12-2022

Liability for Public Deception: Linking Fossil Fuel Disinformation to Climate Damages

Jessica A. Wentz
Columbia Law School, Sabin Center for Climate Change Law

Benjamin Franta
University of Oxford

LIABILITY FOR PUBLIC DECEPTION: LINKING FOSSIL FUEL DISINFORMATION TO CLIMATE DAMAGES

by Jessica Wentz and Benjamin Franta

Jessica Wentz is a Nonresident Senior Fellow at the Sabin Center for Climate Change Law at Columbia University. Benjamin Franta is a Senior Research Fellow in Climate Litigation in the Sustainable Law Programme at the University of Oxford.

SUMMARY

Over two dozen U.S. states and municipalities have filed lawsuits against fossil fuel companies, seeking abatement orders and compensation for climate damages based on theories such as public nuisance, negligence, and failure to warn, and alleging these companies knew about the dangers of their products, intentionally concealed those dangers, created doubt about climate science, and undermined public support for climate action. This Article examines how tort plaintiffs can establish a causal nexus between public deception and damages, drawing from past litigation, particularly claims filed against manufacturers for misleading the public about the risks of tobacco, lead paint, and opioids. A key finding is that courts may infer public reliance on false and misleading statements using multiple lines of evidence, including information about the scope and magnitude of the deceptive communications, defendants' internal assessments of the efficacy of their disinformation campaigns, acknowledgements of intended reliance made by defendants, expert testimony on the effects of disinformation, public polling data, and more. The Article concludes with a discussion of these potential strategies and evidentiary sources.

Concern continues to grow over the role of misinformation and disinformation in public discourse surrounding matters of societal importance. Although not a new problem, digital communications and social media platforms have enabled the rapid diffusion of false and misleading information,[1] and various political, ideological, and commercial actors have taken advantage of these online tools to mislead the public.[2] Commentators have highlighted the need for governance approaches and legal tools to help the public and policymakers navigate this landscape and to hold actors accountable for disinformation.[3]

Existing laws may provide a basis for imposing liability on actors when they undertake deliberate campaigns to disinform the public.[4] State and municipal governments are currently testing legal theories in lawsuits filed against

Authors' Note: We would like to extend our gratitude to other legal scholars and practitioners who contributed to this project. Special thanks to Michael Burger, who helped identify the need for this research and gave extensive feedback on the Article. We also appreciate the contributions of Robert Proctor, Richard Daynard, and Randy Rosenblum, who provided valuable insights based on their experiences with tobacco litigation. Finally, thank you to the organizers and attendees of the Harvard University workshop, Accountability for the Deception Industry, which provided a forum for discussing legal issues and evidentiary needs in public deception lawsuits.

Editor's Note: Benjamin Franta serves as a consulting expert and has participated in the preparation of amicus briefs on the issues discussed in this Article and cited herein.

1. Danielle Caled & Mario J. Silva, *Digital Media and Misinformation: An Outlook on Multidisciplinary Strategies Against Manipulation*, 5 J. Computational Soc. Sci. 123 (2022).

2. Ulises A. Mejias & Nikolai E. Vokuev, *Disinformation and the Media: The Case of Russia and Ukraine*, 39 Media Culture & Soc'y 1027 (2017).

3. *See, e.g.*, John Bowers & Jonathan Zittrain, *Answering Impossible Questions: Content Governance in an Age of Disinformation*, 1 Harv. Kennedy Sch. Misinformation Rev. 1 (2020); Chris Tenove, *Protecting Democracy From Disinformation: Normative Threats and Policy Responses*, 25 Int'l J. Press/Pol. 517 (2020); Wes Henricksen, *Disinformation and the First Amendment: Fraud on the Public*, St. John's L. Rev. (forthcoming 2022).

4. Legal scholars have taken different positions on whether and to what extent tort law can be used to impose liability on actors who deceive the public about product risks. *See, e.g.*, David A. Dana, *Public Nuisance Law When Politics Fails* (Northwestern Public Law Research Paper No. 21-14, 2021) (discussing how public nuisance law can be used to hold actors accountable for the deceptive marketing of products that create ongoing public health and/or environmental harm); Wes Henricksen, *Deceive, Profit, Repeat: Public Deception Schemes to Conceal Product Dangers*, 42 Cardozo L. Rev. 2395 (2021) (arguing that tort law does not provide a sufficient framework for

fossil fuel companies for their documented disinformation efforts. The complaints allege that the defendant companies have violated state consumer protection and tort laws by deceiving the public about the dangers of fossil fuels and climate change in order to maximize the sale of their products.

These lawsuits raise questions related to the scope of liability and First Amendment protections for defendants in public deception lawsuits. One critical question is whether the plaintiffs will be able to prove that the defendants' false and misleading statements contributed to climate change-related injuries at the state and local levels. Proof of causation and injury will be required for tort claims, and may also be required for consumer protection claims where statutes require a showing of actual harm.

Many legal scholars have acknowledged the challenges of using tort law and litigation against corporate actors to address the enormous problem of climate change.[5] At the same time, scholars have recognized that there is a logical basis for pursuing certain types of claims, particularly public nuisance and consumer protection claims, since these deal with harm to the public rather than individual injury.[6] Much has been written on the challenge of establishing causation in climate torts between global climate change and specific injuries,[7] but the challenge of linking disinformation to climate change-related injuries remains less examined.

This Article examines how plaintiffs may establish a causal nexus between public deception and harm in cases involving liability for disinformation.[8] We focus on fossil fuel disinformation lawsuits and the public nuisance claims raised therein, but our analysis is also relevant to other cases involving liability for public deception. Part I begins with a summary of the legal claims, factual allegations, and elements related to causation in the fossil fuel disinformation cases.

Part II discusses lessons learned from other cases where plaintiffs have sued product manufacturers for misleading the public about harmful products, including tobacco, lead paint, and opioids. These cases suggest that plaintiffs may need to provide evidence that the defendants' false or misleading communications influenced public understanding and/or conduct, but plaintiffs probably will not need to demonstrate individual reliance on specific claims comparable to what is required for fraud claims. These cases also illustrate how public reliance and other aspects of causation may be inferred using multiple lines of evidence, including but not limited to information about the scope and magnitude of deceptive communications (e.g., amounts of promotional spending and targeting of specific populations), internal assessments of the efficacy of defendants' messaging campaigns, acknowledgements of intended reliance made by defendants in depositions, expert testimony on causation, and public polling data.

Part III offers a discussion of existing research, discovery approaches, and expert testimony that plaintiffs could use to demonstrate the influence of defendants' disinformation efforts on public understanding and responses to climate change. Part IV concludes.

I. Fossil Fuel Disinformation Lawsuits: Legal Claims, Factual Allegations, and Causation Issues

In 2015, journalists at the *Los Angeles Times* and the Columbia School of Journalism simultaneously published the results of independent investigations with the same shocking findings: newly discovered archival documents showed that major fossil fuel companies, including the largest publicly traded oil company in the world, ExxonMobil, held a sophisticated internal understanding of global warming—and the role of the industry's products in causing it—as early as the late 1970s.[9] These revelations recast the public's understanding of fossil fuel companies' long-standing and well-documented efforts to dispute the reliability of climate science and delay fossil fuel controls to address global warming, enhanced the basis for imposing legal liability on the industry, and catalyzed additional research efforts focused on uncovering the details of the companies' activities related to climate change over time.[10]

These and other research efforts have provided much of the evidentiary foundation for a new wave of litigation aimed at holding fossil fuel companies accountable for the harmful effects of their products and disinformation

addressing public deception schemes and advocating for legislation to close gaps in tort law).

5. *See, e.g.*, Douglas Kysar, *What Climate Change Can Do About Tort Law*, 41 Env't L. 1 (2011); Michael B. Gerrard, *What Litigation of a Climate Nuisance Suit Might Look Like*, 12 Sustainable Dev. L. & Pol'y 12 (2012); Albert C. Lin & Michael Burger, *State Public Nuisance Claims and Climate Change Adaptation*, 36 Pace Env't L. Rev. 49 (2018); Thomas W. Merrill, *Global Warming as a Public Nuisance*, 30 Colum. J. Env't L. 293 (2005).
6. *See, e.g.*, Kysar, *supra* note 5, at 13 (recognizing that public nuisance would be "the logical cause of action to pursue, since it imports a duty to avoid injurious conduct to rights that are held by the public in common"); Lin & Burger, *supra* note 5, at 56 (explaining that public nuisance "arguably offers the advantage of allowing plaintiffs to direct courts' attention to the severity of the harms suffered rather than on the balancing of those harms against the social benefit of defendants' conduct").
7. Kysar, *supra* note 5, at 39; Vincent S. Oleszkiewicz & Douglas B. Sanders, *The Advent of Climate Change Litigation Against Corporate Defendants*, 35 Env't Rep. (BNA) 2365, 2369 (Nov. 12, 2004); Daniel A. Farber, *Basic Compensation for Victims of Climate Change*, 155 U. Pa. L. Rev. 1605 (2007).
8. Plaintiffs may also face challenges establishing a causal link between global climate change, local impacts, and injuries. This Article does not comment on that causation challenge, but it is addressed in other scholarship. *See* Michael Burger et al., *The Law and Science of Climate Change Attribution*, 45 Colum. J. Env't L. 57 (2020); Kysar, *supra* note 5.
9. Sara Jerving et al., *What Exxon Knew About the Earth's Melting Arctic*, L.A. Times (Oct. 9, 2015), https://graphics.latimes.com/exxon-arctic/; Katie Jennings et al., *How Exxon Went From Leader to Skeptic on Climate Change Research*, L.A. Times (Oct. 23, 2015), https://graphics.latimes.com/exxon-research/; Neela Banerjee et al., *Exxon: The Road Not Taken*, Inside Climate News (2015), https://insideclimatenews.org/project/exxon-the-road-not-taken/.
10. *See, e.g.*, Geoffrey Supran & Naomi Oreskes, *Assessing ExxonMobil's Climate Change Communications (1977-2014)*, 12 Env't Rsch. Letters 084019 (2017).

efforts. Since 2017, at least 20 municipalities, six states, the District of Columbia, and one trade association in the United States have filed lawsuits seeking to hold fossil fuel companies accountable for contributions to climate change and associated damages.[11] The plaintiffs in these cases have asserted causes of action arising under state common law, including public nuisance, private nuisance, negligence, trespass, design defect, and failure to warn, as well as violations of state consumer protection statutes.

Recognizing that it may not be possible to hold fossil fuel companies strictly liable for emissions from their products, the plaintiffs have alleged that these companies contributed to the climate crisis through false and deceptive practices as well as through the manufacture and sale of their products. The remedies requested include compensatory damages, the establishment of abatement funds to finance adaptation measures such as seawalls, disgorgement of profits, and other forms of equitable and financial relief.[12]

Although different legal theories are being tested in these lawsuits, there is considerable overlap in the factual allegations that appear in the plaintiffs' complaints and opening briefs. The following allegations from the complaint filed in *City & County of Honolulu v. Sunoco* are illustrative of issues raised across different cases:

1. Defendants went to great lengths to understand the hazards associated with, and either knew or should have known of the dangers associated with, their fossil fuel products.
2. Defendants did not disclose known harms associated with the extraction, promotion, and consumption of their fossil fuel products, and instead affirmatively acted to obscure those harms and engaged in a concerted campaign to evade regulation.
3. In contrast to their public statements, defendants' internal actions demonstrate their awareness of and intent to profit from the unabated use of fossil fuel products.
4. Defendants' actions have exacerbated the costs of adapting to and mitigating the adverse impacts of the climate crisis.
5. Defendants continue to mislead about the impact of their fossil fuel products on climate change through greenwashing campaigns and other misleading advertisements.[13]

The complaints cite industry reports, internal documents, peer-reviewed studies, and many other sources of factual support to substantiate the allegations of defendants' conduct and knowledge.[14] In some cases, experts have also submitted amicus curiae briefs documenting how the defendants willfully concealed the risks associated with fossil fuel use and climate change.[15] Thus, the evidentiary foundation for the claims regarding defendants' conduct and knowledge appears quite robust. However, the complaints and briefs contain relatively less information about the effect of disinformation on public perception and responses to climate change. The plaintiffs will have the opportunity to submit additional evidence on this topic when and if the cases go to trial.

The evidentiary requirements for causation will depend on the jurisdiction and the type of claim. For tort claims in many states, the plaintiffs must show that the defendant's conduct was a "substantial factor" in causing harm.[16] In contrast, for violations of consumer protection laws, plaintiffs must typically establish that the defendant made a "material" misrepresentation that is capable of influenc-

11. *See* Center for Climate Integrity, *Climate Liability Litigation*, https://climateintegrity.org/cases (last visited Oct. 6, 2022).
12. *See, e.g.*, First Amended Complaint ¶ 11, City of San Francisco v. BP, No. 3:17-cv06012-WHA (N.D. Cal. Apr. 3, 2018) [hereinafter San Francisco Am. Complaint]; First Amended Complaint ¶ 11, City of Oakland v. BP, No. 3:17-cv-06011-WHA (N.D. Cal. Apr. 3, 2018) [hereinafter Oakland Am. Complaint]; Complaint §VII, County of San Mateo v. Chevron Corp., No. 3:17-cv-04929 (N.D. Cal. July 17, 2017) [hereinafter San Mateo Complaint]; Complaint §VII, City and County of Honolulu v. Sunoco LP, No. 1CCV-20-0000380 (Haw. Cir. Ct. Mar. 9, 2020) [hereinafter Honolulu Complaint]; Complaint ¶ 253, City of Annapolis v. BP, No. C-02-CV-21-000250 (Md. Cir. Ct. Feb. 22, 2021) [hereinafter Annapolis Complaint].
13. Honolulu Complaint, *supra* note 12. Similar language appears in San Mateo Complaint, *supra* note 12; Annapolis Complaint, *supra* note 12; Complaint, Pacific Coast Fed. of Fisherman's Ass'ns v. Chevron, No. CGC-18-571285 (Cal. Super. Ct. Nov. 14, 2018) [hereinafter Pacific Coast Federation Complaint]; Complaint, Rhode Island v. Chevron Corp., No. PC-2018-4716 (R.I. Super. Ct. July 2, 2018) [hereinafter Rhode Island Complaint]; Complaint, Mayor & City Council of Baltimore v. BP, No. 24-C-18-004219 (Md. Cir. Ct. July 20, 2018) [hereinafter Baltimore Complaint]; Complaint, Anne Arundel Cnty. v. BP p.l.c., No. C-02-CV-21-000565 (Md. Cir. Ct. Apr. 26, 2021) [hereinafter Anne Arundel Complaint]; Amended Complaint, Board of Cnty. Comm'rs of Boulder Cnty. v. Suncor Energy, No. 2018-CV-030349 (Colo. Dist. Ct. June 11, 2018) [hereinafter Boulder Am. Complaint]; Complaint, State of Minnesota v. American Petroleum Inst., No. 62-CV-20-3837 (Minn. Dist. Ct. June 24, 2020) [hereinafter Minnesota Complaint]; Complaint, City of Hoboken v. Exxon Mobil Corp., No. HUD-L-003179-20 (N.J. Super. Ct. Sept. 2, 2020) [hereinafter Hoboken Complaint]; Complaint, State of Delaware v. BP, No. N20C-09-097 (Del. Super. Ct. Sept. 10, 2020) [hereinafter Delaware Complaint]; Complaint, City of Charleston v. Brabham Oil Co., No. 2020-CP-1003975 (S.C. Ct. Com. Sept. 9, 2020) [hereinafter Charleston Complaint].
14. *See, e.g.*, Honolulu Complaint, *supra* note 12, ¶ 48 (citing Benjamin Franta, *Early Oil Industry Knowledge of CO_2 and Global Warming*, 8 Nature Climate Change 1024 (2018)), ¶ 58 (citing Committee for Air and Water Conservation & Committee on Public Affairs, American Petroleum Institute, Environmental Research: A Status Report (1972), http://files.eric.ed.gov/fulltext/ED066339.pdf; Memo from J.F. Black, Scientific Advisor, Exxon Research and Engineering Co., to F.G. Turpin, Vice President, Exxon Research and Engineering Co., The Greenhouse Effect (June 6, 1978), https://www.climatefiles.com/exxonmobil/1978-exxon-memo-on-greenhouse-effect-for-exxon-corporation-management-committee/).
15. *See, e.g.*, Brief of Amici Curiae Robert Brule, Center for Climate Integrity, Chesapeake Climate Action Network, Justin Farrell, Benjamin Franta, Stephan Lewandowsky, Naomi Oreskes, Geoffrey Supran, and the Union of Concerned Scientists in Support of Plaintiff-Appellee and Affirmance, Delaware v. BP Am. Inc., No. 22-1096 (3d Cir. filed Apr. 21, 2022); Brief of Amici Curiae Robert Brule, Center for Climate Integrity, Justin Farrell, Benjamin Franta, Stephan Lewandowsky, Naomi Oreskes, and Geoffrey Supran in Support of Appellees and Affirmance, County of San Mateo v. Chevron, No. 18-15499 (9th Cir. filed Apr. 29, 2019).
16. *See, e.g.*, O'Grady v. State, 398 P.3d 625 (2017), *as amended* (June 22, 2017); Liberty Surplus Ins. Corp. v. Ledesma & Meyer Constr. Co., 418 P.3d 400 (Cal. 2018), *as modified* (July 25, 2018).

ing customers, but they do not necessarily need to prove that the misrepresentation did in fact mislead customers (although actual harm is a required element for some consumer protection claims).[17]

This Article focuses on the evidence required to support tort claims because the standards for establishing causation are more exacting than those that apply to consumer protection claims. We also focus on a subset of tort claims, specifically public nuisance and negligent failure to warn, to provide boundaries for our analysis. But our analysis has applicability beyond those two causes of action, since the type of evidence that could be used to demonstrate causation in a public nuisance or failure-to-warn claim could also be used to support other tort claims as well as consumer protection claims.

