation.org/sites/default/files/climate_risk_web_final_250221.pdf.

[2] Mark Carney, Governor of the Bank of England and Chairman of the Financial Stability Board, Breaking the Tragedy of the Horizon: Climate Change and Financial Stability, (Sept. 29, 2015) (*available at* https://www.bis.org/review/r151009a.pdf).

[3] Joana Setzer & Catherine Higham, *Global Trends in Climate Change Litigation: 2022 Snapshot*, GRANTHAM RESEARCH INSTITUTE ON CLIMATE CHANGE AND THE ENVIRONMENT (June 30, 2022), https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-litigation-2022/ (noting that, as of June 2022, "[g]lobally, the cumulative number of climate change-related cases has more than doubled since 2015, bringing the total number of cases to over 2,000," and that "[a]round one-quarter of these were filed between 2020 and 2022.").

[4] BANK OF ENGLAND, RESULTS OF THE 2021 CLIMATE BIENNIAL EXPLORATORY SCENARIO (CBES), Box C: Climate Litigation Risk (May 24, 2022) https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario.

government resources that discuss climate litigation risks and opportunities for insurers; and (3) highlight global climate litigation of particular significance to (re)insurers.

While *Modelling Climate Litigation Risk for (Re)Insurers* does not propose a holistic or authoritative model of climate litigation risk, this report offers three clear takeaways for academics, insurance professionals, and policymakers attempting to understand (re)insurer exposure to climate litigation:

(1) **Private sector climate litigation is diverse, and can impact (re)insurers in unexpected and hard-to-avoid ways.** Private sector climate litigation arises under a wide array of legal theories,[5] and targets an increasingly diverse set of defendants.[6] Some categories of litigation, like mitigation claims, may be directed towards a predictable set of industries and relatively easy to carve out of new liability policies.[7] Others, like adaptation litigation and governance and regulatory claims, turn on complex questions of fact, law, and policyholder behavior. (Re)insurers may struggle to categorically exclude these claims, and may find it commercially impractical to do so for some product lines.[8]

(2) **Existing risk assessment tools are promising, but struggle to capture the full scope of climate litigation.** Qualitative techniques like "massive tort" models provide historical comparisons for some types of litigation, but do not claim to offer quantitative risk assessment tools or cover the full range of climate litigation.[9] More quantitative techniques, like scenario modelling and "emerging risk" modelling, may be invaluable tools to quantify a limited set of risks, but may be significantly limited by scenario selection choices.[10]

[5] *See supra* Section 2.1; *see also* Annex 3.

[6] JOANA SETZER & CATHERINE HIGHMAN, GLOBAL TRENDS IN CLIMATE CHANGE LITIGATION: 2022 SNAPSHOT 12–13 (June 2022), https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/08/Global-trends-in-climate-change-litigation-2022-snapshot.pdf.

[7] *See* note 132 and accompanying text; *see also* note 151 and accompanying text.

[8] *Id.*

[9] *See* Section 4.3.4 (discussing "massive tort" recovery models).

[10] *See supra* Section 4.3.5 (discussing "emerging risk" modelling); Section 4.3.6 (discussing scenario modelling).

(3) **Different legal theories may require different modelling techniques and risk mitigation tools.** International organizations and governments around the world are providing increasingly clear guidance on how private sector actors, including (re)insurers themselves, should assess and disclose their exposure to climate litigation.[11] However, the wide range of climate claims discussed in this report may require an array of risk assessment and mitigation tools. Mitigation claims, for example, arise from past or anticipated contributions to climate change, and a policyholder's exposure to those claims will depend, by definition, on the policyholder's relationship to GHG-emitting activities.[12] Adaptation claims, in contrast, arise from a policyholder's response, or failure to respond, to the physical and societal impacts of climate change, and effective risk-assessment processes may focus on emerging scientific and legal literature that identifies these impacts.[13] On the other hand, governance and regulatory claims like securities fraud and "greenwashing" often focus on corporate activities and processes, and may be mitigated by assessing, evaluating, disclosing, and adapting to real-world climate risks.[14] While all of these claims represent climate litigation, risk evaluators must be conscious of the differences between these claim categories.

Protecting the insurance industry from unquantified risks is a worthy goal in and of itself, because the insurance industry, like banking and other financial services, is a critical piece of economic infrastructure. Accurately priced liability insurance also represents a powerful tool in the fight to mitigate the worst impacts of climate change. This is because liability is not just an abstract financial and legal construct. At its core, liability flows from real-world harm, and preemptive efforts to limit liability may in turn avert that harm. Insurers have multiple pathways to mitigate the worst harms of climate change and drive climate change adaptation. By evaluating, quantifying, and mitigating climate litigation risk, the insurance industry can begin to protect itself, and in turn our society, from the growing harms of climate change.

[11] *See supra* Section 3.1 (outlining the treatment of climate litigation risk in the TCFD framework); *see also* Annex 1 (highlighting regulatory risk assessment mandates in six jurisdictions around the world).

[12] *See* Section 2.1.

[13] *See* Section 4.3.5 (discussing "emerging risk" modelling).

[14] *See* notes 119–120, 153 and accompanying text.

CONTENTS

1. INTRODUCTION

Climate change has caused, and continues to cause, widespread physical damage to our built infrastructure and costly disruption to our societies, livelihoods, and economies. Over the coming century, "[c]limatic and non-climatic risks will increasingly interact, creating compound and cascading risks that are more complex and difficult to manage."[15]

These risks, and their accompanying legal, social, and economic impacts, present unique challenges to the insurance industry. The insurance sector is a large and complex component of the global economy, and plays an "essential social and economic role" by pooling and collectivizing individual risks.[16] This role places insurers at a nexus of climate risks. As businesses, insurers face direct physical, legal, and social risks to their operations, employees, and directors. As underwriters, insurers assume many of the risks faced by actors in the broader economy. As institutional investors, insurers are vulnerable to both systemic and firm-specific financial risks posed by climate change.[17] As providers of crucial financial infrastructure to the insurance industry, reinsurers themselves may concentrate sectoral or geographic risk in their portfolios that makes them particularly vulnerable to correlated losses associated with global climate change.[18]

In response to the growing threat of climate change, the insurance industry has made significant investments in modelling and quantifying physical climate risks.[19] Many of these

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[15] CLIMATE CHANGE 2023 SYNTHESIS REPORT: SUMMARY FOR POLICYMAKERS 14, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2023), https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.

[16] *OECD Insurance Statistics*, ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (n.d.), https://www.oecd.org/pensions/oecdinsurancestatistics.htm.

[17] CLIMATE FINANCIAL RISK FORUM, SCENARIO ANALYSIS WORKING GROUP: CLIMATE LITIGATION RISK CHAPTER 8 (Dec. 2022), https://www.fca.org.uk/publication/corporate/cfrf-guide-2022-scenario-analysis-working-group-climate-litigation-risk-chapter.pdf.

[18] Sean B. Hecht, *Climate Change and the Transformation of Risk: Insurance Matters*, 55 UCLA L. REV. 1559, 1579, 1583–85 (2008) (outlining the high risk that reinsurers face from "the potential for large losses associated with a single event and other correlated losses" arising from climate change).

[19] MARYAM GOLNARAGHI & THE GENEVA ASSOCIATION TASK FORCE ON CLIMATE CHANGE RISK ASSESSMENT, CLIMATE CHANGE RISK ASSESSMENT FOR THE INSURANCE INDUSTRY: A HOLISTIC DECISION-MAKING FRAMEWORK AND KEY

investments have been targeted at developing "a robust natural catastrophe risk management system" to price short-term climate change risks.[20] At the same time, there remain serious gaps in the industry's ability to identify and quantify non-physical risks presented by climate change.[21]

One risk category that has proven particularly resistant to quantitative modelling is the emerging risk of climate litigation. In 2015 Mark Carney, then-Governor of the Bank of England and Chairman of the Financial Stability Board, warned that climate litigation poses "long-tail risks" for insurers that may be "significant, uncertain and non-linear."[22] Since that warning, the number of climate-related cases has more than doubled,[23] and the scope and financial significance of climate litigation has become increasingly clear. However, insurers and regulators still struggle to identify and quantify exposure to climate litigation risk.[24] A number of prominent industry and regulatory organizations, including the United Nations Environment Programme's Principles for Sustainable Insurance Initiative,[25] the Climate Financial Risk Forum,[26] and the

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CONSIDERATIONS FOR BOTH SIDES OF THE BALANCE SHEET 8 (2021), https://www.genevaassociation.org/sites/default/files/climate_risk_web_final_250221.pdf.

[20] *Id*.

[21] Heather Boushey, Noah Kaufman, & Jeffery Zhang, *New Tools Needed to Assess Climate-Related Financial Risk*, WHITE HOUSE COUNCIL OF ECONOMIC ADVISORS ISSUE BRIEF (Nov. 3, 2021), https://www.whitehouse.gov/cea/written-materials/2021/11/03/new-tools-needed-to-assess-climate-related-financial-risk-2/.

[22] Mark Carney, Governor of the Bank of England and Chairman of the Financial Stability Board, Breaking the Tragedy of the Horizon: Climate Change and Financial Stability, (Sept. 29, 2015) (*available at* https://www.bis.org/review/r151009a.pdf).

[23] Joana Setzer & Catherine Higham, *Global Trends in Climate Change Litigation: 2022 Snapshot*, GRANTHAM RESEARCH INSTITUTE ON CLIMATE CHANGE AND THE ENVIRONMENT (June 30, 2022), https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-litigation-2022/ (noting that, as of June 2022, "[g]lobally, the cumulative number of climate change-related cases has more than doubled since 2015, bringing the total number of cases to over 2,000," and that "[a]round one-quarter of these were filed between 2020 and 2022.").

[24] BANK OF ENGLAND, RESULTS OF THE 2021 CLIMATE BIENNIAL EXPLORATORY SCENARIO (CBES), Box C: Climate Litigation Risk (May 24, 2022) https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario.

[25] UNEP PSI, INSURING THE CLIMATE TRANSITION: ENHANCING THE INSURANCE INDUSTRY'S ASSESSMENT OF CLIMATE CHANGE FUTURES 3 (2021), https://www.unepfi.org/psi/wp-content/uploads/2021/01/PSI-TCFD-final-report.pdf (setting forth a basic framework for climate litigation risk analysis, but noting that "[m]ore work is needed to provide [risk evaluation] methods that are fully actionable in this space.").

[26] CLIMATE FINANCIAL RISK FORUM, SCENARIO ANALYSIS WORKING GROUP: CLIMATE LITIGATION RISK CHAPTER 7 (Dec. 2022), https://www.fca.org.uk/publication/corporate/cfrf-guide-2022-scenario-analysis-working-group-climate-

International Association of Insurance Supervisors,[27] have highlighted this industry-wide gap in risk-evaluation techniques.

This report assembles a toolkit to help academics, attorneys, insurance practitioners, and industry regulators model (re)insurer climate litigation risk. This toolkit was developed through a review of the literature surrounding climate litigation risk assessment and insurance, supplemented and informed by first-hand interviews with 16 specialists familiar with climate litigation risk analysis.[28] While this report is tailored to readers with a basic understanding of (re)insurance business models, the legal concepts and risk assessment techniques in this report are explained for a general audience.

This report proceeds in three sections. Section 2 of this report discusses the categories of climate litigation risk, and creates a definition of "climate litigation risk" tailored towards (re)insurer risk evaluation. Next, using this definition, Section 3 systematically categorizes the risks, commercial opportunities, and operational flexibility that climate litigation presents to (re)insurers. First, Section 3 reviews (re)insurer climate litigation risk through the lens of guidance produced by the Task Force on Climate-related Financial Disclosures (the "TCFD"). The TCFD

litigation-risk-chapter.pdf. (noting that, "[g]iven the relative nascence of [climate] litigation risk as a threat posed to businesses, there is little established action by way of mitigating this risk within firms' risk taxonomies and strategic responses.").

[27] IAIS, APPLICATION PAPER ON THE SUPERVISION OF CLIMATE-RELATED RISKS IN THE INSURANCE SECTOR 12 (May 2021), https://www.iaisweb.org/uploads/2022/01/210525-Application-Paper-on-the-Supervision-of-Climate-related-Risks-in-the-Insurance-Sector.pdf (noting limitations on the ability of insurance supervisors to gather data about climate change litigation risk).

[28] These interviewees had specific experience working in the United States, Canada, the European Union, the United Kingdom, Canada, and Australia, among other jurisdictions. Many interviewees are active participants in international insurance industry organizations like the United Nations' Net-Zero Insurance Alliance and the Geneva Association. Interviewees included insurance industry professionals, private-sector risk consultants, climate and environmental attorneys, private-sector attorneys specializing in insurance law, transactional attorneys experienced in environmental risk disclosure, and experts in comparative corporate governance and directors' duties.

To encourage the frank discussion of litigation, developing regulations, internal business operations, and proprietary risk assessment models, interviews were conducted on "background." Where the report summarizes the comment of a specific interviewee, the comment is prefaced with a description of the interviewee's relevant experience. Several interviewees have relevant experience in multiple sectors. These interviewees are identified by the experience most relevant to the specific topic of discussion. For example, a private-sector risk consultant with experience in government might be described as "a former government official involved in securities regulation" when discussing a jurisdiction's regulatory risk disclosure regime and "a private-sector risk consultant" when discussing corporate risk-management procedures.

has produced a set of tailored climate risk-evaluation frameworks, which include a general framework for use by private sector companies and supplemental frameworks for use by insurance underwriters and investors. This section discusses these risk assessment frameworks and recommendations as they relate to (re)insurer climate litigation risk. Next, Section 3 outlines (re)insurer exposure to climate litigation risk across two categories of activity: (1) corporate and operational risks and (2) underwriting risks. Finally, Section 3 highlights areas where climate litigation offers commercial opportunities and operational flexibility across the same two categories.

Section 4 discusses qualitative and quantitative techniques used to model climate litigation risk. First, Section 4 discusses factors that have been identified as key drivers of climate litigation risk for (re)insurers, including (1) physical and transition events, (2) jurisdiction-specific characteristics, and (3) policy terms whose inclusion and interpretation may dramatically affect (re)insurer risk exposure. Next, Section 4 outlines models for assessing firm-specific climate litigation risk, and highlights firm-specific risk assessment models set forth by regulatory bodies in the United Kingdom and Canada.

Section 4 then examines techniques for modelling climate litigation risk across a (re)insurer's underwriting portfolio. It sets forth a simple litigation risk model, discusses how the previously identified risk drivers can be incorporated into such a model, and assesses the role that qualitative and quantitative assumptions can play in evaluating and applying a climate litigation risk model. It then highlights three techniques that have attempted to fill in data gaps in existing litigation risk models: (1) "massive tort" modelling, a largely qualitative approach that has been used to predict the trajectory of developing law surrounding mitigation claims; (2) "emerging risk" modelling, a targeted qualitative and quantitative approach that has been applied to assess and price emerging risks surrounding adaptation claims; and (3) "scenario" modelling, an approach designed to assess a (re)insurer's liability under a set of defined litigation scenarios.

This report is accompanied by three extensive annexes that are designed to provide academics, insurers, and policymakers with tools to aid their climate litigation risk assessments.

Annex 1 reviews generally applicable regulations that require companies to assess and disclose their exposure to climate litigation.[29] This review focuses on six key jurisdictions which take an array of approaches to corporate disclosure and climate litigation risk assessment: (1) The United States; (2) The European Union;[30] (3) The United Kingdom; (4) Canada; (5) Australia; and (6) Japan. **Annex 2** outlines key academic, industry, and government resources that discuss climate litigation risks and opportunities for insurers. Finally, **Annex 3** highlights global climate litigation of particular significance to (re)insurers.

2. WHAT IS (RE)INSURER CLIMATE LITIGATION RISK?

While this report has already used the phrase "climate litigation risk," assessing and modelling a risk requires the modeler to develop a precise definition of that risk. In various academic and regulatory publications, risks associated with climate change disputes are alternately called "litigation risks, "liability risks," or "legal risks." In interviews with insurance industry specialists conducted for this report, interviewees often used the term "climate liability risk" to describe climate litigation risk. This tangled terminology creates a risk of confusion for researchers attempting to model and quantify this risk. However, it is important to develop a coherent definition because (re)insurers may face climate-related liability risk through a variety of channels. This section outlines categories of "climate litigation," discusses existing definitions of climate litigation risk, and defines (re)insurer climate litigation risk for the purpose of developing qualitative and quantitative risk models.

[29] This regulatory review focuses on broadly applicable corporate disclosure regimes. In addition to these regimes, many jurisdictions also have sector-specific risk analysis regulations. In particular, fiduciaries and financial-sector companies like banks and insurers are often subject to highly tailored risk assessment and governance regulations.

[30] In the case of the European Union, this review focuses solely on European Union-level regulations, and does not address divergent approaches that may be taken by member states.

2.1What is Climate Litigation?

Global climate litigation is a complex and rapidly growing field. Globally, more than 70% of climate litigation is brought against government actors, rather than private sector defendants.[31] Governments face claims "seeking to 'enforce climate standards,'" challenging the "design and overall ambition of [a government's] response to climate change," or challenging climate-related laws and regulations.[32] While some (re)insurers may provide liability coverage to government entities and face exposure to government litigation risk, this paper focuses on the analytically distinct question of private sector litigation. In recent years, climate litigation has targeted an increasingly diverse set of corporations and private actors,[33] with clear significance for (re)insurers.

As a general matter, climate change claims against private sector defendants can be sorted into three broad categories: (1) mitigation claims, (2) adaptation claims, and (3) governance and regulatory claims.[34] Two of these categories mirror terms used in the context of climate change policy: "mitigation" refers to efforts to slow, halt, or reverse climate change itself, and "adaptation" refers to efforts to adapt to the physical, societal, economic and legal changes caused by climate change.[35] These policy terms closely map onto categories of litigation: "mitigation

[31] Joana Setzer & Catherine Highman, Global Trends in Climate Change Litigation: 2022 Snapshot 11 (June 2022), https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/08/Global-trends-in-climate-change-litigation-2022-snapshot.pdf.

[32] *See id*. at 3.

[33] *Id*. at 12–13.

[34] Similar frameworks, albeit with task-specific modifications, have been applied to categorize climate litigation risks in other contexts. A 2017 report assessing liability issues surrounding the energy transition, for instance, separates climate litigation claims into (1) failure to mitigate, (2) failures to adapt, and (3) regulatory claims, and further subdivides claims within those categories. *See* MINTERELLISON, THE CARBON BOOMERANG—LITIGATION RISK AS A DRIVER AND CONSEQUENCE OF THE ENERGY TRANSITION 3 (2017), https://2degrees-investing.org/wp-content/uploads/2017/09/Carbon-boomerang.pdf; *see also* MARK ROTHWELL, MARTIN EARLE, CHOONG HERN OOI, JAMES ORR, SHRADHA SHROFF & JIANHUA SIEW, PRACTICAL GUIDE TO CLIMATE CHANGE FOR GENERAL INSURANCE PRACTITIONERS 16 (2019), https://www.actuaries.org.uk/system/files/field/document/Practical%20Guide%20to%20Climate%20Change%20for%20GI%20Practitioners_1.pdf. (categorizing climate causes of action as "failure to mitigate," "failure to adapt," and "failure to disclose.").

[35] *See Responding to Climate Change: Mitigation and Adaptation*, NASA (n.d.), https://climate.nasa.gov/solutions/adaptation-mitigation/.

claims" are claims that arise from a defendant's previous GHG emissions or seek to prevent future GHG emissions, and "adaptation claims" are claims that arise from a defendant's failure to plan for or adapt to climate change.

A third category of claims, "governance and regulatory claims," arise from a defendant's breach of established legal duties related to climate change. These claims can spring from many sources. In some cases, the allegedly breached laws might relate directly to climate change—for instance, an upstream natural gas company that vents methane into the atmosphere might incur liability by violating emissions permits or other environmental laws. Other governance and regulatory claims might allege that a defendant breached a generally applicable law in a way that is related to climate change. For instance, between 2019 and 2021, a number of governments in the United States, including the City of New York,[36] the Commonwealth of Massachusetts,[37] the State of Vermont,[38] and the State of Connecticut,[39] filed separate suits against major oil and gas companies. These suits were filed in state courts and assert, among other claims, that oil and gas companies violated the consumer protection laws of the respective states or cities by misleading the public about the climate impacts of their products. Other governance and regulatory claims allege that the defendant engaged in misleading climate-related advertising,[40] breached fiduciary duties by ignoring the physical and economic consequences of climate change,[41] or violated

[36] Complaint, *City of New York v. Exxon Mobil Corp.*, 451071/2021 (N.Y. Sup. Ct. filed Apr. 22, 2021); *see also City of New York v. Exxon Mobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/city-of-new-york-v-exxon-mobil-corp/.

[37] Complaint, *Commonwealth v. Exxon Mobil Corp.*, Civ. No. 19-3333 (Mass. Super. filed Oct. 24, 2019); *see also Commonwealth v. Exxon Mobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/commonwealth-v-exxon-mobil-corp/.

[38] Complaint, *Vermont v. Exxon Mobil Corp.*, (Vt. Super. Ct. filed Sept. 14, 2021); *see also Vermont v. Exxon Mobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/vermont-v-exxon-mobil-corp/.

[39] Complaint, *State v. Exxon Mobil Corp.*, Civ. No. 206132568S (Conn. Super. filed Sept. 14, 2020); *see also Connecticut v. Exxon Mobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/state-v-exxon-mobil-corp/.

[40] *See* Complaint, *Dorris v. Danone Waters of Am.*, Civ. No. 22-8717 (S.D.N.Y. filed Oct. 13, 2022) (alleging that a water bottle company falsely advertised their products as "carbon neutral"); *see also Dorris v. Danone Waters of America*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/dorris-v-danone-waters-of-america/.

[41] *See McVeigh v. Retail Employees Superannuation Trust*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/mcveigh-v-retail-employees-superannuation-trust/ (summarizing the

securities laws by making material misrepresentations about their environmental impact or climate-related risk.[42] Governance and regulatory claims related to false or misleading advertising, corporate statements, and public disclosures are often referred to as "greenwashing" or "climate-washing" claims.[43]

2.2What is (Re)Insurer Climate Litigation Risk?

Over the past decade, a number of competing definitions of "climate litigation risk" have arisen. One set of definitions focus on defining the kinds of claims that qualify as "climate litigation." A separate set of definitions, which are commonly used in the literature around insurance litigation risk, focus on important but imprecise categories of liability. This subsection of the report examines existing definitions and compiles a working definition of "climate litigation risk" for the purposes of (re)insurer risk modelling.

2.2.1 Litigation-Oriented Definitions

One definitional challenge is the need to draw boundaries around "climate litigation." A 2017 report by the United Nations Environment Programme ("UNEP"), in cooperation with the Sabin Center for Climate Change Law, defines "climate change litigation" as:

> "*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.*"[44]

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complaint in *McVeigh*); *see also* Amended Concise Statement, *McVeigh v. Retail Employees Superannuation Trust*, Federal Court of Australia, NSD1333/2018, (filed Sept. 21, 2018) (Austl.) (*available at* http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2018/20180921_NSD13332018_complaint.pdf).

[42] *See* Complaint, *Fagen v. Envivia*, Civ. No. 22-2844 (D. Md. filed Nov. 3, 2022) (alleging that a biofuel company misrepresented the sustainability of its products, resulting in a decline in market value when the misrepresentations were revealed); *see also Fagen v. Envivia*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/fagen-v-enviva-inc/.

[43] *See* AKRITI BHARGAVA, BENJAMIN FRANTA, KARLA MARTÍNEZ TORAL, ARADHNA TANDON, LISA BENJAMIN & JOANA SETZER, CLIMATE-WASHING LITIGATION: LEGAL LIABILITY FOR MISLEADING CLIMATE COMMUNICATIONS, CSSN RESEARCH REPORT 2022-1 (Jan. 2022), https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/01/CSSN-Research-Report-2022-1-Climate-Washing-Litigation-Legal-Liability-for-Misleading-Climate-Communications.pdf.

[44] MICHAEL BURGER & JUSTIN GUNDLACH, THE STATUS OF CLIMATE CHANGE LITIGATION: A GLOBAL REVIEW 10 n.12 (2015), https://wedocs.unep.org/handle/20.500.11822/20767.

Drawing on the UNEP definition, a 2021 report by the Geneva Association, an international association of insurance and reinsurance companies, defined climate litigation as:

> *"Cases brought before administrative, judicial and other investigatory bodies, financial supervisory authorities and ombudsman schemes or in domestic or international courts and organisations, that raise issues of law or facts regarding the science of climate change and climate change mitigation and adaptation efforts."*[45]

These definitions are useful for studies that focus on legal developments and court filings, but a focus on the forums in which these claims are filed will underestimate claims that are settled without formal litigation.

2.2.2 Liability-Oriented Definitions

Defining "climate litigation" alone is not enough, because insurance companies face climate litigation-related financial risk through multiple channels. As a result, several organizations have attempted to define climate litigation risk from the perspective of (re)insurers. In the context of insurer exposure to litigation risk, one set of definitions define this risk narrowly, focusing on direct liability for emissions. For example, in 2015 Mark Carney, then-Governor of the Bank of England and Chairman of the Financial Stability Board, provided the following definition, which acknowledges a potential impact on insurers but focuses on emissions compensation claims:

> *"Liability risks are the impacts that could arise tomorrow if parties who have suffered loss or damage from the effects of climate change seek compensation from those they hold responsible. Such claims could come decades in the future, but have the potential to hit carbon extractors and emitters—and, if they have liability cover, their insurers—the hardest."*[46]

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[45] Maryam Golnaraghi, Joana Setzer, Nigel Brook, Wynne Lawrence, & Lucia Williams, Climate Change Litigation: Insights into the Evolving Landscape 11 (2021), https://www.genevaassociation.org/sites/default/files/climate_litigation_04-07-2021.pdf.

[46] Mark Carney, Governor, Bank of England, Breaking the Tragedy of the Horizon—Climate Change and Financial Stability at Lloyd's of London (Sept. 29, 2015) (transcript available at https://www.bis.org/review/r151009a.pdf).

The Bank of England's Prudential Regulation Authority ("PRA"), which "regulates and supervises financial services firms" in the UK, including insurers, provides the following working definition that encompasses a broader array of claim types:

> *"[L]iability (litigation) risks . . . can arise from people or businesses seeking compensation for losses they may have suffered from the physical or transition risks from climate change . . . or legal challenges taken to require a particular course of action."*[47]

Still others, especially those analyzing insurer risk, explicitly include risk transmitted by contractual obligations like underwriting risk. A 2021 report by the International Association of Insurance Supervisors ("IAIS") adopts a definition specifically oriented toward insurers, and defines "liability risk" as:

> *"The risk of climate-related claims under liability policies, as well as direct actions against insurers, for failing to manage climate risks."*[48]

Similarly, practitioners' guidance issued by The Institute and Faculty of Actuaries suggests that insurers should consider their own potential liability as part of any climate litigation risk assessment.[49]

2.2.3 This Report's Working Definition

This report defines climate litigation risk as: *Any risk:*

(1) related to a dispute that arises from or is exacerbated by:

(a) a party's contribution to climate change,

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[47] PRUDENTIAL REGULATION AUTHORITY, CLIMATE-RELATED FINANCIAL RISK MANAGEMENT AND THE ROLE OF CAPITAL REQUIREMENTS (2021), https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/publication/2021/october/climate-change-adaptation-report-2021.pdf.

[48] IAIS, APPLICATION PAPER ON THE SUPERVISION OF CLIMATE-RELATED RISKS IN THE INSURANCE SECTOR 7 (May 2021), https://www.iaisweb.org/uploads/2022/01/210525-Application-Paper-on-the-Supervision-of-Climate-related-Risks-in-the-Insurance-Sector.pdf.

[49] MARK ROTHWELL, MARTIN EARLE, CHOONG HERN OOI, JAMES ORR, SHRADHA SHROFF & JIANHUA SIEW, PRACTICAL GUIDE TO CLIMATE CHANGE FOR GENERAL INSURANCE PRACTITIONERS 13 (2019), https://www.actuaries.org.uk/system/files/field/document/Practical%20Guide%20to%20Climate%20Change%20for%20GI%20Practitioners_1.pdf.

(b) the physical consequences of climate change, or

(c) laws, regulatory structures, or legal duties related to climate change;

or

(2) that arises from a third-party dispute described in section (1) and is transmitted through a legal relationship.

This definition largely synthesizes the IAIS and PRA definitions, but it is structured so that the full scope of the IAIS phrase "climate-related claims" is clear. In particular, this definition expands on two key features of the IAIS and PRA definitions. First, this definition incorporates claims transmitted through legal relationships. From the perspective of (re)insurers, these risks are largely comprised of underwriting risks. However, "legal relationships" that transmit risks may include insurance treaties, operational and financial relationships within a corporate group, fiduciary duties, and contractual counterparty relationships.[50]

Second, for the purposes of this report, "dispute" is not defined. While this report's definition is consistent with the Sabin Center's general definition of "climate litigation," the use of the term "dispute" encompasses claims that are not brought before a formal governance body. Extra-judicial disputes may be particularly important in a (re)insurer litigation risk analysis because many third-party claims can be resolved without litigation.

3. (RE)INSURER LITIGATION RISKS AND OPPORTUNITIES

A tailored definition of "climate litigation risk" can help identify the key risks and opportunities that this litigation presents to (re)insurers. The first part of this section looks at climate litigation risk through the lens of the widely used framework developed by the Task Force on Climate Related Disclosures (the "TCFD"), which was designed to provide financial market

[50] *See, e.g.*, IAIS, APPLICATION PAPER ON THE SUPERVISION OF CLIMATE-RELATED RISKS IN THE INSURANCE SECTOR 29 (May 2021), https://www.iaisweb.org/uploads/2022/01/210525-Application-Paper-on-the-Supervision-of-Climate-related-Risks-in-the-Insurance-Sector.pdf (emphasizing potential significance of credit/counterparty default risk as a source of risk transmission).

participants with a consistent framework through which to understand climate-related risk.[51] Next, this section outlines (re)insurer exposure to climate litigation across two core areas: (1) corporate and operational activities; and (2) underwriting activities. Within these areas, this section highlights ways in which climate litigation creates risks, commercial opportunities, and operational flexibility for (re)insurers.