A. *Elements of Public Nuisance and Failure-to-Warn Claims*

1. Public Nuisance

The Restatement (Second) of Torts defines a "public nuisance" as "an unreasonable interference with a right common to the general public."[18] It recognizes several circumstances that may sustain a nuisance finding, including:

> (a) whether the conduct involves a significant interference with the public health, the public safety, the public peace, the public comfort or the public convenience,
>
> (b) whether the conduct is proscribed by a statute, ordinance or administrative regulation, or (c) whether the conduct is of a continuing nature or has produced a permanent or long-lasting effect, and, as the actor knows or has reason to know, has a significant effect upon the public right.[19]

Most states have adopted similarly broad standards for common-law public nuisance claims,[20] often codifying these standards in civil and criminal codes.[21]

What qualifies as an "unreasonable interference" with public rights depends on the jurisdiction and the facts of the case. The magnitude or significance of harmful effects, such as public health effects, is clearly relevant to this analysis.[22] Some courts may also employ a balancing test to evaluate the reasonableness of the interference—for example, California courts have held that the interference is substantial if it causes "significant harm," and unreasonable if its social utility is outweighed by the gravity of the harm inflicted.[23]

Courts have long recognized that environmental harms such as air pollution and water pollution may qualify as public nuisances.[24] Courts have also found public nuisances where product manufacturers have misled the public about the dangers of their products.[25] However, some jurisdictions limit public nuisance liability to situations where the defendant has control of the instrument of harm (e.g., the dangerous product) when it causes the plaintiff's injury.[26] Courts may dismiss public nuisance claims predicated on public deception due to the "effective control" rule. Courts have also dismissed nuisance claims that resemble product

17. There is a distinction between proving reliance and proving harm. Some states do require proof of individual reliance for violations of unfair and deceptive practices (UDAP) laws, but the Federal Trade Commission (FTC) Act and most state UDAP laws do not explicitly require consumers to prove that they specifically relied on the defendant's deceptive claims. In contrast, most UDAP laws do require evidence of actual harm, sometimes limiting relief to consumers who have lost money or property. *See* National Consumer Law Center, Consumer Protection in the States: A 50-State Evaluation of Unfair and Deceptive Practices Laws (2018).
18. Restatement (Second) of Torts §821B (Am. L. Inst. 1979).
19. *Id.*
20. *See, e.g.*, People v. ConAgra Grocery Prods. Co., 17 Cal. App. 5th 51, 79 (2017) ("A public nuisance cause of action is established by proof that a defendant knowingly created or assisted in the creation of a substantial and unreasonable interference with a public right"); in Littleton v. State, 656 P.2d 1336, 1344-45 (Haw. 1982), a nuisance is
    > that which unlawfully annoys or does damage to another, anything that works hurt, inconvenience, or damage, anything which annoys or disturbs one in the free use, possession, or enjoyment of his property or which renders its ordinary use or physical occupation uncomfortable, and anything wrongfully done or permitted which injures or annoys another in the enjoyment of his legal rights

    and a public nuisance "must be in a public place, or where the public frequently congregate, or where members of the public are likely to come within the range of its influence"); Tadjer v. Montgomery Cnty., 479 A.2d 1321, 1327 (Md. 1984) (a public nuisance is "an act or omission 'which obstructs or causes inconvenience or damage to the public in the exercise of rights common to all [people]'"); State v. Lead Indus. Ass'n, Inc., 951 A.2d 428, 446, 38 ELR 20155 (R.I. 2008) (a public nuisance is "an unreasonable interference with a right common to the general public" . . . "it is behavior that unreasonably interferes with the health, safety, peace, comfort or convenience of the general community").
21. *See, e.g.*, Cal. Civ. Code §3479 (defining a nuisance as "[a]nything which is injurious to health . . . or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property"); *id.* §3480 (a public nuisance "is one which affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal"); Cal. Penal Code §370:
    > Anything which is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property by an entire community or neighborhood, or by any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin, or any public park, square, street, or highway, is a public nuisance.
22. *See* Restatement (Second) of Torts §821F cmts. c & d (Am. L. Inst. 1979).
23. People ex rel. Gallo v. Acuna, 14 Cal. 4th 1090, 1105 (1997).
24. Dan B. Dobbs, The Law of Torts 1334 (2000).
25. See discussion *infra* Part II.
26. *Id.*

liability or fraud actions due to concerns about "expanding" public nuisance doctrine beyond traditional applications.[27]

Causation is an element of a public nuisance claim (i.e., "a connecting element to the prohibited harm must be shown"[28]). Plaintiffs must establish that the alleged nuisance is the factual cause of their injury, which may involve demonstrating both general and specific causation. General causation deals with whether the conduct or product at issue is capable of causing a particular type of injury or condition. Specific causation deals with whether the defendant's conduct or product actually caused the plaintiff's specific injury. Specific causation is a required element in toxic tort cases, but it is not always required in other types of torts such as public nuisance.[29]

For public nuisance and other tort claims, plaintiffs must also establish proximate cause. The doctrine of proximate cause is concerned with whether there is a sufficiently close relationship between the defendant's conduct and the plaintiff's injury such that it is reasonable to impose liability on the defendant. When considering this issue, courts may consider factors such as the geographic and temporal proximity between the conduct and injury, whether the injury is a foreseeable consequence of the conduct, and whether the injury is "too remote" from the conduct to impose liability.[30]

The parameters for establishing proximate cause depend on the jurisdiction and the cause of action. For example, California courts have held that proximate cause in Racketeer Influenced and Corrupt Organizations Act (RICO) claims requires a "direct relationship between the conduct and injury," whereas "a public nuisance claim satisfies proximate cause if the defendant's conduct is likely to cause a significant invasion of a public right."[31] In other words, California courts tend to focus on the probability and foreseeability of harm rather than the directness of the relationship between conduct and injury when assessing proximate cause in public nuisance claims. However, California courts will also consider whether the injury is "too remote" from the conduct and whether there were any "intervening acts" that would sever the chain of causation, thus undermining claims of both proximate and factual causation.[32]

Other jurisdictions have likewise determined that the proximate cause inquiry should focus on the foreseeability of harm rather than the directness of the relationship between the conduct and harm.[33] The Supreme Court of Hawaii, for example, held that it was improper to instruct a jury to find "proximate cause" defined as "that cause which in direct, unbroken sequence, produces the injury, and without which the injury would not have occurred."[34] Rather, the court held that it should be enough for the fact finder to determine that a defendant's conduct was a substantial factor in causing the plaintiff's injuries.[35] The court has acknowledged that the foreseeability of harm is a relevant consideration for both the proximate cause inquiry and for assessing a defendant's duty of care.[36]

In addition, as discussed below, many courts will consider whether the defendant's conduct was a "substantial factor" in causing the plaintiff's injury when there are multiple factors that contributed to the injury.[37] The relationship between the "substantial factor" test and the proximate cause inquiry varies by jurisdiction: some states, like California, recognize it as the primary basis for ascertaining proximate or "legal" cause in tort litigation.[38]

Ultimately, there is no bright-line rule for distinguishing a legally sufficient proximate cause from one that is too remote,[39] just as there is no bright-line rule for determining what constitutes a "substantial" contribution to an injury. The questions of factual and proximate cause are ordinarily left to the fact finder (although a court may decide that there is no basis for a rational trier of fact to find proximate cause).[40]

2. Failure to Warn

A failure-to-warn claim may be premised upon a theory of negligence or strict liability. The factual elements that must be proven for such claims are similar regardless of which theory is used.[41] According to the Restatement (Third) of Torts:

> A product . . . is defective because of inadequate instructions or warnings when the foreseeable risks of harm posed by the product could have been reduced or avoided

27. *Id.*
28. In re Firearm Cases, 126 Cal. App. 4th 959, 988 (2005). *See also* State v. Lead Indus. Ass'n, Inc., 951 A.2d 428, 450, 38 ELR 20155 (R.I. 2008).
29. *See* Albert Lin, *Deciphering the Chemical Soup: Using Public Nuisance to Compel Chemical Testing*, 85 Notre Dame L. Rev. 955 (2010).
30. *See* Luke Meier, *Using Tort Law to Understand the Causation Prong of Standing*, 80 Fordham L. Rev. 1241, 1249 (2011). *See also* City & Cnty. of San Francisco v. Purdue Pharma L.P., 491 F. Supp. 3d 610, 679 (N.D. Cal. 2020) (discussing proximate cause requirements in the context of a state public nuisance claim).
31. *Purdue Pharma L.P.*, 491 F. Supp. 3d at 679 (citing *Firearm Cases*, 126 Cal. App. 4th at 988).
32. *Id.* at 676, 679; People v. ConAgra Grocery Prods. Co., 17 Cal. App. 5th 51 (2017).
33. *See, e.g.*, *Lead Indus. Ass'n, Inc.*, 951 A.2d at 451 ("The proper inquiry regarding legal cause involves an assessment of foreseeability, in which we ask whether the injury is of a type that a reasonable person would see as a likely result of his conduct."); City of Chicago v. Beretta U.S.A. Corp., 821 N.E.2d 1099, 1127 (Ill. 2004) (same).
34. Knodle v. Waikiki Gateway Hotel, Inc., 742 P.2d 377, 387 (Haw. 1987).
35. *Id.*
36. *Id. See also* Pulawa v. GTE Hawaiian Tel, 143 P.3d 1205, 1215-16 (Haw. 2006) (discussing different approaches to assessing foreseeability when evaluating proximate cause and duty of care).
37. *See infra* Section I.B.
38. Mitchell v. Gonzales, 819 P.2d 872, 878 (Cal. 1991).
39. People v. Roberts, 826 P.2d 274, 300 (Cal. 1992), *as modified on denial of reh'g* (May 20, 1992); People v. ConAgra Grocery Prods. Co., 17 Cal. App. 5th 51 (2017).
40. *See, e.g.*, *Roberts*, 826 P.2d at 311-312; City of Milwaukee v. NL Indus., Inc., 2005 WI App 7, ¶ 18, 278 Wis. 2d 313, 325, 691 N.W.2d 888, 894.
41. Although the elements that must be proven are similar, the choice of legal theory may affect other aspects of the case. For example: (1) plaintiffs must establish proximate cause in a negligence case; (2) the defense of contributory negligence may be available for negligence claims in some jurisdictions; and (3) for strict liability claims, all entities in the marketing chain may share liability for failure to give adequate warning. 8 Am. Jur. 3d *Proof of Facts* 547 (1990).

> by the provision of reasonable instructions or warnings by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the instructions or warnings renders the product not reasonably safe.[42]

Whereas the Restatement (Second) of Torts described this as a rule of strict liability,[43] the Restatement (Third) of Torts has recognized that "defects based on inadequate instructions or warnings are predicated on a different concept of responsibility," and that imposing liability in this context "achieve[s] the same general objectives as does liability predicated on negligence."[44]

Many state courts have likewise recognized that the failure to provide a warning under these circumstances is tantamount to negligence: the defendant failed to exercise reasonable care to inform users of the foreseeable danger associated with use of its product.[45] Nonetheless, some courts still recognize these as distinct causes of action. The California Supreme Court has explained the distinction as follows:

> Negligence law in a failure-to-warn case requires a plaintiff to prove that a manufacturer or distributor did not warn of a particular risk for reasons which fell below the acceptable standard of care, i.e., what a reasonably prudent manufacturer would have known and warned about. Strict liability is not concerned with the standard of due care or the reasonableness of a manufacturer's conduct. The rules of strict liability require a plaintiff to prove only that the defendant did not adequately warn of a particular risk that was known or knowable in the light of the generally recognized and prevailing best scientific and medical knowledge available at the time of manufacture and distribution. Thus, in strict liability, as opposed to negligence, the reasonableness of the defendant's failure to warn is immaterial.[46]

However, other state courts have recognized that the strict liability cause of action is essentially the same as a negligence cause of action, since the court must consider whether the product hazard was foreseeable and whether the defendant's failure to warn was reasonable in either context.[47]

When courts are determining whether a manufacturer should have provided a warning, they will consider factors such as the nature and magnitude of the hazards associated with the product, the expectations of consumers regarding the product, the likelihood of injury, and the feasibility and beneficial effect of including a warning.[48] Courts will also consider the relationship to the plaintiff when assessing duty.[49] Some courts have held that only users or consumers have standing to bring a strict liability failure-to-warn claim.[50] But other courts have upheld failure-to-warn claims brought by governmental entities acting as end-users, regulators, or *parens patriae*, where defendants owed a duty to the general public to warn of a product's dangers.[51] Some jurisdictions also allow failure-to-warn claims to be filed by bystander plaintiffs who are injured by a product when it is used by third parties.[52]

As with public nuisance claims, plaintiffs must show that the defendant's failure to warn caused actual harm, and the substantial factor test is typically used to assess causation where there are multiple causes contributing to the harm.[53] For negligence claims, plaintiffs must also establish proximate causation—which, as noted above, is closely tied to the question of whether harms were foreseeable. As such, there is considerable overlap between the evidence required to demonstrate that the failure to warn was unreasonable (insofar as harms were foreseeable) and that the failure to warn was the proximate cause of the plaintiff's injury.

However, courts may also consider whether there were any intervening factors that may counsel against imposing liability—for example, some jurisdictions apply the learned intermediary doctrine, which holds that a product manufacturer cannot be held liable for a failure to warn consumers of the risks of a product when it has provided the necessary warnings to a "learned intermediary" who then supplies the product to the consumer.[54] Some courts also recognize the sophisticated intermediary doctrine, under

42. Restatement (Third) of Torts: Prod. Liab. §2(c) (Am. L. Inst. 1998).
43. Restatement (Second) of Torts §402A (Am. L. Inst. 1965).
44. Restatement (Third) of Torts: Prod. Liab. §2 (Am. L. Inst. 1998).
45. 8 Am. Jur. 3d *Proof of Facts* 547 (1990); Hildy Bowbeer et al., *Warning! Failure to Read This Article May Be Hazardous to Your Failure to Warn Defense*, 27 Wm. Mitchell L. Rev. 439 (2000).
46. Anderson v. Owens-Corning Fiberglas Corp., 810 P.2d 549, 558-59 (Cal. 1991).
47. *See, e.g.*, Olson v. Prosoco, Inc., 522 N.W.2d 284, 289 (Iowa 1994); Germann v. F.L. Smithe Mach. Co., 395 N.W.2d 922, 926 n.4 (Minn. 1986); Crislip v. TCH Liquidating Co., 556 N.E.2d 1177, 1183 (Ohio 1990).
48. *See, e.g.*, Oxford v. Foster Wheeler LLC, 99 Cal. Rptr. 3d 418, 432 (Cal. Ct. App. 2009).
49. *See, e.g.*, Burton v. American Cyanamid, 334 F. Supp. 3d 949, 959 (E.D. Wis. 2018).
50. *See, e.g.*, City of Seattle v. Monsanto Co., 237 F. Supp. 3d 1096, 1108 (W.D. Wash. 2017).
51. *See, e.g.*, State v. Exxon Mobil Corp., 126 A.3d 266, 289-90, 45 ELR 20191 (N.H. 2015); Cincinnati v. Beretta U.S.A. Corp., 95 Ohio St. 3d 416, 425, 2002-Ohio-2480, ¶ 34, 768 N.E.2d 1136, 1147; Commonwealth v. Monsanto Co., 269 A.3d 623, 666 (Pa. Commw. Ct. 2021).
52. *See, e.g.*, Erie Ins. Co. v. W.M. Barr & Co., Inc., 523 F. Supp. 3d 1 (D.D.C. 2021); Bah v. Nordson Corp., No. 9-60, 2005 WL 1813023, at *15 (S.D.N.Y. Aug. 1, 2005); LaPaglia v. Sears Roebuck & Co., Inc., 143 A.D.2d 173, 177 (N.Y. App. Div. 1988); Cover v. Cohen, 61 N.Y.2d 261, 274-75 (N.Y. 1984). *See also* Restatement (Second) of Torts §388 (Am. L. Inst. 1965) (legal duty to warn typically extends to all whom the supplier or manufacturer "should expect to use the [product] . . . *or to be endangered by its probable use*" and supplier should therefore give warning as "necessary to make its use safe for them *and those in the vicinity it is to be used*") (emphasis added); *To whom should warnings be given?*, Prod. Liab.: Design and Mfg. Defects §10:7 (Lewis Bass & Thomas Redick et al. eds., 2022) (noting that "it has been held that a manufacturer or seller is liable for failure to warn third persons who might be considered nonusers of the product, but foreseeably might be subjected to danger").
53. *See, e.g.*, Judicial Council of California Civil Jury Instructions, CACI No. 1205, Strict Liability—Failure to Warn—Essential Factual Elements (2020 ed.).
54. This is typically applied in cases involving pharmaceuticals and medical devices, where doctors are the intermediaries. *See, e.g.*, Vitanza v. Upjohn Co., 778 A.2d 829 (Conn. 2001). *But cf.* Perez v. Wyeth Lab'ys Inc., 734 A.2d 1245, 1257 (N.J. 1999) (holding that the learned intermediary doctrine does not apply to the direct marketing of drugs to consumers).

which a manufacturer is not required to provide warnings to an intermediary that has sufficiently in-depth knowledge of a product such that it actually knew or should have known about the potential harm.[55]

B. *Assessing Causation Through the Substantial Factor Test*

Many jurisdictions apply the substantial factor test when assessing whether a defendant was the factual and proximate cause of a plaintiffs' injuries in a tort proceeding.[56] This test is typically applied when there are two or more causes that contributed to the injury. What exactly qualifies as a "substantial factor" will vary depending on the jurisdiction, cause of action, and nature of factual claims raised in the case.

The Supreme Court of California has established a relatively low threshold for the substantial factor test, holding:

> The substantial factor standard is a relatively broad one, requiring only that the contribution of the individual cause be more than negligible or theoretical. Thus, a force that plays only an infinitesimal or theoretical part in bringing about injury, damage, or loss is not a substantial factor, but a very minor force that does cause harm is a substantial factor. This rule honors the principle of comparative fault.[57]

The Supreme Court of California has also clarified that the substantial factor standard subsumes the "but for" causation test in situations involving independent or concurrent causes of harm:

> If the actor's wrongful conduct operated concurrently with other contemporaneous forces to produce the harm, it is a substantial factor, and thus a legal cause, if the injury, or its full extent, would not have occurred but for that conduct. Conversely, if the injury would have occurred even if the actor had not acted wrongfully, his or her conduct generally cannot be deemed a substantial factor in the harm.[58]

California courts have applied this substantial factor test to various torts, including negligence,[59] public nuisance,[60] and failure-to-warn claims.[61]

Other states have adopted the substantial factor test without providing detailed parameters for its application. For example, the Supreme Court of Hawaii has held that "[i]t is not necessary that [the defendant's conduct] be the whole cause or the only factor as under the 'substantial factor' test a negligent party will not automatically escape liability merely because other causes have contributed to the plaintiff's injury."[62] In Rhode Island, where a public nuisance claim has been filed against fossil fuel producers by the state, the state supreme court has not articulated standards for applying the substantial factor test, but did affirm a grant of summary judgment dismissing a negligence action against a public utility based on the determination that a single inoperable streetlight was not a substantial factor in causing a vehicle to hit a pedestrian in a poorly lit area.[63]

The substantial factor test is related to the requirement to show proximate cause in a tort proceeding. In both contexts, courts are concerned with whether it is reasonable to impose liability on a defendant based on its contribution to the plaintiff's injury. But whereas the proximate cause inquiry typically focuses on the foreseeability of and proximity to harm, the substantial factor test focuses on the scale of the contribution. Recognizing this relationship, some courts treat the substantial factor test as an element of proximate cause.[64]

C. *Limitations to Tort Liability*

Several factors can preclude findings of causation and liability in public nuisance and failure-to-warn cases, some of which are relevant to the tort lawsuits filed against fossil fuel companies. These include First Amendment limitations on the imposition of liability for political speech, questions about whether government conduct is an intervening cause that breaks the chain of causation, and state-law doctrines pertaining to the apportionment of liability between multiple defendants.[65] None of these issues should necessarily preclude the plaintiffs from succeeding with their tort claims in climate-related suits, but they could complicate the causation analysis.

55. *See, e.g.*, Webb v. Special Elec. Co., 370 P.3d 1022, 1035 (Cal. 2016).
56. 3 American Law of Torts §11:2 (Stuart Speiser et al. eds., 2022).
57. Bockrath v. Aldrich Chem. Co., 21 Cal. 4th 71, 72 (Cal. 1999).
58. In re Ethan C., 279 P.3d 1052, 1071 (Cal. 2012). *See also* Viner v. Sweet, 70 P.3d 1046, 1051 (Cal. 2003) (if "two forces are actively operating . . . and each of itself is sufficient to bring about harm to another, the actor's negligence may be found to be a substantial factor in bringing it about").
59. *Ethan C.*, 279 P.3d at 1071.
60. *See, e.g.*, City & Cnty. of San Francisco v. Purdue Pharma L.P., 491 F. Supp. 3d 610, 677 (N.D. Cal. 2020); People v. ConAgra Grocery Prods. Co., 17 Cal. App. 5th 51 (2017).
61. *See, e.g.*, Trejo v. Johnson & Johnson, 220 Cal. Rptr. 3d 127, 150 (Cal. Ct. App. 2017); Judicial Council of California Civil Jury Instructions, *supra* note 53.
62. McKenna v. Volkswagenwerk Aktiengesellschaft, 558 P.2d 1018, 1022 (Haw. 1977).
63. Laprocina v. Lourie, 250 A.3d 1281, 1289 (R.I. 2021).
64. *See, e.g.*, *ConAgra Grocery Prods. Co.*, 17 Cal. App. 5th at 104.
65. Another potential limitation on tort liability is the municipal cost recovery doctrine, which limits the ability of local governments to recover from tortfeasors in some contexts. This doctrine does not affect the analysis of causation, so we do not discuss it here. However, it has factored into public nuisance lawsuits involving other types of products. *See, e.g.*, City of Chicago v. Beretta U.S.A. Corp., 821 N.E.2d 1099, 1144 (Ill. 2004) (holding that municipal cost recovery doctrine barred recovery in a public nuisance case against handgun manufacturers); In re Opioid Litig., No. 400000/2017, 2018 WL 3115102 (N.Y. Sup. Ct. June 18, 2018) (holding that municipal cost recovery doctrine was not applicable in public nuisance case against opioid manufacturers); In re JUUL Labs, Inc., Mktg., Sales Prac. & Prods. Liab. Litig., 497 F. Supp. 3d 552, 644-45 (N.D. Cal. 2020) (same).

1. Limitations on Tort Liability for Political Speech

The First Amendment imposes limits on the permissible scope of tort liability.[66] In most cases, individuals and corporations cannot be held liable for political speech, which includes "interactive communication concerning political change,"[67] and "discussion of public issues and debate on the qualifications of candidates."[68] Even false and misleading political speech may be protected under the First Amendment.

The U.S. Supreme Court has recognized that there is "no constitutional value in false statements of fact," and that "[n]either the intentional lie nor the careless error materially advances society's interest in 'uninhibited, robust, and wide-open' debate on public issues."[69] However, because sanctioning false speech "may lead to intolerable censorship . . . [t]he First Amendment requires that we protect some falsehood in order to protect speech that matters."[70] There are narrow circumstances where liability may arise from false political speech—for example, where a publisher makes a libelous statement about a public figure with actual malice—that is, knowledge that it was false or with reckless disregard of whether it was false or not.[71] But generally speaking, political speech receives the highest level of protection.[72]

The First Amendment does not provide the same level of protection for commercial speech, including advertisements,[73] expressions concerning commercial transactions,[74] and other "expression related solely to the economic interests of the speaker and its audience."[75] Most notably, there is no immunity for false or misleading commercial speech.[76] Thus, companies can be held liable for deceptive advertising. Granted, not all consumer-facing communications automatically qualify as commercial speech.[77] The speaker's intent matters: public communications that are "clearly intended to promote sales" qualify as commercial speech, but "institutional and informational messages" may be protected under the First Amendment.[78]

Some of the defendants in the fossil fuel disinformation cases have asserted that their communications qualify as "government petitions" or "political speech" that should be shielded from liability under the First Amendment.[79] In at least one case, defendants have explicitly invoked the *Noerr-Pennington* doctrine, which shields government petitions from civil liability.[80] The *Noerr-Pennington* doctrine originally developed in antitrust litigation, but has since been applied to other types of lawsuits, including tort cases.[81]

When applying this doctrine, the Supreme Court has recognized a distinction between political conduct with a commercial impact and conduct that is fundamentally commercial but that may have an incidental political impact. *Noerr-Pennington* does not provide immunity for commercial speech simply because it has a political impact.[82] However, a "publicity campaign directed at the general public, seeking legislative or executive action, enjoys antitrust immunity even when the campaign employs unethical and deceptive methods."[83] There is a "sham petition" exception: *Noerr-Pennington* does not apply to reckless or intentional fraudulent statements made during the course of an administrative or judicial proceeding,[84] but this exception does not extend to misrepresentations seeking to influence legislative or executive action.[85]

66. *See* New York Times Co. v. Sullivan, 376 U.S. 254 (1964). *See also* David S. Han, *Managing Constitutional Boundaries in Speech-Tort Jurisprudence*, 69 DePaul L. Rev. 495 (2020) (discussing First Amendment issues in the context of "speech tort" cases, and recommending a pragmatic, open-ended, and contextualized approach to balancing competing interests in these cases).
67. Meyer v. Grant, 486 U.S. 414, 422 (1988).
68. Buckley v. Valeo, 424 U.S. 1, 14 (1976). *See also New York Times Co.*, 376 U.S. at 269 (describing political speech as the "interchange of ideas for the bringing about of political and social changes desired by the people").
69. Gertz v. Robert Welch, Inc., 418 U.S. 323, 340 (1974) (citing *New York Times Co.*, 376 U.S. at 270).
70. *Id.* at 341.
71. *New York Times Co.*, 376 U.S. at 280. In cases where a private defendant has made a libelous or defamatory statement, plaintiffs can recover damages based on a showing of negligence rather than actual malice. *Gertz*, 418 U.S. at 347. *See also* Han, *supra* note 66, at 513-14. The actual malice standard has been applied to other tort claims that resemble defamation claims. *See, e.g.*, Time, Inc. v. Hill, 385 U.S. 374, 390-91 (1967); Hustler v. Falwell, 485 U.S. 46, 56 (1988); Jefferson Cnty. Sch. Dist. No. R-1 v. Moody's Inv.'s Servs., 175 F.3d 848, 856-58 (10th Cir. 1999); Unelko Corp. v. Rooney, 912 F.2d 1049, 1058 (9th Cir. 1990).
72. *Meyer*, 486 U.S. 414; *Buckley*, 424 U.S. 1.
73. Bates v. State Bar of Ariz., 433 U.S. 350, 383 (1977); Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 748 (1976).
74. Bolger v. Youngs Drug Prods. Corp., 463 U.S. 60, 64 (1983); Ohralik v. Ohio State Bar Ass'n, 436 U.S. 447, 456 (1978).
75. Central Hudson Gas & Elec. Corp. v. Public Serv. Comm'n of N.Y., 447 U.S. 557, 561 (1980). *See also* Friedman v. Rogers, 440 U.S. 1, 11 (1979).
76. *Central Hudson Gas & Elec. Corp.*, 447 U.S. at 557 ("For commercial speech to come within the First Amendment, it at least must concern lawful activity and not be misleading."). *See also* United States v. Alvarez, 567 U.S. 709, 723 (2012); Dun & Bradstreet, Inc. v. Greenmoss Builders, Inc., 472 U.S. 749, 762 (1985); In re R.M.J., 455 U.S. 191 (1982); Kasky v. Nike, Inc., 45 P.3d 243, 251 (Cal. 2002), *as modified* (May 22, 2002).
77. For further discussion of what qualifies as "commercial speech," see C. Edwin Baker, *The First Amendment and Commercial Speech*, 84 Ind. L.J. 981 (2009); Martin H. Redish, *Product Health Claims and the First Amendment: Scientific Expression and the Twilight Zone of Commercial Speech*, 43 Vand. L. Rev. 1433 (1990); Daniel A. Farber, *Commercial Speech and First Amendment Theory*, 74 Nw. U. L. Rev. 372 (1979/1980).
78. *Central Hudson Gas & Elec. Corp.*, 447 U.S. at 563.
79. *See, e.g.*, Appellants' Brief, Exxon Mobil v. Commonwealth, No. 2021-P-0860 (Mass. App. Ct. filed Nov. 8, 2021).
80. Defendants' Motion to Dismiss ¶ 3, Oakland v. BP, No. 3:17-cv-6011-WHA (N.D. Cal. filed Apr. 19, 2019).
81. *See, e.g.*, Cheminor Drugs, Ltd. v. Ethyl Corp., 168 F.3d 119, 128-29 (3d Cir. 1999); IGEN Int'l, Inc. v. Roche Diagnostics GmbH, 335 F.3d 303, 312 (4th Cir. 2003); White v. Lee, 227 F.3d 1214, 1231 (9th Cir. 2000); Video Int'l Prods., Inc. v. Warner-Amex Cable Commc'ns, Inc., 858 F.2d 1075, 1084 (5th Cir. 1988); Sierra Club v. Butz, 349 F. Supp. 934, 938-39, 2 ELR 20698 (N.D. Cal. 1972).
82. Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492, 507 (1988) (discussing efforts by members of the National Fire Protection Association to exclude a product from the association's National Electrical Code, which was subsequently adopted by state and local governments: "Although one could reason backwards from the legislative impact of the Code to the conclusion that the conduct at issue here is 'political,' we think that, given the context and nature of the conduct, it can more aptly be characterized as commercial activity with a political impact").
83. *Id.* at 499-500.
84. *See, e.g.*, California Motor Transp. Co. v. Trucking Unlimited, 404 U.S. 508 (1972).
85. *See Allied Tube*, 486 U.S. at 499-500. *See also* Mercatus Grp., LLC v. Lake Forest Hosp., 641 F.3d 834 (7th Cir. 2011) (outlining considerations to

The law is not yet settled regarding the applicability of the *Noerr-Pennington* doctrine or the scope of First Amendment protections for deliberately false speech.[86] The Supreme Court decisions interpreting *Noerr-Pennington* all involve antitrust litigation, and it is possible that the standards will shift as the doctrine is expanded into other areas of law. There are also still inconsistencies in how lower courts apply the doctrine. The U.S. Court of Appeals for the District of Columbia (D.C.) Circuit, for example, has held that *Noerr-Pennington* does not protect deliberately false or misleading statements in any context,[87] but other circuits have held that the fraud exception is limited to administrative adjudications.[88]

Some legal scholars have argued that courts have expanded *Noerr-Pennington* immunity beyond its original justifications, and have made the case for expanding the fraud exception or abolishing the doctrine altogether.[89] Legal scholars have also argued, more generally, that the First Amendment should not be interpreted as providing immunity for deliberate public deception schemes or "fraud on the public."[90] But unless and until the Supreme Court revisits this issue, it appears that most courts will continue to recognize broad immunity for government petitions and other noncommercial speech, even where the speech is deliberately false and misleading.[91]

Due to the breadth of First Amendment protections for political speech, it is unlikely that the plaintiffs in the fossil fuel disinformation cases would be able to establish liability or recover damages based on the defendants' lobbying activities. Recognizing this, the plaintiffs have focused on the defendants' public-facing communications, advertisements, and statements to investors as the source of the nuisance.[92] The defendants have maintained that these communications also qualify as protected political speech, but at least one reviewing court has already rejected this argument. Specifically, in *Commonwealth v. Exxon Mobil*, the trial court denied Exxon's motion to dismiss because the court determined that Exxon's statements to investors and its "greenwashing" statements to the public did not qualify as protected government petitions, even though those statements had the potential to influence lawmakers.[93]

This focus on commercial speech may affect the causation analysis in these cases by limiting the types of arguments and evidence that can be used to demonstrate the effect of fossil fuel disinformation campaigns. Plaintiffs will likely need to focus on the effects of advertisements and consumer-facing communications, and might not be able to predicate causation on evidence of fossil fuel companies' lobbying activities.[94] However, it is possible that evidence of defendants' government-facing communications could be brought into the cases if defendants raise government action or inaction as a defense or superseding cause, as discussed below.