3.1Placing Climate Litigation Risk in the TCFD Framework

3.1.1 Background of the TCFD Framework

The Financial Stability Board ("FSB") is an international organization of states and NGOs that "monitors and makes recommendations about the global financial system."[52] In 2015 the FSB established a Task Force on Climate-related Financial Disclosures (the "TCFD"), and in 2017 the TCFD published a set of recommendations and a model disclosure framework. The TCFD recommendations provide guidance for how to assess, disclose, integrate and manage climate-related and environmental risks.[53] The TCFD disclosure framework is highly influential, and is specifically mentioned in or incorporated into the laws and regulations of multiple jurisdictions.[54]

3.1.2 Litigation Risk in the TCFD Framework

The TCFD disclosure framework highlights climate litigation as a category of climate-related "transition risk" that affects the entire structure of the corporation.[55] The TCFD framework recommends that companies conduct risk assessment and disclosure related to:

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[51] Press Release, Financial Stability Board, FSB to Establish Task Force on Climate-related Financial Disclosures (Dec. 4, 2015), https://assets.bbhub.io/company/sites/60/2015/12/12-4-2015-Climate-change-task-force-press-release.pdf.

[52] *About the FSB*, FSB (Nov. 16, 2020), https://www.fsb.org/about/.

[53] RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES i–iv, TCFD (June 2017), https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf (discussing the process behind the TCFD recommendations).

[54] *See infra* Annex 1, Section C (discussing the UK's integration of the TCFD recommendations into its corporate reporting structure); Annex 1, Section E.3 (discussing Australia's references to the TCFD recommendations as a model for climate risk governance); Annex 1, Section F.3 (discussing Japan's references to the TCFD recommendations as a model for climate risk governance).

[55] RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES 5, TCFD (June 2017), https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf.

(1) Governance structures that control climate risk oversight;

(2) Climate risk management strategies,

(3) Policies and procedures used to identify, assess, monitor, report and manage material risks; and

(4) The metrics used by firms to assess relevant climate-related and environmental risks.[56]

Using the TCFD's disclosure framework as a guide,[57] firms should consider the following categories of climate litigation risk assessment:

TCFD Recommendation Category	Climate Litigation Risk Recommendation
Governance	Firms should incorporate climate litigation risk assessment into the governance processes of each company, and define managerial and directorial duties relating to climate litigation risk.[58]
Strategy	Firms should consider climate litigation risk in discussions of forward-looking strategic and financial planning, and evaluate this risk over the short, medium, and long term.[59]
Risk Management	Firms should integrate climate litigation risk assessment into existing risk management functions, including identification, assessment, mitigation, monitoring, and reporting[60]
Metrics and Targets	Firms should define metrics and targets to measure and manage climate litigation risk.[61]

[56] *Id*. at 14.

[57] The recommendations in the following chart are based on the TCFD's general risk management framework, which does not specifically address climate change litigation risk.

[58] *Id*. at 19.

[59] *Id*. at 20.

[60] *Id*. at 21–22.

[61] *Id*. at 22–23.

3.1.3 Insurance-Specific TCFD Recommendations

To supplement its general guidance, TCFD has issued sector-specific recommendations designed to guide climate risk assessment and disclosure around (re)insurers' underwriting and investment activities.[62] While the recommendations produced by TCFD are general and not tailored towards climate litigation risk, they provide a framework for thinking about climate litigation risk in a structured way.[63] Translating these risk categories into litigation-specific recommendations, the TCFD recommendations suggest that insurers should consider conducting the following risk analyses:

TCFD Insurance Recommendations		Climate Litigation Risk Recommendation
Governance	*Underwriting*	[No insurer-specific recommendations]
	Investment	[No insurer-specific recommendations]
Strategy	*Underwriting*	(Re)insurers should assess and describe risks and opportunities related to climate litigation "on their core businesses, products, and services, including:" (1) "information at the business division, sector, or geography levels"; (2) How climate litigation risk "influence[s] client, or broker selection";[64] and (3) Whether climate litigation-related "products or competencies are under development," like

[62] IMPLEMENTING THE RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES 31, TCFD (Oct. 2021), https://assets.bbhub.io/company/sites/60/2021/07/2021-TCFD-Implementing_Guidance.pdf (providing guidance for underwriters); *id.* at 37 (providing guidance for "asset owners," including insurance companies).

[63] In addition, TCFD's 2021 sector-specific guidance recommends that insurance companies identify "liability risks that could intensify due to a possible increase in litigation" as part of their risk management disclosures. *Id.* at 34.

[64] While the TCFD's guidance on underwriting risk is not tailored to litigation, climate litigation risk may affect client and broker selection in a variety of different ways. For instance, insurers may refuse to underwrite certain high-risk clients or industries, and may select specific brokers based on their capacity to assess and mitigate climate litigation risk.

TCFD Insurance Recommendations		Climate Litigation Risk Recommendation
		"specialty climate-related risk advisory services and climate-related client engagement."[65] (Re)insurers should assess and disclose their climate litigation risk scenario analyses, including the underlying "critical input parameters, assumptions and considerations, and analytical choices," along with the relevant time frames used for analysis.[66]
	Investment	Investors should assess and disclose the role of climate litigation risks into their investment strategies, either "from the perspective of the total fund or investment strategy or individual investment strategies for various asset classes."[67] Investors who "perform scenario analysis should consider providing a discussion of how climate-related scenarios are used, such as to inform investments in specific assets."[68] This recommendation is increasingly relevant due to the recent rise in scenario analysis as a tool for assessing climate litigation risks.
Risk Management	*Underwriting*	(Re)insurers should disclose their processes for assessing climate-related risks to their "[(re)insurance] portfolios by geography, business division, or product segments," including specifically "liability risks that could intensify due to a possible increase in litigation."[69] In addition, (re)insurers should evaluate and disclose "key tools or instruments, such as risk models," used to assess and manage climate litigation risk "in relation to product development and pricing."[70]

[65] *Id.* at 33.

[66] *Id.*

[67] *Id.* at 39.

[68] *Id.*

[69] *Id.* at 34.

[70] *Id.*

TCFD Insurance Recommendations		Climate Litigation Risk Recommendation
		(Re)insurers should describe the specific climate litigation risks and scenarios considered, and how the evolving landscape of climate litigation risk is managed.[71]
	Investment	Investors should assess and describe the role they play in "encourag[ing] better disclosure and practices" around climate litigation risks in their portfolio companies.[72] Investors should assess and "describe how they consider the positioning of their total portfolio with respect to the transition to a lower-carbon energy supply, production, and use. This could include explaining how asset owners actively manage their portfolios' positioning in relation to this transition."[73]
Metrics and Targets	*Underwriting*	(Re)insurers should disclose "weighted average carbon intensity or GHG emissions associated with commercial property and specialty lines of business where data and methodologies allow."[74]
	Investment	"Asset owners should disclose GHG emissions of their owned assets and the weighted average carbon intensity . . . for each fund or investment strategy," along with "other carbon footprinting metrics they believe are useful for decision-making."[75]

[71] *Id*.

[72] *Id.* at 40.

[73] *Id*.

[74] *Id*. at 36. While the recommended "weighted average carbon intensity" metric does not directly relate to climate litigation risk, metrics that attempt to quantify a (re)insurer's economic exposure to GHG-emitting industries may serve as a rough proxy for their potential exposure to emissions litigation.

[75] *Id*. at 42.

3.2 Categorizing (Re)Insurer Litigation Risks

As the TCFD recommendations highlight, climate litigation risk is a multi-dimensional issue for (re)insurers that affects a variety of internal and external operations. (Re)insurers are exposed to climate litigation risk across two core areas:[76]

(1) **Corporate and Operational Risks:** Third-party climate litigation risk arising from an insurer's own activities; and

(2) **Underwriting Risks:** Climate litigation risk arising from or transmitted through a (re)insurer's underwriting activities.

Within these broad categories, (re)insurers are exposed to several different types of climate litigation risk. These key risk areas were identified by interviewees and through a review of insurance industry literature surrounding climate litigation risk. To give additional context for these sometimes-abstract risks, this section also provides examples of typical disputes that might drive climate litigation risk within each key risk area.

3.2.1 Corporate and Operational Risks

(Re)insurers may face climate litigation risks that arise from or directly affect their own corporate operations. These risks include regulatory enforcement actions and shareholder litigation against (re)insurers' directors and officers arising from their breaches of applicable legal duties. These risks might also include litigation against (re)insurers arising from corporate activities, like "greenwashing" litigation related to an insurer's advertising, or professional liability claims against brokers and other insurance professionals who offer risk evaluation services.

Category	Description and Claim Categories	Example
Governance and Regulatory Risk	Risk arising from a (re)insurer's own failure to fulfil legal duties related to climate change.	In *McVeigh v. Retail Employees Superannuation Trust*, an Australian pension fund member sued the Retail Employees Superannuation Trust, alleging that the fund violated various

[76] As highlighted in Section 3.1, the investment portfolios of (re)insurers may also face climate litigation risk. However, the categorization and quantification of climate litigation investment risk falls outside of the scope of this report.

Category	Description and Claim Categories	Example
	Likely claims include fiduciary duty claims, as well as "greenwashing" claims from clients or shareholders alleging that (re)insurers have misstated the climate impact of their activities or climate risks that they face. ***Likely Claim Categories***: Governance and Regulatory.	fiduciary duties set forth in Australian law "by failing to provide information related to climate change business risks and any plans to address those risks."[77] The case settled before trial following a number of governance concessions by the Trust and an acknowledgement by the Trust that "[c]limate change is a material, direct and current financial risk to the superannuation fund across many risk categories, including investment, market, reputational, strategic, governance and third-party risks."[78] While the trust in *McVeigh* was not an insurance company, it was similarly situated to mutual insurance companies that are owned by, and owe fiduciary duties to, their policyholders. Publicly traded insurance companies may also face climate litigation risk from shareholders who allege that the company has failed to disclose material climate change business risks.
Consulting and Risk-Management Services	Professional liability risk arising from an insurance professional's misleading or incomplete advice related to climate change. ***Likely Claim Categories***: Mitigation, Adaptation,	Many actors in the insurance sector offer enterprise risk-management services, often labeled as "loss control consulting." These activities "may potentially expose insurers to claims related to errors and omissions of their risk-management consultants"[79] or their analytical tools and offerings.

[77] *McVeigh v. Retail Employees Superannuation Trust*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/mcveigh-v-retail-employees-superannuation-trust/ (summarizing the complaint in *McVeigh*); *see also* Amended Concise Statement, *McVeigh v. Retail Employees Superannuation Trust*, Federal Court of Australia, NSD1333/2018, (filed Sept. 21, 2018) (Austl.) (*available at* http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2018/20180921_NSD13332018_complaint.pdf).

[78] *See* Press Release, REST, Statement from REST on Settlement of *McVeigh* Litigation (Nov. 2, 2020) (*available at* http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2020/20201102_NSD13332018_settlement-agreement.pdf).

[79] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 148 (2012).

Category	Description and Claim Categories	Example
	and Governance and Regulatory.	Insurance industry professionals could face climate litigation risks if "they fail to communicate about, or take adequate account of, climate change risks as part of their [risk control and product selection] advice."[80]
Client Selection	Financial and reputational risks arising from a (re)insurer's selection or rejection of clients with exposure to climate litigation risk. Client selection risks are separate from underwriting risks because they are not transmitted through the terms of underwriting contract, and may arise even if (re)insurers do not directly underwrite climate litigation risks. ***Likely Claim Categories*:** Mitigation, Adaptation, and Governance and Regulatory.	Insurers may face significant reputational risks by "underwriting, or investing in, sectors perceived as contributing to climate change."[81] Even if insurers do not underwrite these clients' climate litigation risks, litigation that carries significant stigma may affect the reputations of a client's business partners. On the other hand, insurers may face some reputational damage among clients that resent policy changes made to protect insurers from climate litigation risk.[82] Finally, (re)insurers may face increased levels of counterparty risk across all product lines if climate litigation threatens the financial viability of their clients. These nonpayment and client retention risks are exogenous to the underwriting contracts themselves, but may be significant nevertheless.[83]

[80] MARK ROTHWELL, MARTIN EARLE, CHOONG HERN OOI, JAMES ORR, SHRADHA SHROFF & JIANHUA SIEW, PRACTICAL GUIDE TO CLIMATE CHANGE FOR GENERAL INSURANCE PRACTITIONERS 13 (2019), https://www.actuaries.org.uk/system/files/field/document/Practical%20Guide%20to%20Climate%20Change%20for%20GI%20Practitioners_1.pdf.

[81] IAIS, APPLICATION PAPER ON THE SUPERVISION OF CLIMATE-RELATED RISKS IN THE INSURANCE SECTOR 10 (May 2021), https://www.iaisweb.org/uploads/2022/01/210525-Application-Paper-on-the-Supervision-of-Climate-related-Risks-in-the-Insurance-Sector.pdf.

[82] *Id*. ("reductions in affordability or availability of insurance cover as insurers respond to climate risk may also lead to negative reputational impact").

[83] *Id*. *at* 29 (emphasizing potential significance of credit/counterparty default risk as a source of risk transmission).

3.2.2 Underwriting Risks

(Re)insurers are also exposed to climate litigation risk through their portfolio of underwritten policies and treaties. While climate litigation is a rapidly evolving risk, this section highlights policy categories that present significant climate litigation risk for (re)insurers.

This report does not extensively analyze coverage provisions, exclusions, or other idiosyncratic policy terms. The exposure of any (re)insurer to underwriting risk is, of course, dictated by the scope of their underwritten policies or treaties. Insurers should be attentive to the legal obligations created by their policy terms, which transform client risk into insurer risk. Less obviously, insurers may also significantly limit their exposure to some types of climate litigation through standard policy terms and exclusions, like fortuity principles that exclude reckless or knowing actions from coverage. A reinsurer's exposure to such liability would be similarly limited by both the terms of their reinsurance treaties and the terms of the underlying insurer's policies. Policy terms that have been identified in the literature or by interviewees as particularly significant are discussed in Section 4.3 below, "Key Drivers of (Re)insurer Litigation Risk."

Category	Description and Claim Categories	Example
Commercial General Liability Coverage	Risk arising from coverage policies that "generally provide[] broad coverage for defense and indemnity of claims for bodily injury, personal injury, and property damage."[84]	The City and County of Honolulu[85] and the County of Maui[86] brought claims against a number of fossil fuel companies under a range of theories including public and private nuisance and trespass. These claims allege that the companies hid the known harmful effects of the products that they

[84] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 141 (2012).

[85] Complaint, City & County of Honolulu v. Sunoco LP, Civ. No. 20-380 (Haw. 1st Cir. Ct. filed Mar. 9, 2020); *see also City & County of Honolulu v. Sunoco LP*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/city-county-of-honolulu-v-sunoco-lp/.

[86] Complaint, County of Maui v. Sunoco LP, Civ. No. 20-380 (Haw. 2nd Cir. Ct. filed Oct. 12, 2020); *see also County of Maui v. Sunoco LP*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/county-of-maui-v-sunoco-lp/.

Category	Description and Claim Categories	Example
	Likely Claim Categories: Mitigation and Adaptation.	sold, and seek damages and other relief under a range of theories. Aloha Petroleum Ltd., one of the defendants, has sued its insurer, National Union Fire Insurance Co. of Pittsburgh. Aloha claims a right to defense and indemnification under a large number of General Liability policies, which cover discrete one-year periods between 1980 and 2010.[87] These policies were purportedly written on an "occurrence" basis, and contain various pollution exclusions.[88] For more detail on this litigation, which is ongoing as of June 6, 2023, see "Bad Faith Claims" in Section 3.2.2 below.
Environmental Liability Coverage	Risk arising from "environmental contamination and related harms," often covered in "separately underwritten Environmental Liability coverage."[89] While modern environmental liability policies often contain GHG exclusions that may limit direct exposure to mitigation claims, the physical risks caused by	Arkema Inc. is the owner and operator of a chemical facility in Crosby, Texas. A 2016 report written by Arkema's insurer identified that the Arkema facility was vulnerable to flooding, among other risks, because insurance flood zones had shifted since the facility was built. Although Arkema's insurer identified the flooding risk, the insurer's report did not make any recommendations to Arkema to address flood hazards. Following (unrelated) changes to the Crosby facility, Arkema's

[87] *See* First Am. Complaint, Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh, Civ. No. 22-372 (D. Haw. filed Aug. 10, 2022); *see also Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/aloha-petroleum-ltd-v-national-union-fire-insurance-co-of-pittsburgh/.

[88] *See* Plaintiff Aloha Petroleum Ltd.'s Separate and Concise Statement of Material Facts ¶¶ 1–25, Civ. No. 22-372 (D. Haw. filed Aug. 10, 2023).

[89] Christina Ross, Evan Mills, & Sean B. Hecht, *Limiting Liability in the Greenhouse: Insurance Risk-Management Strategies in the Context of Global Climate Change*, 26A STAN. ENVTL. L.J. 251, 285–86 (2007).

Category	Description and Claim Categories	Example
	climate change, like hurricanes and other storms, can result in significant secondary pollution that environmental liability policies may cover. ***Likely Claim Categories***: Mitigation and Adaptation.	insurer indicated that it was satisfied with the facility's risk.[90] In August of 2017, the Crosby chemical facility was flooded following heavy rainfall caused by Hurricane Harvey. [91] This flooding caused Arkema's facility to lose power and become unable to properly refrigerate certain chemicals stored at the facility, which in turn led to fires, an explosion, and unauthorized toxic air emissions.[92] Arkema's parent company was sued in a class action brought by neighboring property owners, who sought both damages and an injunction requiring Arkema to plan for future emergencies and natural disasters.[93] As of June 6, 2023, this case is in private mediation with the consent of the parties. At the same time, Arkema was sued in Texas state court by the State of Texas and Harris County, the county in which Arkema's facility was located, for violations of Texas's environmental laws and floodplain permitting regulations. The government plaintiffs sought civil penalties, as well as an

[90] U.S. CHEMICAL SAFETY & HAZARD INVESTIGATION BOARD, ORGANIC PEROXIDE DECOMPOSITION, RELEASE, AND FIRE AT ARKEMA CROSBY FOLLOWING HURRICANE HARVEY FLOODING 81–82 (May 2018), https://www.csb.gov/arkema-inc-chemical-plant-fire-/.

[91] *Id*. at 8.

[92] *Harris County v. Arkema, Inc.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/harris-county-v-arkema-inc/.

[93] *See* Second Amended Complaint at 33–34, Wheeler v. Arkema France S.A., Civ. No. 17-2960 (S.D. Tex. filed June 19, 2018).

Category	Description and Claim Categories	Example
		injunction requiring Arkema to enact a plan to prevent future disasters.[94] In the aftermath of the explosion Arkema's CEO and several other executives were criminally prosecuted by the State of Texas for reckless emission of air pollutants, although none were ultimately convicted.[95]
Products Liability Coverage	Climate litigation risk "based on design or manufacturing defects, creation of abnormally dangerous products, and other product-related legal claims."[96] ***Likely Claim Categories***: Mitigation.	Products liability claims might be brought alleging "that the unnecessary production of large amounts of greenhouse gases was an avoidable power generation and automotive design 'defect,'" or that the use of "consumer products with low energy-efficiency where better design options were available and cost-effective," represented a harm-causing design defect.[97] For example, the cases that were brought by the City and County of Honolulu[98] and the County of Maui[99] against a number of petroleum companies, as previously discussed, asserted "failure to warn" claims. "Failure to warn" is a theory of

[94] *See* Petition & Application for Permanent Injunction, Harris County v. Arkema, Inc., Civ. No. 2017-76961 (Harris Cnty Dist. Ct. filed Nov. 16, 2017); *see also Harris County v. Arkema, Inc.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/harris-county-v-arkema-inc/.

[95] *See No Convictions in Arkema Trial After Judge Drops Remaining Charges*, HOUSTON PUBLIC MEDIA (Oct. 1, 2020), https://www.houstonpublicmedia.org/articles/news/energy-environment/2020/10/01/383091/no-convictions-in-arkema-trial-after-judge-drops-remaining-charges/ (describing the outcome of the case).

[96] Christina Ross, Evan Mills, & Sean B. Hecht, *Limiting Liability in the Greenhouse: Insurance Risk-Management Strategies in the Context of Global Climate Change*, 26A STAN. ENVTL. L.J. 251, 292 (2007).

[97] *Id*. at 292–93.

[98] Complaint, City & County of Honolulu v. Sunoco LP, Civ. No. 20-380 (Haw. 1st Cir. Ct. filed Mar. 9, 2020); *see also City & County of Honolulu v. Sunoco LP*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/city-county-of-honolulu-v-sunoco-lp/.

[99] Complaint, County of Maui v. Sunoco LP, Civ. No. 20-380 (Haw. 2nd Cir. Ct. filed Oct. 12, 2020); *see also County of Maui v. Sunoco LP*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/county-of-maui-v-sunoco-lp/.

Category	Description and Claim Categories	Example
		product liability which alleges that a harm resulted from a manufacturer or distributor's failure to warn purchasers of the potential risks of using a product.
Directors and Officers Coverage	Climate litigation risk arising from a company's "concealment, misrepresentation, and mismanagement of climate change-related risks."[100] ***Likely Claim Categories***: Adaptation and Governance and Regulatory.	In February of 2023, ClientEarth, a U.K. nonprofit and shareholder of Shell plc, filed a derivative action in their capacity as shareholder against Shell's board of directors, "alleg[ing] that the board's mismanagement of climate risk puts the directors in breach of their duties under the UK Companies Act."[101] In particular, ClientEarth alleges that Shell's directors' failure to reduce Shell's global GHG emissions breached their duties to "promote the success of the company for the benefit of its members as a whole," and to " exercise reasonable care, skill and diligence in the discharge of their duties."[102] On May 12, 2023, the High Court denied ClientEarth permission to proceed with its derivative action, finding among other things that ordering directors to specifically consider and ascribe a specified weight to identified climate risks was "incompatible with the subjective nature of the duty to promote the success of the company."[103]

[100] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 138 (2012).

[101] Victoria Barnes, *Derivative Action Commenced in UK Against Shell's Directors for Mismanaging Climate Risk*, BURGES SALMON (Mar. 9, 2023), https://www.burges-salmon.com/news-and-insight/legal-updates/environment/derivative-action-commenced-in-uk-against-shells-directors-for-mismanaging-climate-risk#:~:text=On%209%20February%202023%2C%20ClientEarth%2C%20a%20non-profit%20environmental,Shell%20is%20no%20stranger%20to%20climate%20related%20litigation.

[102] *Id*.

[103] Georgia Henderson-Cleland & Sharon Kennedy, *High Court Dismisses Green Strategy Derivative Claim Against Shell's Directors*, JDSUPRA (May 24, 2023), https://www.jdsupra.com/legalnews/high-court-dismisses-green-strategy-7449122/.

Category	Description and Claim Categories	Example
		ClientEarth has asked the High Court to reconsider its ruling, and as of May 22, 2023, ClientEarth has been granted an oral hearing on its reconsideration request.[104]
Other Professional Liability Coverage	Risk arising from the "errors and omissions of businesses and their professionals," like engineers, architects, attorneys, and accountants.[105] ***Likely Claim Categories***: Adaptation and Governance and Regulatory.	An architect or engineer may face "professional liability risks for a new commercial development that did not anticipate the increased risk of flooding"[106] or that disregarded climate change-conscious design standards. Others professionals with legal obligations to assess and evaluate risk, like financial advisers, might face similar liability risks if their advice does not consider climate risk.
Bad Faith Claims	"Bad Faith" claims, which are asserted by a policyholder against a (re)insurer, arise from the purportedly unreasonable refusal of an insurer to process, defend, or pay a claim.[107]	Insurers may face "extra-contractual bad faith claims" arising from "[r]epresentations and decisions made by insurers before climate change-related case law and legislation is fully developed."[108] These claims may be triggered by an insurer's "inconsistent position on climate-change related issues" or its purportedly

[104] Natasha Turner, Update: ClientEarth Granted Hearing in Climate Case Against Shell Directors, ESGClarity (May 22, 2023), https://esgclarity.com/disappointment-as-high-court-dismisses-clientearth-case-against-shell/.

[105] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 144 (2012).

[106] IAIS, APPLICATION PAPER ON THE SUPERVISION OF CLIMATE-RELATED RISKS IN THE INSURANCE SECTOR 13 (May 2021), https://www.iaisweb.org/uploads/2022/01/210525-Application-Paper-on-the-Supervision-of-Climate-related-Risks-in-the-Insurance-Sector.pdf.

[107] "[A]n insurance company may, under certain circumstances, be liable for bad faith and extra-contractual damages, such as punitive damages, because of its wrongful refusal to defend, failure to provide an adequate defense, breach of its duty to settle, breach of its duty to indemnify, or breach of its general covenant of good faith and fair dealing." Allan D. Windt, *Bad faith and punitive damages*, *in* INSURANCE CLAIMS AND DISPUTES § 9.26 (6th ed. 2022).

[108] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 146 (2012).

Category	Description and Claim Categories	Example
	Likely Claim Categories: Adaptation and Governance and Regulatory	bad-faith denial of climate litigation coverage.[109] Climate litigation coverage disputes are being actively litigated in several courts. In response to a set of mitigation claims brought against Aloha Petroleum, Inc. (discussed under "Products Liability Coverage" above; together, the "Underlying Lawsuits"), Aloha Petroleum brought a coverage suit against its insurer, National Union Fire Insurance Co. of Pittsburgh ("National Union"). In the case, *Aloha Petroleum v. National Union Fire Insurance Co. of Pittsburgh,* Aloha Petroleum claimed that it was entitled to defense and indemnification under four Commercial General Liability policies, covering four discrete one-year periods between 1980 and 1986.[110] Following discovery, Aloha Petroleum filed an Amended Complaint, highlighting a total of 23 insurance policies issued between 1980 and 2009 by both National Union and another insurer, American Home Assurance Company ("American Home"), that Aloha Petroleum alleges require National Union and American Home to indemnify it against the Underlying Lawsuits.[111]

[109] *Id*.

[110] *See* Complaint, Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh, Civ. No. 22-372 (D. Haw. filed Aug. 10, 2022); *see also Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/aloha-petroleum-ltd-v-national-union-fire-insurance-co-of-pittsburgh/.

[111] *See* First Am. Complaint ¶¶ 8–32, Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh, Civ. No. 22-372 (D. Haw. filed Aug. 10, 2022).

Category	Description and Claim Categories	Example
		The Amended Complaint also contains a claim against National Union for its purportedly "bad faith" denial of Aloha's Petroleum initial claims.[112] Aloha Petroleum alleges that National Union's initial denial of coverage was based solely on a pollution exclusion in a 1985 commercial general liability policy.[113] Aloha Petroleum further claims that National Union now concedes that some relevant policies lack a pollution exclusion that would apply to the Underlying Lawsuits,[114] and "has no reasonable basis for refusing and/or failing to defend Aloha under [three of the policies]."[115] As of June 6, 2023, all parties have filed opposing motions for partial summary judgment on the issue of liability, which remain pending.

[112] *See id*. ¶¶ 91–95.

[113] *Id*. ¶ 92.

[114] *Id*.

[115] *Id*. ¶ 94.

3.3Categorizing (Re)Insurer Litigation Prospects

While the emergence and growth of climate litigation presents serious risk to (re)insurers, this developing area of law may offer many commercial opportunities for (re)insurers, and will create operational flexibility for (re)insurers. Many insurance industry participants are developing new products and services to assess and mitigate climate litigation risk, while others are looking towards climate litigation as a tool to avoid or defray losses that they would otherwise bear themselves.

3.3.1 Corporate and Operational Impact

Climate litigation risk presents a number of corporate and operational opportunities for (re)insurers. Climate litigation presents a complex and growing area of uncertainty for many private sector companies, and (re)insurers have begun to develop new products and services to address this uncertainty.

Category	Description and Claim Categories	Example
Product and Service Development	Corporate opportunities arising from a (re)insurer's experience with affirmative climate litigation. ***Likely Claim Categories***: Adaptation and Governance and Regulatory.	(Re)insurers may develop specific expertise surrounding climate litigation risk assessment, and so may be well-positioned to provide specialized climate litigation risk management and consulting services. "These might include new products that protect against risks arising from climate change, or incentives for insureds to mitigate or adapt to climate change."[116] For example, between 2022 and 2023 several companies began to develop, sell, and underwrite policies that protect the buyers of carbon offsets against risks

[116] MARK ROTHWELL, MARTIN EARLE, CHOONG HERN OOI, JAMES ORR, SHRADHA SHROFF & JIANHUA SIEW, PRACTICAL GUIDE TO CLIMATE CHANGE FOR GENERAL INSURANCE PRACTITIONERS 15 (2019), https://www.actuaries.org.uk/system/files/field/document/Practical%20Guide%20to%20Climate%20Change%20for%20GI%20Practitioners_1.pdf.

Category	Description and Claim Categories	Example
		like invalidation, third-party negligence and fraud.[117]

3.3.2 Underwriting Litigation Impact

The emergence and development of climate litigation offers (re)insurers tools to mitigate or defray their own underwriting risk. Importantly, the use of these tools does not require (re)insurers to lead the legal battle against climate change. Several interview participants familiar with insurance litigation strategy noted that (re)insurers tend to be conservative litigants, and would be unlikely to engage in novel climate litigation. Additionally, one interviewee with decades of experience representing insurance companies noted that insurers were very sensitive to reputational risk within the industry, and would likely be reluctant to push costs onto other insurers through aggressive litigation strategies.

Nevertheless, the emergence of climate litigation offers (re)insurers new operational flexibility. The increasing recognition of the scientific and legal theories underlying climate litigation may allow (re)insurers to recover from companies whose failure to consider climate change resulted in significant loss events like floods or wildfires. Property and casualty insurers may also use the threat of litigation to force governments or private actors to adapt to climate change risks. Additionally, (re)insurers have had some success in disclaiming coverage obligations where policyholders knew, or should have known, that their activities would result in harm. While this type of affirmative litigation can be expensive and serves to mitigate loss rather than generate revenue, it may represent an increasingly valuable legal tool for (re)insurers

[117] *See* Sheryl Tian Tong Lee, Ewa Krukowska, & Isabel Joy Kua, *Carbon Offsets: World Bank to Offer Insurance Against Political Risk*, BLOOMBERG (June 26, 2023), https://news.bloomberglaw.com/daily-labor-report/world-bank-to-offer-political-risk-insurance-to-carbon-investors (describing the current state of private offset insurance markets); Simon Jessop, Carolyn Cohn, & Susanna Twidale, *Howden Offers First Insurance Against Fraud in Voluntary Carbon Markets*, REUTERS (Sept. 6, 2022), https://www.reuters.com/business/sustainable-business/howden-offers-first-insurance-against-fraud-voluntary-carbon-markets-2022-09-06/.

in certain jurisdictions.[118]

Category	Description and Claim Categories	Example
Coverage Suits	In some circumstances, affirmative litigation may allow (re)insurers to disclaim obligations to insure climate claims. ***Likely Claim Categories***: Mitigation, Adaptation, and Governance and Regulatory.	In *Steadfast Insurance Co. v. AES Corp.*, an insurance company sought a declaratory judgment that it was not obligated to defend or indemnify its policyholder, AES Corp., in an underlying litigation seeking climate change-related damages. The allegations in the underlying case, *Native Village of Kivalina v. ExxonMobil Corp.*, claimed that the plaintiffs were harmed by Defendant's intentional GHG emissions. The Virginia Supreme Court affirmed a ruling in favor of the insurance company, finding that intentional GHG emissions did not represent an "accident" or "occurrence" under the defendant's commercial general liability policy.[119]
Subrogation Suits	(Re)insurers may attempt to recover climate change underwriting costs from entities that contribute to climate change or fail to plan for its effects. ***Likely Claim Categories***: Mitigation and Adaptation.	Climate litigation brought in the wake of Hurricane Katrina "opened up a completely new avenue of liability litigation against the providers of infrastructure, as well as the designers and builders of structures that do not withstand foreseeable events."[120] In cases like this, "the burden of proof pertains merely to whether [a particular] weather event was foreseeable to the builders or

[118] While the categories of disputes highlighted in this section invoke broad legal principles, the cases highlighted in this section were each brought in the United States. As this report previously noted, litigation strategies surrounding insurance coverage may be highly dependent on legal standards and judicial interpretations that can vary significantly between jurisdictions.