2. Government Conduct as a Superseding Cause of Plaintiffs' Injuries

The defendants in the fossil fuel disinformation cases may argue that government decisions about climate policy and greenhouse gas (GHG) regulation are a superseding cause of the plaintiffs' injuries. The Restatement (Second) of Torts defines a "superseding cause" as "an act of a third person or other force which by its intervention prevents the actor from being liable for harm to another which his antecedent negligence is a substantial factor in bringing about."[95] The Restatement also recognizes that there may be an "intervening force" (i.e., a factor that "actively operates in producing harm to another after the actor's negligent act or omission has been committed") that does not qualify as a superseding cause that breaks the chain of liability.[96] It outlines a number of considerations that are relevant to determining whether an intervening force is a superseding cause:

> (a) the fact that its intervention brings about harm different in kind from that which would otherwise have resulted from the actor's negligence;
>
> (b) the fact that its operation or the consequences thereof appear after the event to be extraordinary rather than normal in view of the circumstances existing at the time of its operation;
>
> (c) the fact that the intervening force is operating independently of any situation created by the actor's negligence, or, on the other hand, is or is not a normal result of such a situation;
>
> (d) the fact that the operation of the intervening force is due to a third person's act or to his failure to act;

weigh when drawing the line between legislative and adjudicative proceedings for *Noerr-Pennington* purposes).

86. *See* Erin Chemerinsky, *False Speech and the First Amendment*, 71 Okla. L. Rev. 1 (2018).
87. *See* United States v. Philip Morris USA Inc., 566 F.3d 1095, 1123 (D.C. Cir. 2009); Edmondson & Gallagher v. Alban Towers Tenants Ass'n, 48 F.3d 1260, 1267 (D.C. Cir. 1995); Whelan v. Abell, 48 F.3d 1247 (D.C. Cir. 1995).
88. *See* Aaron R. Wegrzyn, *Seventh Circuit Nixes Sherman Act Claims Based on the Noerr-Pennington Doctrine and Implied Antitrust Immunity*, Foley & Lardner LLP (Mar. 31, 2020), https://www.foley.com/en/insights/publications/2020/03/seventh-circuit-nixes-sherman-act-claims.
89. *See, e.g.*, Tim Wu, *Antitrust and Corruption: Overruling Noerr*, Knight First Amend. Inst. (Oct. 20, 2020), https://knightcolumbia.org/content/antitrust-and-corruption-overruling-noerr; Karen Roche, *Deference or Destruction? Reining in the Noerr-Pennington and State Action Doctrines*, 45 Loy. L.A. L. Rev. 1295 (2013).
90. Henricksen, *supra* note 3.
91. *See, e.g.*, United States v. Alvarez, 567 U.S. 709 (2012) (holding that the Stolen Valor Act, which criminalized false statements about military decorations or medals, violated the First Amendment).
92. Some plaintiffs have explicitly stated that they are not seeking to recover damages on the basis of lobbying efforts. *See, e.g.*, Oakland Am. Complaint, *supra* note 12, ¶ 11; San Francisco Am. Complaint, *supra* note 12, ¶ 11.
93. Memorandum of Decision and Order on Defendant's Special Motion to Dismiss the Amended Complaint at 1, 5, Commonwealth v. Exxon Mobil Corp., No.1984CV03333 (Mass. Super. Ct. June 22, 2021). *See also* Amanda Shanor & Sarah E. Light, *Greenwashing and the First Amendment*, Colum. L. Rev. (forthcoming 2022) (arguing that greenwashing should not receive protection under the First Amendment).
94. See Part III, for a more detailed discussion of what evidence could be used to demonstrate causation.
95. Restatement (Second) of Torts §440 (Am. L. Inst. 1965).
96. *Id.* §441.

> (e) the fact that the intervening force is due to an act of a third person which is wrongful toward the other and as such subjects the third person to liability to him;
>
> (f) the degree of culpability of a wrongful act of a third person which sets the intervening force in motion.[97]

Consistent with the Restatement definition, a superseding cause is a defense to negligence, and courts have also recognized that "intervening causes" may break the chain of causation in public nuisance suits, particularly where these intervening causes are unforeseeable,[98] or the result of criminal activity by third parties.[99]

In the fossil fuel disinformation cases, the government's failure to adequately control GHG emissions and its affirmative policies enabling the continued production and use of fossil fuels could be offered as intervening causes contributing to the plaintiffs' injuries. However, there is ample evidence that the government's policy response was a foreseeable and intended consequence of the defendants' disinformation efforts. Thus, the factors outlined above, particularly factor (c), would weigh against a determination that government conduct qualifies as a "superseding cause" limiting the liability of fossil fuel defendants.

However, this argument may undermine the plaintiffs' characterization of the defendants' communications as "commercial speech," since courts may view evidence of intent to affect government policy as indicative of political speech.[100] Plaintiffs may find it helpful to distinguish between commercial speech upon which liability may be based and government-oriented speech that is not the basis for liability, but that nonetheless rebuts the notion of government policy being a superseding cause. In some tobacco cases, for example, plaintiffs have presented evidence of government-facing disinformation by tobacco-industry defendants in order to rebut defendants' argument that government policies, rather than defendants' actions, were the cause of the plaintiffs' injuries.[101]

Treating governmental policies or inaction as a superseding cause would also create an excessively broad exception to tort liability. In Part II, we discuss litigation involving tobacco, lead paint, and opioids. In these cases, one could argue that government failures to adequately regulate the harmful products (or affirmative policies such as Food and Drug Administration (FDA) authorizations and subsidies) contributed to the plaintiffs' injuries. If this had been a valid defense, it would have been impossible for plaintiffs to pursue their tort claims. It is more logical for courts to address the effect of government policies through the lens of legislative displacement and preemption—doctrines that are relevant to climate change litigation, but outside the scope of this Article.[102]

3. Apportioning Liability Among Multiple Defendants

In tort cases involving multiple defendants, questions inevitably arise regarding the apportionment of liability. California and other states have adopted a market-share theory of liability, which apportions liability among manufacturers according to their share of the market for the product giving rise to the plaintiff's injury. Under this theory, a plaintiff can potentially recover costs from manufacturers for an injury caused by their product, even if it cannot pinpoint exactly which defendant's product is responsible for its injury.[103]

Courts have held that it makes sense to apply the market-share theory of liability for products that are perfectly fungible (i.e., where each unit of the product is equally harmful).[104] The same rationale could justify the imposition of market-share liability on the basis of GHG emissions from fossil fuel products, since those emissions can be expressed in terms of their carbon dioxide (CO_2) equivalent.[105] For this reason, plaintiffs' pleadings have frequently characterized the "market share" of each defendant on the basis of the GHG emissions caused by the fossil fuels each defendant has historically produced.[106]

Some state courts have rejected or significantly limited the application of the market-share theory, particularly where products are not perfectly fungible (e.g., lead paint).[107] In those jurisdictions, courts may still hold defendants liable for contributing to an injury that is caused by multiple parties, where the defendant's separate conduct was a

97. *Id.* §442. *See also* §447 (recognizing that an intervening act is not a superseding cause of harm if it is foreseeable to the defendant).
98. *See, e.g.*, James v. Arms Tech., Inc., 820 A.2d 27, 39 (N.J. Super. Ct. App. Div. 2003). *Cf.* Knodle v. Waikiki Gateway Hotel, Inc., 742 P.2d 377, 388 (Haw. 1987) (holding that a person's "independent acts could not have superseded or excused the defendants' negligence if such acts were reasonably foreseeable").
99. *See, e.g.*, People ex rel. Spitzer v. Sturm, Ruger & Co., 761 N.Y.S.2d 192, 201 (N.Y. App. Div. 2003).
100. *See, e.g.*, Sanders v. Brown, 504 F.3d 903, 914 (9th Cir. 2007) (finding that Noerr-Pennington immunity extends to the consequences of government acts that result from immunized petitioning).
101. Interview with Robert Proctor, Expert Witness in Tobacco Litigation (Nov. 30, 2021).
102. For more on the topic of displacement and preemption in climate nuisance suits, see Lin & Burger, *supra* note 5; Jonathan Adler, *Displacement and Preemption of Climate Nuisance Claims*, 17 J.L. Econ. & Pol'y 217 (2022).
103. Sindell v. Abbott Lab'ys, 26 Cal. 3d 588, 589 (Cal. 1980); Hymowitz v. Eli Lilly & Co., 539 N.E.2d 1069, 1078 (N.Y. 1989).
104. Allen Rostron, *Beyond Market Share Liability: A Theory of Proportional Share Liability for Nonfungible Products*, 52 UCLA L. Rev. 151 (2004).
105. One could argue that each unit of CO_2 equivalent is roughly equivalent insofar as each unit causes approximately the same level of harm. However, GHG emissions expressed in CO_2 equivalent may not be perfectly fungible because the timing of the emission can influence the amount of harm caused. For example, a unit of CO_2 emitted recently may be viewed as having caused less damage than a unit of CO_2 emitted decades ago, since a time period of several decades is required for CO_2 to cause the bulk of its warming effect. On the other hand, one could argue that more recent emissions will cause more damage than earlier emissions because the scale of damage caused by global warming is not necessarily linear, and more recent emissions may push us toward a set of unavailable tipping points that cause greater damage.
106. *See, e.g.*, Complaint ¶ 7, City of Richmond v. Chevron Corp., No. C18-00055 (Cal. Super. Ct. filed Jan. 22, 2018); Complaint ¶ 7, County of Marin v. Chevron Corp., No. CIV1702586 (Cal. Super. Ct. filed July 17, 2017).
107. *See, e.g.*, Gorman v. Abbott Lab'ys, 599 A.2d 1364, 1364 (R.I. 1991); Skipworth by Williams v. Lead Indus. Ass'n, Inc., 690 A.2d 169, 172 (Pa. 1997).

substantial cause of the plaintiff's injury.[108] Plaintiffs may also be able to proceed with an alternative theory of collective liability, such as enterprise liability, which is based on wrongdoing by an industry viewed as a single enterprise, or concert of action (or "concerted action"), which may apply where multiple parties are engaged in a common plan or scheme to commit a tort.[109] Such theories are potentially applicable to the fossil fuel lawsuits in light of evidence that the defendants coordinated with each other to spread disinformation and delay action on climate change.[110]

II. Evidentiary Approaches in Other Public Deception Lawsuits

Beyond fossil fuel disinformation litigation, other legal contexts have featured plaintiffs pursuing tort and consumer protection claims against companies for misleading the public about the risks associated with their products. These cases provide valuable insights on the types of factual evidence and legal arguments that can be used to demonstrate a causal nexus between public deception and physical harm resulting from a dangerous product.

Some of the closest analogues to the fossil fuel disinformation cases are public nuisance and consumer protection lawsuits involving false and misleading advertisements for tobacco, lead paint, and opioids. The plaintiffs in these cases—primarily governments and health insurers—have focused on public deception as the source of the nuisance to distinguish their arguments from traditional product liability claims.[111] This strategy is not bulletproof, but has produced a number of major settlements with the defendant companies, as well as a handful of courtroom victories.

Causation has been a major point of contention in these cases. To prove that the defendants' false and misleading statements caused harm, plaintiffs must typically provide some evidence that the statements affected public perception and/or conduct. This is similar to the requirement to demonstrate reliance in a fraud action—however, plaintiffs do not necessarily need to present evidence of individual reliance on specific false statements in order to prevail on a public nuisance claim. Rather, courts may infer public reliance and other aspects of causation using multiple lines of evidence, including information about the scope and magnitude of the deceptive communications, the amount of money spent on these communications, the targeting of specific populations, internal assessments of the efficacy of the communications, acknowledgements of intended reliance made by defendants and their agents in depositions, expert testimony on the effects of disinformation, public polling data, and more.[112]

Granted, even with robust evidence of causation, plaintiffs might not prevail on public nuisance claims predicated on public deception for other reasons. Some courts still view these claims as an unreasonable expansion of the doctrine of public nuisance.[113] Courts have also dismissed these cases in jurisdictions that limit nuisance liability to situations where the defendant has direct control over a product at the time it causes harm.[114] But there are still many states where public nuisance claims predicated on public deception have been accepted by courts, or where the issue has not been addressed or resolved.[115]

This section focuses on the tobacco, lead paint, and opioid cases due to the clear parallels with the fossil fuel disinformation cases. It focuses on public nuisance claims, but also discusses strategies deployed in consumer protec-

108. *See, e.g.*, State ex rel. Lynch v. Lead Indus. Ass'n, No. CIV.A. 99-5226, 2005 WL 1331196, at *2 (R.I. Super. Ct. June 3, 2005) (holding that a public nuisance claim could proceed against lead paint manufactures "where it is claimed that each of the defendants through their own separate actions or conduct was a substantial cause of the massive public nuisance and harms and/or injuries resulting therefrom").

109. *See, e.g.*, City of New York v. Lead Indus. Ass'n, Inc., 190 A.D.2d 173, 177-78 (N.Y. App. Div. 1993):

> [I]f manufacturers cooperate to conceal product risk, and if the concealed risk subsequently causes injury, justice demands a remedy. The concert of action theory rests upon this equity to justify joint and several liability against any manufacturer that substantially contributes to an injury by coordinating activity with other manufacturers to conceal information.

110. *See, e.g.*, Christophe Bonneuil et al., *Early Warnings and Emerging Accountability: Total's Responses to Global Warming, 1971-2021*, 71 Glob. Env't Change 102386 (2021); Benjamin Franta, *Early Oil Industry Disinformation on Global Warming*, 30 Env't Pol. 663 (2021).

111. Prior to the tobacco, lead paint, and opioid cases, courts had rejected public nuisance claims that were comparable to strict liability claims of product defect. For example, in the 1980s, municipalities and schools unsuccessfully pursued public nuisance claims against asbestos manufacturers to recover the costs of removing asbestos from their facilities. Most of these cases were dismissed because courts held that the doctrine of public nuisance was not an appropriate vehicle for a traditional products liability action. *See, e.g.*, City of San Diego v. U.S. Gypsum Co., 35 Cal. Rptr. 2d 876, 882 (Cal. Ct. App. 1994) (the "City has essentially pleaded a products liability action, not a nuisance action"); Detroit Bd. of Educ. v. Celotex Corp., 493 N.W.2d 513, 520 (Mich. Ct. App. 1992) (the case was "clearly a products liability action"); Tioga Pub. Sch. Dist. No. 15 of Williams Cnty., State of North Dakota v. U.S. Gypsum Co., 984 F.2d 915, 921 (8th Cir. 1993) (rejecting nuisance claim as this "would give rise to a cause of action . . . regardless of the defendant's degree of culpability or the availability of other traditional tort law theories of recovery").

Several courts also asserted that a nuisance claim could not succeed because defendants did not have effective control over the product when the nuisance was created. *See, e.g.*, *Detroit Bd. of Educ.*, 493 N.W.2d 513 (holding that a nuisance claim would ultimately fail because defendants lacked control over the nuisance at the time of the injury); City of Manchester v. National Gypsum Co., 637 F. Supp. 646, 656 (D.R.I. 1986) (finding that defendants "no longer had the power to abate the nuisance" after manufacture and sale, and thus "a basic element of the tort of nuisance is absent"); *U.S. Gypsum Co.*, 984 F.2d 915 (holding that nuisance claim could not succeed because defendant was not in control of the product at the time the alleged nuisance was created).

112. It is reasonable and often necessary for courts to rely on logical inferences when evaluating causation in tort cases. *See* Elisabeth Lloyd & Theodore Shepherd, *Climate Change Attribution and Legal Contexts: Evidence and the Role of Storylines*, 167 Climatic Change 28 (2021) (explaining the scientific and legal legitimacy of using deductive reasoning to proceed from the general to the specific).

113. *See, e.g.*, State ex rel. Hunter v. Johnson & Johnson, 2021 OK 54, ¶ 8, 499 P.3d 719 (Okla. Nov. 9, 2021).

114. *See, e.g.*, State v. Lead Indus. Ass'n, Inc., 951 A.2d 428, 455, 38 ELR 20155 (R.I. 2008).

115. *See, e.g.*, County of Santa Clara v. Atlantic Richfield Co., 40 Cal. Rptr. 3d 313, 325 (Cal. Ct. App. 2006):

> Liability for nuisance [in California] does not hinge on whether the defendant owns, possesses or controls the property, nor on whether he is in a position to abate the nuisance; the critical question is whether the defendant created or assisted in the creation of the nuisance. While production of a defective product alone does not constitute a nuisance, a product manufacturer's more egregious conduct—such as promotion of a product with knowledge of the hazard that such use would create—may suffice.

tion, antitrust, and racketeering lawsuits involving those products due to the significant overlap in claims and evidentiary strategies. The section concludes by highlighting some additional considerations for failure-to-warn claims, since this cause of action has not featured as prominently in tobacco, lead paint, and opioid litigation.

A. *Public Nuisance and Related Claims*

1. Tobacco

In the 1990s, 40 state governments and various municipalities, health care insurers, and labor union insurers filed a series of lawsuits against tobacco companies, seeking compensation for expenses incurred as a result of the public health crisis created by tobacco products. Public nuisance was one of several legal theories pursued in these cost recovery cases; plaintiffs also alleged other torts and violations of consumer protection and antitrust statutes.[116]

The plaintiffs argued that the defendants had created a nuisance and violated other laws by intentionally spreading disinformation and misleading the public about the health effects of tobacco products, thus distinguishing their claims from previous product liability lawsuits that had not been successful.[117] This legal strategy was made possible by new evidence of the tobacco industry's efforts to conceal and misrepresent tobacco-related health concerns.[118] Plaintiffs used the process of legal discovery to amass millions of internal corporate documents demonstrating the companies' clear intent to mislead the public.[119]

In 1998, the attorneys general of 52 states and territories entered into a $246 billion settlement agreement with four of the largest tobacco companies, which required the companies to make annual payments to the states, regulated tobacco advertising and communications, dissolved some industry trade associations, and in return protected the companies from certain types of legal actions.[120] Because of the settlement, courts did not have an opportunity to rule on the merits of the public nuisance claims or other causes of action.[121] But it was clear that the evidence compiled by plaintiffs of intentional misrepresentation and concealment was critical to achieving the settlement.

The plaintiffs' evidentiary strategy in these cases was roughly the same regardless of the cause of action. Plaintiffs sought to establish causation by documenting the overall effect of the defendants' disinformation campaigns on the public, rather than demonstrating individual reliance on specific claims made by the defendants. This approach reflected the fact that plaintiffs were seeking to recover damages based on the cost of the public health response as opposed to individual injuries. They presented multiple lines of evidence indicating that the defendants' misleading advertisements had in fact encouraged the uptake and continued use of tobacco products. Some of this evidence was compiled from external sources.

For example, the state of Oklahoma pointed out that more than 3,000 children and teenagers began smoking every day as a result of tobacco company advertisements, based on a government survey of smokers.[122] The plaintiffs also uncovered internal corporate communications touting the success of their advertising and public relations campaigns. The state of Mississippi described how the industry had "congratulated itself on a brilliantly conceived and executed strategy to create doubt about the charge that cigarette smoking is deleterious to health without actually denying it," citing a 1962 memo in which industry actors discussed how they had successfully handled the "emergency" created by knowledge of the carcinogenic effects of their product.[123] Health insurers in California highlighted a confidential document called the "Forward Look Report," which described how tobacco companies' efforts to garner favorable press were succeeding, as well as an internal public relations report that discussed the progress that tobacco companies had made in combatting narratives about the harmful effects of their products.[124]

The plaintiffs also cited evidence of other ways in which the defendants' disinformation campaigns had affected public discourse and media coverage related to tobacco. For example, the state of Mississippi pointed out that tobacco companies had "caused the cancellation of press conferences [on the harmful effects of tobacco] . . . , actively and wrongfully suppressed the publication of reports concerning the dangers presented by cigarette smoking, attacked research linking smoking to disease, and threatened [scientific researchers]."[125]

116. Albert C. Lin, *Dodging Public Nuisance*, 11 U.C. Irvine L. Rev. 489 (2020); Donald G. Gifford, *Public Nuisance as a Mass Products Liability Tort*, 71 U. Cincinnati L. Rev. 741, 753 (2003).

117. *See, e.g.*, Complaint, Moore ex rel. State v. American Tobacco Co., No. 94-1429 (Miss. Ch. Ct. filed May 23, 1994). *See also* Gifford, *supra* note 116 (discussing unsuccessful product liability lawsuits filed against tobacco manufacturers).

118. Michael V. Ciresi et al., *Decades of Deceit: Document Discovery in the Minnesota Tobacco Litigation*, 25 Wm. Mitchell L. Rev. 477 (1999); Climate Accountability Institute & Union of Concerned Scientists, Establishing Accountability for Climate Change Damages: Lessons From Tobacco Control—Summary of the Workshop on Climate Accountability, Public Opinion, and Legal Strategies (2012). *See also* Richard D. Hurt et al., *Open Doorway to Truth: Legacy of the Minnesota Tobacco Trial*, 84 Mayo Clinic Proc. 446 (2009).

119. Ciresi et al., *supra* note 118.

120. National Association of Attorneys General, *The Master Settlement Agreement*, https://www.naag.org/our-work/naag-center-for-tobacco-and-public-health/the-master-settlement-agreement/ (last visited Oct. 6, 2022).

121. There is at least one case where a court dismissed a state public nuisance claim against a tobacco company due to a failure to plead essential allegations required by statute. Texas v. American Tobacco Co., 14 F. Supp. 2d 956, 973 (E.D. Tex. 1997) ("the State failed to plead that Defendants improperly used their own property, or that the State itself has been injured in its use or employment of its property").

122. State of Oklahoma's Memorandum in Opposition to Certain Defendants' Motion for Partial Summary Judgment Concerning Plaintiffs' Public Nuisance Claim at 7, State v. R.J. Reynolds Tobacco Co., No. CJ-96-1499 (Okla. Dist. Ct. filed June 29, 1998).

123. *Id.* ¶ 56.

124. *See, e.g.*, Complaint ¶¶ 61 & 65, Central Coast Tr. Fund v. Philip Morris, No. 998208 (Cal. Super. Ct. filed Sept. 30, 1998); Complaint ¶¶ 61 & 65, Joint Benefit Tr. v. Philip Morris, No. 799495-5 (Cal. Super. Ct. filed June 15, 1998).

125. Complaint ¶ 47, Moore ex rel. State v. American Tobacco Co., No. 94-1429 (Miss. Ch. Ct. filed May 23, 1994).

Although none of these cases reached final adjudication on the merits, the lawsuit filed by the state of Minnesota and Blue Cross (a health maintenance organization, or HMO)—which involved tort, consumer protection, antitrust, and equitable claims—did go to trial, and the Minnesota state courts issued several rulings on motions to dismiss and for summary judgment that addressed issues related to causation.[126] For their tort claim, the plaintiffs did not allege public nuisance, but rather that the defendants had "assumed a special responsibility and duty to render services for the protection of the public health and a duty to those who advance and protect the public health," through public reassurances and representations related to public health and tobacco use.[127]

The defendants sought to have the case dismissed on the grounds that both the state and the HMO plaintiff (Blue Cross) had no basis for filing a direct action, as opposed to a subrogation claim.[128] They also argued that Blue Cross lacked standing to sue because it had "passed through" its health care expenditures to subscribers through increased premiums.[129] The district court rejected these arguments, finding that both plaintiffs had direct causes of action against the defendants, that they had successfully pled the elements of their tort claim as well as the other statutory claims, and that Blue Cross did have standing to sue based on economic injury.[130]

The defendants appealed the portion of the ruling denying their motion to dismiss Blue Cross' claims. The Minnesota Supreme Court affirmed most aspects of the district court ruling, finding that Blue Cross had standing to bring its consumer protection, antitrust, and equitable claims.[131] However, it held that Blue Cross lacked standing with respect to its tort claim because its injury was "too remote" and "appear[ed] to derive from injuries to its consumers, the smokers."[132]

The defendants later filed a motion for summary judgment in which they disputed causation on the grounds that the plaintiffs were required to show individual reliance on specific fraudulent statements, and that plaintiffs could not establish causation based on the defendants' communications to the government (which they characterized as "government petitions" protected by the First Amendment).[133] The defendants also argued that the state of Minnesota was precluded from maintaining a direct tort claim because, like Blue Cross, the state's injury was "derivative of injuries to third parties" and "too remote" from the defendants' conduct.[134] The Minnesota District Court rejected all these arguments.

On the issue of derivative injury and tort liability, the court held that the state of Minnesota was situated differently than Blue Cross, because it was a public health authority (as opposed to a private insurer), and it was only "one step" removed from the defendants' conduct ("from the tobacco industry to the individual smokers to Minnesota").[135] Thus, the court found that the state's injury was not too remote as a matter of law. It also noted that the relief sought was "independent from that available to individual smokers," and thus a direct action was appropriate.[136] The court ultimately held that factual and proximate causation were issues of fact to be determined by the jury after presentation of evidence.[137]

The court issued a separate order ruling that the plaintiffs had presented sufficient evidence of causation to survive a motion for summary judgment.[138] On the issue of whether reliance must be proven, the court characterized the plaintiffs' claims as "those for which the legislature has expanded the connection between conduct and injury necessary to permit suit," and noted that the Minnesota consumer fraud statutes, for example, "are more liberal than common law fraud in that proof of reliance is not required."[139] The court did not draw a distinction between the plaintiffs' tort and statutory claims, and it allowed all claims to proceed to trial—thus, it did not find that individual reliance was a required element for the tort claim. In subsequent orders, the court stated that the conduct of individual smokers was largely irrelevant to the issues raised in the case,[140] and that the conduct of smokers was not a defense to any violations of the law by defendants.[141]

The court also rejected the defendants' argument that the plaintiffs could not establish causation based on misrepresentations or concealment made to legislators because these qualified as "government petitions" protected by the First Amendment. The court held that the issue whether

126. *See* State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565 (Minn. Dist. Ct. 1994); Gary L. Wilson & Jason A. Gillmer, *Minnesota's Tobacco Case: Recovering Damages Without Individual Proof of Reliance Under Minnesota's Consumer Protection Statutes*, 24 Wm. Mitchell L. Rev. 569 (1999).
127. Complaint ¶ 85, State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565 (Minn. Dist. Ct. undated).
128. Wilson & Gillmer, *supra* note 126, at 572.
129. State ex rel. Humphrey v. Philip Morris, Inc., No. C1-94-8565, 1995 WL 1937124, at *2 (Minn. Dist. Ct. May 19, 1995).
130. *Id.* at *5.
131. State by Humphrey v. Philip Morris Inc., 551 N.W.2d 490 (Minn. 1996).
132. *Id.* at 495.
133. Memorandum in Support of Defendants' Consolidated Motion for Partial Summary Judgment Based on Plaintiffs' Inability to Prove Causation or Damages and Based on Defendants' Right to Petition Government at 1-3, State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565 (Minn. Dist. Ct. Oct. 21, 1997).
134. Memorandum of Points and Authorities in Support of Defendants' Consolidated Motion for Summary Judgment Against Plaintiffs' Nonstatutory Claims (Counts One, Eight, and Nine) at 1, State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565 (Minn. Dist. Ct. Oct. 21, 1997).
135. Order Denying Defendants' Consolidated Motion for Summary Judgment Against Plaintiffs' Nonstatutory Claims (Counts 1, 8, and 9), State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565, slip op. at 2-3 (Minn. Dist. Ct. Jan. 26, 1998).
136. *Id.* at 3.
137. *Id.* at 2.
138. Order Denying Defendants' Consolidated Motion for Partial Summary Judgment Based on Plaintiffs' Inability to Prove Causation or Damages and Based on Defendants' Right to Petition the Government, State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565 (Minn. Dist. Ct. Feb. 19, 1998).
139. *Id.* at 7.
140. Wilson & Gillmer, *supra* note 126, at 575. Order Granting in Part and Denying in Part Plaintiffs' Motion for Summary Judgment Dismissing Defendants' Affirmative Defenses Based Upon Conduct of Individual Smokers, State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565, slip op. at 3 (Minn. Dist. Ct. Jan. 27, 1998).
141. Wilson & Gillmer, *supra* note 126, at 575. Transcript of Proceedings at 15643-44, State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565 (Minn. Dist. Ct. May 6, 1998).

such misrepresentations or concealment had occurred was a question of fact for the jury, and that such communications were not necessarily protected under the First Amendment as a matter of law.[142]

In its order denying summary judgment, the court noted that the plaintiffs had compiled an "exhaustive" factual record that included evidence that the defendant companies had intentionally misled the public about the risks of smoking, targeted vulnerable groups including youth with their communications, intended for these communications to be relied upon, and acknowledged the effectiveness of these communications in the industry's own internal documents.[143] This evidence was compiled from a combination of documentary evidence (including internal corporate communications) and expert testimony.

For example, plaintiffs enlisted a behavioral scientist who testified that tobacco company advertisements made smoking a "functional and rewarding behavior to some adolescents," and that the industry's targeting of youth had been a "substantial contributing factor" in causing young people to begin smoking.[144] Thus, through multiple lines of evidence, the plaintiffs showed that the industry's actions were deceptive, caused consumers to start or continue smoking, and substantially contributed to the costs borne by the state and health insurers. The case settled after the close of evidence and before the jury had an opportunity to render findings, but the outcome suggests that the plaintiffs' narrative and evidentiary strategy was effective.

The U.S. Department of Justice relied on similar evidence in obtaining a verdict against tobacco companies in *United States v. Philip Morris Inc.*[145] In 2006, the U.S. District Court for the District of Columbia issued a landmark decision finding that tobacco companies had violated RICO by engaging in a conspiracy to deceive the American public about the health effects of smoking.[146] Although this was a racketeering case, it provides insight on how courts may evaluate the effect of false and misleading statements on public perception in other contexts.