[119] *AES Corp. v. Steadfast Insurance Co.*, 283 Va. 609 (2012); *see also Steadfast Insurance Co. v. AES Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/steadfast-insurance-co-v-the-aes-corporation/.

[120] Michael B. Gerrard & Joseph A. MacDougald, *An Introduction to Climate Change Liability Litigation and A View to the Future*, 20 CONN. INS. L.J. 153, 163 (2013).

Category	Description and Claim Categories	Example
		designers of infrastructure, and whether they had a duty to take precautions."[121] This development may create risk for the insurers of infrastructure projects, but (re)insurers themselves are often well-placed to bring suits following infrastructure failures caused by climate change. For example, between 2015 and 2018 poorly maintained transmission lines owned by PG&E, a publicly traded utility company, caused several devastating fires in northern California.[122] Following the fires, an executive at PG&E charged with wildfire safety blamed the incidents in part on PG&E's failure to adapt to climate change, saying that "equipment failures that would have caused little or no damage a few years ago now set off fires that burn thousands of acres because California forests had become much more combustible."[123] In 2019, PG&E paid $11 billion to settle subrogation claims from a coalition of insurers and reinsurers.[124]
Adaptation Suits	(Re)insurers may use affirmative litigation, or the threat of it, to seek adaptive measures and strengthen risk standards. This can both reduce loss on	In *Illinois Farmers Insurance Co. v. Metropolitan Water Reclamation District of Greater Chicago*, a group of insurers and related entities sued the water reclamation districts for a number of Illinois municipalities, alleging that the municipalities' failures to implement

[121] *Id*. at 164.

[122] Ivan Penn, Peter Eavis, & James Glanz, *How PG&E Ignored Fire Risks in Favor of Profits*, N.Y. TIMES (Mar. 18, 2019), https://www.nytimes.com/interactive/2019/03/18/business/pge-california-wildfires.html.

[123] *Id*.

[124] Bill Chappell, *PG&E Agrees To Pay $11 Billion Insurance Settlement Over California Wildfires*, NPR (Sept. 13, 2019), https://www.npr.org/2019/09/13/760479525/pg-e-to-pay-11-billion-insurance-settlement-over-wildfires-in-paradise-and-elsew.

Category	Description and Claim Categories	Example
	underwritten policies and produce reputational benefits. ***Likely Claim Categories***: Adaptation and Governance and Regulatory.	reasonable stormwater management practices and increase stormwater capacity resulted in increased payouts to the plaintiffs' insureds after heavy rains in April 2013.[125] These cases were removed to federal court in June of 2014. A month later plaintiffs voluntarily dismissed the lawsuits, saying "[w]e believe our lawsuit brought important issues to the attention of the respective cities and counties, and that our policyholders' interests will be protected by the local governments going forward."[126] While it is unclear if *Illinois Farmers* actually resulted in any municipalities adopting adaptation measures, several interview participants noted that (re)insurers perceive a high reputational value in appearing proactive on climate change issues.

[125] *See* Notice of Removal Ex. A: Complaint ¶¶ 64–103, Illinois Farmers Insurance Co. v. Metropolitan Water Reclamation District of Greater Chicago, Civ. No. 14-3251 (N.D. Ill. filed May 2, 2014).

[126] *Illinois Farmers Insurance Co. v. Metropolitan Water Reclamation District of Greater Chicago*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/illinois-farmers-insurance-co-v-metropolitan-water-reclamation-district-of-greater-chicago/.

4. MODELING CLIMATE LITIGATION RISK

The threats and opportunities presented by climate litigation are of increasing concern to (re)insurers, who must understand their current portfolio exposures to climate litigation risk, reserve for potential losses, and price new products that may be affected by climate litigation. However, to date (re)insurers, like other businesses, have struggled to assess climate litigation risk.[127] In May of 2022 the Bank of England published the results of its 2021 Climate Biennial Exploratory Scenario ("CBES"), also referred to as the "climate stress test."[128] The results suggested that many insurers currently lack the capacity to assess their exposure to climate litigation. In particular, the BoE noted that "several insurers struggled to collate and aggregate the information necessary for a robust assessment of potential exposures," and had "difficulty identifying and aggregating policy exposures according to specific contract wording and industry sector classifications."[129]

Governance and regulatory claims present a relatively simple risk assessment challenge, because climate claims are not categorically different from other governance and regulatory risks. Adding climate compliance to the universe of potential claims simply increases the frequency (and potentially the severity) of litigation.[130] Indeed, the process of assessing and evaluating climate litigation risk may in fact "serve to temper [companies'] exposure to litigation of this type,"[131] because many climate-related governance and regulatory claims arise from corporate breaches of transparency regimes that require companies to assess and disclose material risks. In contrast,

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[127] "Climate change-related litigation risks are generally not yet assessed by the insurance industry in a quantitative and scenario-based manner," perhaps in part because relatively few climate litigation expenses have been paid out by insurers. UNEP PSI, INSURING THE CLIMATE TRANSITION: ENHANCING THE INSURANCE INDUSTRY'S ASSESSMENT OF CLIMATE CHANGE FUTURES 6 (2021), https://www.unepfi.org/psi/wp-content/uploads/2021/01/PSI-TCFD-final-report.pdf.

[128] Helen Thomas, *No One is Ready For the Rising Tide of Climate Litigation*, FIN. TIMES (May 25, 2022), https://www.ft.com/content/8b9f42c4-f916-403d-b3e5-0edc9460a56e.

[129] BANK OF ENGLAND, RESULTS OF THE 2021 CLIMATE BIENNIAL EXPLORATORY SCENARIO (CBES), Box C: Climate Litigation Risk (May 24, 2022) https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario.

[130] Lucian McMahon, *Quantifying Climate Change Liability Risks: Two Approaches*, VERISK (March 17, 2022), https://www.air-worldwide.com/blog/posts/2022/03/quantifying-climate-change-liability/.

[131] Thomas Englerth, Paul Munday, Michael Williams, & Sachi Jain, *Climate Change Litigation: The Case For Better Disclosure And Targets*, S&P GLOBAL RATINGS (Oct. 6, 2021), https://www.spglobal.com/ratings/en/research/articles/211006-climate-change-litigation-the-case-for-better-disclosure-and-targets-12136711.

assessing and limiting (re)insurer exposure to mitigation and adaptation claims presents a particular challenge because these cases arise in a variety of contexts and may present novel legal theories. The widespread physical and social effects of climate change, and the "sheer range of cases" that may arise as a result, "could make it hard for insurers to craft exclusionary language, even if policyholders were willing to accept it."[132]

This section discusses qualitative and quantitative techniques for assessing climate litigation risk. First, this section outlines key factors identified in the literature and by interviewees as driving (re)insurer climate litigation risk. These factors are organized into rough categories, including (1) physical and transition events, (2) jurisdiction-specific characteristics, and (3) policy terms whose inclusion and interpretation may dramatically impact (re)insurer risk exposure. Next, it briefly reviews best practices in firm-specific litigation risk assessment, and highlights the litigation risk disclosure models proposed by two jurisdictions: Canada and the United Kingdom.

Finally, this section discusses techniques for modelling climate litigation risk. First, it sets forth a simple portfolio litigation risk model for discussion purposes. Next, it highlights the role that quantitative and qualitative analysis plays in fleshing out the model's variables, and discusses how the previously identified drivers of litigation risk can be incorporated into such a model. As a last step, this section highlights three techniques that have been applied to model climate litigation risk: (1) "massive tort" modelling, a largely qualitative approach that has been used to predict the trajectory of developing law surrounding mitigation claims; (2) "emerging risk" modelling, a targeted qualitative and quantitative approach that has been applied to assess and price emerging risks surrounding adaptation claims; and (3) "scenario" modelling, a qualitative and quantitative modelling approach that tests a portfolio's exposure to liability under a set of predefined litigation scenarios.

4.1Key Drivers of (Re)Insurer Litigation Risk

The rapidly growing scope of climate litigation and the wide variety of climate litigation risks described in Section 3 suggest that a broad array of factors may influence an (re)insurer's exposure

[132] Helen Thomas, *No One is Ready For the Rising Tide of Climate Litigation*, FIN. TIMES (May 25, 2022), https://www.ft.com/content/8b9f42c4-f916-403d-b3e5-0edc9460a56e. This point was echoed by several insurance industry professional interviewed for this report.

to climate litigation risk. Industry professionals and academics have identified a number of factors as key drivers of (re)insurer litigation risk. These factors are grouped into three broad categories for the purpose of discussion: (1) physical and transition factors, (2) jurisdiction-specific characteristics, and (3) policy terms.

It is important to note that some of the "risk drivers" under the heading of "physical and transition effects" represent scientific and legal research. This research both identifies existing litigation risk and causes climate litigation risk. Attribution research, which attempts to causally link emissions from a source to specific climate change-driven harms, may be directly introduced in some climate litigation, and so its existence directly increases the risk of these claims succeeding. However, legal and scientific research can also provide early warning signs of emerging physical and transition risks, *signaling* rather than *causing* litigation risk.

It is similarly important to note that these risk drivers may be associated with other factors that can separately serve as proxies for or inputs into (re)insurer litigation risk models. Certain sectors may face significantly more climate litigation risk than others—for example, one interviewee with experience in the Australian energy sector noted that many Australian energy and mining companies see climate litigation as inevitable. However, while "sector" may be a reasonable variable in a working litigation risk model, it would be duplicative and inexact to characterize "sector" as a factor driving litigation risk. For example, "utilities" might face a significant amount of climate litigation risk, both because they often are significant GHG emitters and because they operate complex physical infrastructure that must be adapted to the physical risks of climate change. However, the risk that climate litigation poses to an individual utility company will vary widely based on its activities, assets, and risk management processes, among other factors. For this reason, a more precise risk model would identify the litigation risk driver as the underlying activities of firms in that sector, along with the scientific attribution of those activities to climate change and resulting third-party harms.

Litigation Risk Driver	Description and Claim Categories
Physical and Transition Factors	
Event Attribution Science	Science, particularly bioscience, linking a particular third-party injury to a defendant's activities can increase claims.[133] ***Claim Categories***: Mitigation Claims and Adaptation Claims.
Source Attribution Science	Science exploring the extent to which a specific activity is responsible for climate change can increase claims.[134] ***Claim Categories***: Mitigation Claims and Adaptation Claims.
Legal Publications	Legal publications can be a preceding indicator of claims, especially in "secondary effects" claims where the causal chain is not obvious.[135] ***Claim Categories***: Mitigation Claims, Adaptation Claims, and Governance and Regulatory Claims.
Jurisdiction Characteristics	
Litigation Finance	The availability of litigation finance, whether through nonprofits or through for-profit financing schemes, can increase claims.[136] Multiple interviewees highlighted the role that well-funded nonprofits were playing in the global proliferation of climate litigation.[137]

[133] Melissa Boudreau, Sr. V.P. of Modelling, Praedicat, Climate Stress Testing: Scenario Analysis – Liability Risk at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-US/RecordView/Index/24785; Dr. Bob Reville, CEO, Praedicat, Keynote Address at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-GB/RecordView/Index/24783; *see also* Thomas Englerth, Paul Munday, Michael Williams, & Sachi Jain, *Climate Change Litigation: The Case For Better Disclosure And Targets*, S&P GLOBAL RATINGS (Oct. 6, 2021), https://www.spglobal.com/ratings/en/research/articles/211006-climate-change-litigation-the-case-for-better-disclosure-and-targets-12136711 (discussing the role that attribution science may play in climate litigation).

[134] Melissa Boudreau, Sr. V.P. of Modelling, Praedicat, Climate Stress Testing: Scenario Analysis – Liability Risk at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-US/RecordView/Index/24785.

[135] *Id*.

[136] Dr. Bob Reville, CEO, Praedicat, Keynote Address at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-GB/RecordView/Index/24783.

[137] *See also* MARYAM GOLNARAGHI, JOANA SETZER, NIGEL BROOK, WYNNE LAWRENCE, & LUCIA WILLIAMS, CLIMATE CHANGE LITIGATION: INSIGHTS INTO THE EVOLVING LANDSCAPE 25–26 (2021), https://www.genevaassociation.org/sites/default/files/climate_litigation_04-07-2021.pdf (identifying charitable contributions to climate litigants as a key driver of climate litigation).

	Claim Categories: Mitigation Claims, Adaptation Claims, and Governance and Regulatory Claims.
Litigation Costs	Jurisdiction-specific cost allocation provisions that award litigation costs to a lawsuit's winner can decrease claims in new and developing areas of the law. Several interviewees, especially lawyers from outside of the United States, noted that U.S. courts are considered plaintiff-friendly because parties generally bear their own litigation costs. These interviewees credited this feature for the relatively high volume of climate litigation brought in the U.S. ***Claim Categories***: Mitigation Claims, Adaptation Claims, and Governance and Regulatory Claims.
Regulatory Atmosphere	The enactment of new climate governance regimes can encourage some types of litigation and discourage others. The enforcement of climate-related "laws and regulations can give rise to regulatory investigation, sanctions, fines or litigation. At the same time, rising standards of care and lower legal thresholds may make the success of those claims more likely."[138] However, some academics have observed "that pro-regulatory litigation grows during administrations that are less inclined to regulate climate change, and antiregulatory litigation increases during administrations that take the opposite approach."[139] ***Claim Categories***: Mitigation Claims, Adaptation Claims, and Governance and Regulatory Claims.
Policy Terms	
Coverage Triggers	The question of whether an insurance policy is "triggered" may require jurisdiction- and policy-specific analysis.[140] Generally, a "claims-made" trigger has less exposure to latent liability than a "losses-occurring" or "occurrence" trigger.[141] As discussed elsewhere in this report, climate

[138] *See* Maryam Golnaraghi, Joana Setzer, Nigel Brook, Wynne Lawrence, & Lucia Williams, Climate Change Litigation: Insights into the Evolving Landscape 25 (2021), https://www.genevaassociation.org/sites/default/files/climate_litigation_04-07-2021.pdf.

[139] Hari Osofsky & Jacqueline Peel, *When Regulation Eases Litigation Grows*, FRESHFIELDS (n.d.), https://www.freshfields.us/insights/campaigns/climate-change-litigation/when-regulation-eases-litigation-grows/.

[140] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 161 (2012).

[141] MARK ROTHWELL, MARTIN EARLE, CHOONG HERN OOI, JAMES ORR, SHRADHA SHROFF & JIANHUA SIEW, PRACTICAL GUIDE TO CLIMATE CHANGE FOR GENERAL INSURANCE PRACTITIONERS 16 (2019),

	litigation defendants have recently claimed entitlement to defense and indemnification under forty-year old occurrence policies.[142] ***Claim Categories***: Mitigation Claims, Adaptation Claims, and Governance and Regulatory Claims.
Definition of "Pollutant" Under Insurance Policies	Jurisdictions and policies may take varying positions on what constitutes a "pollutant" for the purposes of interpreting insurance coverage. GHGs may or may not be included in such a definition. Pollutants are often expressly excluded from commercial general liability policies, but may be separately covered under a specific pollution coverage policy.[143] Even if GHGs are deemed a covered "pollutant" under the terms of a specific policy, environmental liability specialists interviewed for this report noted that environmental liability coverage is generally limited to accidental spills and contamination. The terms of these policies, interviewees emphasized, may often preclude insurance coverage of liabilities stemming from an insured's knowing emissions of GHGs. ***Claim Categories***: Mitigation Claims, Adaptation Claims, and Governance and Regulatory Claims.
Fortuity Clauses and Principles	As a general matter, insurance policies, and the laws governing insurance policies, limits insurance coverage to losses arising from acts that were unknown, unforeseen, or unintended—a principle known as "fortuity."[144] This principle, and related terms and conditions, have already been applied to deny coverage against certain climate litigation claims. In *AES Corp. v. Steadfast Insurance Co.*, an insurer filed suit in a Virginia court seeking a declaration that it had no duty to indemnify AES Co., an energy company, against a mitigation suit filed by a group of native Alaskans. The allegations in the underlying case, *Native Village of Kivalina v. ExxonMobil*

https://www.actuaries.org.uk/system/files/field/document/Practical%20Guide%20to%20Climate%20Change%20for%20GI%20Practitioners_1.pdf.

[142] *See* Complaint, Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh, Civ. No. 22-372 (D. Haw. filed Aug. 10, 2022) (claiming entitlement to defense and indemnification under four Commercial General Liability policies, covering four discrete one-year periods between 1980 and 1986); *see also Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/aloha-petroleum-ltd-v-national-union-fire-insurance-co-of-pittsburgh/.

[143] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 164–79 (2012).

[144] *See* Barry Zalmer, *Fortuity Rules Insurance Interpretation: No Fire Insurance For Preexisting Condition of Property*, LEXISNEXIS (June 17, 2014), https://www.lexisnexis.com/legalnewsroom/insurance/b/propertyinsurance/posts/fortuity-rules-insurance-interpretation-no-fire-insurance-for-preexisting-condition-of-property (outlining the basic principle of fortuity in insurance).

	Corp., claimed that the plaintiffs were harmed by the intentional GHG emissions of AES Corp., among others.[145] The Virginia Supreme Court ultimately affirmed a ruling in favor of the insurance company, finding that allegedly intentional GHG emissions did not represent an "accident" or "occurrence" under the commercial general liability policy that AES Corp. had purchased.[146] ***Claim Categories***: Mitigation Claims, Adaptation Claims, and Governance and Regulatory Claims.
Anti-Stacking or Noncumulation Clauses	When a covered policyholder "incurs a loss that caused damage over two or more policy periods, the procedure of applying the policy limit of each policy to the loss is known as stacking."[147] If a jurisdiction allows stacking and a relevant policy does not have an "anti-stacking" or "noncumulation" clause preventing it, a mitigation claim that causes harm across multiple policy periods may be entitled to coverage beyond the limit of any one policy.[148] ***Claim Categories***: Mitigation Claims, Adaptation Claims, and Governance and Regulatory Claims.
Defense Costs	Defense cost provisions, including coverage triggers, limits, and sublimits, might dramatically affect insurer exposure to climate litigation risk. Several interviewees emphasized that even cases with relatively minor damages could result in significant legal fees, as climate litigation is often fact-intensive and highly technical.
Policy Periods	Insurers may also be protected against climate litigation risk because many insurance products have relatively short pricing periods, and are repriced annually. This could go some way towards minimizing the risk that insurers have systemically mispriced climate litigation risk. However, "[a]nnual pricing limits some but not all the risk of increasing climate

[145] *Native Village of Kivalina v. ExxonMobil Corp.*, 696 F.3d 849, 853–55 (9th Cir. 2012); *see also Native Village of Kivalina v. ExxonMobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/native-village-of-kivalina-v-exxonmobil-corp/.

[146] *AES Corp. v. Steadfast Insurance Co.*, 283 Va. 609 (2012); *see also Steadfast Insurance Co. v. AES Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/steadfast-insurance-co-v-the-aes-corporation/.

[147] *Stacking Insurance Limits*, INTERNATIONAL RISK MANAGEMENT INSTITUTE (July 2004), https://www.irmi.com/articles/expert-commentary/stacking-insurance-limits.

[148] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 192–93 (2012).

	litigation—new contracts could be at risk from a rapid shift in the legislative environment and expected professional standards."[149]
Exclusionary Language	Several organizations, including Lloyd's of London and The Chancery Lane Project (a legal organization that drafts model climate-related contract clauses) have developed exclusionary language designed to limit (re)insurer exposure to climate litigation risk. The model clause promulgated by Lloyd's of London "excludes any loss, liability, cost or expense arising out of any allegation or claim that the (Re)Insured caused or contributed to Climate Change or its consequences"[150]—in the terminology of this report, "mitigation claims." The model clause proposed by The Chancery Lane Project is broader, and offers options to exclude a number of mitigation, adaptation, and governance and regulatory claims.[151] However, interviewees familiar with the D&O Insurance market and infrastructure insurance market, among others, emphasized that the viability of these exclusions might be severely limited by the willingness of clients to accept them. While mitigation claims were frequently subject to exclusionary language, interviewees noted that clients might be unwilling to accept the exclusion of adaptation claims or "greenwashing" claims.

4.2Assessing Firm-Specific Climate Litigation Risk

Firms, and in particular public companies, are frequently subject to statutory or fiduciary obligations to assess and disclose risks, including litigation risk. These obligations increasingly require firms to specifically assess and disclose climate-specific risks. While specific regulatory risk assessment mandates are discussed at more length in Annex 1, two jurisdictions in particular have established clear models for firm-specific litigation risk assessment: Canada and the United Kingdom.

Some of the most thorough regulatory guidance on assessing and disclosing the risk of materialized litigation comes from Canada. In 2019 the Canadian Securities Administrators ("CSA")

[149] BANK OF ENGLAND, RESULTS OF THE 2021 CLIMATE BIENNIAL EXPLORATORY SCENARIO (CBES), Box C: Climate Litigation Risk (May 24, 2022) https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario.

[150] *LMA Model Climate Change Exclusion*, LLOYD'S MARKET ASSOCIATION (Nov. 10, 2021), https://www.lmalloyds.com/LMA/News/LMA_bulletins/LMA_Bulletins/LMA21-041-DP.aspx.

[151] *Exclusions from Insurance Coverage for Climate Harms*, THE CHANCERY LANE PROJECT (n.d.), https://chancerylaneproject.org/climate-clauses/exclusions-from-insurance-coverage-for-climate-harms/.

published guidance that specifically addresses climate litigation risk disclosure.[152] The CSA advises corporate management to evaluate and report whether "current climate change-related litigation . . . may pose a litigation threat" to the company, either "now or in the future."[153] The CSA also categorizes climate litigation among other "transition risks,"[154] and urges companies to consider and disclose potential climate litigation in their strategic planning.[155] While the CSA does not require litigation risk disclosures to take specific forms, the CSA's guidance suggests that thorough disclosures should include:

(1) The name of each material proceeding;

(2) The stage of such proceeding;

(3) The anticipated likelihood and result of an adverse outcome;

(4) Whether related payments or defense expenditures will be covered by applicable insurance policies; and

(5) Whether anticipated costs or awards have been accounted for in the company's financial accounting.[156]

Once a particular legal claim has materialized—that is, once a lawsuit has either been filed or credibly threatened—there are a wide array of tools that allow firms and attorneys to assign a value to that claim.[157] While there is always some uncertainty to these estimates, especially in relatively new fields like climate litigation, climate litigators interviewed for this report were

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[152] *See* CSA STAFF NOTICE 51-333 – ENVIRONMENTAL REPORTING GUIDANCE, CANADIAN SECURITIES ADMINISTRATORS (Oct. 27, 2010), https://www.osc.ca/sites/default/files/pdfs/irps/csa_20101027_51-333_environmental-reporting.pdf (outlining environmental reporting requirements); CSA STAFF NOTICE 51-358 – REPORTING OF CLIMATE CHANGE-RELATED RISKS, CANADIAN SECURITIES ADMINISTRATORS (Aug. 1, 2019), https://www.osc.ca/sites/default/files/pdfs/irps/csa_20190801_51-358_reporting-of-climate-change-related-risks.pdf (outlining reporting requirements related to climate change risk).

[153] CSA STAFF NOTICE 51-358 – REPORTING OF CLIMATE CHANGE-RELATED RISKS 6, CANADIAN SECURITIES ADMINISTRATORS (Aug. 1, 2019), https://www.osc.ca/sites/default/files/pdfs/irps/csa_20190801_51-358_reporting-of-climate-change-related-risks.pdf.

[154] *Id. at* 11.

[155] *Id. at* 6, 14.

[156] *See* CSA STAFF NOTICE 51-333 – ENVIRONMENTAL REPORTING GUIDANCE, CANADIAN SECURITIES ADMINISTRATORS 27–28 (Oct. 27, 2010), https://www.osc.ca/sites/default/files/pdfs/irps/csa_20101027_51-333_environmental-reporting.pdf (providing example litigation disclosures).

[157] *See generally* Heather Heavin & Michaela Keet, *A Spectrum of Tools to Support Litigation Risk Assessment: Promise and Limitations*, 15 CAN. J. L. & TECH. 265 (2017) (reviewing litigation risk assessment tools).

generally confident in their ability to assign a range of values to materialized climate litigation through their ordinary risk evaluation processes.[158]

However, firms that are assessing their specific exposure to climate litigation risk must also evaluate the risk of litigation that has not yet materialized. This presents a more difficult analytical challenge. To address this challenge, the UK has explicitly incorporated the TCFD recommendations into its public company risk disclosure regime. Listing Rules 9.8.6R(8), 9.8.7R, and 14.3.27R together require listed companies to either (i) comply with the TCFD recommendations and disclose climate-related risks in their annual reporting; or (ii) provide an explanation as to why the company did not follow the TCFD recommendations.[159] Similarly, the UK's Climate-related Financial Disclosure ("CFD") regulations of 2022, which largely mirror the TCFD disclosure framework,[160] require the annual reports of certain public and private companies to contain explicit climate-related disclosures.[161] The role that climate litigation risk plays in the TCFD disclosure framework has already been extensively discussed in this report;[162] non-binding CFD guidance issued by the UK's Department of Business, Energy, and Industrial Strategy similarly emphasizes that climate litigation and its outcomes should be considered and disclosed in each company's Strategic Report under the CFD regulations.[163]

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[158] Interviewees noted that even in the absence of clearly developed liability doctrines, it was relatively easy to assign a range of values to possible litigation outcomes once a specific and detailed claim for damages has been asserted. However, interviewees emphasized that predicting an *expected* outcome in the face of a developing legal regime was more difficult than predicting *possible* outcomes.

[159] *See* Listing Rule 9.6.8R(8)(c).

[160] MANDATORY CLIMATE-RELATED FINANCIAL DISCLOSURES, NON-BINDING GUIDANCE, DEPT. BUSINESS, ENERGY & INDUSTRIAL STRATEGY 12 (Feb. 2022), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056085/mandatory-climate-related-financial-disclosures-publicly-quoted-private-cos-llps.pdf.

[161] MANDATORY CLIMATE-RELATED FINANCIAL DISCLOSURES, NON-BINDING GUIDANCE, DEPT. BUSINESS, ENERGY & INDUSTRIAL STRATEGY (Feb. 2022), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056085/mandatory-climate-related-financial-disclosures-publicly-quoted-private-cos-llps.pdf (summarizing the CFD regulations).

[162] *See supra* Section 3.1.

[163] MANDATORY CLIMATE-RELATED FINANCIAL DISCLOSURES, NON-BINDING GUIDANCE, DEPT. BUSINESS, ENERGY & INDUSTRIAL STRATEGY 11–13 (Feb. 2022), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056085/mandatory-climate-related-financial-disclosures-publicly-quoted-private-cos-llps.pdf (discussing climate litigation risk as part of a broader category of "legal or reputational transition risks").

Clear regulatory guidance around firm-specific litigation risk assessment is valuable both to disclosing firms and to (re)insurers, because a company's failure to adequately assess climate risk may itself be the source of liability. As previously discussed, the risk of governance and regulatory claims "may lessen as market disclosure standards on climate risk become more consistent and embedded across jurisdictions, as firms become more certain around their application, and if insured firms develop clear transition plans within guidelines set by central bodies and/or industry associations."[164]

4.3 Modelling Portfolio-Wide Climate Litigation Risk

As the Bank of England's "climate stress test" highlighted, (re)insurers can struggle to assess their exposure to climate litigation without established processes and models to understand climate litigation risk.[165] For this reason, it is useful at this stage to outline a simple climate litigation risk model. While developing a thorough quantitative model of climate litigation risk lies beyond the scope of this report, and any model set forth at a high level will be necessarily vague, a discussion model offers the opportunity to examine the interaction of litigation risk factors. In addition, articulating a model grounds discussion in a concrete framework and exposes practical gaps and assumptions in an otherwise theoretical analysis of litigation risk.[166]

4.3.1 A Simple "Discussion Model" of Climate Litigation Risk

From the perspective of an insurer, any climate litigation risk model needs to answer four questions:

1. Of all the climate-related damage in the world, what percentage will result in a notification under a policy?
2. What proportion of notifications will result in liability for a policyholder?

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[164] BANK OF ENGLAND, RESULTS OF THE 2021 CLIMATE BIENNIAL EXPLORATORY SCENARIO (CBES), Box C: Climate Litigation Risk (May 24, 2022) https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario.

[165] *Id.*

[166] "[I]t important to develop a plausible theory of the case to complement a formal analysis: major discrepancies between the results of the risk analysis and a more intuitive approach should prompt reexamination of the assumptions on which both are based." Heather Heavin & Michaela Keet, *A Spectrum of Tools to Support Litigation Risk Assessment: Promise and Limitations*, 15 CAN. J. L. & TECH. 265, 267 n.10 (2017).

3. What amount of policyholder liability will be passed through to insurers?
4. How much will it cost to assess, defend, or settle all of this?

These fundamental questions, or some variety of them, form the basis of many forecasting models designed to assess novel liability risks.[167]

The first three questions relate to real (or claimed) harm in the world, and target a distinct legal question: of all the climate-related damage in the world, how much will the insurer be required to indemnify? This problem has four elements: (1) the climate-related damage, (2) the notification-generating event (referred to here as "the claim"), (3) the policyholder's liability, and (4) the insurer's indemnification of that liability.

Damage: A third party:
(1) Suffers harm that is caused by, or exacerbated by, climate change; or
(2) Is authorized to enforce compliance with laws and regulatory frameworks related to climate change.

Claim: A harmed third party attempts to link their **damage** to:
(1) An insured's contribution to climate change;
(2) An insured's failure to plan for or adapt to physical and transition risks; or
(3) An insured's breach of the laws and regulatory frameworks related to climate change.
Note: As costs may arise even without formal litigation, insurers may wish to define "claims" broadly to encompass all events that result in a notification under an insurance policy.

Liability: A policyholder is found liable for, or concedes liability for, a **claimed** harm.

[167] For example, a review of asbestos liability forecasting models noted that each model must ask and answer "the following basic questions:"

1. "How many people will sue the defendant with mesothelioma claims?"
2. "Out of those who sue, how many claims will be dismissed without payment?"
3. "Out of those claims that will be paid, how much will the defendant ultimately pay?"
4. "How much will it cost to defend all of the above?"

Elizabeth Hanke, *Forecasting Mesothelioma Claims Part 2: Doing More Comprehensive Analysis*, KCIC (July 23, 2018), https://www.kcic.com/trending/feed/forecasting-mesothelioma-claims-part-2-doing-more-comprehensive-analysis/.

Indemnity: An insurer is obliged to indemnify an insured party's **liability** under the terms of an underwritten policy.

In practice an insurer would not assess these four elements sequentially, but they are conceptually related: (1) the insurer's indemnification obligations will represent some proportion of the policyholder's total liability (ignoring defense costs and process costs, which will be addressed shortly); (2) policyholder liability will represent some proportion of the total claims made against them; and (3) third party claims will represent some proportion of the total harm caused by climate change.[168]

This relationship suggests a "discussion model"—an extremely simplified conceptual model of climate litigation exposure that highlights the relationship between questions (1), (2), and (3):

This framework is not novel; the same basic variables underly many estimates of climate litigation risk. For example, a recent white paper by the 2° Investing Initiative, a "non-profit think tank working to align financial markets and regulations with the Paris Agreement goals," set forth several similar frameworks in outlining potential scenarios for climate litigation liability, along with accompanying liability calculations estimating the potential exposure of oil and gas companies to mitigation claims.[169] A 2021 report by the United Nations Environment Programme's Principles for Sustainable Insurance Initiative outlined a similar litigation risk model, although it did not explicitly consider the probability of indemnification as an independent variable.[170]

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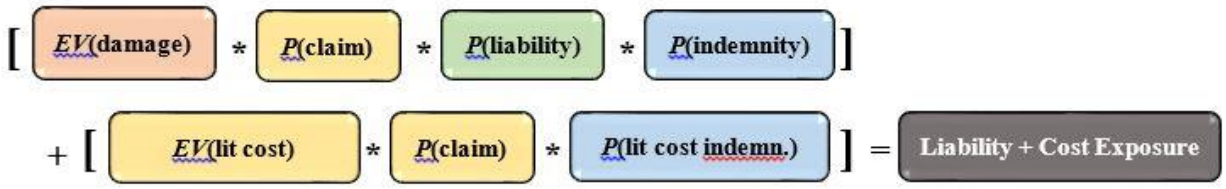
[168] While "harm" is used as shorthand, it is important to note that "damage" as defined above includes a range of regulatory fines and penalties that might not be directly related to the "harm caused by climate change."

[169] *See* JAKOB THOMÄ, JACOB KASTL, CONSTANZE BAYER, & DAVID COOKE, A BURDEN THEY WILL CARRY: THE POTENTIAL ECONOMIC & FINANCIAL COST OF CLIMATE LIABILITIES TO COMPANIES AND INVESTORS 10–14 (March 2021), https://2degrees-investing.org/wp-content/uploads/2021/12/Climate-Litigation-Paper.pdf.

[170] *See* UNEP PSI, INSURING THE CLIMATE TRANSITION: ENHANCING THE INSURANCE INDUSTRY'S ASSESSMENT OF CLIMATE CHANGE FUTURES 81–86 (2021), https://www.unepfi.org/psi/wp-content/uploads/2021/01/PSI-TCFD-final-report.pdf.

The fourth question posed above asks how much climate litigation will cost to assess, defend, or settle. These process costs can be significant, and are not necessarily tied to the value of the underlying claim. Insurers often indemnify a policyholder's legal expenses whether or not the litigation against them is successful, and any realistic model of mass litigation exposure must account for these costs.[171] A discussion model that attempts to outline the relationship between questions (1), (2), (3) and (4) would look more like the following:



Even this more refined "model" is dramatically simplified to illustrate the broad variables that go into a climate litigation risk assessment, and is obviously incomplete. For example, a mathematical model attempting to quantify insurer liability at the indemnification stage would need to account for non-probabilistic variables like deductibles and policy limits, and would need to consider whether the insurance policy in question has exclusions or other terms that limit or increase the insurer's exposure.[172] However, this discussion model provides a conceptual framework to understand the variables that impact (re)insurer climate litigation risk.

4.3.2 Incorporating Key Drivers

With a simple litigation risk model in mind, the litigation risk drivers discussed in Section 4.1 can be put into context.

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[171] *See, e.g.*, Elizabeth Hanke, *Forecasting Mesothelioma Claims Part 2: Doing More Comprehensive Analysis*, KCIC (July 23, 2018), https://www.kcic.com/trending/feed/forecasting-mesothelioma-claims-part-2-doing-more-comprehensive-analysis/ (discussing litigation risk models used to forecast mesothelioma claims arising from asbestos).

[172] A complete quantitative model would also need to account for the costs that might arise from a "bad faith" suit if the insurer refuses to indemnify the policyholder. A model for reinsurer risk exposure would involve yet another layer of indemnity analysis, as each reinsurer would need to quantify the likelihood that it would be required to compensate an insurer under the terms of an underwritten treaty, accounting for the reinsurance treaty's own non-probabilistic variables like deductibles and policy limits.

Claim likelihood can be affected by:

- **Event & Source Attribution Science:** Science linking a particular third-party injury to a defendant's activities can increase both the number and scope of claims.[173]
- **Legal Publications:** New legal theories of liability can directly result in climate litigation.[174]
- **Litigation Financing:** The availability of litigation financing in a jurisdiction can increase the number and complexity of climate suits.[175]
- **Litigation Cost Allocation:** Jurisdiction-specific cost allocation provisions that award litigation costs to a lawsuit's winner can decrease claims in new and developing areas of the law.
- **Regulatory Atmosphere:** The enforcement of climate-related "laws and regulations can give rise to regulatory investigation, sanctions, fines or litigation."[176] At the same time, however, the likelihood of private sector litigation may increase "during administrations that are less inclined to regulate climate change."[177]
- **Policy Periods and Coverage Triggers**: The exposure of insurers to unanticipated and unpriced claims is reduced when insurers have shorter policy periods[178] and when

[173] Melissa Boudreau, Sr. V.P. of Modelling, Praedicat, Climate Stress Testing: Scenario Analysis – Liability Risk at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-US/RecordView/Index/24785; Dr. Bob Reville, CEO, Praedicat, Keynote Address at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-GB/RecordView/Index/24783; *see also* Thomas Englerth, Paul Munday, Michael Williams, & Sachi Jain, *Climate Change Litigation: The Case For Better Disclosure And Targets*, S&P GLOBAL RATINGS (Oct. 6, 2021), https://www.spglobal.com/ratings/en/research/articles/211006-climate-change-litigation-the-case-for-better-disclosure-and-targets-12136711.

[174] *Id*.

[175] *Id*.

[176] *See* Maryam Golnaraghi, Joana Setzer, Nigel Brook, Wynne Lawrence, & Lucia Williams, Climate Change Litigation: Insights into the Evolving Landscape 25 (2021), https://www.genevaassociation.org/sites/default/files/climate_litigation_04-07-2021.pdf.

[177] Hari Osofsky & Jacqueline Peel, *When Regulation Eases Litigation Grows*, FRESHFIELDS (n.d.), https://www.freshfields.us/insights/campaigns/climate-change-litigation/when-regulation-eases-litigation-grows/.

[178] BANK OF ENGLAND, RESULTS OF THE 2021 CLIMATE BIENNIAL EXPLORATORY SCENARIO (CBES), Box C: Climate Litigation Risk (May 24, 2022) https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario.

coverage is triggered based on the date of claims.[179] From the perspective of insurers these factors feed into "claim likelihood," because (re)insurer litigation risk must be evaluated throughout the entire period covered by the relevant policy. A "losses-occurring" policy may increase the likelihood that an insurer is exposed to "long-tail" climate claims, which arise and are reimbursed long after the underlying harmful behavior.[180]

Policyholder liability likelihood can be affected by:

- **Event & Source Attribution Science:** Science linking a particular third-party injury to a defendant's activities can be introduced as evidence and directly increase the likelihood that a defendant policyholder will be found liable for that injury.[181]
- **Legal Publications:** New legal theories of liability can directly influence courts and increase the likelihood of claims succeeding.[182]
- **Regulatory Atmosphere:** "[R]ising standards of care and lower legal thresholds may make the success of [climate] claims more likely."[183]

[179] MARK ROTHWELL, MARTIN EARLE, CHOONG HERN OOI, JAMES ORR, SHRADHA SHROFF & JIANHUA SIEW, PRACTICAL GUIDE TO CLIMATE CHANGE FOR GENERAL INSURANCE PRACTITIONERS 16 (2019), https://www.actuaries.org.uk/system/files/field/document/Practical%20Guide%20to%20Climate%20Change%20for%20GI%20Practitioners_1.pdf.

[180] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 161 (2012); MARK ROTHWELL, MARTIN EARLE, CHOONG HERN OOI, JAMES ORR, SHRADHA SHROFF & JIANHUA SIEW, PRACTICAL GUIDE TO CLIMATE CHANGE FOR GENERAL INSURANCE PRACTITIONERS 16 (2019), https://www.actuaries.org.uk/system/files/field/document/Practical%20Guide%20to%20Climate%20Change%20for%20GI%20Practitioners_1.pdf.

[181] *See generally* Michael Burger, Jessica Wentz, & Radley Horton, *The Law and Science of Climate Change Attribution*, 45 COLUM. J. ENVTL. L. 57, 147–218 (2020) (extensively discussing the role that climate change attribution science can play in affirmative litigation).

[182] Melissa Boudreau, Sr. V.P. of Modelling, Praedicat, Climate Stress Testing: Scenario Analysis – Liability Risk at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-US/RecordView/Index/24785.

[183] *See* MARYAM GOLNARAGHI, JOANA SETZER, NIGEL BROOK, WYNNE LAWRENCE, & LUCIA WILLIAMS, CLIMATE CHANGE LITIGATION: INSIGHTS INTO THE EVOLVING LANDSCAPE 25 (2021), https://www.genevaassociation.org/sites/default/files/climate_litigation_04-07-2021.pdf.

***A note on claim quality*:** This report does not list "claim quality" as an independent driver of liability risk for two reasons. First, the quality of claims is not independent of the other risk drivers. Claims that would have been considered highly speculative 20 years ago may be viable today due to advances in attribution science, changes in legal regimes, and the increasing physical, societal, and economic damage caused by climate change. Second, this report focuses on claims that are at least theoretically meritorious—that is, claims in which plaintiffs have suffered, or expect to suffer, some actual harm, that they genuinely believe may be attributable to the climate change-related acts of an insured entity. Truly frivolous litigation, almost by definition, may lack a predictable connection to real-world factors. While the risk drivers discussed in this report, including "regulatory atmosphere," highlight the fact that litigation can be driven by social perceptions, political dynamics, and strategic activism, such factors may struggle to predict frivolous litigation. However, it is important to note that frivolous claims can contribute to litigation costs even if they have little hope of success on their merits.

Indemnity likelihood and **amount** can be affected by:

- **Policy Definitions of "Pollutant":** The inclusion or exclusion of GHGs as "pollutants" will affect the scope and type of policies under which liability may arise.[184]
- **Fortuity Principles and Related Clauses:** Some climate litigation claims allege that defendants knew that they were emitting harmful GHGs or knew that they were in breach of their legal duties. Depending on the details of the underlying claims and the evidence in record, these claims may be denied coverage under fortuity principles or policy terms and conditions that exclude harms arising from the policyholder's knowing and willful acts.[185]
- **Anti-Stacking Clauses:** The presence or absence of anti-stacking clauses will affect an insurer's total exposure to liability from long-tail climate claims.[186]
- **Defense Costs**: Defense costs, if covered by a relevant policy, may be borne in whole or part by insurers.

[184] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 164–79 (2012).

[185] *See, e.g.*, *AES Corp. v. Steadfast Insurance Co.*, 283 Va. 609 (2012) and the discussion of fortuity risk in Section 4.1 above.

[186] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 192–93 (2012).

- **Exclusionary Language**: The presence of exclusionary language will, by definition, preclude insurance companies from indemnifying defendants against some climate litigation claims.

4.3.3 Inputting Quantitative and Qualitative Assumptions

The discussion model outlined in this section, and the risk factors outlined above, can be subjected to both qualitative and quantitative risk assessment techniques. (Re)insurers engage in both qualitative and quantitative risk assessment when attempting to model climate litigation risk.

Quantitative litigation risk assessment techniques provide an assessment of the financial risk associated with climate litigation exposure, and the financial condition of a (re)insurer "under a predetermined set of assumptions."[187] One interviewee, an insurance industry professional, used a quantitative model to run portfolio-wide "stress tests." These quantitative stress tests involved assessing a few broad categories of climate litigation risk, including emissions liability for all policyholders who were major GHG emitters. These stress tests quantified some of the factors in our discussion model by applying incredibly conservative assumptions. In particular, some insurers applying stress test scenarios quantified liability by assuming that all actors in a given industry (*e.g.*, oil and gas) would face liability in proportion to their market share. Similarly, the interviewee noted that their climate litigation stress test valued claims at the full amount of each relevant policy cap—in other words, they assumed that claims covered by an arguably relevant policy would be indemnified to the full extent of that policy. These stress tests were primarily conducted to monitor the company's exposure to climate litigation risk, and to assess whether existing underwriting terms were adequate to manage litigation risk or if additional policy exclusions would be necessary.

Some models that attempt to quantify litigation risk surrounding GHG emissions take the same approach. For example, the 2° Investing Initiative damage models discussed in Section 4.3.1 assume sectoral liability, and calculate firm exposure based on the total estimated harm multiplied

[187] MARYAM GOLNARAGHI & THE GENEVA ASSOCIATION TASK FORCE ON CLIMATE CHANGE RISK ASSESSMENT, CLIMATE CHANGE RISK ASSESSMENT FOR THE INSURANCE INDUSTRY: A HOLISTIC DECISION-MAKING FRAMEWORK AND KEY CONSIDERATIONS FOR BOTH SIDES OF THE BALANCE SHEET 26 (2021), https://www.genevaassociation.org/sites/default/files/climate_risk_web_final_250221.pdf.

by some fractional settlement amount multiplied by each firm's emissions share.[188] While useful for assessing existing policies and stress-testing scenarios under defined conservative assumptions, quantitative modelling is an imprecise tool for assessing litigation risk in a developing area of law. "Generally, quantitative tools and outputs can only provide meaningful information to support near-term underwriting and investment decisions when all key business and economic boundary conditions can be reflected and forecasted reasonably well . . . this is rarely the case for climate change risk."[189]

Qualitative risk assessment techniques, on the other hand, focus "on understanding what the future world may look like for the organization, based on a set of assumptions that support a potential path for the emergence of climate change risk."[190] Qualitative litigation risk assessment often consists of a "scenario analysis," where analysts attempt to "understand the potential consequences of a transition pathway . . . including the business implications and actions that may be needed" along that path.[191] Qualitative assessments "allow greater flexibility [than quantitative ones] for considering the potential correlations and interrelationships and understanding the key drivers of risk."[192]

Another interviewee, an attorney who primarily represented insurers, had engaged in extensive qualitative risk assessment around climate litigation. This attorney said that most of their clients aimed to have no exposure to climate litigation risk, and that they used qualitative risk assessment techniques to identify policy areas where climate exclusions or other mitigating action would be necessary. In reviewing a risk scenario related to climate change-driven forest fires, for example, this attorney realized that the destruction of forests established as carbon offsets created

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[188] *See* JAKOB THOMÄ, JACOB KASTL, CONSTANZE BAYER, & DAVID COOKE, A BURDEN THEY WILL CARRY: THE POTENTIAL ECONOMIC & FINANCIAL COST OF CLIMATE LIABILITIES TO COMPANIES AND INVESTORS 10–14 (March 2021), https://2degrees-investing.org/wp-content/uploads/2021/12/Climate-Litigation-Paper.pdf.

[189] MARYAM GOLNARAGHI & THE GENEVA ASSOCIATION TASK FORCE ON CLIMATE CHANGE RISK ASSESSMENT, CLIMATE CHANGE RISK ASSESSMENT FOR THE INSURANCE INDUSTRY: A HOLISTIC DECISION-MAKING FRAMEWORK AND KEY CONSIDERATIONS FOR BOTH SIDES OF THE BALANCE SHEET 26 (2021), https://www.genevaassociation.org/sites/default/files/climate_risk_web_final_250221.pdf.

[190] *Id*. at 27.

[191] *Id*. at 14.

[192] *Id*. at 27

potential "greenwashing" litigation risk where a company had advertised its carbon offset program. These qualitative risk assessment processes can lead to the identification and development of new insurance products. In response to identified risk in carbon offset markets, for example, several companies have developed products that protect the buyers of carbon offsets against risks like invalidation, "third-party negligence and fraud."[193]

The Bank of England's climate stress test proposed a set of best practices for (re)insurers engaged in climate litigation risk modelling that incorporates qualitative and quantitative recommendations. (Re)insurers, the Bank of England emphasized, should:

(1) Engage in risk assessment using "a multi-disciplinary team (including, for example, underwriters and claims handlers, as well as legal, risk management and actuarial staff)";

(2) "[S]ubmit[] initial results to robust internal challenge";

(3) Consider "a wide range of legal interpretations";

(4) Use their stress-test findings "to inform existing risk management practices"; and

(5) Apply "technical rigour in considering policy exposures," and systematically examine the effects of factors like "risk differentiation within sub-sectors" and "differing geographical and legislative environments."[194]

4.3.4 "Massive Tort" Recoveries: Predicting Policyholder Liability

While it is difficult to quantify litigation risk under emerging legal frameworks, some models have emerged that attempt to fill in the gaps highlighted by our discussion model. Although climate litigation, and particularly the field of climate torts, is a "relatively nascent development," attorneys

[193] *See* Sheryl Tian Tong Lee, Ewa Krukowska, & Isabel Joy Kua, *Carbon Offsets: World Bank to Offer Insurance Against Political Risk*, BLOOMBERG (June 26, 2023), https://news.bloomberglaw.com/daily-labor-report/world-bank-to-offer-political-risk-insurance-to-carbon-investors (describing the current state of private offset insurance markets); Simon Jessop, Carolyn Cohn, & Susanna Twidale, *Howden Offers First Insurance Against Fraud in Voluntary Carbon Markets*, REUTERS (Sept. 6, 2022), https://www.reuters.com/business/sustainable-business/howden-offers-first-insurance-against-fraud-voluntary-carbon-markets-2022-09-06/.

[194] BANK OF ENGLAND, RESULTS OF THE 2021 CLIMATE BIENNIAL EXPLORATORY SCENARIO (CBES), Box C: Climate Litigation Risk (May 24, 2022) https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario.

and litigation risk analysts have attempted to predict the development of liability for climate torts by looking at other once-"emerging" tort risks, like methyl tertiary butyl ether and asbestos claims.[195] In 2011, three insurance attorneys set out a prediction for the trajectory of climate torts in a brief article, *Is Past Prologue to Climate Change Liability?* Based on the historical evolution of "mega-recovery" torts like asbestos and tobacco, which "follow a predictable path evolving from isolated, untested claims to huge payments on a class or national basis," they set forth "five phases of massive tort recovery litigation," which are quoted below in their entirety:[196]

Phase	Stage	Description
I.	**Prospecting**	Unsuccessful, intermittent strike claims based on myriad traditional tort recovery theories, designed largely to explore the boundaries for successful recoveries.
II.	**Defining**	Increased regulatory activity supplying standards by which the standard of care and causation can be established, accompanied by increasing numbers of adapted claims.
III.	**Refining**	More sophisticated complaints supported by well-funded plaintiffs' attorneys, causing increased discovery costs and resulting in occasional rulings that permit claims to reach finders of fact.
IV.	**Targeting**	Intermittent settlement as litigation costs begin to systemically exceed discovery costs and vulnerable, targeted defendants are found and fall.
V.	**Recovering**	Plaintiff's attorneys accumulate enough resources and data to evenly battle industry targets, culminating in the ultimate collapse of industry targets.

While these phases are descriptive, not predictive, it is worth noting that climate litigation seems to have progressed from the "prospecting" stage to the "refining" stage in the decade since

[195] Kristin Suga Heres & Jeffrey Gordon, *Climate Change and Insurance: Learn From MTBE, Asbestos*, INSURANCE LAW360 (Apr. 2, 2019), *available at* https://www.zellelaw.com/news-publications-637.

[196] J. Randolph Evans, Joanne L. Zimolzak, & Christina M. Carroll, *Is Past Prologue to Climate Change Liability?*, LAW360 (May 31, 2011).

this model was published. When the authors of this model published a primer on climate change and insurance in 2012, they characterized contemporary litigants as "early" and unsuccessful—presumably, "prospecting" plaintiffs.[197] Since that time, mitigation litigation has developed significantly. Insurance professionals and insurance industry lawyers interviewed for this report in 2022 repeatedly emphasized that they had seen an increasing number of well-funded plaintiffs in jurisdictions across the world. Analysis from the insurance industry published in 2021 supports the conclusion that in recent years climate litigants have:

(1) Spread across more jurisdictions,

(2) Presented more nuanced and varied claims; and

(3) Used increasingly sophisticated attribution science.[198]

Across the globe, some cases seeking damages have overcome the procedural barriers that frustrated early climate litigation and are actively engaged in discovery. In *Luciano Lliuya v. RWE AG*, for example, a Peruvian farmer brought claims for climate change damages against RWE, Germany's largest electricity producer, alleging that RWE's knowing contributions to climate change contributed to the melting of mountain glaciers near the plaintiff's home.[199] After overcoming initial procedural barriers, *RWE* entered its evidentiary phase and appears increasingly likely to be decided on its merits. While the case against RWE seeks the relatively trivial amount of €17,000, if successful Lliuya's claim "would lay the foundation for much larger suits against other heavy polluters."[200]

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[197] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 24 (2012).

[198] *See* MARYAM GOLNARAGHI, JOANA SETZER, NIGEL BROOK, WYNNE LAWRENCE, & LUCIA WILLIAMS, CLIMATE CHANGE LITIGATION: INSIGHTS INTO THE EVOLVING LANDSCAPE 14–15 (2021), https://www.genevaassociation.org/sites/default/files/climate_litigation_04-07-2021.pdf (outlining characteristics of the so-called "third wave" of global climate change litigation).

[199] *See also Luciano Lliuya v. RWE AG*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/lliuya-v-rwe-ag/.

[200] Aliyah Elfar, *Landmark Climate Change Lawsuit Moves Forward as German Judges Arrive in Peru*, COLUMBIA CLIMATE SCHOOL (Aug. 4, 2022), https://news.climate.columbia.edu/2022/08/04/landmark-climate-change-lawsuit-moves-forward-as-german-judges-arrive-in-peru/.

One experienced insurance attorney interviewed for this report opined that mitigation claims would "be litigated like tobacco, but hit the insurance industry like asbestos." Tobacco torts, the attorney noted, were litigated for so many decades that by the time tobacco companies began to lose or settle lawsuits, the underlying claims were largely uninsured. Asbestos, in comparison, was used in a wide array of products and a large amount of asbestos liability ultimately settled on the insurance industry. Given the number of potential mitigation defendants, and the even larger universe of potential adaptation defendants, this attorney believed that insurers could struggle to limit their exposure to climate change claims.

4.3.5 "Emerging Risk" Modelling: Predicting Damages, Claims, and Liability

Another model is the "Emerging Risk" framework, which attempts to predict damages, claims, and insurer liability by combining quantitative and qualitative analysis. This framework is designed to detect and evaluate "emerging risks," which "possess two key characteristics": (1) "the potential for large-scale losses for liability insurance, combined with limited or no history to rely upon for pricing and risk management;" and (2) "a significant nexus with the scientific literature such that tracking the science around the risk provides a promising means through which casualty exposures might be identified and managed."[201] This framework attempts to detect and avert "liability catastrophes," which resist actuarial modelling because their scale often destroys affected industries.[202] In the context of climate litigation risk, emerging risk modelling attempts to identify early-stage litigation risk before any claims have been successfully asserted, and to minimize (re)insurer risk by excluding or pricing specific climate litigation risks.[203]

The "Emerging Risk" framework places claims into three phases:

(1) "Emerging Interest" Phase

(2) "Emerging Damage" Phase

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[201] LLOYDS & PRAEDICAT, UNDERSTANDING RISK: EMERGING LIABILITY RISKS 9 (2015), https://assets.lloyds.com/assets/pdf-risk-reports-praedicat-final/1/pdf-risk-reports-Praedicat-FINAL.pdf.

[202] *Id*. at 8.

[203] Dr. Bob Reville, CEO, Praedicat, Keynote Address at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-GB/RecordView/Index/24783.

(3) "Emerging Litigation" Phase

"Emerging Interest" risks are risks where the causal relationship between a specific harm and climate change is in the process of being scientifically established. These risks are identified by reviewing cutting-edge attribution science,[204] like the studies compiled in the Sabin Center's Climate Attribution Database.[205] Modelers using this technique pay particular attention to three types of attribution science:

(1) "Impact Attribution": the study of the effects of climate change on humans and ecosystems;

(2) "Extreme Event Attribution": the study of the effect of global climate systems on the probability and characteristics of extreme events; and

(3) "Source Attribution": the study of the relative contributions of different sectors, activities, and entities to climate change.[206]

"Emerging Damage" risks are related to GHG emissions, but might implicate claims or causal mechanisms that "broaden the exposed industrial footprint."[207] "Emerging Damages" are identified by reviewing new litigation and legal scholarship to understand the universe of potential claims, litigation theories, and damages models available.[208] These identified scenarios are then subjected to targeted analysis designed to understand both their quantitative economic costs and their qualitative cross-policy impact on insurers.[209] "Emerging Litigation" risks are risks for which the damage has already occurred, and whose cost must then be allocated through litigation and contract. By identifying risks at the "Emerging Interest" and "Emerging Damage" phases, modelers

[204] Melissa Boudreau, Sr. V.P. of Modelling, Praedicat, Climate Stress Testing: Scenario Analysis – Liability Risk at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-US/RecordView/Index/24785.

[205] *See* CLIMATE ATTRIBUTION DATABASE (n.d.), https://climateattribution.org/.

[206] *Id*.

[207] Dr. Bob Reville, CEO, Praedicat, Keynote Address at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-GB/RecordView/Index/24783.

[208] *Id*.

[209] *Id*.

hope to allow (re)insurers and companies to plan for, and ideally mitigate or avoid, the costs of climate litigation. The "Emerging Risk" framework is currently used by (re)insurers to assess their own portfolio risk; and to develop "catastrophe loads" to price mass tort exposure in existing policies.[210]

4.3.6 "Scenario" Modelling: Portfolio Stress Testing Techniques

Another climate litigation risk assessment practice, "scenario modelling," has already seen some use in both organized and informal industry stress tests. Scenario-based stress tests propose a set of specific liability scenarios and then assesses the impact of those scenarios on an insurer or reinsurer's portfolio.[211] Because they use pre-determined scenarios, scenario-based stress tests "are not intended to represent a full description of the future, but rather to highlight central elements of a possible future and to draw attention to the key factors that will drive future developments."[212]

The Bank of England's climate stress test, discussed in the introduction to this section, is the most prominent public use of climate litigation scenario modelling to date. The climate stress test asked insurers to assess their liability exposure under seven specific litigation scenarios.[213] All participating insurers were asked to assess the impact of the following scenarios for all sectors except financial services:

(1) A company is found liable for their own contribution to climate change (in the terminology of this paper, a "mitigation claim").[214]

(2) A company's carbon-intensive activities are found in violation of fundamental human rights, and the company is "forced to cease or significantly reduce these activities," with an

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[210] *Id*.

[211] BANK OF CANADA, USING SCENARIO ANALYSIS TO ASSESS CLIMATE TRANSITION RISK 7 (2022), https://www.bankofcanada.ca/wp-content/uploads/2021/11/BoC-OSFI-Using-Scenario-Analysis-to-Assess-Climate-Transition-Risk.pdf.

[212] *The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities*, TCFD (n.d.), https://www.tcfdhub.org/scenario-analysis/.

[213] BANK OF ENGLAND, GUIDANCE FOR PARTICIPANTS OF THE 2021 BIENNIAL EXPLORATORY SCENARIO: FINANCIAL RISKS FROM CLIMATE CHANGE 41–43 (June 2021), https://www.bankofengland.co.uk/-/media/boe/files/stress-testing/2021/the-2021-biennial-exploratory-scenario-on-the-financial-risks-from-climate-change.pdf.

[214] *Id*.

accompanying impact on its revenues (in the terminology of this paper, a "mitigation claim").[215]

(3) A company is found liable for greenwashing, and ordered to pay large compensation to purchasers or investors (in the terminology of this paper, a "governance and regulatory claim").[216]

(4) A company has been sued for selling a carbon-intensive product "while in the knowledge it would become redundant following the introduction of a government net zero policy," and is "ordered to issue refunds and compensate customers" (in the terminology of this paper, a "governance and regulatory claim").[217]

Insurers with exposure to the utilities sector were asked to consider the following case:

(5) A company is sued for "indirect contribution to climate change that amplifies physical risk" through actions like "inadequately or negligently preparing for climate change" (in the terminology of this paper, an "adaptation claim").[218]

Insurers with exposure to the financial services sector were asked to consider the impact of the following scenario on asset managers:

(6) The directors of an asset manager or pension fund are sued by their shareholders or pension beneficiaries, respectively, for inadequate climate-related risk disclosures (in the terminology of this paper, a "governance and regulatory claim").[219]

Insurers with exposure to the financial services sector were also asked to consider the impact of the following scenario on financial institutions:

(7) A financial institution or other lender is sued for funding carbon-intensive activities (in the terminology of this paper, a "mitigation claim").[220]

This type of climate litigation scenario modelling "can be a good first step towards disclosing complex litigation risks," and may also "highlight[] business areas that represent peak concentrations" of risk.[221] A 2021 UNEP report estimates that regulatory risk assessments and

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[215] *Id*.

[216] *Id*.

[217] *Id*.

[218] *Id*.