When addressing causation, the U.S. government argued that proof of individual reliance was not required because courts could "find reliance based on circumstantial evidence, reasonable inferences, expert testimony, and various other types of evidence."[147] To establish a reasonable inference of causation, the government provided (1) evidence that the defendants intended consumers to rely on the industry's messaging (e.g., by spending large amounts of money on messaging campaigns and employing advertising agencies and public relations firms to refine their messaging); (2) expert testimony that consumers relied on tobacco messaging; (3) defendants' admissions of reliance in depositions and other proceedings; and (4) examples of industry marketing to youth.[148] The U.S. government also cited other cases holding that courts may infer defendants' profits were causally related to deceptive or false statements when those statements were made intentionally.[149]

In a nearly 1,700-page opinion, U.S. District Court Judge Gladys Kessler found for the United States on nearly all issues presented. The court found defendants had falsely denied the adverse health effects of smoking and that nicotine and smoking are addictive, manipulated cigarette design and composition in order to assure nicotine delivery sufficient to create and sustain addiction, falsely represented light and low-tar cigarettes as less harmful than "full flavor" cigarettes, falsely denied the industry had marketed to youth, falsely denied that environmental tobacco smoke (secondhand smoke) causes disease, and suppressed documents, information, and research.[150] The court also spent considerable time discussing how the industry had weaponized and selectively funded scientific research in order to distract from the central truths of tobacco, create false controversy, and cultivate public trust, and how the industry's research activities and funding were often directed by the industry's lawyers.[151]

The court held that *Noerr-Pennington*, and the First Amendment more broadly, did not protect the defendants' false and misleading public statements, because "Noerr-Pennington protects only those . . . statements made in the course of petitioning the legislature; it does not immunize statements made with the purpose of influencing smokers, potential smokers, and the general public."[152] The court found that the industry acted with the specific intent to deceive and that its statements were material.[153] The court also rejected the industry's argument that its statements were merely "opinions" held in good faith, since they demonstrably contradicted the industry's internal understanding and because the falsity of the industry's state-

142. Order Denying Defendants' Consolidated Motion for Partial Summary Judgment Based on Plaintiffs' Inability to Prove Causation or Damages and Based on Defendants' Right to Petition the Government at 7, State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565 (Minn. Dist. Ct. Feb. 19, 1998).

143. *Id.* at 4-6. *See also* Wilson & Gillmer, *supra* note 126, at 608-24.

144. Order Denying Defendants' Consolidated Motion for Partial Summary Judgment Based on Plaintiffs' Inability to Prove Causation or Damages and Based on Defendants' Right to Petition the Government at 6, State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565 (Minn. Dist. Ct. Feb. 19, 1998); Wilson & Gillmer, *supra* note 126, at 621 (citing Expert Report of Dr. Cheryl L. Perry, Ph.D., at 7, State ex rel. Humphrey v. Philip Morris Inc., No. C1-94-8565 (Minn. Dist. Ct. undated)).

145. 449 F. Supp. 2d 1 (D.D.C. 2006), *aff'd in part, vacated in part*, 566 F.3d 1095 (D.C. Cir. 2009), *and order clarified*, 778 F. Supp. 2d 8 (D.D.C. 2011).

146. *Id.*

147. United States' Final Proposed Conclusions of Law (Vol. One) at 146, United States v. Philip Morris USA, Inc., 449 F. Supp. 2d 1 (D.D.C. 2006) (No. 1:99-cv-02496-GK). The U.S. government also argued that reliance was not required as a general matter for disgorgement, because the purpose of disgorgement is not to compensate the injured party, but to deprive a wrongdoer of unjust enrichment and to deter future similar behavior. *Id.* at 143-46.

148. *Id.* at 146-68.

149. *Id.*

150. *See* Final Amended Opinion at 1498-527, United States v. Philip Morris USA, Inc., No. 1:99-cv-02496-GK (D.D.C. Aug. 17, 2006), https://www.justice.gov/sites/default/files/civil/legacy/2014/09/11/amended%20opinion_0.pdf.

151. *Id.* at 26-212.

152. *Id.* at 1562. The court did find that statements made by defendants to a congressional subcommittee were protected. *Id.* at 1564.

153. *Id.* at 1571-87.

ments could be proved using information available at the time the statements were made.[154]

Regarding causation, the court focused its analysis on the materiality of the defendants' statements.[155] Ultimately, the court rejected defendants' argument that no reasonably prudent consumer would have relied on the industry's representations, noting that defendants had intentionally occupied a prominent position in the public discourse regarding smoking and disease, spent millions of dollars in advertising every year, and made statements with the intent to influence and mislead (as shown by the industry's internal marketing documents).[156] Moreover, the court found that the correct legal standard for assessing materiality was not whether a "reasonable" consumer would have relied upon the industry's statements, but rather whether *any* consumers of tobacco products were likely to rely upon the industry's statements.[157]

Perhaps because the ultimate remedies in the case were injunctive rather than monetary, the court did not enter into an analysis of the degree to which smokers relied on the defendants' statements, nor did it attempt to quantify damages flowing from reliance. Rather, the court used multiple lines of evidence, along with reasonable common sense, to infer broad reliance by consumers on the industry's statements and to find those statements material to consumer choices.

Judge Kessler's decision in *United States v. Philip Morris Inc.* provides a compelling example of how courts can infer public reliance and causation in cases involving disinformation. However, it remains unclear to what extent the standards of causation utilized in cases involving consumer protection and antitrust statutes like RICO may apply to public nuisance and failure-to-warn claims. Plaintiffs must also establish proximate cause for tort claims. As illustrated in the Minnesota tobacco litigation, some courts may interpret this as barring tort claims based on "derivative" injury, but this may depend on the plaintiff and its relationship to the defendant.[158]

In addition, many courts have recognized a distinction between the "strict" requirement to establish individual reliance for common-law fraud and misrepresentation claims and the more "relaxed" causation requirements for statutory consumer protection and antitrust claims.[159] It is well established that proof of individual reliance is not required under statutes such as RICO, the Federal Trade Commission Act, and the Lanham Act, as it is not practical to show individual reliance in actions involving the deception of large groups of consumers.[160] Under those laws, a presumption of reliance may be drawn where there is proof of intentional deception.[161] Similarly, state courts have also recognized relaxed causation requirements for claims filed under state consumer protection and antitrust laws.

For example, in a subsequent ruling on Blue Cross' statutory claims against tobacco companies, the Minnesota Supreme Court held that Blue Cross could satisfy the causation element under Minnesota fraud and antitrust statutes with circumstantial evidence establishing the general impact of tobacco companies' wrongful conduct on the sale and consumption of tobacco products, and that a "direct showing of causation, as would be required at common law," was not required.[162] The court explained:

> [I]n cases such as this, where the plaintiffs' damages are alleged to be caused by a lengthy course of prohibited conduct that affected a large number of consumers, the showing of reliance that must be made to prove a causal nexus need not include direct evidence of reliance by individual consumers of defendants' products. Rather, the causal nexus and its reliance component may be established by other direct or circumstantial evidence that the district court determines is relevant and probative as to the relationship between the claimed damages and the alleged prohibited conduct. Further, in the context of the certified question, we reject the view expressed in two federal court decisions that our misrepresentation in sales laws require proof of individual reliance in all actions seeking damages. . . . To impose a requirement of proof of individual reliance in the guise of causation would reinstate the strict common law reliance standard that we have concluded the legislature meant to lower for these statutory actions.[163]

The U.S. Court of Appeals for the Eighth Circuit affirmed, finding that HMOs had provided evidence "sufficient to raise an inference that harm has in fact been caused" through circumstantial proof, including expert testimony and studies, on the effects of tobacco advertising and disinformation. However, the Eighth Circuit also found that the total health care costs attributable to smoking incurred by HMOs was not an acceptable estimate of damages caused by tobacco companies, because only a por-

154. *Id.* at 1502-03.
155. *Id.* at 1583-86.
156. *Id.*
157. *Id.* at 1586.
158. Note that when the Minnesota Supreme Court denied standing to Blue Cross to pursue its tort claim against tobacco companies, the court did not explicitly characterize the issue as a failure to show proximate cause, but rather a failure to establish a duty of care. *See* State by Humphrey v. Philip Morris Inc., 551 N.W.2d 490, 493-94 (Minn. 1996). However, the issue of proximate cause can be inferred based on the court's analysis of whether the injury was "too remote" and its reliance on precedent dealing with proximate cause. *Id.* at 495 (citing Northern States Contracting Co. v. Oakes, 253 N.W. 371 (Minn. 1934)). The issues of proximate cause and duty are often intertwined in tort cases. *See* Mark A. Geistfeld, *Proximate Cause Untangled*, 80 Md. L. Rev. 420 (2021).
159. *See, e.g.*, Gregg v. Ameriprise Fin., Inc., 245 A.3d 637, 650 (Pa. 2021); Stutman v. Chemical Bank, 731 N.E.2d 608, 612 (N.Y. 2000).
160. *See, e.g.*, Federal Trade Comm'n v. Figgie Int'l, Inc., 994 F.2d 595, 605 (9th Cir. 1993) ("It is well established" that under the FTC Act, "proof of individual reliance by each purchasing customer is not needed."); Federal Trade Comm'n v. Brown & Williamson Tobacco Corp., 778 F.2d 35, 39-40 (D.C. Cir. 1985) (empirical evidence of individual reliance on deception is not required for FTC claim). *See also* Wilson & Gillmer, *supra* note 126.
161. *See* Wilson & Gillmer, *supra* note 126, at 598-604 (discussing this presumption in the context of FTC and Lanham Act cases).
162. Group Health Plan, Inc. v. Philip Morris Inc., 621 N.W.2d 2, 14-15 (Minn. 2001).
163. *Id.*

tion of those costs could actually be attributed to fraudulent statements.[164]

Although nuisance is a common-law tort, there is a sound rationale for not requiring direct evidence of individual reliance in cases alleging that a defendant has created a public nuisance through deceptive practices aimed at misleading the broad public. These public nuisance lawsuits differ substantially from a typical common-law fraud claim: the plaintiffs do not allege that they relied on a particular false statement to their detriment, but rather that they have suffered an injury due to the effects of disinformation on the public. In such cases, a court could reasonably infer reliance from circumstantial evidence of the efficacy of defendants' disinformation efforts, as Judge Kessler did in *United States v. Philip Morris Inc*. As discussed below, California courts have accepted public nuisance claims without evidence of individual reliance in a public nuisance lawsuit filed against lead paint manufacturers.

2. Lead Paint

In the early 2000s, local governments in various jurisdictions and the state of Rhode Island filed public nuisance claims against lead paint manufacturers, seeking to recover costs associated with the removal of old lead paint from homes and other buildings, the provision of medical care for residents affected by lead poisoning, and the development of programs to educate the public about the dangers of lead paint. As with the tobacco cases, the plaintiffs focused on the companies' wrongful promotion of and failure to disclose risks associated with their product as the conduct giving rise to the nuisance. After many years of litigation, plaintiffs in California managed to secure a verdict against lead paint companies, but plaintiffs in other jurisdictions have not yet succeeded with public nuisance claims.[165]

Some courts have dismissed these cases on the grounds that plaintiffs have raised traditional product liability claims that should not be treated as public nuisance claims,[166] and that the manufacturers were not in effective control of the premises where the lead paint was applied.[167] On at least two occasions, courts found in favor of the defendants due to lack of causation, specifically because the courts did not accept a market-share theory of liability, and municipal plaintiffs had failed to demonstrate that it was the defendant's specific lead paint product for which the city had incurred abatement costs.[168] One case resulted in a verdict favorable to the defendants because there was credible evidence that the manufacturer did not know that the public nuisance was resulting or substantially certain to result from its conduct.[169]

The California litigation illustrates how some plaintiffs were able to establish an adequate causal nexus between the conduct of lead paint manufacturers and the abatement costs incurred by plaintiffs. As a threshold issue, a California appellate court held that plaintiffs had properly pleaded public nuisance claims since they were seeking abatement of a hazard created by the affirmative and knowing promotion of lead paint for interior use, not the mere manufacture and distribution of lead paint or a failure to warn of its hazards.[170] The court also rejected defendants' arguments that they lacked the ability to abate the nuisance because they did not own or control the buildings in which the lead paint is located.[171]

During a bench trial, the reviewing court articulated the following key principles:

1. The plaintiffs did not have to identify the specific location of a nuisance or a specific product sold by defendants.
2. The plaintiffs did not need to prove reliance, since "reliance is not an element of public nuisance claims."
3. There was no intervening or superseding cause excusing the companies from liability.
4. The *Noerr-Pennington* doctrine did not apply.[172]

---

164. Group Health Plan, Inc. v. Philip Morris USA, Inc., 344 F.3d 753, 763 (8th Cir. 2003):
> Our ruling on the HMOs' damages claims was bottomed on the utter absence of evidence on the amount of damages, but that does not mean that the record is devoid of evidence supporting the fact of damage itself. Indeed, we believe that the record contains a mountain of evidence tending to show that advertising generally causes people to begin smoking and causes current smokers to smoke more, which increases costs for the HMOs. If one concedes that a portion of the advertising was fraudulent, which Tobacco has done for the purposes of this motion, a reasonable person could infer that that fraudulent portion caused a part of those costs, even if the HMOs' participants differed slightly from the populations used to study the effect of advertising generally on the prevalence of smoking. In other words, although the evidence in the case is, as we have said, insufficient to allow a factfinder to arrive at a reasonable estimate of the extent of harm caused, we hold that it was sufficient to raise an inference that harm has in fact been caused.

165. Lin, *supra* note 116.

166. *See, e.g.*, In re Lead Paint Litig., 924 A.2d 484, 505 (N.J. 2007):
> Even less support exists for the notion that the Legislature intended to permit these plaintiffs to supplant an ordinary product liability claim with a separate cause of action as to which there are apparently no bounds. We cannot help but agree with the observation that, were we to find a cause of action here, "nuisance law 'would become a monster that would devour in one gulp the entire law of tort.'"

State v. Lead Indus. Ass'n, Inc., 951 A.2d 428, 456, 38 ELR 20155 (R.I. 2008) ("the proper means of commencing a lawsuit against a manufacturer of lead pigments for the sale of an unsafe product is a products liability action"). *See also* Matthew R. Watson, *Venturing Into the "Impenetrable Jungle": How California's Expansive Public Nuisance Doctrine May Result in an Unprecedented Judgment Against the Lead Paint Industry in the Case of* County of Santa Clara v. Atlantic Richfield Company, 15 Roger Williams U. L. Rev. 612, 613-14 (2010).

167. *See, e.g.*, *Lead Indus. Ass'n, Inc.*, 951 A.2d at 455 ("there was no set of facts alleged in the state's complaint that, even if proven, could have demonstrated that . . . defendants had control over the product causing the alleged nuisance at the time children were injured").

168. City of St. Louis v. Benjamin Moore & Co., 226 S.W.3d 110 (Mo. 2007); City of Chicago v. American Cyanamid Co., 823 N.E.2d 126, 133 (Ill. App. Ct. 2005).

169. City of Milwaukee v. NL Indus., 2008 WI App 181, 315 Wis. 2d 443, 762 N.W.2d 757.

170. County of Santa Clara v. Atlantic Richfield Co., 40 Cal. Rptr. 3d 313, 328 (Cal. Ct. App. 2006):
> A *representative* public nuisance cause of action seeking *abatement* of a hazard created by affirmative and knowing *promotion of a product for a hazardous use* is *not* "essentially" a products liability action "in the guise of a nuisance action" and does not threaten to permit public nuisance to "become a monster that would devour in one gulp the entire law of tort. . . ."

People v. Atlantic Richfield Co., No. 100CV788657, 2014 WL 1385823, at *6 (Cal. Super. Ct. Mar. 26, 2014).

171. *Atlantic Richfield Co.*, 40 Cal. Rptr. 3d at 330.

172. *Atlantic Richfield Co.*, 2014 WL 1385823, at *44.

Because the court held that plaintiffs did not need to prove reliance, the court focused on the defendants' conduct in its discussion of causation. The court discussed the content of advertisements that recommended the use of lead paint in homes,[173] and the fact that these advertisements targeted ordinary consumers as well as painters, tradespeople, and paint manufacturers.[174]

The court also discussed findings from historical experts regarding the number of advertisements that each defendant company had used to promote lead paint between 1900 and 1972, and examples of specific campaigns used to sustain, increase, and prolong the use of lead paint.[175] The court also cited evidence that lead paint had been sold to California companies for home use in the jurisdictions where claims had been filed,[176] and that the defendants continued to market lead paint products despite the fact that safer alternatives were available.[177] Because the court had found that it was not necessary to prove individual reliance on the ads, this evidence was sufficient to satisfy the "substantial factor" causation test under California state law.[178]

The trial court thus found that the defendant companies had created a public nuisance, and issued an order requiring them to pay $1.15 billion to fund lead paint abatement, remediation, and education activities. In 2017, a California court of appeal upheld the trial court's determination that manufacturers were liable for creating a public nuisance in 10 cities and counties.[179] The court rejected defendants' argument that the harms of lead paint were "too attenuated" from the wrongful promotion of lead paint, finding:

> Those who were influenced by the promotions to use lead paint on residential interiors in the 10 jurisdictions were the single conduit between defendants' actions and the current hazard. Under these circumstances, the trial court could have reasonably concluded that defendants' promotions, which were a substantial factor in creating the current hazard, were not too remote to be considered a legal cause of the current hazard even if the actions of others in response to those promotions and the passive neglect of owners also played a causal role. The court could therefore have concluded that defendants' promotions were the "legal cause" of the current nuisance.[180]

In addition, the court concluded that it was possible, based on the facts presented, for the trial court to draw a reasonable inference of harm—specifically, that at least some customers had relied on manufacturers' marketing campaigns in which they promoted the use of lead paint in homes and failed to warn the public of its dangers.[181]

However, the court limited the judgment to homes built before 1951, because it found that there was insufficient evidence to support causation after 1950. The plaintiffs had claimed that the defendants' wrongful promotions "sustained, increased, and prolonged the use of lead paint in homes throughout the 20th century," and it could therefore be "inferred" that the promotions contributed to the continued use of lead paint for interior use beyond 1950.[182] But the court found that the plaintiffs "did not produce any evidence of an affirmative promotion . . . of lead paint for interior residential use after 1950."[183] Thus, the court held that this inference was not supported by the factual record.