[219] *Id*.

[220] *Id*.

[221] UNEP PSI, INSURING THE CLIMATE TRANSITION: ENHANCING THE INSURANCE INDUSTRY'S ASSESSMENT OF CLIMATE CHANGE FUTURES 80 (2021), https://www.unepfi.org/psi/wp-content/uploads/2021/01/PSI-TCFD-final-report.pdf.

disclosures for the insurance industry may emphasize "quantitative, scenario-based disclosures," and notes that "it might be prudent for market participants to consider equipping themselves with more quantitative methods to assess litigation risks."[222]

However, scenario selection may result in insurers assessing an artificially constrained set of risks. For example, in the scenarios tested by the Bank of England, the only "adaptation claims" tested were claims against utility companies. While utility companies operate complex infrastructure and have been the target of high-profile adaptation litigation,[223] they are far from the only companies exposed to adaptation claims. For example, recent attribution research has shown that climate change may increase the risk of post-surgical infections,[224] and medical practitioners that do not adjust their practices to match the changing climate in which they work may face significant adaptation claims. This example shows the limits of scenario modelling; while it may be an invaluable tool to stress-test existing contracts against a set of known and identified risks, effective scenario modelling should be paired with active risk-identification techniques.

5. CONCLUSION

The scope and scale of climate litigation is expanding rapidly.[225] The full economic impact of this litigation remains unclear, but the physical, social, and economic harms that drive climate litigation are already immense.[226] (Re)insurers face the daunting task of identifying, quantifying, and

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[222] *Id*.

[223] *See, e.g.*, the discussion of adaptation claims against the utility company PG&E in Section 3.3.2.

[224] Raymond J. Liou, Michelle J. Earley, & Joseph D. Forrester, *Effect of Climate on Surgical Site Infections and Anticipated Increases in the United States*, 12 NATURE SCIENTIFIC REPORTS 19698 (Nov. 16, 2022), https://www.nature.com/articles/s41598-022-24255-w.

[225] Joana Setzer & Catherine Higham, *Global Trends in Climate Change Litigation: 2022 Snapshot*, GRANTHAM RESEARCH INSTITUTE ON CLIMATE CHANGE AND THE ENVIRONMENT (June 30, 2022), https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-litigation-2022/ (noting that, as of June 2022, "[g]lobally, the cumulative number of climate change-related cases has more than doubled since 2015, bringing the total number of cases to over 2,000," and that "[a]round one-quarter of these were filed between 2020 and 2022.").

[226] *See, e.g.*, Christopher W. Callahan & Justin S. Mankin, Globally Unequal Effect of Extreme Heat on Economic Growth, (evaluating the economic cost of extreme heat caused by climate change, and estimating that "1992–2013 losses from anthropogenic extreme heat likely fall between $5 trillion and $29.3 trillion globally.").

reserving for their exposure to these costs.[227] To accomplish this, it is critically important to develop risk assessment tools that can identify and quantify climate litigation risk.

Modelling Climate Litigation Risk for (Re)Insurers provides a toolkit to support future analytical efforts, and does not propose a holistic or authoritative model of climate litigation risk. However, this report offers three clear takeaways for academics, insurance professionals, and policymakers attempting to understand (re)insurer exposure to climate litigation:

(1) **Private sector climate litigation risks are diverse, and can impact (re)insurers in unexpected and hard-to-avoid ways.** Private sector climate litigation arises under a wide array of legal theories,[228] and targets an increasingly diverse set of defendants.[229] Some categories of litigation, like mitigation claims, may be directed towards a predictable set of industries and relatively easy to carve out of new liability policies.[230] Others, like adaptation litigation and governance and regulatory claims, turn on complex questions of fact, law, and policyholder behavior. (Re)insurers may struggle to categorically exclude these claims, and may find it commercially impractical to do so for some product lines.[231]

(2) **Existing risk assessment tools are promising, but struggle to capture the full scope of climate litigation.** Qualitative techniques like "massive tort" models provide historical comparisons for some types of litigation, but do not claim to offer quantitative risk assessment tools or cover the full range of climate litigation.[232] More quantitative techniques, like scenario modelling

[227] BANK OF ENGLAND, RESULTS OF THE 2021 CLIMATE BIENNIAL EXPLORATORY SCENARIO (CBES), Box C: Climate Litigation Risk (May 24, 2022) https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario.

[228] *See supra* Section 2.1; *see also* Annex 3.

[229] JOANA SETZER & CATHERINE HIGHMAN, GLOBAL TRENDS IN CLIMATE CHANGE LITIGATION: 2022 SNAPSHOT 12–13 (June 2022), https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/08/Global-trends-in-climate-change-litigation-2022-snapshot.pdf.

[230] *See supra* note 132 and accompanying text; *see also* note 151 and accompanying text.

[231] *Id.*

[232] *See supra* Section 4.3.4 (discussing "massive tort" recovery models).

and "emerging risk" modelling, may be invaluable tools to quantify a limited set of risks, but may be significantly limited by scenario selection choices.[233]

(3) **Different legal theories may require different modelling techniques and risk mitigation tools.** International organizations and governments around the world are providing increasingly clear guidance on how private sector actors, including (re)insurers themselves, should assess and disclose their exposure to climate litigation.[234] However, the wide range of climate claims discussed in this report may require an array of risk assessment and mitigation tools. Mitigation claims, for example, arise from past or anticipated contributions to climate change, and a policyholder's exposure to those claims will depend, by definition, on the policyholder's relationship to GHG-emitting activities.[235] Adaptation claims, in contrast, arise from a policyholder's response, or failure to respond, to the physical and societal impacts of climate change, and effective risk-assessment processes may focus on emerging scientific and legal literature that identifies these impacts.[236] On the other hand, governance and regulatory claims like securities fraud and "greenwashing" often focus on corporate activities and processes, and may be mitigated by assessing, evaluating, disclosing, and adapting to real-world climate risks.[237] While all of these claims represent climate litigation, risk evaluators must be conscious of the differences between these claim categories.

Protecting the insurance industry from unquantified risks is a worthy goal in and of itself, because the insurance industry, like banking and other financial services, is a critical piece of economic infrastructure. If insurers face unidentified or mispriced risks, losses from those risks could jeopardize insurers' ability to underwrite risk more broadly and could ripple throughout the

[233] *See supra* Section 4.3.5 (discussing "emerging risk" modelling); Section 4.3.6 (discussing scenario modelling).

[234] *See supra* Section 3.1 (outlining the treatment of climate litigation risk in the TCFD framework); *see also* Annex 1 (highlighting regulatory risk assessment mandates in six jurisdictions around the world).

[235] *See* Section 2.1.

[236] *See* Section 4.3.5 (discussing "emerging risk" modelling).

[237] *See* notes 119–120, 153 and accompanying text.

economy.[238] Pricing climate risks to insurers is therefore a necessary climate adaptation measure that will increase the financial sector's resilience against climate change.

Accurately priced liability insurance also represents a powerful tool in the fight to mitigate the worst impacts of climate change. This is because liability is not just an abstract financial and legal construct. At its core, liability flows from real-world harm, and preemptive efforts to limit liability may in turn avert that harm. Insurers have multiple pathways to mitigate the worst harms of climate change and drive climate change adaptation. As underwriters, insurers often incorporate the cost of meritorious claims into liability coverage prices well before the claims are settled, or even filed.[239] (Re)insurers with exposure to emissions-related litigation risk may force high-emitting sectors to internalize the costs of their GHG pollution before the normal process of litigation holds these sectors responsible for their harmful activities. As both investors and underwriters, (re)insurers are well positioned to push for effective corporate risk disclosures because they often sell products into and invest across multiple jurisdictions.[240] As trusted risk advisors, insurance professionals may be able to mitigate many of the harms of climate change by identifying climate-related risks and helping their clients incorporate these risks into their "existing systems of governance and control."[241] Finally, as financial engineers, (re)insurers can develop products that encourage climate-resilient investment while protecting against the uncertainties of the global climate transition.[242]

One attorney interviewed for this report gave a strangely poetical description of the business of insurance. At its heart, the attorney said, the insurance industry is a mirror of our economy; it

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[238] *See generally* Christoph Kaserer & Christian Klein, *Systemic Risk in Financial Markets: How Systemically Important are Insurers?*, WORKING PAPER, 16TH ANNUAL FDIC BANKING RESEARCH CONFERENCE (Aug. 16, 2016), https://www.fdic.gov/analysis/cfr/bank-research-conference/annual-16th/2b-systemic-risk-klein.pdf (discussing the potential for insurer failures to create systemic financial risks).

[239] Dain C. Donelson, Christopher G. Yust, *Insurers and Lenders as Monitors During Securities Litigation: Evidence from D&O Insurance Premiums, Interest Rates, and Litigation Costs*, 86 J. RISK & INSURANCE 663 (2019), https://www.jstor.org/stable/45173244.

[240] *See* Christina Ross, Evan Mills, & Sean B. Hecht, *Limiting Liability in the Greenhouse: Insurance Risk-Management Strategies in the Context of Global Climate Change*, 26A STAN. ENVTL. L.J. 251, 307 (2007).

[241] MARK ROTHWELL, MARTIN EARLE, CHOONG HERN OOI, JAMES ORR, SHRADHA SHROFF & JIANHUA SIEW, PRACTICAL GUIDE TO CLIMATE CHANGE FOR GENERAL INSURANCE PRACTITIONERS 21 (2019), https://www.actuaries.org.uk/system/files/field/document/Practical%20Guide%20to%20Climate%20Change%20for%20GI%20Practitioners_1.pdf.

[242] Christina Ross, Evan Mills, & Sean B. Hecht, *Limiting Liability in the Greenhouse: Insurance Risk-Management Strategies in the Context of Global Climate Change*, 26A STAN. ENVTL. L.J. 251, 311 (2007).

reflects the risks that we collectively share as a society. The world has been slow to react to climate change, and the climate litigation risks facing the insurance industry reflect the real and growing harms caused by our inaction. By evaluating, quantifying, and mitigating climate litigation risk, the insurance industry can begin to protect itself, and in turn our society, from the growing harms of climate change.

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ANNEX 1

REGULATORY RISK ASSESSMENT MANDATES

This Annex documents regulations that require companies to assess and disclose their exposure to climate litigation. This review focuses on six key jurisdictions which take an array of approaches to corporate disclosure and climate litigation risk assessment: (A) The United States; (B) The European Union; (C) The United Kingdom; (D) Canada; (E) Australia; and (F) Japan. In the case of the European Union, this Annex focuses solely on European Union-level regulations, and does not address divergent approaches that may be taken by member states.

This regulatory review focuses on broadly applicable corporate disclosure regimes, which have been subject to significant revision in recent years to incorporate climate-related risks. The purpose of this limited focus is to outline the general risk assessment procedures prescribed by regulators in major markets, and to highlight the types of information about climate litigation risk that are being generated across industries and sectors.

In addition to these regimes, many jurisdictions also have sector-specific risk analysis regulations. In particular, fiduciaries and financial-sector companies like banks and insurers are often subject to highly tailored risk assessment and governance regulations.[243] These risk assessment mandates may be highly relevant to individual insurers' risk evaluation processes,

[243] For a recent multi-jurisdictional review of insurance-specific climate risk regulations, *see* IAIS, ISSUES PAPER ON THE IMPLEMENTATION OF THE RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES, Annex I (Feb. 2020), https://www.iaisweb.org/uploads/2022/01/200227-Issues-Paper-on-the-Implementation-of-the-TCFD-Recommendations.pdf.

but are likely less relevant to understanding the litigation risks that face any particular insurance client.

A. The United States

1. *Risk Disclosure Regime*

- Public risk disclosure obligations in the United States arise from the Securities Act of 1933, which primarily regulates disclosures surrounding the public issuance of securities, the Securities Exchange Act of 1934, which regulates the transfer of securities after their initial sale, and a series of related regulations enacted by the Securities and Exchange Commission ("SEC").[244]
- Federal law, not state law, sets the bounds of corporate risk disclosure requirements.[245]
    - While state governments in the United States have significant authority to bring enforcement actions against issuers who engage in fraud or deceit around the marketing of their securities, "the National Securities Markets Improvement Act of 1996 (NSMIA) broadly preempted state authority to regulate the offering of . . . securities traded on national exchanges [. . .] as well as the ongoing disclosure obligations of the firms issuing them."[246]
    - NSMIA means that, "[i]n the context of securities disclosure and registration, states are largely preempted in that they may not impose additional or separate [disclosure] requirements on federally registered companies."[247]

2. *Disclosure Threshold*

[244] *See* Harold S. Bloomenthal, *§ 3:1. Securities and Exchange Commission,* in 10 INT'L CAP. MARKETS & SEC. REG. (Sept. 2022) (providing an overview of the structure of federal securities laws).

[245] *See* Robert K. Cowan, *Time for Plan(et) b? Why Securities Litigation is a Misguided Attempt at Regulating Climate Change*, 33 GEO. ENVTL. L. REV. 333, 367–68 (2021) (quotation omitted) ("The National Securities Markets Improvement Act of 1996 ('NSMIA') broadly preempted *ex ante* state regulation of public companies' securities offerings and disclosure documents, but expressly preserved state enforcement actions against companies for fraud or deceit, or unlawful conduct by a broker or dealer, in connection with securities or securities transactions.").

[246] Amanda M. Rose & Larry J. LeBlanc, *Policing Public Companies: An Empirical Examination of the Enforcement Landscape and the Role Played by State Securities Regulators*, 65 FLA. L. REV. 395, 410 (2013)

[247] Nina Hart, *Moving at A Glacial Pace: What Can State Attorneys General Do About Sec Inattention to Nondisclosure of Financially Material Risks Arising from Climate Change?*, 40 COLUM. J. ENVTL. L. 99, 122 (2015).

- U.S. corporate disclosure requirements are generally qualified by "materiality" standards.[248]
    - While the SEC has broad statutory authority to require the issuers of securities to make public disclosures, it has historically "interpreted its authority to act in the public interest as delimited by its core mission to promote investor protection, market efficiency and competition, and capital formation."[249]
    - In a 2020 regulatory action the SEC noted that its "disclosure requirements, while prescriptive in some respects, are rooted in materiality" and designed to facilitate an economic understanding of the disclosing entity's "business, financial condition and prospects."[250]
- Federal disclosure standards often prioritize economic and financial materiality, but certain disclosure requirements, like changes in corporate governance, have not been tied to financial significance, and certain acts, like illegal activity by corporate managers, have been treated as close to material *per se*.[251]
    - Although U.S. law contains no clear economic definition of "materiality," information is generally deemed material "if a substantial likelihood exists that a reasonable investor would consider the information important in making a buy, sell, or hold investment decision or a voting decision."[252]
    - Certain environmental litigation is subject to a lower threshold for disclosure, as discussed below.[253]

[248] Victor Brudney, *A Note on Materiality and Soft Information Under the Federal Securities Laws*, 75 VA. L. REV. 723, 732–35 (1989).

[249] Virginia Harper Ho, "Comply or Explain" and the Future of Nonfinancial Reporting, 21 LEWIS & CLARK L. REV. 317, 340–41 (2017).

[250] Modernization of Regulation S-K Items 101, 103, and 105, Securities and Exchange Commission, 85 Fed. Reg. 63,726, 63727 (Oct. 8, 2020).

[251] *See* Cynthia A. Williams, *The Securities and Exchange Commission and Corporate Social Transparency*, 112 HARV. L. REV. 1197, 1264–65 (1999) (noting that historically certain disclosure requirements, like governance changes, have not been tied to financial significance, and that certain acts, like illegal management activity, have been treated as close to material *per se*).

[252] *Determining Materiality in Securities Offerings and Corporate Disclosure*, THOMSON REUTERS PRACTICAL LAW US (n.d.), https://www.westlaw.com/3-521-5541 (last visited Oct. 11, 2022); *see also Basic Inc. v. Levinson*, 485 U.S. 224, 231–32 (1988) (same).

[253] *See* 17 C.F.R. § 229.103(c)(3).

3. *Disclosure Requirements*

Existing Requirements

- Public companies in the United States are required to regularly assess and disclose qualitative and quantitative information about a company's financial condition, risks, business operations, and the company's legal proceedings.[254] In particular, public companies must regularly disclose each "material pending legal proceeding" to which they or their subsidiaries are party.[255]
    - As a general matter, litigation does not need to be disclosed if:
        - It arises in the "ordinary course of business";[256] or
        - If the litigation is "primarily a claim for damages" that involves less than 10% of the consolidated current assets of the company and its subsidiaries.[257]
    - Litigation arising from environmental laws, however, is presumptively outside of "the ordinary course of business," and environmental litigation above a certain dollar threshold[258] must be disclosed if a "governmental authority" is party to the proceeding.[259]
- In 2010 the SEC issued specific guidance surrounding the assessment and disclosure of climate change-related risks and opportunities.[260]

[254] *See generally* FORM 10-K, LEGAL INFORMATION INSTITUTE (January, 2022), https://www.law.cornell.edu/wex/form_10-k (outlining annual filing requirements).

[255] William Prifti, Joy M. Bryan & Paul Richter, *Environmental Disclosures and Climate Control Disclosures*, in SECURITIES: PUBLIC AND PRIVATE OFFERINGS (2d ed. Aug. 2022).

[256] 17 C.F.R. § 229.103(b)(1).

[257] 17 C.F.R. § 229.103(b)(2).

[258] At a baseline, litigation must be disclosed if it involves potential sanctions that may reasonably exceed $300,000. However, companies may choose to set a higher disclosure threshold, up to $1,000,000, so long as they disclose that they are using this higher reporting threshold. *See* 17 CFR § 229.103(c)(3).

[259] 17 C.F.R. § 229.103(c)(3).

[260] Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6289 (Feb. 8, 2010).

- The 2010 guidance did not emphasize climate litigation, but noted that "legislation and regulation regarding climate change" might result in litigation that would need to be disclosed under existing regulations.[261]
- In 2021, the SEC published "a sample letter outlining comments related to climate change disclosure, which the division staff likely would issue to a public company after reviewing its SEC filings."[262] This sample letter referenced the 2010 guidance, and emphasized that potential climate litigation may represent a material business risk and should be considered and disclosed alongside other such risks.[263]

<u>New and Developing Requirements</u>

- In April 2022, the SEC issued a Notice of Proposed Rulemaking for a new climate disclosure rule called "The Enhancement and Standardization of Climate-Related Disclosures for Investors" ("CRD"), which would add a layer of climate-related disclosures.[264]
- The CRD, as proposed, categorizes the "risk of legal liability and litigation defense costs" as part of a broader category of "transition risks."[265]
- Under the proposed CRD, climate litigation risk would be assessed and disclosed in two key areas.
  - First, under Item 1502, companies would have to disclose material climate-related risks "which may manifest over the short, medium, and long term," including the nature of the risk and the effect of the risk on "the registrant's climate-related planning processes and goals."[266]

[261] *See* Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6289, 6296 (Feb. 8, 2010) (noting that legislation and regulation might increase material litigation disclosures under Item 103 of Regulation S-K); *see also id*. at 6293–94 (discussing litigation disclosure requirements generally).

[262] *New SEC Guidance on Climate Change*, DENTONS (Sept. 29, 2021), https://www.dentons.com/en/insights/alerts/2021/september/27/client-alert-new-sec-guidance-on-climate-change (discussing the significance of the sample letter as guidance).

[263] Sample Letter to Companies Regarding Climate Change Disclosures, SEC Exemplative Letter (Sept. 22, 2021), https://www.sec.gov/corpfin/sample-letter-climate-change-disclosures.

[264] The Enhancement and Standardization of Climate-Related Disclosures for Investors, 87 Fed. Reg. 21334 (proposed Apr. 11, 2022) (to be codified at 17 C.F.R. §§ 210, 229, 232, 239, and 249).

[265] The Enhancement and Standardization of Climate-Related Disclosures for Investors, 87 Fed. Reg. 21334, 21466 (proposed April 11, 2022) (to be codified at 17 C.F.R. § 229.1500(c)(4)).

[266] The Enhancement and Standardization of Climate-Related Disclosures for Investors, 87 Fed. Reg. 21334, 21467 (proposed April 11, 2022) (to be codified at 17 CFR § 229.1502(a)).

- Next, under Item 1503, companies would also have to disclose the risk-analysis processes used to identify, assess, and manage transition risks like climate litigation.[267]

- The proposed CRD received more than 15,000 comments, and as of June 6, 2023 the SEC is evaluating these comments and considering revising the proposed rule.[268] However, many investors expect some version of the CRD to be adopted in 2023.[269]

B. The European Union

1. *Risk Disclosure Regime*

- In the EU, corporate conduct is governed by laws enacted by member states' legislatures as well as laws enacted by European Union legislative bodies and transposed into national law.[270]
- EU laws are classified as either "directives" or "regulations."[271]
  - Directives are not enforceable until they are transposed into national law, which member states are obliged to do within a predetermined time period.[272]
  - Regulations become immediately effective in all member states without transposition by national legislatures, and their application is uniform across EU member states.[273]

2. *Disclosure Threshold*

[267] The Enhancement and Standardization of Climate-Related Disclosures for Investors, 87 Fed. Reg. 21334, 21468 (proposed April 11, 2022) (to be codified at 17 CFR § 229.1503(a)).

[268] Declan Harty, SEC's Gensler Weighs Scaling Back Climate Rule as Lawsuits Loom, Politico (Feb. 4, 2023), https://www.politico.com/news/2023/02/04/sec-climate-rule-scale-back-00081181.

[269] Zach Warren, Upcoming SEC Climate Disclosure Rules Bring Urgency to ESG Data Strategy Planning, Reuters (Jan. 30, 2023), https://www.reuters.com/legal/legalindustry/upcoming-sec-climate-disclosure-rules-bring-urgency-esg-data-strategy-planning-2023-01-30/.

[270] *Sources and scope of European Union law*, EUROPEAN PARLIAMENT (June, 2022), https://www.europarl.europa.eu/factsheets/en/sheet/6/sources-and-scope-of-european-union-law.

[271] *Id.*

[272] *Id.*

[273] *Id.*

- The EU's non-financial risk reporting frameworks are based on a concept of "double materiality."
    - Under a double materiality disclosure regime, companies are required to report:
        - (i) Information with "financial materiality, in the broad sense of affecting the value of the company"; and
        - (ii) "Information with "environmental and social materiality," which "is necessary for an understanding of the external impacts of the company."[274]
    - "Unless otherwise stated in the text, references to risks" in the EU's non-financial disclosures refer "refer both to risks of negative impacts on the company . . . and to risks of negative impacts on the climate."[275]

3. *Disclosure Requirements*

I. Existing Requirements

- The EU has issued a comprehensive system of financial reporting directives which harmonize financial disclosures across the EU.
    - The EU's transparency regulations require issuers of European securities to produce an annual management report, which must include "a fair review of the development and performance of the business" and the "principal risks and uncertainties" that it faces.[276]
    - The EU also has a set of ESG-oriented corporate disclosure requirements, which are contained within the Non-Financial Reporting Directive ("NFRD") of 2014.[277]

[274] GUIDELINES ON NON-FINANCIAL REPORTING: SUPPLEMENT ON REPORTING CLIMATE-RELATED INFORMATION 4, EUROPEAN COMMISSION (June 20, 2019), *available at* https://www.wlrk.com/docs/Double_Materiality.pdf (explaining the double materiality standard embedded in the NFRD); see also Henry Engler, *"Double Materiality": New Legal Concept Likely to Play in Debate over SEC's Climate Plan*, THOMSON REUTERS REGULATORY INTELLIGENCE (Apr. 12, 2022), https://www.thomsonreuters.com/en-us/posts/investigation-fraud-and-risk/sec-double-materiality-climate/ (outlining the EU's conceptual framework of "double materiality").

[275] GUIDELINES ON REPORTING CLIMATE-RELATED INFORMATION 8, EUROPEAN COMMISSION (June 17, 2019), https://ec.europa.eu/finance/docs/policy/190618-climate-related-information-reporting-guidelines_en.pdf.

[276] European Parliament Directive 2004/109/EC, Article 4(2).

[277] European Parliament Directive 2014/95/EU, amending European Parliament Directive 2013/34/EU.

        - The NFRD requires reporting on a set of social and environmental impacts and risks, and applies to public companies, banks, and insurance company operations.[278]

- In 2019, the European Commission published non-binding guidance outlining best practices for assessing and disclosing climate-related risks under the NFRD.[279]
    - This guidance, which classifies litigation risk as part of a broader set of "transition risks,"[280] highlights three key categories of NFRD risk assessment and disclosure related to climate litigation risk.
        - First, under the NFRD companies may assess and disclose the effect of climate-related risks on their "business model[s], strategy and financial planning."[281]
        - Second, companies may provide narrative details about their integration of climate risk assessment into their governance and "operational decision-making processes."[282]
        - Third, the guidance suggests that companies should provide extensive details about specific climate-related risks, including the processes and metrics used to identify and manage those risks.[283]

II. <u>New and Developing Requirements</u>

- On January 3, 2023, the European Parliament adopted a new disclosure regime[284] that updates and expands the NFRD's required disclosures to cover more entities, require a broader scope of reported information, and integrate reported data into a single database.[285] This revision was motivated in part by a desire to enshrine the

[278] *Corporate Sustainability Reporting*, EUROPEAN COMMISSION (n.d.), https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

[279] GUIDELINES ON REPORTING CLIMATE-RELATED INFORMATION 8, EUROPEAN COMMISSION (June 17, 2019), https://ec.europa.eu/finance/docs/policy/190618-climate-related-information-reporting-guidelines_en.pdf.

[280] *Id*. at 9.

[281] *Id*. at 13.

[282] *Id*. at 15.

[283] *Id*. at 17–18.

[284] *Corporate Sustainability Reporting*, EUROPEAN COMMISSION (n.d.), https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

[285] Commission Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as Regards Corporate Sustainability Reporting, COM (2021) 189 final (April 21, 2021).

best practices outlined in the 2019 non-binding climate risk reporting guidelines.[286] The new disclosure regime is called the Corporate Sustainability Reporting Directive ("CSRD"), and expands the application of the NFRD's "double materiality" standard.[287]

- Companies subject to the CSRD will have to file disclosures according to a set of to-be-adopted standards known as the European Sustainability Reporting Standards (ESRS). The European Financial Reporting Advisory Group ("EFRAG") proposed a set of draft ESRS in November of 2022, and the European Commission is expected to adopt these standards by June of 2023.[288]
- While the draft ESRS does not include specific disclosure requirements for litigation risk, "legal risk" is categorized as a type of transition risk, and the CSRD as implemented may require companies to disclose litigation risk in several areas.[289]
  - Companies are required to describe the process by which they identify and assess climate-related transition risks and opportunities, and disclose how their "assets and business activities may be exposed to [identified] climate-related transition events, creating gross transition risks or opportunities for the undertaking."[290]
  - In addition, companies must disclose the policies by which they manage material impacts of climate change, including transition

[286] *Id*. at Recital 32.

[287] Katie Chin, Kolja Stehl, Leonard Ng, & Matt Feehily, *EU Corporate Sustainability Reporting Directive—What Do Companies Need to Know*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE (Aug. 23, 2022), https://corpgov.law.harvard.edu/2022/08/23/eu-corporate-sustainability-reporting-directive-what-do-companies-need-to-know/.

[288] *Corporate Sustainability Reporting*, EUROPEAN COMMISSION (n.d.), https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

[289] *See* EFRAG, DRAFT EUROPEAN SUSTAINABILITY REPORTING STANDARDS: ESRS E1 CLIMATE CHANGE 16 ((Nov. 2022), https://www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FSiteAssets%2F08%2520Draft%2520ESRS%2520E1%2520Climate%2520Change%2520November%25202022.pdf (defining "Climate-related transition risk" as "risks that arise from the transition to a low-carbon and climate-resilient economy. They typically include policy risks, legal risks, technology risks, market risks and reputational risks and can arise from related transition events."); *id.* at 24 (identifying "litigation risk" as a type of "policy and legal" transition event).

[290] *Id*. ¶ 18(c)(ii) (providing guidance on Disclosure Requirement ESRS 2 IRO-1: "Description of the processes to identify and assess material climate-related impacts, risks and opportunities").

risk,[291] and must disclose and quantify the potential financial effects from litigation risks and opportunities.[292]

- The CSRD is scheduled for full implementation by 2024.[293]

- The EU is also in the process of adopting the Corporate Sustainability Due Diligence ("CSDD") Directive, which would operate separately from the CSRD and disclosure-oriented regimes.
  - The CSDD Directive, as proposed, would create a so-called "corporate due diligence duty" requiring corporations to assess the "actual and potential . . . adverse environmental impacts" of their operations,[294] and would create an affirmative duty for corporate directors to consider the "climate change and environmental" consequences of corporate activity, "including in the short, medium and long term."[295]
  - While the CSDD Directive does not directly address climate litigation risk, the directive would require companies to strengthen and expand their environmental risk assessment processes.[296]
  - The proposed CSDD Directive "remains subject to further legislative scrutiny and approval" and has not yet been transposed into member states' laws.[297]

C. The United Kingdom

[291] *Id.*¶ 20 (providing guidance on Disclosure Requirement E1-2: "Policies related to climate change mitigation and adaptation").

[292] *Id*. ¶ 61 (providing guidance on Disclosure Requirement E1-9: "Potential financial effects from material physical and transition risks and potential climate-related opportunities"); *id*. ¶ 64(a) (requiring disclosures to quantify "the monetary amount and proportion (percentage) of assets at material transition risk over the short-, medium- and long-term time horizons.").

[293] *Corporate Sustainability Reporting*, EUROPEAN COMMISSION (n.d.), https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

[294] Commission Proposal for a Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and Amending Directive (EU) 2019/1937, at Art. 6.1, COM (2022) 71 final (Feb. 23, 2022), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0071.

[295] *Id*. at Art. 25.

[296] Dr. Johannes Weichbrodt, James Ford, & Libby Reynolds, *EU Publishes Draft Corporate Sustainability Due Diligence Directive*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE (Mar. 15, 2022).

[297] *Id*.; *see also Corporate Sustainability Due Diligence*, European Commission (n.d.), https://ec.europa.eu/info/business-economy-euro/doing-business-eu/corporate-sustainability-due-diligence_en#what-are-the-next-steps (describing the current legal status of the CSDD Directive).