The court addressed two other critical issues. First, the court held that it was unnecessary for plaintiffs to present proof that paint from each of the defendants was actually located in houses within their respective jurisdictions. The court explained:

> Defendants are liable for promoting lead paint for interior residential use. To the extent that this promotion caused lead paint to be used on residential interiors, the identity of the manufacturer of that lead paint is irrelevant. Indeed, the [Lead Industries Association]'s promotions did not refer to any manufacturer of lead paint, but were generic. What matters is whether defendants' promotions were a substantial factor in leading to the use of lead paint on residential interiors. Substantial evidence supports the court's causation finding on that basis.[184]

Second, the court rejected defendants' assertion that they could not be held liable except in proportion to their individual contributions to the creation of a public nuisance. The court held that "proportionality is not a causation issue," and that "defendants may be held liable for a public nuisance that they assisted in creating if their wrongful promotions were a substantial factor in the creation of that public nuisance."[185] Thus, while proportionate liability was "something that the defendants may be able to determine by means of litigation between themselves," it was not necessary for the remediation plan to apportion liability between them.[186]

The defendants appealed this decision, in part arguing that it was unlawful to extend public nuisance liability

173. *Id.* at **18-19:
> Defendants' promotions included, among other things, ads (1) explicitly telling consumers to use lead paint on their homes; (2) telling consumers to use specific paints or lines of paint that contained lead without mentioning that those paints contained lead; (3) directing consumers to stores where brochures featuring lead paint were provided to customers; and (4) promoting "full line" dealers of the Defendant's paint, including the Defendant's lead paint.

174. *Id.*
175. *Id.* at **19-20, 24.
176. *Id.* at **21-24.
177. *Id.* at *24.
178. *Id.* at *56.
179. People v. ConAgra Grocery Prods. Co., 17 Cal. App. 5th 51 (2017).
180. *Id.* at 104.
181. *Id.* at 103:
> Further, NL [Industries] and Fuller, by explicitly instructing consumers to use their lead paints on residential interiors, played an even more direct role in causing lead paint to be used in such a manner. Again, the trial court could reasonably infer that at least some of those who were the targets of these recommendations heeded them. That is all that the substantial factor test requires.

182. *Id.* at 105.
183. *Id.*
184. *Id.* at 108.
185. *Id.*
186. *Id.*

without sufficient proof of causation and reliance. In 2018, both the California Supreme Court and the U.S. Supreme Court rejected the petition for review.[187]

The California lead paint litigation thus suggests that the plaintiffs in fossil fuel cases may be able to satisfy causation without direct evidence of reliance, at least insofar as the facts support a reasonable inference that at least some parties relied on false and misleading statements. It also suggests that the plaintiffs may be able to satisfy causation by assigning responsibility for increased fossil fuel use nationwide, or even globally, to defendants' alleged disinformation, and not only for defendants' branded advertising for their own products.

However, courts may reject an inference of causation in some circumstances. In a recent California decision involving the wrongful promotion of opioids, discussed below, the court rejected an inference of causation because the plaintiffs had failed to delineate the extent to which the defendant's advertisements had contributed to medically inappropriate prescriptions of opioids (as opposed to medically necessary prescriptions).[188] It is also unclear to what extent other jurisdictions would follow the example set by California courts, since California appears to have adopted a more expansive interpretation of public nuisance than many other jurisdictions.[189]

3. Opioids

Building on lessons learned from tobacco and lead paint litigation, many states and local governments have filed public nuisance lawsuits against pharmaceutical companies for the wrongful promotion of opioids, seeking reimbursement for government costs incurred as a result of the opioid epidemic. In 2017 alone, more than 100 lawsuits were filed against these companies, resulting in the creation of a federal multidistrict litigation (MDL) in the Northern District of Ohio.[190] These lawsuits allege that the defendant companies created a public nuisance by overstating the benefits and downplaying the risks of opioid products.

Although most of the lawsuits are still in process, there are some early decisions. Several courts have dismissed cases or issued verdicts in favor of the defendant companies due to judicial determinations that the plaintiffs could not or did not prove causation. A district court in North Dakota dismissed the state's public nuisance and consumer protection claims, holding that (1) the state could not prevail with a public nuisance claim because the opioid manufacturer was not in control of the opioids at the time they were prescribed and then used by patients; and (2) the state had not submitted adequate evidence of causation to support its consumer protection claim.[191]

With regard to the causation issue, the court noted that "a generalized 'fraud-on-the-market' theory does not suffice to establish causation" for claims involving fraudulent or deceptive pharmaceutical marketing (based on precedent within the state), and that the state had "fail[ed] to identify which losses occurred by means of—i.e., because of—any specific alleged deception or misrepresentation" on the part of the defendant.[192] For example, the state had "not identif[ied] any North Dakota doctor who ever received any specific purported misrepresentation made by Purdue, or who wrote a medically unnecessary prescription because of those alleged statements."[193] According to the court, the state needed to demonstrate at least some instance of specific causation or individual reliance even though this cause of action arose under the state Consumer Fraud Act as opposed to a common-law tort doctrine.

In other opioid lawsuits, plaintiffs have provided more specific evidence of causation and reliance on the part of doctors. The public nuisance lawsuit filed by the state of Oklahoma is illustrative. The state provided multiple lines of evidence to demonstrate the effect of marketing practices on opioid prescriptions and use, including:

- Expert testimony from doctors who testified that "the multifaceted marketing misinformation campaign by the opioid industry, including Defendants, influenced their practices and caused them to liberally and aggressively write opioid prescriptions they would never write today"[194]

- Expert testimony from medical professionals attesting to the fact that "[t]he increase in opioid addiction and overdose deaths following the parallel increase in opioid sales in Oklahoma was not a coincidence; these variables were 'causally linked'"; and that "the increase in opioid overdose deaths and opioid addiction treatment admissions in Oklahoma was caused by the oversupply of opioids through increased opioid sales and overprescribing since the late 1990s"[195]

- Expert testimony of a health commissioner who testified that "the oversupply and 'significant widespread rapid increase in the sale of opioid prescription medications' beginning in the mid-1990s caused the 'significant rise in opioid overdose deaths' and 'negative consequences' associated with opioid use, including addiction, opioid use disorder, the rise in NAS [neonatal abstinence syndrome], and children entering the child welfare system"[196]

187. ConAgra Grocery Prods. v. California, No. 18-84, *cert. denied*, 2018 WL 3477388 (U.S. Oct. 15, 2018); Sherwin-Williams Co. v. California, No. 18-86, *cert. denied*, 2018 WL 3477401 (U.S. Oct. 15, 2018).
188. *See infra* notes 200-02 and accompanying text (discussing State v. Purdue, No. 30-2014-00725287-CU-BT-CXC (Cal. Super. Ct. Nov. 1, 2021)).
189. Watson, *supra* note 166, at 614.
190. In re Nat'l Prescription Opiate Litig., MDL No. 2804 (N.D. Ohio filed Sept. 25, 2017).
191. State ex rel. Stenehjem v. Purdue Pharma L.P., No. 08-2018-CV-01300, 2019 WL 2245743, at *13 (N.D. Dist. Ct. May 10, 2019).
192. *Id.* at *10.
193. *Id.*
194. State v. Purdue Pharma LP, No. CJ-2017-816, 2019 WL 4019929, at *9 (Okla. Dist. Ct. Aug. 26, 2019).
195. *Id.*
196. *Id.* at *10.

- A report from the President's Commission on Combating Drug Addiction and the Opioid Crisis, which found that "contributors to the current crisis" included "the use of the Porter & Jick letter" by pharmaceutical companies to make "unsubstantiated claims"; the lack of "[h]igh quality evidence demonstrating that opioids can be used safely for chronic non-terminal pain"; the use of the phrase "pain as the fifth vital sign," by the American Pain Society, the Joint Commission on Accreditation of Healthcare Organizations, and others; and the fact that, "[t]o this day, the opioid pharmaceutical industry influences the nation's response to the crisis. For example, during the comment phase of the guideline developed by the [Centers for Disease Control and Prevention] for pain management, opposition to the guideline was more common among organizations with funding from opioid manufacturers than those without funding from the life sciences industry"[197]

The state also persuaded the trial court that there were no superseding causes that would defeat a finding of direct and proximate cause.[198]

As the case was headed to trial, the state of Oklahoma secured a $270 million settlement with Purdue and an $85 million settlement with Teva. In 2019, the trial court issued a $465 million verdict in favor of the state against Johnson & Johnson, but the verdict was overturned on appeal. The Oklahoma Supreme Court held that "the district court's expansion of public nuisance law went too far," and that the public nuisance doctrine "did not extend to the manufacturing, marketing, and selling of prescription opioids."[199] Thus, the Oklahoma verdict was dismissed due to judicially imposed limitations on the scope of public nuisance law, rather than any deficiency in the plaintiff's causation arguments.

In California, where courts have interpreted public nuisance more expansively, a trial court recently issued a verdict in favor of defendants in a public nuisance lawsuit due to plaintiffs' failure to show causation. The court held that only medically inappropriate opioid prescriptions would constitute an actionable public nuisance, and that plaintiffs had presented "no evidence to identify the existence or volume of medically inappropriate prescriptions caused by Defendants' allegedly improper marketing," as would be necessary to determine whether defendants' contribution to the nuisance was "negligible or theoretical" as required under California's substantial factor test.[200]

The court rejected the idea that a rise in medically inappropriate prescriptions could be inferred from an overall rise in prescriptions. It also rejected plaintiffs' reliance on *People v. ConAgra Grocery Products Co.* (the lead paint verdict) in support of their arguments concerning aggregate proof as it relates to causation. It distinguished *ConAgra* on the grounds that it "dealt with a product, lead paint, that had no appropriate indoor use and therefore there was no reason for the court there to distinguish between marketing and promotion resulting in proper versus improper uses."[201]

The court did acknowledge California precedent holding that "causation may in many instances be inferred from evidence that does not constitute direct evidence of reliance on an individual basis" and noted that, in the present case:

> Plaintiffs could have shown, or at least attempted to show, that Defendants' marketing and promotion caused health care providers to write medically inappropriate prescriptions. Plaintiffs could have shown, or at least attempted to show, singly or in the aggregate how many medically inappropriate opioid prescriptions were written, and the correlation between those numbers, and/or the increase in those numbers, and Defendants' marketing efforts.[202]

Thus, although the court found in favor of defendants, the decision did not foreclose future public nuisance claims against opioid manufacturers. A similar lawsuit filed by the city of San Francisco recently proceeded to trial after the court held that plaintiffs had alleged adequate evidence of causation for their nuisance claim to support standing,[203] and several of the defendants subsequently settled with the city.[204] Across the country, defendant companies have entered into numerous settlements totaling tens of billions of dollars, indicating that the defendants are concerned enough about these cases to avoid trial.[205]

There are several key takeaways from the opioid litigation. First, what qualifies as a "reasonable inference" of reliance or causation depends, in large part, on the circumstances of the case and the nature of the harmful product giving rise to the nuisance. Plaintiffs may need to make more specific arguments about causation when dealing with a product for which there are both "appropriate" and "inappropriate" uses. Second, plaintiffs should aim to provide as much evidence as possible—even if indirect and circumstantial—to support causation claims even in juris-

197. *Id.*
198. *Id.* at *14 ("To rise to the magnitude of a supervening cause, which will insulate the original actor from liability, the new cause must be (1) independent of the original act, (2) adequate of itself to bring about the result and (3) one whose occurrence was not reasonably foreseeable to the original actor.").
199. State ex rel. Hunter v. Johnson & Johnson, 2021 OK 54, ¶ 2, 499 P.3d 719, 721 (Okla. Nov. 9, 2021).
200. State v. Purdue, No. 30-2014-00725287-CU-BT-CXC (Cal. Super. Ct. Nov. 1, 2021).
201. *Id.* at *17.
202. *Id.* at *18.
203. City & Cnty. of San Francisco v. Purdue Pharma L.P., 491 F. Supp. 3d 610 (N.D. Cal. 2020).
204. *See San Francisco Reaches $54M Settlement in Opioid Litigation With Allergan and Teva*, A.B.A. News (July 15, 2022), https://www.americanbar.org/groups/health_law/section-news/2022/july/sf-reaches-54m-settlement-in-opioid-litigation/; Dietrich Knauth, *San Francisco Reaches $10 Million Settlement With Endo Ahead of Trial*, Reuters (Apr. 20, 2022), https://www.reuters.com/legal/litigation/san-francisco-reaches-10-million-opioid-settlement-with-endo-ahead-trial-2022-04-20/.
205. *See, e.g.*, Brian Mann, *4 U.S. Companies Will Pay $26 Billion to Settle Claims They Fueled the Opioid Crisis*, NPR (Feb. 25, 2022), https://www.npr.org/2022/02/25/1082901958/opioid-settlement-johnson-26-billion.

dictions like California where the standards for establishing causation are more relaxed. Third, although "individual reliance" is not an element of public nuisance claims, testimony of individual reliance can be used to demonstrate causation and may be necessary in some contexts.

B. *Failure-to-Warn Claims*

The foregoing discussion of tobacco, lead paint, and opioid litigation focuses on public nuisance and related consumer protection actions that most closely resemble the tort lawsuits filed against fossil fuel companies. In many cases, failure-to-warn claims involving these products have been preempted by federal labeling requirements.[206] Most of these failure-to-warn actions have also differed substantially from the fossil fuel cases insofar as plaintiffs were injured consumers rather than affected third parties (e.g., municipal governments or health insurers). This section therefore considers failure-to-warn claims for a wider range of products in order to provide insights for the fossil fuel disinformation cases.

To establish a causal link between defendants' failure to warn and plaintiffs' injuries, the plaintiff must submit evidence that their injury would not have occurred in a counterfactual scenario where an adequate warning was provided.[207] In cases where multiple factors contribute to the injury, courts may apply the substantial factor test—in which case it is sufficient for plaintiffs to show that adequate warning would have at least partially mitigated their injury.[208]

Typically, the injured consumer filing the lawsuit can testify to how they would have behaved differently had they been warned of the product's dangers. But in the fossil fuel disinformation cases, plaintiffs would need to demonstrate that the failure to warn affected the conduct of third parties (i.e., fossil fuel consumers broadly) through documentary evidence or direct testimony. Some jurisdictions recognize the "heeding presumption," which is a rebuttable presumption that if a warning or instruction had been given, such warning or instruction would have been heeded by the plaintiff,[209] but California and several other states where fossil fuel lawsuits have been filed have not adopted this presumption.[210]

As part of the causation showing, plaintiffs must also typically demonstrate that they would have become aware of the warning had it been issued. A court may hold in favor of defendants if the facts suggest that it was impossible to issue an effective warning that would reach the consumer. This was the basis for a California court of appeal decision reversing a trial verdict against a natural gas company for failing to warn users of the dangers of natural gas odor loss. Plumbers who were injured in a natural gas explosion had testified that they would "not have bled the natural gas pipe serving the water heater for over two minutes (resulting in a gas accident)" if they had known that the odorant in the gas could fade over time.[211]

The court of appeal agreed with this contention, but held that the plaintiffs had failed to show that they would have become aware of a warning if it had been issued by the gas company. The court highlighted the difficulty of issuing an effective warning in this context:

> Plaintiffs fail to address this issue, perhaps because of the difficulties of providing an effective warning in this case. In many instances, a manufacturer issuing a warning has a simple and expedient method to do so. A manufacturer of cigarettes can print a warning on the package containing the product. Similarly, a manufacturer of a table saw can include warnings with its product, even placing warning labels directly on the product. Not so here. The product, natural gas, is conveyed over great distances directly to the consumer through pipelines, most of which are never seen by the consumer. In most instances, the consumer never handles the product, but uses the product in other appliances for the consumer's benefit. The consumer has no direct contact with the product itself. Even if the consumer has direct contact, the product cannot be seen.[212]

This requirement could bear on the ability of plaintiffs in fossil fuel cases to demonstrate causation—the critical question being whether they can prove that consumers would have been aware of (and affected by) warnings from fossil fuel companies. Plaintiffs could use evidence of the effectiveness of fossil fuel disinformation campaigns to make this point—if fossil fuel companies have been able to affect consumer perception through false and misleading communications, then presumably these companies could also have affected consumer beliefs and behavior had they issued adequate warnings about the dangers of fossil fuel use and climate change.