1. *Risk Disclosure Regime*

- All UK companies, private or public, are subject to annual reporting requirements under the Companies Act of 2006 (the "Companies Act")[298] and its enacting regulations.
    - This act was recently amended by the Streamlined Energy and Carbon Reporting ("SECR") regulations of 2018[299] and the Climate-related Financial Disclosure ("CFD") regulations of 2022.
    - Both the SECR and CFD require the annual reports of certain public and private companies to contain explicit climate-related disclosures.[300]
- Publicly traded companies are further regulated by the Financial Services and Markets Act of 2000 ("FSMA"), and the related Listing Rules, which set forth additional disclosure requirements.[301]
    - Publicly traded companies with "premium listing" status, include prominent oil companies like Shell p.l.c. and BP p.l.c., have enhanced disclosure requirements under the Listing Rules.[302]
    - Some of the Listing Rules incorporate the climate-related disclosure standards promulgated by the Financial Stability Board's ("FSB's") Task Force on Climate-related Financial Disclosures ("TCFD").

[298] Companies Act 2006, c. 46 (U.K.)

[299] Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 No. 1155 (Eng.); *see also* ENVIRONMENTAL REPORTING GUIDELINES, HM GOVERNMENT (Mar. 2019), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/850130/Env-reporting-guidance_inc_SECR_31March.pdf (summarizing the SECR regulations),

[300] MANDATORY CLIMATE-RELATED FINANCIAL DISCLOSURES, NON-BINDING GUIDANCE, DEPT. BUSINESS, ENERGY & INDUSTRIAL STRATEGY (Feb. 2022), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056085/mandatory-climate-related-financial-disclosures-publicly-quoted-private-cos-llps.pdf (summarizing the CFD regulations).

[301] *See Listing Rules, Prospectus Regulation Rules, Disclosure Guidance and Transparency Rules: Overview*, THOMSON REUTERS PRACTICAL LAW UK (n.d.), https://uk.practicallaw.thomsonreuters.com/1-203-5634 (last visited Oct. 11, 2022) (summarizing the application of the Listing Rules).

[302] *See Routes to Main* Market, LONDON STOCK EXCHANGE (n.d.), https://www.lseg.com/markets-products-and-services/our-markets/london-stock-exchange/equities-markets/raising-equity-finance/main-market/companies#:~:text=Premium%20Listed%20companies%20comply%20with,and%20through%20building%20investor%20confidence (summarizing the differences between listing statuses).

- The FSB is "an international body that monitors and makes recommendations about the global financial system,"[303] and "[t]he TCFD recommendations have become the leading climate reporting framework across many jurisdictions."[304]
- "Since both [the Companies Act and Listing Rules] requirements are based on the TCFD's recommendations and recommended disclosures, there is a high degree of consistency in the requirements."[305]

2. *Disclosure Threshold*

- The UK's corporate disclosure regime contains an array of risk disclosure thresholds and standards.
  - As a general matter, nonfinancial and strategic disclosures are limited to information that is "material to shareholders."
    - "Information is material if its omission or misrepresentation could reasonably be expected to influence the economic decisions shareholders take on the basis of the annual report as a whole."[306]
  - However, the UK also mandates specific disclosures in a number of areas, regardless of whether the information is deemed material.[307]
- Several UK corporate disclosures are required on a "comply or explain basis."[308]
  - For example, Listing Rules 9.6.8R(8) and 14.3.27R, which incorporate the TCFD disclosure recommendations, require companies to either:
    - (i) Comply with the TCFD recommendations in their reporting, or

[303] *About the FSB*, FSB (Nov. 16, 2020), https://www.fsb.org/about/.

[304] *Task Force on Climate-related Financial Disclosures (TCFD): Recommendations for Disclosing Climate-Related Financial Information: Overview*, THOMSON REUTERS PRACTICAL LAW UK (n.d.).

[305] MANDATORY CLIMATE-RELATED FINANCIAL DISCLOSURES, NON-BINDING GUIDANCE, DEPT. BUSINESS, ENERGY & INDUSTRIAL STRATEGY 19 (Feb. 2022), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056085/mandatory-climate-related-financial-disclosures-publicly-quoted-private-cos-llps.pdf.

[306] GUIDANCE ON THE STRATEGIC REPORT 19–20, FINANCIAL REPORTING COUNSEL (June 2022), https://www.frc.org.uk/getattachment/343656e8-d9f5-4dc3-aa8e-97507bb4f2ee/Strategic-Report-Guidance_2022.pdf.

[307] *Id*. at 21.

[308] Virginia Harper Ho, *Modernizing Esg Disclosure*, 2022 U. ILL. L. REV. 277, 329 (2022).

- (ii) Provide an explanation as to why the company did not comply.[309]
  - A recent study by the UK's Financial Conduct Authority found that despite this apparently weak mandate, a large majority of companies covered by this rule make or attempt to make disclosures consistent with the TCFD recommendations.[310]

3. *Disclosure Requirements*

- Listing Rules 9.8.6R(8), 9.8.7R, and 14.3.27R together require listed companies[311] to either:
  - (i) Comply with the TCFD recommendations in their reporting; or
  - (ii) Provide an explanation as to why the company did not comply.[312]
- The TCFD recommendations contain several categories that require companies to assess and disclose climate litigation risks.
  - The TCFD recommendations characterize climate litigation as a category of "transition risk,"[313] and require companies to disclose both the strategic and operational impacts of transition risks on the short, medium, and long-terms.
  - The TCFD recommendations also require companies to disclose governance and risk management practices related to the identification and assessment of climate-related risks.
  - Notably, while TCFD strategic disclosures are subject to a materiality threshold, companies following the TCFD regulations should disclose their

[309] *See* Listing Rule 9.6.8R(8)(c); Listing Rule 14.3.27R.

[310] REVIEW OF TCFD-ALIGNED DISCLOSURES BY PREMIUM LISTED COMMERCIAL COMPANIES, FINANCIAL CONDUCT Authority (July 29, 2022), https://www.fca.org.uk/publications/multi-firm-reviews/tcfd-aligned-disclosures-premium-listed-commercial-companies.

[311] While these disclosure requirements were initially limited to issuers with premium listing status, in December 2021 the U.K.'s Financial Conduct Authority issued a new rule, Listing Rule 14.3.27R, that expanded the scope of these disclosures to a broader set of listed companies. *See* POLICY STATEMENT PS21/23, ENHANCING CLIMATE-RELATED DISCLOSURES BY STANDARD LISTED COMPANIES, FCA (Dec. 2021), https://www.fca.org.uk/publication/policy/ps21-23.pdf.

[312] *See* Listing Rule 9.6.8R(8)(c).

[313] RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES 5, 10, TCFD (June 2017), https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf.

climate risk management processes and governance processes regardless of their perceived materiality.[314]

- The CFD regulations are the UK's latest major revision to its corporate climate risk disclosure regime.
    - The CFD categorizes climate litigation risk as one of a set of "transition risks," and largely mirrors the TCFD disclosure framework.[315]
    - Non-binding guidance issued by the UK's Department of Business, Energy, and Industrial Strategy specifically emphasizes that climate litigation and its outcomes should be considered and disclosed in each company's Strategic Report.[316]

D. Canada

1. *Risk Disclosure Regime*

- Canadian public company disclosures are separately regulated under the laws of the 13 Canadian provinces and territories, but are coordinated through the Canadian Securities Administrators ("CSA"), a national association of provincial regulators.[317]
    - Applicable standards are categorized as "National Instruments" or "Multilateral Instruments":
        - National Instruments are regulations that have been adopted in all 13 provinces and territories.

[314] *TCFD Recommendations: Climate-Related Financial Disclosures for Premium Listed and Standard Listed Companies (LR 9.8.6R(8) and LR 14.3.27R)*, THOMSON REUTERS PRACTICAL LAW UK (n.d.); see also RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES 17, TCFD (June 2017), https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf.

[315] MANDATORY CLIMATE-RELATED FINANCIAL DISCLOSURES, NON-BINDING GUIDANCE, DEPT. BUSINESS, ENERGY & INDUSTRIAL STRATEGY 12 (Feb. 2022), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056085/mandatory-climate-related-financial-disclosures-publicly-quoted-private-cos-llps.pdf.

[316] *Id.* at 11–13 (discussing climate litigation risk as part of a broader category of "legal or reputational transition risks").

[317] *About Us*, CANADIAN SECURITIES ADMINISTRATORS (n.d.), https://www.securities-administrators.ca/about/ (last visited Oct. 24, 2022).

▪ Multilateral Instruments are regulations that have been adopted in some, but not all, Canadian jurisdictions.[318] o As a practical matter, "provincial securities laws are the same or similar in most respects."[319]
2. *Disclosure Threshold*
• Canada's continuing corporate disclosure regime focuses on "materiality."[320] o Canadian regulations do not set a "uniform quantitative threshold at which a particular type of information becomes material."[321] o Public companies have a general obligation to report information that could "reasonably be expected to have a significant effect on the market price or value of the securities of an issuer," including "significant litigation."[322]
3. *Disclosure Requirements*
III. Existing Disclosure Requirements • Canadian law contains a number of requirements that mandate the disclosure of climate litigation risk. o Canadian public companies have continuing obligations to assess and disclose material corporate risks and opportunities.[323]

[318] *Access Rules & Policies*, CANADIAN SECURITIES ADMINISTRATORS (Dec. 12, 2022), https://www.securities-administrators.ca/resources/access-rules-policies/ (last visited Oct. 24, 2022).

[319] Simon A. Romano, Donald G. Belovich, Ramandeep K. Grewal, & Colin Burn, *Securities Regulatory Framework in Canada: Overview*, THOMSON REUTERS PRACTICAL LAW CANADA (n.d.).

[320] "The assessment of the materiality of information is a fundamental element of applicable securities laws in Canada." *Determining Materiality: Continuous Disclosure and Securities Offerings*, THOMSON REUTERS PRACTICAL LAW CANADA (n.d.).

[321] CSA STAFF NOTICE 51-333 – ENVIRONMENTAL REPORTING GUIDANCE, CANADIAN SECURITIES ADMINISTRATORS (Oct. 27, 2010), https://www.osc.ca/sites/default/files/pdfs/irps/csa_20101027_51-333_environmental-reporting.pdf.

[322] *Determining Materiality: Continuous Disclosure and Securities Offerings, THOMSON REUTERS PRACTICAL LAW CANADA (n.d.).*

[323] For most public companies, these continuous disclosure requirements arise under National Instrument 51-102. Reporting obligations of investment funds under National Instrument 81-106, but generally follow the same broad structure. *See* Simon A. Romano, Donald G. Belovich, Ramandeep K. Grewal, & Colin Burn, *Securities Regulatory Framework in Canada: Overview*, THOMSON REUTERS PRACTICAL LAW CANADA (n.d.).

Companies in the oil and gas sector are subject to additional public disclosure requirements under National Instrument 51-101. However, these requirements largely surround the reporting of proven and anticipated resource

  - Companies also must specifically disclose active or anticipated litigation involving more than "10% of the current assets of the reporting issuer."[324]
  - In addition, Canadian companies must annually disclose financial reports, along with a Management' Discussion and Analysis ("MD&A") that provides a "narrative explanation" of a company's "financial condition and future prospects.[325]
    - The MD&A must contain, among other things, a description of any "risks or uncertainties that could materially affect the reporting issuer's future performance."[326]
- In recent years the CSA has published guidance specifically addressing the disclosure of climate litigation risk.[327]
  - The CSA advises management to evaluate and report whether "current climate change-related litigation . . . may pose a litigation threat" to the company, either "now or in the future."[328]
  - The CSA also categorizes climate litigation among other "transition risks,"[329] and urges companies to consider and disclose potential climate litigation in their strategic planning.[330]
  - While the CSA does not prescribe specific forms that litigation risk disclosures should take, CSA guidance indicates that thorough disclosures should include:

reserves, and do not clearly create any additional obligations to report or analyze climate litigation risk. *See* NATIONAL INSTRUMENT 51-101, CANADIAN SECURITIES ADMINISTRATORS (Jul. 1, 2015).

[324] *Annual Information Form*, THOMSON REUTERS PRACTICAL LAW CANADA (n.d.) (summarizing the disclosure requirements contained in Item 12 of Canada's Form 51-102F2.).

[325] *Management's Discussion and Analysis (MD&A)*, THOMSON REUTERS PRACTICAL LAW CANADA (n.d.).

[326] *Id.*

[327] *See* CSA STAFF NOTICE 51-333 – ENVIRONMENTAL REPORTING GUIDANCE, CANADIAN SECURITIES ADMINISTRATORS (Oct. 27, 2010), https://www.osc.ca/sites/default/files/pdfs/irps/csa_20101027_51-333_environmental-reporting.pdf (outlining environmental reporting requirements); CSA STAFF NOTICE 51-358 – REPORTING OF CLIMATE CHANGE-RELATED RISKS, CANADIAN SECURITIES ADMINISTRATORS (Aug. 1, 2019), https://www.osc.ca/sites/default/files/pdfs/irps/csa_20190801_51-358_reporting-of-climate-change-related-risks.pdf (outlining reporting requirements related to climate change risk).

[328] CSA STAFF NOTICE 51-358 – REPORTING OF CLIMATE CHANGE-RELATED RISKS 6, CANADIAN SECURITIES ADMINISTRATORS (Aug. 1, 2019), https://www.osc.ca/sites/default/files/pdfs/irps/csa_20190801_51-358_reporting-of-climate-change-related-risks.pdf.

[329] *Id. at* 11.

[330] *Id. at* 6, 14.

- (i) The name of each material proceeding;
- (ii) The stage of such proceeding;
- (iii) The anticipated likelihood and result of an adverse outcome;
- (iv) Whether related payments or defense expenditures will be covered by applicable insurance policies; and
- (v) Whether anticipated costs or awards have been accounted for in the company's financial accounting.[331]

IV. New and Developing Requirements

- In October of 2021, the CSA published a "Notice and Request for Comment" on Proposed National Instrument 51-107: Disclosure of Climate-related Matters (the "DCRM").[332]
  - The DCRM mandates several disclosures related to climate litigation risk assessment—under the DCRM, companies must disclose:
    - (i) Governance processes established to identify and manage climate-related risks and opportunities; and
    - (ii) The impact of identified climate-related risks and opportunities "over the short, medium, and long term."[333]
  - While most of the disclosures required by the DCRM would be subject to a "materiality" threshold, climate-related disclosures concerning a company's governance and risk management processes "are not subject to a materiality assessment" in the CSA's proposed draft.[334]
- The DCRM has attracted some criticism for its relatively nonspecific disclosure requirements.

[331] *See* CSA STAFF NOTICE 51-333 – ENVIRONMENTAL REPORTING GUIDANCE, CANADIAN SECURITIES ADMINISTRATORS 27–28 (Oct. 27, 2010), https://www.osc.ca/sites/default/files/pdfs/irps/csa_20101027_51-333_environmental-reporting.pdf (providing example litigation disclosures).

[332] PROPOSED NATIONAL INSTRUMENT 51-107: DISCLOSURE OF CLIMATE-RELATED MATTERS, CANADIAN SECURITIES ADMINISTRATORS 9–10 (Oct. 18, 2021), https://www.osc.ca/sites/default/files/2021-10/csa_20211018_51-107_disclosure-update.pdf.

[333] PROPOSED NATIONAL INSTRUMENT 51-107: DISCLOSURE OF CLIMATE-RELATED MATTERS, CANADIAN SECURITIES ADMINISTRATORS (Oct. 18, 2021), https://www.osc.ca/sites/default/files/2021-10/csa_20211018_51-107_disclosure-update.pdf.

[334] PROPOSED NATIONAL INSTRUMENT 51-107: DISCLOSURE OF CLIMATE-RELATED MATTERS, CANADIAN SECURITIES ADMINISTRATORS 10 (Oct. 18, 2021), https://www.osc.ca/sites/default/files/2021-10/csa_20211018_51-107_disclosure-update.pdf.

- Multiple interviewees familiar with climate risk disclosure in Canada and the United States described the DCRM's requirements as "high-level" and vague compared to the SEC's proposed disclosure regime.
- Some public commentators have expressed the opinion that, because Canada was one of the first countries to propose revised disclosure standards in response to the TCFD recommendations, the DCRM's disclosure requirements are significantly less aggressive than those proposed by the SEC and EFRAG.[335]

- On October 12, 2022, the CSA announced that it was "actively considering international developments and how they may impact or further inform the [DCRM]."[336] In particular, the CSA announced that it was "analyzing the key differences" between the DCRM and developing disclosure proposals by the United States Securities and Exchange Commission and the International Sustainability Standards Board.[337]

E. Australia

1. *Risk Disclosure Regime*

- All public and many private Australian companies are subject to annual reporting requirements under the Corporations Act of 2001 (the "Corporations Act")[338] and its enacting regulations.
  - Disclosures under the Corporations Act are regulated by the Australian Securities & Investments Commission ("ASIC"), Australia's "integrated corporate, markets and financial services regulator."[339]

[335] *See* Canadian National Bar Association, *Canada's balancing act on climate disclosure rules*, CBA NATIONAL MAGAZINE (Jul. 24, 2022), https://www.nationalmagazine.ca/en-ca/articles/law/business-corporate/2022/canada-s-balancing-act-on-climate-disclosure-rules; *see also* Dr. Janis Sarra, Jenaya Copithorne, & Michael Irish, *A New Dawn in Climate Disclosure: Comparing Canada's Proposed National Instrument 51-107 with Proposed SEC Rules and IFRS/ISSB Standards*, CANADA CLIMATE LAW INITIATIVE (May 2022), https://ccli.ubc.ca/wp-content/uploads/2022/06/Comparison-chart-TCFD-CSA-SEC-and-ISSB-June-2022.pdf.

[336] Press Release, CSA, Canadian Securities Regulators Consider Impact of International Developments on Proposed Climate-Related Disclosure Rule (Oct. 12, 2022), https://nssc.novascotia.ca/sites/default/files/docs/2022-10-12%20-%20CSA%20News%20Release%20-%2051-107%20Update.pdf.

[337] *Id*.

[338] Corporations Act 2001, s 319(3)(b) (Austl.).

[339] *Our Role*, AUSTRALIAN SECURITIES & INVESTMENTS COMMISSION (n.d.), https://asic.gov.au/about-asic/what-we-do/our-role/.

- Public companies that trade on the Australian Securities Exchange ("ASX") are separately subject to the ASX Listing Rules, which contain additional periodic disclosure requirements.[340]
    - In addition, the ASX Corporate Governance Council regularly issues a set of non-binding "Corporate Governance Principles and Recommendations" that represent recommended "good governance" practices.[341]
    - Listed companies must comply with these Principles and Recommendations or explain in their public reporting why they have not done so.[342]

2. *Disclosure Threshold*

- Under the Corporations Act, listed entities must regularly disclose financial accounts, along with a director's report including a narrative assessment of the entity's operations, financial position, and business strategies, known as an "operating and financial review" ("OFR").[343]
    - This discussion, including forward projections, must refer to the "material business risks" that may affect the company going forward.
    - Material business risks are "the most significant areas of uncertainty or exposure, at a whole-of-entity level," that could adversely or positively impact the financial performance or strategies disclosed in the OFR.[344]
- The ASX Listing Rules also articulate materiality thresholds.
    - ASX Listing Rule 3.1 requires public Australian companies, subject to some exceptions, to "immediately" disclose "any information concerning it that a reasonable person would expect to have a material effect on the price or value of the entity's securities."[345]

[340] *See* ASX Listing Rules Ch. 4.

[341] CORPORATE GOVERNANCE PRINCIPLES & RECOMMENDATIONS 1, ASX CORPORATE GOVERNANCE COUNCIL (4th ed. Feb. 2019), https://www.asx.com.au/documents/asx-compliance/cgc-principles-and-recommendations-fourth-edn.pdf.

[342] *Id*. at 2.

[343] *See* REGULATORY GUIDE 247: EFFECTIVE DISCLOSURE IN AN OPERATING AND FINANCIAL REVIEW 4–5, AUSTRALIAN SECURITIES & INVESTMENTS COMMISSION (Aug. 2019), https://asic.gov.au/media/5230063/rg247-published-12-august-2019.pdf (summarizing OFR requirements under the Corporations Act).

[344] *Id*. at 19.

[345] *See* ASX Listing Rule 3.1.

- ASX has also issued non-binding guidance recommending that listed entities should disclose "material exposure" to environmental risks, defined as "a real possibility that the risk in question could materially impact the listed entity's ability to create or preserve value for security holders over the short, medium or longer term.[346]

3. *Disclosure Requirements*

V. Existing Disclosure Requirements

- "Specifically climate-focused corporate governance duties have not been expressly enshrined by statute in Australia."[347]
- Nevertheless, climate litigation risk assessment and disclosure has been read into existing Australian law through a combination of regulatory guidance and a growing "jurisprudential consensus" that climate risk assessment is a core requirement of Australian directors' duties under the Corporations Act.[348]
  - This consensus has been credited "in large part due to a highly influential series of [three] legal opinions by Australian barristers Noel Hutley SC and Sebastian Hartford-Davis," known as the "Hutley Opinions."[349]
    - One Australian in-house practitioner interviewed for this report noted that the Hutley Opinions, while not issued by any government body, were granted significant weight in internal corporate discussions around directorial duties.
- In addition to the Hutley Opinions, both ASIC and ASX have issued regulatory guidance relating to the disclosure of climate change risks.
  - In recent years, ASIC has taken the position that material climate risks must be disclosed in companies' OFR disclosures.[350]

[346] CORPORATE GOVERNANCE PRINCIPLES & RECOMMENDATIONS 27 n.63, ASX CORPORATE GOVERNANCE COUNCIL (4th ed. Feb. 2019), https://www.asx.com.au/documents/asx-compliance/cgc-principles-and-recommendations-fourth-edn.pdf.

[347] Kristy Dixon, Kiera Peacock, & Felicia Lal, *Climate Risk, Net Zero, & Corporate Governance*, THOMSON REUTERS PRACTICAL LAW AUSTRALIA (n.d.).

[348] *Id*.

[349] *Id*.

[350] Kristy Dixon, Kiera Peacock, & Felicia Lal, *Climate Risk, Net Zero, & Corporate Governance*, THOMSON REUTERS PRACTICAL LAW AUSTRALIA (n.d.) ("ASIC's view is that the law requires an OFR to discuss material climate risks that could affect a company's financial performance."); REGULATORY GUIDE 247: EFFECTIVE DISCLOSURE IN AN OPERATING AND FINANCIAL REVIEW 20, AUSTRALIAN SECURITIES & INVESTMENTS COMMISSION (Aug. 2019),

        - ASIC has issued multiple pieces of regulatory guidance encouraging listed companies with "material exposure to climate risk" to voluntarily adopt the TCFD risk disclosure framework.[351]
    - Similarly, the ASX Corporate Governance Council's 2019 "Corporate Governance Principles and Recommendations" advised companies to disclose their "material exposure" to environmental risks, and highlighted climate litigation as a significant source of such risks.[352]
- Finally, a duty to assess climate litigation risk is increasingly recognized as a core part of Australian directors' duties of care and diligence under the Corporations Act.
    - The first Hutley Opinion, published in 2016, argued that the impacts of climate change, as a foreseeable risk, must be assessed and, where possible, mitigated by Australian directors.[353]
    - Supplemental memoranda published in 2019 and 2021 elaborated on the growing threat of climate litigation, and emphasized the duty of Australian directors to assess, disclose, and mitigate climate litigation risks.[354]

VI. New and Developing Requirements

https://asic.gov.au/media/5230063/rg247-published-12-august-2019.pdf (highlighting climate change as a systemic risk that may require disclosure in a company's OFR, where material).

[351] *See* Commissioner Kathy Armour, *Managing Climate Risk for Directors*, ASIC (Feb. 2022), https://asic.gov.au/about-asic/news-centre/articles/managing-climate-risk-for-directors/; REGULATORY GUIDE 247: EFFECTIVE DISCLOSURE IN AN OPERATING AND FINANCIAL REVIEW 20, AUSTRALIAN SECURITIES & INVESTMENTS COMMISSION (Aug. 2019), https://asic.gov.au/media/5230063/rg247-published-12-august-2019.pdf (recommending TCFD disclosures as a supplement to OFR disclosures).

[352] CORPORATE GOVERNANCE PRINCIPLES & RECOMMENDATIONS 27–28, ASX CORPORATE GOVERNANCE COUNCIL (4th ed. Feb. 2019), https://www.asx.com.au/documents/asx-compliance/cgc-principles-and-recommendations-fourth-edn.pdf.

[353] *See* Noel Hutley, SC & Sebastian Hartford-Davis, *Climate Change & Directors' Duties: Memorandum of Opinion*, CENTRE FOR POLICY DEVELOPMENT & THE FUTURE BUSINESS COUNCIL (Oct. 7, 2016), https://cpd.org.au/wp-content/uploads/2016/10/Legal-Opinion-on-Climate-Change-and-Directors-Duties.pdf.

[354] *See* Noel Hutley, SC & Sebastian Hartford-Davis, *Climate Change & Directors' Duties: Supplemental Memorandum of Opinion* ¶¶ 2, 17, CENTRE FOR POLICY DEVELOPMENT & THE FUTURE BUSINESS COUNCIL (Mar. 26, 2019), https://cpd.org.au/wp-content/uploads/2019/03/Noel-Hutley-SC-and-Sebastian-Hartford-Davis-Opinion-2019-and-2016_pdf.pdf; Noel Hutley, SC & Sebastian Hartford-Davis, *Climate Change & Directors' Duties:Further Supplemental Memorandum of Opinion* ¶¶ 3–7, CENTRE FOR POLICY DEVELOPMENT & THE FUTURE BUSINESS COUNCIL (Apr. 23, 2021), https://cpd.org.au/wp-content/uploads/2019/03/Noel-Hutley-SC-and-Sebastian-Hartford-Davis-Opinion-2019-and-2016_pdf.pdf;

- In December of 2022, the Australian Treasury initiated a consultation process to examine the need for climate-related financial disclosure reforms.[355]
    - The consultation paper issued by the Australian Treasury indicated that the growing international wave of climate disclosures "create[s] a potential guidance gap for Australia, as market expectations for certainty may not be met without government action and without efforts by businesses to continue to improve the quality of their disclosures."[356]
    - The consultation paper does not outline any specific disclosure proposals.
    - However, the consultation paper points to proposals in Canada, the United Kingdom, and the United States, among others, and "to ensure Australia remains aligned with major international capital markets, disclosure obligations need to be credible and comparable to other prominent jurisdictions."[357]
- The Australian Treasury expects to propose a set of specific reforms later in 2023.[358]

F. Japan

1. *Risk Disclosure Regime*

- Japanese corporate risk disclosure obligations arise from three primary sources:[359]
    - (i) The Companies Act,[360]

[355] *See* CLIMATE-RELATED FINANCIAL DISCLOSURE: CONSULTATION PAPER, AUSTRALIAN TREASURY (Dec. 2022), https://treasury.gov.au/sites/default/files/2022-12/c2022-314397_0.pdf.

[356] *Id*. at 5.

[357] *Id*. at 5, 8.

[358] *Climate-related Financial Disclosure*, AUSTRALIAN GOVERNMENT—THE TREASURY (n.d.), https://treasury.gov.au/consultation/c2022-314397. For more information about the Australian insurance industry's perspective on these new proposals, *see* Daniel Wood, *Mandatory Climate Risk Disclosures are Coming to Australia*, Insurance Business Australia (Jan. 25, 2023), https://www.insurancebusinessmag.com/au/news/environmental/mandatory-climate-risk-disclosures-are-coming-to-australia-433916.aspx.

[359] Katsuyuki Yamaguchi, Kaoru Tatsumi, & Mamiko Komura, *Corporate Governance and Directors' Duties in Japan: Overview*, THOMSON REUTERS PRACTICAL LAW JAPAN (May 1, 2020).

[360] Companies Act, Act. No. 86 of 2006, https://www.japaneselawtranslation.go.jp/en/laws/view/3206/en (Japan).

- (ii) The Financial Instruments and Exchange Act ("FIEA");[361] and
- (iii) The Securities Listing Regulations (the "Listing Regulations") of the Tokyo Stock Exchange.[362]

- Relevant guidance and regulations are promulgated by the Financial Services Agency of Japan ("FSA"), an integrated regulator of financial, insurance, and securities markets.[363]

2. *Disclosure Threshold*

- Japan's corporate disclosure requirements are generally limited by investor-oriented "materiality" qualifiers.
  - For example, under the Corporations Act, a Director's "Duty to Report" is limited to facts "likely to cause substantial detriment" to the company.[364]
  - Similarly, the Listing Regulations require listed companies to immediately disclose corporate information regarding "important matters related to operation, business or assets," so long as that information would "have a remarkable effect on investors' investment decisions."[365]

3. *Disclosure Requirements*

VII. Existing Disclosure Requirements

- As a general matter, "[t]he current statutory disclosure frameworks in Japan are not designed to disclose ESG and other non-financial factors."[366] However, this status quo is rapidly changing.

[361] Financial Instruments and Exchange Act, Act. No. 25 of 1948, https://www.japaneselawtranslation.go.jp/en/laws/view/3986 (Japan).

[362] SECURITIES LISTING REGULATIONS – TENTATIVE REFERENCE TRANSLATION, TOKYO STOCK EXCHANGE, INC. (April 4, 2022), https://www.jpx.co.jp/english/rules-participants/rules/regulations/tvdivq0000001vyt-att/listing_regs_1-842_20220404.pdf.

[363] ABOUT THE FINANCIAL SERVICES AGENCY (FSA) 2, FINANCIAL SERVICES AGENCY (June 2020), https://www.fsa.go.jp/en/about/pamphlet_e.pdf.

[364] Companies Act, Act. No. 86 of 2006, Art. 357(1), https://www.japaneselawtranslation.go.jp/en/laws/view/3206/en (Japan).

[365] SECURITIES LISTING REGULATIONS – TENTATIVE REFERENCE TRANSLATION, Rule 402(1)(ar), TOKYO STOCK EXCHANGE, INC. (April 4, 2022), https://www.jpx.co.jp/english/rules-participants/rules/regulations/tvdivq0000001vyt-att/listing_regs_1-842_20220404.pdf.

[366] Akihito Miyake & Osamu Adachi, *At a Glance: ESG & Investing in Japan*, LEXOLOGY (Aug. 22, 2022).

  - In November and December of 2022 the FSA proposed the first "hard law" ESG disclosure requirements, which require companies to disclose information about gender gaps-related metrics like "ratio of female managers" and "ratio of male employees taking childcare leave." These requirements also require companies to describe corporate initiatives related to sustainability.[367]
  - The FSA has paid increasing attention to non-financial disclosures, and recently issued guidance emphasizing the value of non-financial risk disclosures that could open the door to increased corporate disclosure of climate litigation risk.[368]
  - In addition, some have argued that Japanese directors' duties create affirmative duties to assess and disclose climate risks, including litigation risk.[369]
- Japanese environmental risk disclosure has largely occurred through voluntary measures and "soft-law" guidance.[370]
  - One of the main soft-law instruments driving corporate disclosures is the Corporate Governance Code (the "CGC"), which is issued by the Tokyo Stock Exchange and has been incorporated into the Listing Regulations.[371]
    - Principle 2.3 of the CGC directs companies to address and consider environmental matters;
    - Principle 3.1 emphasizes the importance of narrative strategic disclosures;[372]

[367] Regulation Asia, *Japan FSA Looks to Enhance Sustainability Disclosure Rules*, ESG INVESTOR (Feb. 6, 2023), https://www.esginvestor.net/live/japan-fsa-looks-to-enhance-sustainability-disclosure-rules/; *see also Financial Services Agency of Japan Introduces a Number of ESG Developments*, Linklaters (Dec. 28, 2022), https://sustainablefutures.linklaters.com/post/102i463/financial-services-agency-of-japan-introduces-number-of-esg-developments.

[368] PRINCIPLES REGARDING THE DISCLOSURE OF NARRATIVE INFORMATION – PROVISIONAL TRANSLATION, FINANCIAL SERVICES AGENCY (Mar. 19, 2019), https://www.fsa.go.jp/en/news/2019/20190606-3/01.pdf

[369] *See generally* Dr. Yoshihiro Yamada, Dr. Janis Sarra, & Dr. Masafumi Nakahigashi, Directors' Duties Regarding Climate Change in Japan, Commonwealth Climate and Law Initiative (Feb. 2021), https://law-ccli-2019.sites.olt.ubc.ca/files/2021/02/Directors-Duties-Regarding-Climate-Change-in-Japan.pdf; *see also id*. at 14 (emphasizing the significance of "legal or litigation risk" arising from climate change).

[370] Kiyoshi Honda, *Environmental, Social, & Governance Law: Japan*, INTERNATIONAL COMPARATIVE LEGAL GUIDES (n.d.).

[371] *Id*.

[372] JAPAN'S CORPORATE GOVERNANCE CODE – PROVISIONAL TRANSLATION 10, 14, TOKYO STOCK EXCHANGE (June 11, 2021).

- Supplementary Principle 3.1.3 directs companies with "Prime Market" listings on the Tokyo Stock Exchange to "collect and analyze the necessary data on the impact of climate change-related risks and earning opportunities on their business activities and profits, and enhance the quality and quantity of disclosure based on the TCFD recommendations."[373]
    - As discussed, the TCFD recommendations contain both explicit and implicit requirements related to climate litigation risk.
- While compliance with the CGC is not mandatory, the CGC "adopts a 'comply or explain' approach . . . if a company considers a certain principle inappropriate to its circumstances, the company does not need to comply with the principle, but must fully explain the reasons for non-compliance."[374]

VIII. New and Developing Requirements

- On March 2, 2023, the Sustainability Standards Board of Japan ("SSBJ") announced a timeline for the development of Japanese sustainability disclosure standards. Draft standards are expected to be issued by Mach 31, 2024, and final standards are expected to be adopted before March 31, 2025.[375]
    - SSJB's draft standards are expected to incorporate standards set by the International Sustainability Standards Board ("ISSB"), and "build on the global baseline of sustainability-related disclosures established by ISSB Standards."[376]
- In February of 2023 the FSA adopted rules governing the use of ESG-related terms by asset managers. Under these new rules, "only funds that consider ESG as a 'key factor' when choosing investments can be marketed as such."[377]

[373] *Id*. at 15.

[374] Katsuyuki Yamaguchi, Kaoru Tatsumi and Mamiko Komura, *Corporate Governance and Directors' Duties in Japan: Overview*, THOMSON REUTERS PRACTICAL LAW JAPAN (May 1, 2020).

[375] Press Release, IFRS, Representatives of the ISSB and the Sustainability Standards Board of Japan Hold Inaugural Bilateral Meeting in Japan (Mar. 2, 2023), https://www.ifrs.org/news-and-events/news/2023/03/representatives-of-the-issb-and-the-ssbj-hold-inaugural-bilateral-meeting-in-japan/.

[376] Michael Kapoor, *Japan Says It Will Use New Global Sustainability Rules*, Bloomberg (Mar. 2, 2023),

[377] Taiga Uranaka, Takashi Umekawa, & Sheryl Tian Tong Lee, *Funds That Inflate Green Credentials Face Strict New Rules in Japan*, JAPAN TIMES (Feb. 9, 2023), https://www.japantimes.co.jp/news/2023/02/09/business/economy-business/greenwashing-esg-portfolios/.

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ANNEX 2

KEY RESOURCES ON (RE)INSURER CLIMATE LITIGATION RISK

This Annex outlines key academic and industry resources assessing climate litigation risk to the (re)insurance industry.

A. *Climate Change and Insurance*

Co-written in 2012 by four experienced insurance professionals and attorneys, *Climate Change and Insurance* represents a comprehensive introduction to the intersection of insurance and climate litigation. In particular, the authors extensively explore how specific insurance policy structures can mitigate or amplify (re)insurer climate litigation risk.[378]

Climate Change and Insurance also describes the trajectory of other mass tort recoveries, from emerging risks to industry-wide settlement events. While the discussions of specific litigation and regulations in *Climate Change and Insurance* have become somewhat outdated in the decade since its publication, it remains an invaluable resource for understanding the impact of climate litigation on insurers.

B. NAIC Center for Insurance and Policy Research: Climate Series

The National Association of Insurance Commissioners ("NAIC") is a standard-setting organization "governed by the chief insurance regulators from the 50 [U.S.] states, the District of Columbia, and five U.S. territories to coordinate regulation of multistate insurers."[379] The Center for Insurance Policy and Research ("CIPR"), an arm of NAIC, provides data and educational resources for regulators and insurance industry members.[380]

Two CIPR resources are particularly relevant to the question of assessing climate litigation risk. On September 15, 2021, CIPR held a series of lectures at the NAIC Insurance Summit. Two of these lectures, by Praedicat's CEO, Bob Reville, and Sr. V.P. of Modelling, Melissa Boudreau, focused on climate litigation risk modelling.

[378] CHRISTINA M. CARROLL, J. RANDOLPH EVANS, LINDENE E. PATTON, & JOANNE L. ZIMOLZAK, CLIMATE CHANGE AND INSURANCE 135–195 (2012).

[379] *Our Story*, NAIC (n.d.), https://content.naic.org/about.

[380] *Center for Insurance Policy and Research*, NAIC (n.d.), https://content.naic.org/research.

- Bob Reville's lecture presents a historical overview of climate litigation, and assesses several key elements driving climate litigation risk, including litigation financing models and improving attribution science.[381]
- Melissa Bodreau's lecture focuses on climate litigation stress-testing, and discusses the qualitative and quantitative factors that Praedicat uses to build its climate litigation scenario models.[382]

C. Geneva Association Task Force on Climate Change Risk Assessment

The Geneva Association is an international association of insurance and reinsurance companies that operates as a "think tank for the global insurance industry."[383] Between February of 2021 and September of 2022, the Geneva Association's Task Force on Climate Change Risk Assessment released a series of three reports assessing the impact of climate change on the insurance industry.

- The first report, *Climate Change Risk Assessment for the Insurance Industry*, provides a broad overview of climate risks and "offers a holistic decision-making framework for [property & casualty] and life re/insurers, for both the liability and asset sides of the balance sheet."[384] The report assesses the potential impact on insurers of a variety of climate risks, over both a 10-year and 30-year timeline.[385]

[381] Dr. Bob Reville, CEO, Praedicat, Keynote Address at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-GB/RecordView/Index/24783.

[382] Melissa Boudreau, Sr. V.P. of Modelling, Praedicat, Climate Stress Testing: Scenario Analysis – Liability Risk at the NAIC 2021 Insurance Summit (Sept. 15, 2021), https://naic.soutronglobal.net/Portal/Public/en-US/RecordView/Index/24785.

[383] *About Us*, GENEVA ASSOCIATION (n.d.), https://www.genevaassociation.org/about-us.

[384] MARYAM GOLNARAGHI & THE GENEVA ASSOCIATION TASK FORCE ON CLIMATE CHANGE RISK ASSESSMENT, CLIMATE CHANGE RISK ASSESSMENT FOR THE INSURANCE INDUSTRY: A HOLISTIC DECISION-MAKING FRAMEWORK AND KEY CONSIDERATIONS FOR BOTH SIDES OF THE BALANCE SHEET 8 (2021), https://www.genevaassociation.org/sites/default/files/climate_risk_web_final_250221.pdf.

[385] *Id.* at 16–17.

- The second report, *Insurance Industry Perspectives on Regulatory Approaches to Climate Risk Assessment*, assesses the efforts of various financial service regulators to understand the impact of climate change on financial services like insurance, and discusses the benefits of quantitative versus qualitative regulatory frameworks.[386]
- The third report, *Anchoring Climate Change Risk Assessment in Core Business Decisions in Insurance*, focuses on integrating climate risk analyses into insurer decisionmaking processes and proposes a holistic model for climate change risk scenario analyses.[387]

D. Articles, Academic Papers, and Discrete Reports

Zelle LLP "Climate Change and Insurance" Article Series

- Since 2019, the law firm Zelle LLP has regularly published articles and blog posts addressing the intersection of climate litigation and insurance. Past articles have examined the role of insurers as proactive climate litigants,[388] discussed (re)insurer responses to climate litigation risk,[389] and compared climate litigation risk to other once-"emerging" risks like asbestos.[390]

Is Past Prologue to Climate Change Liability?[391]

[386] MARYAM GOLNARAGHI & THE GENEVA ASSOCIATION TASK FORCE ON CLIMATE CHANGE RISK ASSESSMENT, INSURANCE INDUSTRY PERSPECTIVES ON REGULATORY APPROACHES TO CLIMATE RISK ASSESSMENT 12–13 (2021), https://www.genevaassociation.org/sites/default/files/climate_regulation_web2.pdf.

[387] MARYAM GOLNARAGHI & THE GENEVA ASSOCIATION TASK FORCE ON CLIMATE CHANGE RISK ASSESSMENT, ANCHORING CLIMATE CHANGE RISK ASSESSMENT IN CORE BUSINESS DECISIONS IN INSURANCE 24 (2022), https://www.genevaassociation.org/sites/default/files/2022-10/Climate%20Risk%203_web.pdf.

[388] José M. Umbert & Hernán Cipriotti, *After Climate Rulings, Insurers May Go on Coverage Offense*, Law360 (Oct. 13, 2022), *available at* https://www.zellelaw.com/After_Climate_Rulings_Insurers_May_Go_On_Coverage_Offense.

[389] Jason Reeves & José M. Umbert, *Climate Change and Insurance: Litigation Risks for Insurers*, INSURANCE LAW360 (Jan. 23, 2019), *available at* https://www.zellelaw.com/news-publications-626.

[390] Kristin Suga Heres & Jeffrey Gordon, *Climate Change and Insurance: Learn From MTBE, Asbestos*, INSURANCE LAW360 (Apr. 2, 2019), *available at* https://www.zellelaw.com/news-publications-637.

[391] J. Randolph Evans, Joanne L. Zimolzak, & Christina M. Carroll, *Is Past Prologue to Climate Change Liability?*, LAW360 (May 31, 2011).

- Written in 2011, this article compares then-nascent climate litigation to the early stages of tobacco litigation, and lays out a historical model for tracking the stages of mass tort recoveries. Three of the authors of this article went on to write *Climate Change and Litigation*, applying and further developing the mass tort model set forth in this article.

Limiting Liability in the Greenhouse: Insurance Risk-Management Strategies in the Context of Global Climate Change[392]

- Written in 2007, *Limiting Liability in the Greenhouse* focuses on "sources of climate change-related liability, and their nexus with insurance."[393] Much like *Climate Change and Insurance*, this article's focus on common insurance product lines and their exposure to climate litigation means that, nearly 15 years later, it remains relevant as an overview of the potential scope of (re)insurer climate litigation risk.

Application Paper on the Supervision of Climate-Related Risks in the Insurance Sector[394]

- The International Association of Insurance Supervisors ("IAIS") is "a voluntary membership organisation of insurance supervisors from more than 200 jurisdictions, constituting 97% of the global insurance premiums."[395] In 2021 the IAIS published an "Application Paper" designed to support insurance regulators as they "integrate climate risk considerations into the supervision of the insurance sector."[396] This Application Paper places particular emphasis on assessing (re)insurer liability risks, and highlights the need to develop governance tools to monitor climate litigation risk.

[392] Christina Ross, Evan Mills, & Sean B. Hecht, *Limiting Liability in the Greenhouse: Insurance Risk-Management Strategies in the Context of Global Climate Change*, 26A STAN. ENVTL. L.J. 251, 252 (2007).

[393] *Id*. at 274.

[394] IAIS, APPLICATION PAPER ON THE SUPERVISION OF CLIMATE-RELATED RISKS IN THE INSURANCE SECTOR (May 2021), https://www.iaisweb.org/uploads/2022/01/210525-Application-Paper-on-the-Supervision-of-Climate-related-Risks-in-the-Insurance-Sector.pdf.

[395] *What We Do*, IAIS (n.d.), https://www.iaisweb.org/about-the-iais/what-we-do/.

[396] IAIS, APPLICATION PAPER ON THE SUPERVISION OF CLIMATE-RELATED RISKS IN THE INSURANCE SECTOR 6 (May 2021), https://www.iaisweb.org/uploads/2022/01/210525-Application-Paper-on-the-Supervision-of-Climate-related-Risks-in-the-Insurance-Sector.pdf.

Practical Guide to Climate Change for General Insurance Practitioners[397]

- In 2019 the Institute and Faculty of Actuaries, a UK-based professional organization that regulates actuaries, published a detailed practical guide to aid insurance practitioners in assessing climate change risk. This guidance, while written at a high level, highlights key areas where climate change risk, and climate litigation risk in particular, may affect the day-to-day work of insurance practitioners.

Insuring the Climate Transition[398]

- In 2021 the United Nations Environment Programme's (UNEP) Principles for Sustainable Insurance Initiative (PSI) published a comprehensive report, *Insuring the Climate Transition*, designed to aid the insurance industry in assessing risks posed by climate change and the climate transition. One section of this report examines the risks insurers face from climate litigation, and proposes two basic approaches to insurer litigation risk assessment. The first is a broad assessment framework, similar to the "simple model" described in Section IV.C.1 of this report. The second is a stress-testing assessment exercise based on the Bank of England's Prudential Regulation Authority stress-testing exercises. Together, these offer a preliminary framework to guide insurers in assessing their exposure to litigation risk.

Scenario Analysis Working Group: Climate Change Litigation Risk Chapter[399]

- In 2022 the Scenario Analysis Working Group of the Climate Financial Risk Forum, a joint project of the United Kingdom's Prudential Regulatory Authority and Financial Conduct Authority, published an overview of climate litigation risk. This chapter

[397] MARK ROTHWELL, MARTIN EARLE, CHOONG HERN OOI, JAMES ORR, SHRADHA SHROFF & JIANHUA SIEW, PRACTICAL GUIDE TO CLIMATE CHANGE FOR GENERAL INSURANCE PRACTITIONERS (2019), https://www.actuaries.org.uk/system/files/field/document/Practical%20Guide%20to%20Climate%20Change%20for%20GI%20Practitioners_1.pdf.

[398] UNEP PSI, INSURING THE CLIMATE TRANSITION: ENHANCING THE INSURANCE INDUSTRY'S ASSESSMENT OF CLIMATE CHANGE FUTURES (2021), https://www.unepfi.org/psi/wp-content/uploads/2021/01/PSI-TCFD-final-report.pdf.

[399] CLIMATE FINANCIAL RISK FORUM, SCENARIO ANALYSIS WORKING GROUP: CLIMATE LITIGATION RISK CHAPTER (Dec. 2022), https://www.fca.org.uk/publication/corporate/cfrf-guide-2022-scenario-analysis-working-group-climate-litigation-risk-chapter.pdf.

outline key trends and legal precedents relating to climate litigation, with the goal of highlighting areas where firms in the financial services sector face the greatest exposure to climate litigation.

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ANNEX 3

SIGNIFICANT (RE)INSURANCE CLIMATE LITIGATION

This Annex highlights global climate litigation of significant concern to (re)insurers. This Annex includes:

(1) Climate insurance litigation. These cases relate to either (i) insurance litigation related to the insurer's obligation to underwrite change-related damage, or (ii) disputes between insurers and insureds regarding the insurer's obligation to defend and indemnify against third-party climate litigation.

(2) Key mitigation claims. These claims arise from a party's emission of GHGs.

(3) Key adaptation claims. These claims arise from a party's alleged failure to plan for or adapt to climate change.

(4) Key governance and regulatory claims. These claims arise from a party's breach of established legal frameworks related to climate change. These claims include so-called "greenwashing" claims, which arise from alleged misstatements, lies, or omissions by corporations or individuals that make products, policies, or activities look more environmentally friendly or less environmentally damaging than they are.

ANNEX 3 – SIGNIFICANT (RE)INSURER CLIMATE LITIGATION

This Annex is limited to cases with immediate relevance to the insurance industry and cases highlighted by interview participants as materially affecting the scope of (re)insurer climate litigation risk.

In addition, several insurance industry professionals interviewed for this report suggested that they, and their clients, are particularly concerned about their exposure to greenwashing claims. As few of the attorneys interviewed for this report identified specific climate-related greenwashing cases that impacted their practices or risk assessment, this annex has been supplemented with selected recent climate-related greenwashing cases, to provide examples of the scope and variety of modern greenwashing litigation.

Case Name	Jurisdiction	Summary
Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh	United States Federal District Court of Hawaii	In early 2020, the City and County of Honolulu[400] and the County of Maui[401] brought claims against a number of fossil fuel companies under theories of public and private nuisance, product liability, and trespass (the "Underlying Lawsuits"). These claims seek damages and other relief from the companies' promotion of fossil fuel and their concealment and failure to warn of its known harmful effects. On August 10, 2022, Aloha Petroleum Ltd., one of the defendants and a subsidiary of Sunoco, sued its insurer, National Union Fire Insurance Co. of Pittsburgh ("National Union"), claiming that it was entitled to defense and indemnification under four Commercial General Liability policies, covering four discrete one-year periods between 1980 and 1986.[402] These policies were purportedly written on an "occurrence" basis. On September 15, 2022, National Union filed an answering brief that broadly denied liability and asserted various affirmative defenses.[403] In particular, National Union argued that the Underlying Lawsuits did not assert claims that constituted an "occurrence" under the policies in question, because "occurrences" under the policy were defined as "accident[s] . . . neither expected nor intended from the standpoint of the insured."[404] As the Underlying Lawsuits allege that Aloha Petroleum "intentionally concealed the hazards associated with its fossil fuel-related products," National Union argued that these claims did not constitute "occurrences" for the purposes of the disputed coverage. Following discovery, Aloha Petroleum filed an Amended Complaint, highlighting a total of 23 insurance policies issued between 1980 and 2009 by both National Union and another insurer, American Home Assurance Company ("American Home"), that Aloha Petroleum alleges require National Union and American Home to indemnify it against the Underlying Lawsuits.[405] The Amended Complaint also contains a claim against National Union for its purportedly "bad faith" denial of Aloha's Petroleum initial claims.[406] Aloha Petroleum alleges that National Union's initial denial of coverage was based solely on a pollution exclusion in a 1985 commercial general liability policy.[407] Aloha Petroleum further claims that National Union now concedes that some relevant policies lack a pollution exclusion that would apply

		to the Underlying Lawsuits,[408] and "has no reasonable basis for refusing and/or failing to defend Aloha under [three of the policies]."[409] As of June 6, 2023, all parties have filed opposing motions for partial summary judgment on the issue of liability, which remain pending.
Everest Premier Insurance Co. v. Gulf Oil LP	Superior Court of Massachusetts	In July of 2021, the Conservation Law Foundation filed a suit in the Federal District Court of Connecticut alleging that Gulf Oil LP, which owns and operates bulk storage and fuel terminals in New Haven, Connecticut, "has not designed, maintained, modified, and/or operated its Terminal to account for the numerous effects of climate change."[410] These failures, plaintiffs alleged, presented health risks to the surrounding community and environment. For more information about the underlying adaptation suit against Gulf Oil, see *Conservation Law Foundation v. Gulf Oil LP* in Annex 3.C.

[400] Complaint, City & County of Honolulu v. Sunoco LP, Civ. No. 20-380 (Haw. 1st Cir. Ct. filed Mar. 9, 2020); *see also City & County of Honolulu v. Sunoco LP*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/city-county-of-honolulu-v-sunoco-lp/.

[401] Complaint, County of Maui v. Sunoco LP, Civ. No. 20-380 (Haw. 2nd Cir. Ct. filed Oct. 12, 2020); *see also County of Maui v. Sunoco LP*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/county-of-maui-v-sunoco-lp/.

[402] *See* Complaint, Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh, Civ. No. 22-372 (D. Haw. filed Aug. 10, 2022); *see also Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/aloha-petroleum-ltd-v-national-union-fire-insurance-co-of-pittsburgh/.

[403] *See* Answer to Complaint and Affirmative Defenses, Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh, Civ. No. 22-372 (D. Haw. filed Aug. 10, 2022).

[404] *Id.* at 27.

[405] *See* First Am. Complaint ¶¶ 8–32., Aloha Petroleum Ltd. v. National Union Fire Insurance Co. of Pittsburgh, Civ. No. 22-372 (D. Haw. filed Aug. 10, 2022).

[406] *See id.* ¶¶ 91–95.

[407] *Id.* ¶ 92.

[408] *Id.*

[409] *Id.* ¶ 94.

[410] *See* Complaint, Conservation Law Foundation, Inc. v. Gulf Oil LP, Civ. No. 21-932 (D. Conn. filed July 7, 2021); *see also Conservation Law Foundation, Inc. v. Gulf Oil LP*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/conservation-law-foundation-v-gulf-oil-lp/.

		Gulf Oil had purchased primary and excess insurance from Everest Premier Insurance Company and Everest National Insurance Company (together, "Everest") between 2018 and 2021. These policies were written on an "occurrence" basis, and each covered certain "bodily injuries" and "property damage" that occurred during the relevant coverage period. In June of 2022 Gulf Oil's insurer, Everest Premier Insurance Company, filed suit in the Superior Court of Massachusetts seeking a declaration that Everest had no obligation to defend or indemnify Gulf Oil against the Conservation Law Foundation's suit.[411] Along with a breach-of-contract claim related to Gulf Oil's purported failure to give Everest notice of the underlying claim, Everest alleged that the "risk of potential property damage" and potential pollutant discharges did not represent "occurrences" for the purpose of the relevant policies. Everest further alleged that, "[e]ven if an allegation of accidental property damage was possible, coverage would be "squarely" excluded by the policies' pollution and other exclusions."[412] On October 18, 2022, Everest voluntarily withdrew all of its claims, without prejudice to refiling. Court filings suggest that the case has been settled, although no public settlement information has been disclosed.[413] (For context on the underlying adaptation suit against Gulf Oil, see *Conservation Law Foundation v. Gulf Oil LP* in Annex 3.C below)
Steadfast Insurance Co. v. AES Corp.	Supreme Court of Virginia	In 2008, a group of native Alaskans filed suit against a number of oil and power companies, seeking damages arising from the impact of climate change on their village. The allegations

[411] *See* Complaint, Everest Premier Insurance Co. v. Gulf Oil LP, Civ. No. 2284-1291 (Mass. Super. Ct. filed June 9, 2022); *see also Everest Premier Insurance Co. v. Gulf Oil LP*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/everest-premier-insurance-co-v-gulf-oil-lp/.

[412] Sarah Hill-Smith & Nigel Brook, Clyde & Co. LLP, *Climate Adaptation Lawsuit and Insurers' Obligation to Defend or Indemnify*, LEXOLOGY (July 25, 2022), https://www.lexology.com/library/detail.aspx?g=7a2a2552-bcb1-4aaf-864d-586a2a89c336.

[413] *See* Oct. 18, 2022 Stipulation of Dismissal, Everest Premier Insurance Co. v. Gulf Oil LP, Civ. No. 2284-1291 (Mass. Super. Ct. filed June 9, 2022) (voluntarily dismissing all claims without prejudice); *see also* Order Oct. 28, 2022 Everest Premier Insurance Co. v. Gulf Oil LP, Civ. No. 2284-1291 (Mass. Super. Ct. filed June 9, 2022) (order of the Court cancelling a previously scheduled conference that notes case settlement as the reason for cancellation).

		in the underlying case, *Native Village of Kivalina v. ExxonMobil Corp.*, claimed that the plaintiffs were harmed by the defendants' intentional GHG emissions.[414] Steadfast Insurance Co. filed suit in Virginia state court, seeking a declaratory judgment that it had no obligation to defend or indemnify AES Corp. under a general commercial liability insurance policy between the parties. The Virginia Supreme Court affirmed a ruling in favor of Steadfast, finding that allegedly intentional GHG emissions did not represent an "accident" or "occurrence" under AES's commercial general liability policy.[415]
Illinois Farmers Insurance Co. v. Metropolitan Water Reclamation District of Greater Chicago	United States Federal District Court for the Northern District of Illinois	In April and May of 2014, a group of insurers and related entities sued the water reclamation districts for 100 Illinois municipalities, alleging that the municipalities' failures to implement reasonable stormwater management practices and increase stormwater capacity resulted in increased payouts to the plaintiffs' insureds after heavy rains in April 2013.[416] These cases were removed to federal court in June of 2014. A month later plaintiffs voluntarily dismissed the lawsuits, saying "[w]e believe our lawsuit brought important issues to the attention of the respective cities and counties, and that our policyholders' interests will be protected by the local governments going forward."[417]

[414] *Native Village of Kivalina v. ExxonMobil Corp.*, 696 F.3d 849, 853–55 (9th Cir. 2012); *see also Native Village of Kivalina v. ExxonMobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/native-village-of-kivalina-v-exxonmobil-corp/.

[415] *AES Corp. v. Steadfast Insurance Co.*, 283 Va. 609 (2012); *see also Steadfast Insurance Co. v. AES Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/steadfast-insurance-co-v-the-aes-corporation/.

[416] *See* Notice of Removal Ex. A: Complaint ¶¶ 64–103, Illinois Farmers Insurance Co. v. Metropolitan Water Reclamation District of Greater Chicago, Civ. No. 14-3251 (N.D. Ill. filed May 2, 2014).

[417] *See Illinois Farmers Insurance Co. v. Metropolitan Water Reclamation District of Greater Chicago*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/illinois-farmers-insurance-co-v-metropolitan-water-reclamation-district-of-greater-chicago/.

Case Name	Jurisdiction	Summary
Milieudefensie et al. v. Royal Dutch Shell plc.	The Hague District Court, The Netherlands	On April 5th, 2019, the environmental group Milieudefensie and co-plaintiffs filed a class action against the oil giant Shell in the Hague District Court in the Netherlands. The action alleged that "Shell's contributions to climate change violate its duty of care under Dutch law and human rights obligations" and sought an injunction requiring Shell to "reduce its CO2 emissions by 45% by 2030 compared to 2010 levels and to zero by 2050, in line with the Paris Climate Agreement."[418] In May of 2021 the court ordered Shell to "reduce emissions by a net 45% by 2030," including emissions both from Shell's own operations and emissions from the use of its products.[419] Shell has filed an appeal, which remains pending as of June 6, 2023.
Luciano Lliuya v. RWE AG	Essen Regional Court, Germany	In November of 2015, a Peruvian farmer filed claims for declaratory judgment and damages in the District Court Essen, Germany against RWE, Germany's largest electricity producer, alleging that RWE's knowing contributions to climate change contributed to the melting of mountain glaciers near the plaintiff's home.[420] The plaintiff sought damages from RWE for "a portion of the costs that he and the [local] authorities are expected to incur from setting up flood protections."[421] "The share calculated amounted to 0.47% of the total cost—the same percentage as RWE's estimated contribution to global industrial greenhouse gas emissions since the beginning of industrialization (from 1751 onwards)."[422] The district court dismissed the case, noting that no "linear causal chain" could be discerned.[423]

[418] *Milieudefensie et al. v. Royal Dutch Shell plc*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/milieudefensie-et-al-v-royal-dutch-shell-plc/

[419] *Id.*

[420] *See also Luciano Lliuya v. RWE AG*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/lliuya-v-rwe-ag/.

[421] *Id.*

[422] *Id.*

[423] *Id.*

		On November 30, 2017, the district court's decision was reversed on appeal. After a delay caused by the COVID-19 pandemic, as of June 6, 2023 court-appointed experts are now finalizing an expert report addressing the threat of flooding to the plaintiff's house.[424]
Municipalities of Puerto Rico v. Exxon Mobil Corp.	United States Federal District Court for the District of Puerto Rico	In November of 2022, sixteen Puerto Rico municipalities filed a proposed class action in the Federal District Court for the District of Puerto Rico, seeking damages related to losses suffered from the 2017 hurricane season, which the complaint estimates may exceed $124 billion.[425] The lawsuit targeted a set of coal, oil, and gas companies, whose products were allegedly responsible for more than 40% of all global industrial greenhouse gas emissions between 1965 and 2017.[426] *Municipalities of Puerto Rico* is unique for two reasons. First, this case is the first to allege that cities can form a "class" to bring a climate litigation class action. If class certification succeeds, the arguments set forth in this case could "serve as a model for future class action climate litigation."[427] Second, *Municipalities of Puerto Rico* is the first climate change case to focus on civil racketeering claims, which allege "that the fossil fuel companies knowingly engaged in decades of fraudulent concealment and other activities that caused the municipalities and their citizens to face climate risks."[428] In addition to the racketeering claims, the plaintiff municipalities assert a number of other theories of liability, including products liability claims. Defendants have been granted until July 21, 2023 to file responsive motions to dismiss,[429] and as of June 6, 2023, defendants have not filed a response to the complaint.

[424] *Id*.

[425] See Complaint, Municipalities of Puerto Rico v. Exxon Mobil Corp., Civ. No. 22-1550 (D.P.R. filed Nov. 22, 2022).

[426] *See id*. ¶ 52; *see also Municipalities of Puerto Rico v. Exxon Mobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/municipalities-of-puerto-rico-v-exxon-mobil-corp/.

[427] Korey Silverman-Roati, *Municipalities of Puerto Rico v. Exxon: A Unique Class Action Against Fossil Fuel Companies Presses for Climate Accountability in the United States*, CLIMATE LAW BLOG (Dec. 2, 2022), https://blogs.law.columbia.edu/climatechange/2022/12/02/municipalities-of-puerto-rico-v-exxon-a-unique-class-action-against-fossil-fuel-companies-presses-for-climate-accountability-in-the-united-states/.

[428] *Id*.

[429] *See* Order Mar. 30, 2023, Municipalities of Puerto Rico v. Exxon Mobil Corp., Civ. No. 22-1550 (D.P.R. filed Nov. 22, 2022).

Case Name	Jurisdiction	Summary
Arkema Chemical Spill Litigation	United States Federal District Court for the Southern District of Texas	Arkema Inc. is the owner and operator of a chemical facility in Crosby, Texas. A 2016 report written by Arkema's insurer identified that the Arkema facility was vulnerable to flooding, among other risks, because insurance flood zones had shifted since the facility was built. Although Arkema's insurer identified the flooding risk, the insurer's report did not make any recommendations to Arkema to address flood hazards. Following (unrelated) changes to the Crosby facility, Arkema's insurer indicated that it was satisfied with the facility's risk.[430] In August of 2017, the Crosby chemical facility was flooded following heavy rainfall caused by Hurricane Harvey.[431] This flooding caused Arkema's facility to lose power and become unable to properly refrigerate certain chemicals stored at the facility, which in turn led to fires, an explosion, and unauthorized toxic air emissions.[432] In *Wheeler v. Arkema France S.A.*, neighboring property owners brought a class action against Arkema's parent company. The plaintiffs in *Wheeler* sought both damages and an injunction requiring Arkema to plan for future emergencies and natural disasters.[433] As of June 6, 2023, *Wheeler* is in private mediation with the consent of the parties.
	Texas District Court for Harris County	In *Harris County v. Arkema, Inc.*, Arkema was separately sued in Texas state court by the State of Texas and Harris County, the county in which Arkema's facility was located. The government plaintiffs alleged that Arkema had violated Texas's environmental laws and floodplain permitting regulations, and sought civil penalties as well as an injunction requiring Arkema to enact a plan to prevent future disasters.[434]

[430] U.S. CHEMICAL SAFETY & HAZARD INVESTIGATION BOARD, ORGANIC PEROXIDE DECOMPOSITION, RELEASE, AND FIRE AT ARKEMA CROSBY FOLLOWING HURRICANE HARVEY FLOODING 81–82 (May 2018), https://www.csb.gov/arkema-inc-chemical-plant-fire-/.

[431] *Id*. at 8.

[432] *Harris County v. Arkema, Inc.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/harris-county-v-arkema-inc/.

[433] *See* Second Amended Complaint at 33–34, Wheeler v. Arkema France S.A., Civ. No. 17-2960 (S.D. Tex. filed June 19, 2018).

[434] *See* Petition & Application for Permanent Injunction, Harris County v. Arkema, Inc., Civ. No. 2017-76961 (Harris Cnty Dist. Ct. filed Nov. 16, 2017); *see also Harris County v. Arkema, Inc.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/harris-county-v-arkema-inc/.

In re Katrina Canal Breaches Litigation	United States Fifth Circuit Court of Appeals	In *In re Katrina Canal Breaches Litigation*, the owners of flooded homes sought to recover damages from the Army Corps of Engineers for damage to their homes when levees on the Mississippi River failed.[435] While the suit was ultimately blocked by sovereign immunity doctrines, it "opened up a completely new avenue of liability litigation against the providers of infrastructure, as well as the designers and builders of structures that do not withstand foreseeable events."[436] In cases like this, "the burden of proof pertains merely to whether [a particular] weather event was foreseeable to the builders or designers of infrastructure, and whether they had a duty to take precautions."[437]
Conservation Law Foundation v. ExxonMobil	United States Federal District Court for the District of Massachusetts	In September of 2016, plaintiffs filed a suit alleging that Exxon violated terms of a permit that both allowed Exxon to operate a bulk storage terminal for petroleum products and required Exxon to prepare for severe storms caused by climate change as it operates the terminal.[438] Plaintiffs argued that Exxon violated the terms of its permit by failing to prepare for foreseeable climate risks. After substantial procedural litigation, the case remains pending and the parties appear to be undergoing active settlement negotiations as of June 6, 2023.[439]

[435] *In re Katrina Canal Breaches Litigation*, 696 F.3d 436, 443 (5th Cir. 2012); *see also In re Katrina Canal Breaches Litigation*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/in-re-katrina-canal-breaches-litigation/.

[436] Michael B. Gerrard & Joseph A. MacDougald, *An Introduction to Climate Change Liability Litigation and A View to the Future*, 20 CONN. INS. L.J. 153, 163 (2013).

[437] *Id*. at 164.

[438] *See* Complaint, Conservation Law Foundation, Inc. v. ExxonMobil Corp., Civ. No. 16-11950 (D. Mass. filed Sept. 29, 2016); *see also Conservation Law Foundation, Inc. v. Exxonmobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/conservation-law-foundation-v-exxonmobil-corp/.

[439] *See* Order May 26, 2023, Conservation Law Foundation, Inc. v. ExxonMobil Corp., Civ. No. 16-11950 (D. Mass. filed Sept. 29, 2016).

Conservation Law Foundation vs. Gulf Oil LP	United States Federal District Court for the District of Connecticut	In July of 2021, plaintiffs filed a suit alleging that Gulf Oil LP, which owns and operates bulk storage and fuel terminals in New Haven, Connecticut, "has not designed, maintained, modified, and/or operated its Terminal to account for the numerous effects of climate change."[440] These failures, plaintiffs alleged, presented health risks to the surrounding community and environment, and breached certain conditions of Gulf Oil's permit. In September of 2022, the Court dismissed the bulk of the claims without prejudice to refiling. The Court found that plaintiff's complaint had not sufficiently alleged a connection between major and foreseeable weather events driven by climate change and the risk of harmful pollutant discharges from Gulf Oil's terminal.[441] Plaintiffs have moved to amend their complaint, and the case remains pending as of June 6, 2023.[442] For more information about an insurance lawsuit against Gulf Oil arising out of this underlying case, see *Everest Premier Insurance Co. v. Gulf Oil LP* in Annex 3.A.

[440] *See* Complaint, Conservation Law Foundation, Inc. v. Gulf Oil LP, Civ. No. 21-932 (D. Conn. filed July 7, 2021); *see also Conservation Law Foundation, Inc. v. Gulf Oil LP*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/conservation-law-foundation-v-gulf-oil-lp/.

[441] *See* Order of Sept. 29, 2022, Conservation Law Foundation, Inc. v. Gulf Oil LP, Civ. No. 21-932 (D. Conn. filed July 7, 2021).

[442] *See* First Mot. Amend/Correct Complaint, Conservation Law Foundation, Inc. v. Gulf Oil LP, Civ. No. 21-932 (D. Conn. filed Nov. 3, 2022).

Case Name	Jurisdiction	Summary
McVeigh v. Retail Employees Superannuation Trust	Federal Court of Australia	In July of 2018, an Australian pension fund member sued the Retail Employees Superannuation Trust, alleging that the fund violated various fiduciary duties set forth in Australian law "by failing to provide information related to climate change business risks and any plans to address those risks."[443] The case settled before trial, accompanied by a number of governance concessions and an acknowledgement by the fund that "[c]limate change is a material, direct and current financial risk to the superannuation fund across many risk categories, including investment, market, reputational, strategic, governance and third-party risks."[444]
ClientEarth v. Shell's Board of Directors	High Court of Justice in England and Wales	In February of 2023, ClientEarth, a U.K. nonprofit and shareholder of Shell plc, filed a derivative action in their capacity as shareholder against Shell's board of directors, "alleg[ing] that the board's mismanagement of climate risk puts the directors in breach of their duties under the UK Companies Act."[445] In particular, ClientEarth alleges that Shell's directors' failure to reduce Shell's global GHG emissions breached their duties to "promote the success of the company for the benefit of its members as a whole," and to " exercise reasonable care, skill and diligence in the discharge of their duties."[446] On May 12, 2023, the High Court denied ClientEarth permission to proceed with its derivative action, finding among other things that ordering directors to specifically consider

[443] *McVeigh v. Retail Employees Superannuation Trust*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/mcveigh-v-retail-employees-superannuation-trust/; *see also* Amended Concise Statement, *McVeigh v. Retail Employees Superannuation Trust*, Federal Court of Australia, NSD1333/2018, (filed Sept. 21, 2018) (Austl.) (*available at* http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2018/20180921_NSD13332018_complaint.pdf).

[444] *Id*.

[445] Victoria Barnes, *Derivative Action Commenced in UK Against Shell's Directors for Mismanaging Climate Risk*, BURGES SALMON (Mar. 9, 2023), https://www.burges-salmon.com/news-and-insight/legal-updates/environment/derivative-action-commenced-in-uk-against-shells-directors-for-mismanaging-climate-risk#:~:text=On%209%20February%202023%2C%20ClientEarth%2C%20a%20non-profit%20environmental,Shell%20is%20no%20stranger%20to%20climate%20related%20litigation.

[446] *Id*.

		and ascribe a specified weight to identified climate risks was "incompatible with the subjective nature of the duty to promote the success of the company."[447] ClientEarth has asked the High Court to reconsider its ruling, and as of May 22, 2023, ClientEarth has been granted an oral hearing on its reconsideration request.[448]
Danimer Scientific, Inc. Greenwashing Litigation	United States Federal District Court for the District of Delaware	In October of 2021, Ryan Perri, a shareholder of Danimer Scientific, Inc., filed a derivative action "against members of the board of directors and upper management for Danimer Scientific, Inc.," the manufacturer of a "purportedly biodegradable plastic." The complaint alleges that "defendants breached their fiduciary duties by failing to correct false and misleading statements and omissions of material fact that, among other things, overstated the products' biodegradability" and failing to disclose that their product emitted methane, a greenhouse gas.[449] Later that month Perri's suit was voluntarily stayed "pending the resolution of any motion to dismiss" in a set of four related federal securities class actions that asserted "overlapping . . . factual allegations" against a set of the *Perri* defendants.[450] In February of 2023, another shareholder, Samuel Berezin, filed a derivative complaint "involv[ing] overlapping parties and factual allegations with the *Perri* Action." In March of 2023 Berezin's complaint and Perri's complaint were consolidated and stayed, pending the resolution of a related shareholder class action in the Eastern District of New York.[451] As of June 6, 2023, these consolidated cases remain stayed.
	United States Federal District Court for the	In September of 2021, several related securities class actions filed on behalf of certain purchasers of Danimer-related securities were consolidated into a single "master docket" in

[447] Georgia Henderson-Cleland & Sharon Kennedy, *High Court Dismisses Green Strategy Derivative Claim Against Shell's Directors*, JDSUPRA (May 24, 2023), https://www.jdsupra.com/legalnews/high-court-dismisses-green-strategy-7449122/.

[448] Natasha Turner, Update: ClientEarth Granted Hearing in Climate Case Against Shell Directors, ESGClarity (May 22, 2023), https://esgclarity.com/disappointment-as-high-court-dismisses-clientearth-case-against-shell/.

[449] Complaint, Perri v. Croskrey, Civ. No. 21-1423 (D. Del. filed Oct. 6, 2021); *see also Perri v. Croskrey*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/perri-v-croskrey/.

[450] Order March 8, 2023 1–2, Perri v. Croskrey, Civ. No. 21-1423 (D. Del. filed Oct. 6, 2021).

[451] *Id*. at 3–5.

	Eastern District of New York	the Eastern District of New York.[452] The amended complaint, filed after consolidation, alleges that plaintiffs were harmed by "a series of materially false and misleading statements, or material omissions by Live Oak, a special purpose acquisition company . . . and Danimer, its target acquisition, which misled investors into investing hundreds of millions of dollars into a company that purported to develop a fully biodegradable plastic alternative product."[453] However, the amended complaint alleges that the defendants, including Danimer and a number of Danimer's executives and directors, engaged in greenwashing by misrepresenting the biodegradability of its products and failing to disclose methane emissions from the degradation process, which "can be much worse for the environment than traditional plastic in certain respects."[454] On May 31, 2022, defendants moved to dismiss the consolidated amended complaint, arguing, among other points, that plaintiffs fail to adequately allege that any of the claims made by defendants about their products' biodegradability were materially false.[455] As of June 6, 2023, this motion to dismiss is remains pending.
Ewan McGaughey et al. v. Universities Superannuation Scheme Limited	United Kingdom High Court of Justice	In October of 2021, Dr. Ewan McGaughey and others brought "proceedings in the UK High Court against the directors of the University Superannuation Scheme Limited ('USSL'), a corporate trustee of the private pension scheme for academic staff University Superannuation Scheme ('USS')."[456] The claimants, contributors to the pension fund, alleged that USSL's directors breached their duty to act in the USS beneficiaries' best interests. Claimants alleged that USSL had provided no credible assessment of climate change's financial risk to the USS portfolio. Claimants also

[452] Order Consolidating Related Actions, In re Dainmer Scientific, Inc. Securities Litigation, Civ. No. 21-2708 (E.D.N.Y. filed May 14, 2021).

[453] Consolidated Am. Complaint ¶ 3, In re Dainmer Scientific, Inc. Securities Litigation, Civ. No. 21-2708 (E.D.N.Y. filed May 14, 2021).

[454] *Id*. ¶ 3.

[455] *See generally* Memorandum of Law in Support of Motion to Dismiss Consolidated Amended Complaint, In re Dainmer Scientific, Inc. Securities Litigation, Civ. No. 21-2708 (E.D.N.Y. filed May 14, 2021).

[456] *Ewan McGaughey et al. v. Universities Superannuation Scheme Limited*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/ewan-mcgaughey-et-al-v-universities-superannuation-scheme-limited/.

		alleged that USSL's failure to divest from fossil fuels undermined USS's announced "ambition to become 'net zero' by 2050," and harmed fund contributors because, at the time of filing, fossil fuels were "the worst performing asset class since 2017."[457] *McGaughey* was dismissed on May 24, 2022, in large part because the High Court found that the claimants could not demonstrate that USS had suffered a loss from any failure to assess climate risk.[458] The *McGaughey* plaintiffs have appealed the decision.[459]
Dorris v. Danone Waters of America	United States Federal District Court for the Southern District of New York	In October of 2022, an individual Stephanie Dorris filed a proposed class action against Danone Waters of America, the producers of Evian Natural Spring Water, a water bottle brand that is advertised as "carbon neutral."[460] Dorris alleges that she and other purchasers purchased Evian water under the belief that the product had no carbon footprint, but that Evian's carbon neutrality claim was false or misleading and violated the consumer protection laws of Massachusetts, California, and New York. Dorris asserts two theories of fraud. First, she alleges that even though Danone Waters purchases "carbon credits" to "offset" its emissions, a reasonable consumer would believe that "carbon neutral" means that the product's manufacturing process did not release carbon dioxide into the atmosphere. Second, she alleges that the credits purchased by Danone were defective because "the organizations [Danone] works with that are the basis for its 'carbon credits' do not currently or actually reduce CO_2 emissions."[461] Defendants have moved to dismiss the claims, arguing among other contentions that their "carbon neutral" claim was not misleading, that the product's "Carbon Trust" certification

[457] *Id*.

[458] *Id*.; *see also* Lawrence Ewan McGaughey et al. v. Universities Superannuation Scheme Limited, [2022] EWHC 1233 (Ch) (U.K.).

[459] Ewan McGaughey, *Holding USS Directors Accountable, and the Start of the End for Foss v. Harbottle?*, FACULTY OF LAW BLOGS—UNIVERSITY OF OXFORD (July 18, 2022), https://blogs.law.ox.ac.uk/business-law-blog/blog/2022/07/holding-uss-directors-accountable-and-start-end-foss-v-harbottle.

[460] Complaint, Dorris v. Danone Waters of Am., Civ. No. 22-8717 (S.D.N.Y. filed Oct. 13, 2022).

[461] *See id*. ¶¶ 6–7; *see also Dorris v. Danone Waters of America*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/dorris-v-danone-waters-of-america/.

		provides adequate context for its claims, and that "[t]he plaintiffs' subjective belief that the [Carbon Trust's carbon neutrality] standard and the use of carbon offsets are somehow inadequate is insufficient to state a claim."[462] As of June 6, 2023, this motion remains pending.
Oil and Gas Greenwashing Litigation	Various State and Federal Courts in the United States of America	Between 2019 and 2021, a number of government entities in the United States, including the City of New York, the Commonwealth of Massachusetts, the State of Vermont, and the State of Connecticut, filed suits against major oil and gas companies. Each suit was filed in state court, and asserts, among other claims, that oil and gas companies violated the consumer protection laws of the respective state or cities by misleading the public about the climate impacts of their products. In October of 2019, the Commonwealth of Massachusetts filed suit in the Suffolk County Superior Court of the Commonwealth of Massachusetts against Exxon Mobil Corporation. The suit alleges that Exxon violated the Massachusetts Consumer Protection Act because, "[i]n the course of selling and marketing its fossil fuel products to Massachusetts consumers, ExxonMobil . . . engaged in intentional, concerted efforts to obfuscate the fact that the production and use of ExxonMobil's fossil fuel products emit large volumes of the dangerous greenhouse gas pollution that is causing disruptive climate change impacts."[463] In September of 2020, the State of Connecticut filed suit in the Superior Court of Connecticut against Exxon Mobil Corporation, alleging that Exxon had engaged in a campaign of misinformation and "greenwashing" that included "numerous violations of the Connecticut Unfair Trade Practices Act." In particular, Connecticut alleged that Exxon conducted "a campaign to deceive the consumers of Connecticut about the harmful climatic effects of its fossil fuel products by misrepresenting and omitting material facts about how the use of its

[462] Mot. Dismiss 8–11, Dorris v. Danone Waters of Am., Civ. No. 22-8717 (S.D.N.Y. filed Oct. 13, 2022).

[463] Complaint, *Commonwealth v. Exxon Mobil Corp.*, Civ. No. 19-3333 (Mass. Super. filed Oct. 24, 2019); *see also Commonwealth v. Exxon Mobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/commonwealth-v-exxon-mobil-corp/.

		fossil fuel products significantly increased CO2 and other heat-trapping emissions that [Exxon] knew contributed to climate change."[464] In May of 2021, New York City filed suit in the New York State Supreme Court against three oil and gas companies and the American Petroleum Institute, alleging that the defendants had violated New York City's Consumer Protection Law through "widespread advertising exaggerating their environmental credentials and investments in clean energy resources and failing to disclose the known climate harms from their products."[465] In September of 2021, the State of Vermont filed suit in the Superior Court of Vermont against eleven oil and gas companies. The suit alleges that the defendants violated the Vermont Consumer Protection Act. Specifically, Vermont alleged that defendants engaged in "knowing, deceptive acts and practices . . . [that] misle[d] Vermont consumers about the risks and dangers of their products, including the causal connection between the sale and use of their products and climate change, and thereby den[ied] Vermont consumers their opportunity to make informed and different decisions regarding fossil fuel purchases and consumption."[466] In each case, the oil company defendants removed the case from state court to federal court. This has been the subject of significant procedural litigation. In May 2023 the Supreme Court declined to review a related case in which the issue was presented, which will result in the remand of all removed cases to state court. As of June 6, 2023, none of the courts in these cases has reached the substance of the plaintiffs' arguments.

[464] Complaint, *State v. Exxon Mobil Corp.*, Civ. No. 206132568S (Conn. Super. filed Sept. 14, 2020); *see also Connecticut v. Exxon Mobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/state-v-exxon-mobil-corp/.

[465] Complaint, *City of New York v. Exxon Mobil Corp*., 451071/2021 (N.Y. Sup. Ct. filed Apr. 22, 2021); *see also City of New York v. Exxon Mobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/city-of-new-york-v-exxon-mobil-corp/.

[466] Complaint, *Vermont v. Exxon Mobil Corp.*, (Vt. Super. Ct. filed Sept. 14, 2021); *see also Vermont v. Exxon Mobil Corp.*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/vermont-v-exxon-mobil-corp/.

In re Exxon Mobil Corp. Derivative Litigation	United States Federal District Court for the Northern District of Texas	In 2019, several shareholders of Exxon Mobil Corporation filed separate shareholder derivative actions against certain directors and senior officers of Exxon for breaches of their fiduciary duties and for making a series of alleged misrepresentations that "resulted in hundreds of millions of dollars in damages to Exxon's goodwill and business reputation," and exposed Exxon to "billions of dollars in potential liability for violations of state and federal law."[467] Among other claims, the cases asserted that Exxon made material misrepresentations "concerning global climate change and its connection to fossil fuel usage, as well as the impact the changing climate will have on Exxon's reserve values and long-term business prospects."[468] The separately filed cases were consolidated in 2019, and remain pending as of June 6, 2023.[469]
Fagen v. Enviva Inc.	United States Federal District Court for the District of Maryland	In November of 2022, an individual David Fagen filed a proposed shareholder class action against Envivia Inc., a wood-pellet biofuel company, and two of its officers for a series of alleged misrepresentations that, when revealed, caused a "precipitous decline in the market value of [Envivia's] securities."[470] Among other misrepresentations, the complaint alleges that Envivia "misrepresented the environmental sustainability of its wood pellet production and procurement," which a market report issued shortly before the suit had described as "flagrantly greenwash[ed]."[471] On June 2, 2023, the defendants filed motions to dismiss Fagen's claims, alleging among other defenses that the plaintiffs "fail[] to allege an actionably misleading statement."[472]

[467] Complaint, *Montini v. Woods*, Civ. No. 19-1068 (N.D. Tex. filed May 2, 2019).

[468] *Id*. ¶ 2.

[469] *In re Exxon Mobil Corp. Derivative Litigation*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/von-colditz-v-exxon-mobil-corp/.

[470] Complaint, *Fagen v. Envivia*, Civ. No. 22-2844 (D. Md. filed Nov. 3, 2022).

[471] *Id*. ¶¶ 3–4; *see also Fagen v. Envivia*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/case/fagen-v-enviva-inc/.

[472] Mem. Supp. Envivia Defendants' Motion to Dismiss Am. Complaint 3, *Fagen v. Envivia*, Civ. No. 22-2844 (D. Md. filed Nov. 3, 2022).

Greenpeace France and Others v. TotalEnergies SE and TotalEnergies Electricité et Gaz France	Judicial Court of Paris	In March of 2022, Greenpeace France and others filed a suit in the Judicial Court of Paris, France against TotalEnergies S.E. and TotalEnergies Electricité et Gaz France, two related energy companies that have pledged to be "net zero" by 2050 and have engaged in an advertising campaign promoting natural gas and biofuels as environmentally friendly alternatives. The plaintiffs allege that TotalEnergies' environmental statements and advertising are false and misleading to consumers, and that the companies' ongoing investments and corporate strategy run contrary to its "net zero" pledge.[473] As of June 6, 2023, the case remains pending.
Vegetarian Society et al. of Denmark v Danish Crown	Western High Court of Denmark	In May of 2021, several Danish non-governmental organizations filed suit against Danish Crown, a large Danish pork producer, over sustainability-related marketing claims that "Danish pork is more climate-friendly than you think," and that its pigs are "climate-controlled."[474] "The claimants allege that Danish Crown is misrepresenting its climate footprint," in violation of the Danish Marketing Practices Act.[475] As of June 6, 2023, the case remains pending.
FossielVrij NL v. KLM	Amsterdam District Court	In July of 2022, FossielVrij NL, a Netherlands-based anti-fossil fuel organization, filed a claim in the Amsterdam District Court against KLM, a Dutch airline company, alleging that KLM's "Fly Responsibly" campaign represented misleading advertising in violation of the Dutch Advertisement Code. In particular, the plaintiffs alleged that KLM offered its customers the opportunity to "buy carbon offset[s] – labelled 'CO2ZERO' – by funding reforestation projects or KLM's purchase of biofuels, but that such labels are misleading and that such

[473] *See Greenpeace France and Others v. TotalEnergies SE and TotalEnergies Electricité et Gaz France*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/greenpeace-france-and-others-v-totalenergies-se-and-totalenergies-electricite-et-gaz-france/.

[474] Simon Harvey, *Lobbyists Take Legal Action Against Danish Crown Over "Climate-Controlled" Pork Claims*, JUSTFOOD (Aug. 18, 2021), https://www.just-food.com/news/lobbyists-take-legal-action-against-danish-crown-over-climate-controlled-pork-claims/.

[475] *Vegetarian Society et al. of Denmark v. Danish Crown*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/vegetarian-society-et-al-of-denmark-v-danish-crown/.

		products do not make a meaningful contribution to reducing KLMs [greenhouse gas] footprint."[476] As of June 6, 2023, the case remains pending.
PCWP and others v. Glencore	Australian Securities and Investments Commission; Australian Competitive and Consumer Commission	In September of 2022, The Plains Clan of the Wonnarua People (PCWP) and a coalition of Australian environmental groups filed a complaint with the Australian Securities and Investments Commission (ASIC) and the Australian Competitive and Consumer Commission (ACCC), alleging that Glencore, "the world's largest mining company[,] is incorrectly accounting for the emissions generated by its coal business."[477] Glencore is Australia's largest coal producer and, while it "publicly claims to have decarbonisation plans in place," an investigation by the legal organization Environmental Defenders Office "found no evidence to support these claims;" instead, the investigation determined that "Glencore is in fact expanding its coal production, and its net zero claims may amount to harmful greenwashing."[478] The complaint alleges that Glencore's conduct around its net zero claims amounted to "misleading or deceptive conduct" in violation of the Australian Corporations Act and the Australian Consumer Law.[479] As of June 6, 2023, the claims remain pending.
Greenpeace Canada v. Shell Canada	Competition Bureau Canada	In November of 2021, Greenpeace Canada filed a complaint before the Competition Bureau of Canada against Shell Canada, alleging that "Shell Canada's 'Drive carbon-neutral' advertising misleads the public."[480] In particular, Greenpeace alleges that Shell's "Drive

[476] *FossielVrij NL v. KLM*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/fossielvrij-nl-v-klm/.

[477] Cecelia Keating, *"Misuse of climate science": Legal Complaint Lodged over Glencore's Emissions Claims*, BUSINESSGREEN (Sept. 8, 2022), https://www.businessgreen.com/news/4056009/misuse-climate-science-legal-complaint-lodged-glencores-emissions-claims-australia-net-zero-commodities-hub.

[478] Press Release, Environmental Defenders Office, EDO Assists Clients to Call Out Mining Giant Glencore for Potential Greenwashing (Sept. 8, 2022), https://www.edo.org.au/2022/09/08/edo-assists-clients-to-call-out-mining-giant-glencore-for-potential-greenwashing/.

[479] *PCWP and others v. Glencore*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/pcwp-and-others-v-glencore/.

[480] Press Release, Greenpeace Canada, Greenpeace Canada Files Competition Bureau Complaint Against Misleading Shell Advertising (Nov. 10, 2021), https://www.greenpeace.org/canada/en/press-release/50740/driving-carbon-neutral-with-fossil-fuels-greenpeace-canada-files-competition-bureau-complaint-against-misleading-shell-advertising/.

		Carbon Neutral Program," which claims that "customers can reduce the carbon emissions from their fuel purchases by offsetting those emissions from three forest-based offset projects that Shell supports," mislead the public about the effectiveness and legitimacy of Shell's offset program.[481] These statements, Greenpeace alleges, constitute greenwashing in violation of "the Competition Act: a federal law governing the majority of business conduct in [Canada]."[482] As of the date of this report, the claims remain pending.
Regional Court of Frankfurt am Main's decision on various climate neutral claims	Regional Court of Frankfurt am Main	On March 27, 2022, the Regional Court of Frankfurt am Main issued a final ruling on allegations that a German distributor of cleaning products made misleading statements of "climate neutrality." The defendant, a business-to-business distributor, had been certified as a "climate neutral company" by an external company and heavily advertised this status. "Currently, German courts tend to conclude that [German] consumers do not understand the term 'climate neutral' to be equivalent to 'emission-free'."[483] However, the Regional Court found that these claims were misleading, in violation of the German Act Against Unfair Competition, because the advertising company did not provide enough background information or context for consumers to understand what it meant by "climate neutrality."[484] The Court set out specific context that must be disclosed for the "climate neutral" to be used: 1. "Assessment basis (Reference object: company or product);" 2. "Standard of calculation;"

[481] *Greenpeace Canada v. Shell Canada*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/greenpeace-canada-v-shell-canada/.

[482] Cloe Logan, *Greenpeace Says Shell is Tricking Drivers with its Carbon Neutral Campaign*, CANADA'S NATIONAL OBSERVER (Nov. 10, 2021), https://www.nationalobserver.com/2021/11/10/news/greenpeace-says-shell-tricking-drivers-its-carbon-neutral-campaign.

[483] *Advertising "Climate Neutral" Products: Latest German Case Law*, LINKLATERS (Jan. 16, 2023), https://sustainablefutures.linklaters.com/post/102i540/advertising-climate-neutral-products-latest-german-case-law.

[484] *Regional Court of Frankfurt am Main's Decision on Various Climate Neutral Claims*, CLIMATE CHANGE LITIGATION DATABASE (n.d.), http://climatecasechart.com/non-us-case/regional-court-of-frankfurt-am-mains-decision-on-various-climate-neutral-claims/.

		3. "Excluded emissions;" 4. "Scope of own CO2 reduction measures and their savings effect, in particular in relation to CO2 emissions prior to implementation of the reduction measures;" 5. "Type of compensation;" 6. "Type and subject of the supported and / or self-implemented climate project and its CO2 reduction effects."[485]
Berrin v. Delta Airlines, Inc.	United States Federal District Court for the Central District of California	In May of 2023 an individual Mayanna Berrin filed a proposed class action against Delta Airlines, Inc., a U.S.-based commercial airline that has advertised itself since March 2020 as "the world's first carbon-neutral airline."[486] Berrin alleges that she and other customers "purchased Delta flights at a market premium due to her belief that by flying Delta she engaged in more ecologically conscious air travel and participated in a global transition away from carbon emissions."[487] Berrin further claims that Delta's claims are false or misleading because Delta "premised their carbon neutrality on the purchase of carbon offsets from the voluntary carbon market,"[488] because (1) "Delta's offsets are predicated on misleading and unverifiable accounting of the offset's carbon impact,"[489] (2) Delta "almost exclusively relied on carbon offsets that are 'non-additional,'"[490] (3) Delta claims that it offsets its current emissions with projected future emissions reductions from in-progress projects,[491] and (4) Delta may have claimed credit for offsets from projects that provided impermanent sequestration because they underperformed or were destroyed.[492] Berrin

[485] *Id*.

[486] Complaint ¶ 3, Berrin v. Delta Airlines, Inc., Civ. No. 23-4150 (C.D. Cal. filed May 30, 2023).

[487] *Id*. ¶ 9.

[488] *Id*. ¶ 46

[489] *Id*. ¶ 49.

[490] *Id*. ¶ 56.

[491] *Id*. ¶ 63.

[492] *Id*. ¶ 66-67.

		claims that these allegedly false or misleading claims violated several California consumer protection and anti-fraud statutes. As of June 6, 2023, Delta has not filed a response to Berrin's complaint.