Another consideration for failure-to-warn claims is that manufacturers typically do not have a duty to warn of dangers if those dangers are sufficiently obvious such that they

206. *See, e.g.*, Cipollone v. Liggett Grp., Inc., 505 U.S. 504 (1992) (holding that failure-to-warn claims filed involving the advertisement and promotion of tobacco products were preempted by the Federal Cigarette Labeling and Advertising Act); Moss v. Parks Corp., 985 F.2d 736, 23 ELR 20903 (4th Cir. 1993) (holding that a consumer could bring private tort action against lead paint manufacturers for violations of the Federal Hazardous Substances Labeling Act, but other failure-to-warn actions were preempted by the Act). *Cf.* Colgate v. JUUL Labs, Inc., 345 F. Supp. 3d 1178, 1189-90 (N.D. Cal. 2018) (holding that FDA rule preempted failure-to-warn claims for nicotine products based on the allegation that product labeling failed to warn consumers of addictiveness, but other failure-to-warn claims—including those based on advertisements, rather than labeling—were not preempted).

207. *See, e.g.*, Alston v. Caraco Pharm., Inc., 670 F. Supp. 2d 279, 285 (S.D.N.Y. 2009). *See also* Aaron D. Twerski & Neil B. Cohen, *Resolving the Dilemma of Nonjusticiable Causation in Failure-to-Warn Litigation*, 84 S. Cal. L. Rev. 125 (2010), *available at* https://brooklynworks.brooklaw.edu/cgi/viewcontent.cgi?article=1594&context=faculty.

208. *See, e.g.*, Huitt v. Southern Cal. Gas Co., 116 Cal. Rptr. 3d 453, 462 (Cal. Ct. App. 2010).

209. States that have adopted the presumption include Arkansas, Indiana, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Missouri, Nebraska, New Jersey, New York, North Dakota, Ohio, Oklahoma, Texas, and Vermont, as well as the District of Columbia.

210. *See, e.g.*, Motus v. Pfizer Inc., 196 F. Supp. 2d 984 (C.D. Cal. 2001), *aff'd sub nom.* Motus v. Pfizer Inc. (Roerig Div.), 358 F.3d 659 (9th Cir. 2004).

211. *Huitt*, 116 Cal. Rptr. 3d at 462.

212. *Id.* at 463.

should be understood by the product user,[213] or if there is a "learned" or "sophisticated" intermediary who should be aware of the risks.[214] This relates to causation (e.g., if the risks were already known to product consumers, then it is unlikely that a warning would have affected their conduct). Defendants in the fossil fuel disinformation cases will likely argue that the risks of climate change were obvious to the product consumers, which included intermediaries (e.g., electric companies and fuel distributors) who knew or had reason to know of those risks. However, evidence demonstrating the existence and efficacy of fossil fuel disinformation campaigns could be used to counter this defense.[215]

A final question is whether failure-to-warn claims are available to plaintiffs whose injuries are not caused by their direct use of the manufacturer's product, but rather from the conduct of third-party consumers who were not adequately warned about the product. As discussed in Part I, some courts have held that only consumers or end-users can bring failure-to-warn claims, but others have held that this cause of action is also available to government entities and bystander plaintiffs when they are injured by a third party's use of a product.[216]

For example, in *Cincinnati v. Beretta U.S.A. Corp.*, the Supreme Court of Ohio held that the city of Cincinnati could pursue a failure-to-warn claim against handgun manufacturers, trade associations, and distributors based on indirect injury, specifically "significant expenses for police, emergency, health, corrections, prosecution and other services."[217] The court rejected an argument that causation was "too remote," citing three factors identified by the U.S. Supreme Court as relevant to proximate cause analysis: (1) the difficulty of proof was minimal, since the city was seeking recovery for police expenditures and property repairs that were minimal and easily demonstrated; (2) there was no risk of double recovery, since the appellate was seeking recovery for itself only; and (3) there was no other person available to bring suit against the defendants for the specific damages incurred by the city.[218]

The court also refused to dismiss the failure-to-warn claim on the basis that the dangers of gun violence were "open and obvious," because some of the allegations "involved risks that were not open and obvious such as the fact that a semiautomatic gun can hold a bullet even when the ammunition magazine is empty or removed."[219] The court thus allowed the failure-to-warn claims to proceed, along with public nuisance and negligence claims, but the city dropped the lawsuit before trial due to the expenses of litigation.[220]

III. Evidence Demonstrating a Causal Link Between Disinformation and Climate Change-Related Damages

Based on the foregoing analysis, there are many different types of evidence that could be used to establish causation in the fossil fuel disinformation cases. These can be categorized into two buckets: evidence of conduct and evidence of impact. As discussed in Part II, evidence of the defendants' conduct can be used to infer causation. For example, information about the nature and magnitude of deceptive communications can support inferences about whether and to what extent those communications reached and influenced the target audience.

This is particularly relevant to the fossil fuel cases, since researchers have now amassed a large body of evidence documenting the false and misleading communications of the fossil fuel company defendants. To strengthen their causation claims, plaintiffs should also seek to provide additional evidence of impact (i.e., evidence documenting how fossil fuel disinformation has affected public perception of and responses to climate change). Below, we outline the scope of existing research on both topics, and we discuss how the plaintiffs can flesh out their evidentiary claims through discovery, expert and fact witness testimony, and amicus briefs.

A. *Evidence of Conduct*

Historians and other scholars have amassed a large body of evidence demonstrating that fossil fuel companies intentionally misled the public about the dangers of their products in order to protect their financial interests. Much of this evidence comes from internal corporate documents and peer-reviewed assessments of those documents. The research shows that the fossil fuel industry knew about the warming effects of GHG emissions as early as the 1950s and developed a sophisticated understanding of the problem and its likely impacts by the end of the 1970s, but instead of alerting the public of the dangers of their products, the industry actively coordinated and funded denial and disinformation in order to obscure climate science, reduce public support for climate action, and protect their financial interests.[221]

The fossil fuel industry has used a variety of tactics to obscure the dangers of their products and to create public confusion about climate change. First, they have sought to create doubt about scientific consensus on climate change.

213. *See, e.g.*, Schiller v. National Presto Indus., Inc., 639 N.Y.S.2d 217, 218 (N.Y. App. Div. 1996); Jacobson v. Colorado Fuel & Iron Corp., 409 F.2d 1263 (9th Cir. 1969); Hopkins v. E.I. DuPont De Nemours & Co., 212 F.2d 623 (3d Cir.), *cert. denied*, 348 U.S. 872 (1954).
214. *See, e.g.*, Garside v. Osco Drug, Inc., 976 F.2d 77, 80 (1st Cir. 1992); Salinero v. Johnson & Johnson, 995 F.3d 959, 965 (11th Cir. 2021).
215. *See infra* Part III.
216. *See supra* Section I.A.2.
217. 95 Ohio St. 3d 416, 428, 2002-Ohio-2480, ¶ 43, 768 N.E.2d 1136, 1149.
218. *Id.* at 427.
219. *Id.* at 425.
220. Reuters, *Cincinnati's Council Decides to Drop Suit Against Gun Makers*, N.Y. Times (May 1, 2003).
221. *See* John Cook et al., George Mason University Center for Climate Change Communication, America Misled: How the Fossil Fuel Industry Deliberately Misled Americans About Climate Change (2019).

The companies have accomplished this, in part, through outright denial of climate science—arguing, for example, that there is a "weak evidentiary basis" for climate change, that climate science is "junk" science, that climate science is merely a political scare tactic, or that any human-induced warming would be offset by a cooling effect.[222]

In some instances, fossil fuel companies have taken a more subtle tactic, acknowledging that climate change is real but downplaying its harmful effects, arguing, for example, that impacts will not be as severe as predicted, that climate change will actually produce substantial benefits, or that impacts can be mitigated through technology.[223] The companies have also attacked the credibility and legitimacy of scientists and institutions like the Intergovernmental Panel on Climate Change, while creating new institutions to legitimatize anti-scientific views.[224]

Second, the industry has spread disinformation aimed at casting doubt on the efficacy and reasonableness of regulations targeting the fossil fuel industry. For example, fossil fuel companies have exaggerated the costs of GHG mitigation while ignoring or understating the costs of global warming, overstated political barriers to climate policy, and framed fossil fuel regulation as a threat to national sovereignty and national security.[225]

Third, the industry has employed greenwashing or "climate-washing" tactics aimed at making fossil fuel-based products and technologies appear environmentally friendly. Examples include claims about "clean coal" and "alternative diesel fuel."[226] They have also issued a number of misleading advertisements about their support for "green" technologies while, in reality, continuing to spend nearly all of their capital investments in more fossil fuel production and lobbying against policies that would accelerate the deployment of cleaner energy sources.[227]

Fourth, the industry has created "astroturf" organizations to mislead the public and combat climate action. For example, in 2014, a leaked presentation from the Western States Petroleum Association revealed a stealth campaign to block climate policies in California by backing a constellation of astroturf groups with names such as the "California Drivers Alliance" and "Californians Against Higher Taxes."[228]

Fifth, the industry has sought to reframe the problems of fossil fuel consumption and climate change to obscure corporate fault. In particular, these companies have recently focused on the role of consumers, framing climate change as a purely "collective problem" in order to shift the focus away from their conduct.[229] This argument has already been used as a defense to liability—the idea being that, if everyone shares responsibility for climate change, then there is no basis for holding specific companies liable for climate damages.[230]

Finally, the industry has advertised and promoted apparent solutions to climate change that, in reality, maintain society's reliance on fossil fuels and thus are inadequate to address global warming. Recent research shows this strategy was developed within and implemented by the industry by the end of the 1980s in response to proposed fossil fuel controls, and examples include the industry's promotion of natural gas, reforestation, efficiency improvements, geoengineering schemes, carbon capture, hydrogen fuel, and biofuel.[231] While some of these responses to global warming may be beneficial, to the extent they have been promoted by fossil fuel companies as adequate solutions or used to distract from the need to replace fossil fuels with other energy sources, their promotion may have misled the public regarding the actions required to halt global warming.

Much of the above information had already come to light when the fossil fuel disinformation cases were first filed. In their complaints, opening briefs, and expert reports, the plaintiffs have already identified numerous examples of how the defendants' deceptive communications,[232] and the evidentiary basis for these claims, is growing even stronger as the cases head to trial.[233] At this point, it is difficult to

222. Aaron McCright & Riley Dunlap, *Challenging Global Warming as a Social Problem: An Analysis of the Conservative Movement's Counter-Claims*, 47 Soc. Probs. 499 (2000); Franta, *supra* note 110; Marco Grasso, *Oily Politics: A Critical Assessment of the Oil and Gas Industry's Contribution to Climate Change*, 50 Energy Rsch. & Soc. Sci. 106 (2019); Karin E. Björnberg et al., *Climate and Environmental Science Denial: A Review of the Scientific Literature Published in 1990-2015*, 167 J. Cleaner Prod. 229 (2017).

223. Geoffrey Supran & Naomi Oreskes, *Rhetoric and Frame Analysis of ExxonMobil's Climate Change Communications*, 4 One Earth 696 (2021); McCright & Dunlap, *supra* note 222.

224. *See* Peter Jacques et al., *The Organisation of Denial: Conservative Think Tanks and Environmental Scepticism*, 17 Env't Pol. 349 (2008); Peter C. Frumhoff & Naomi Oreskes, *Fossil Fuel Firms Are Still Bankrolling Climate Denial Lobby Groups*, Guardian (Mar. 25, 2015), https://www.theguardian.com/environment/2015/mar/25/fossil-fuel-firms-are-still-bankrolling-climate-denial-lobby-groups; Austin Andrew, *Advancing Accumulation and Managing Its Discontents: The U.S. Antienvironmental Countermovement*, 2 Socio. Spectrum 71 (2002). *See also* DeSmog Blog, *Climate Disinformation Database*, https://www.desmog.com/climate-disinformation-database/ (last visited Oct. 6, 2022) (listing dozens of organizations that are funded by fossil fuel companies and that spread disinformation about climate change).

225. *See* Judith Layzer, *Deep Freeze: How Business Has Shaped the Global Warming Debate in Congress*, *in* Business and Environmental Policy: Corporate Interests in the American Political System 93 (Michael Kraft & Sheldon Kamieniecki eds., MIT Press 2007); Benjamin Franta, *Weaponizing Economics: Big Oil, Economic Consultants, and Climate Policy Delay*, 31 Env't Pol. 555 (2022); *Fueling the Climate Crisis: Exposing Big Oil's Disinformation Campaign to Prevent Climate Action, Hearing Before the H. Comm. on Oversight and Reform*, 117th Cong. (2021) (during the hearings, multiple oil executives framed fossil fuel regulation as a threat to national security).

226. Clemens Kaupa, *Smoke Gets in Your Eyes: Misleading Fossil Fuel Advertisement in the Climate Crisis*, 10 J. Eur. Consumer & Mkt. L. 21 (2021).

227. *Id.*

228. Brad Wieners, *Leaked: The Oil Lobby's Conspiracy to Kill Off California's Climate Law*, Bloomberg Bus. Wk. (Nov. 25, 2014), https://www.bloomberg.com/news/articles/2014-11-25/leaked-the-oil-lobbys-conspiracy-to-kill-off-californias-climate-law?leadSource=uverify%20wall. *See also* Neil Perry, *Disinformation, No Information*, Conversation (Apr. 2, 2012), https://theconversation.com/disinformation-no-information-6228.

229. Supran & Oreskes, *supra* note 223.

230. *See, e.g.*, Debra Kahn, *Oil Giant Accepts Climate Consensus, Denies Responsibility for Warming*, Sci. Am. (Mar. 22, 2018), https://www.scientificamerican.com/article/oil-giant-accepts-climate-consensus-denies-responsibility-for-warming/.

231. *See* Bonneuil et al., *supra* note 110.

232. *See supra* Part I.

233. A number of studies have been published since the complaints were first filed that provide additional insight on the scope, timing, and nature of fossil fuel efforts to deceive the public about climate change. *See, e.g.*, Franta, *supra* note 110 (finding that the American Petroleum Institute was promulgating false and misleading information about climate change in 1980, nearly a decade earlier than previously known); Bonneuil et al., *supra* note

imagine how a fact finder could reach any conclusion other than that the companies intentionally misled the public about the dangers of fossil fuel use. Because the evidence of the companies' *conduct* is so robust, it may be sufficient to allow a fact finder to infer *impact*, as some courts have done in other cases involving public deception.[234] However, it would be prudent for the plaintiffs to supplement the record with additional evidence, as discussed below.

B. Evidence of Impact

The plaintiffs in the fossil fuel disinformation cases can use several additional lines of evidence to establish the effect of fossil fuel disinformation campaigns, including (1) historical and empirical evidence linking fossil fuel disinformation to impacts on public perception, media narratives, and third-party conduct, and (2) social science research on how misinformation and disinformation affect consumers and companies. The plaintiffs can also supplement the existing body of research and publicly available documents by using discovery to uncover internal corporate documents, soliciting testimony from expert and fact witnesses, and collaborating with amici curiae who can provide additional insights on how disinformation affects the public and consumers.

1. Historical and Empirical Evidence of the Effects of Fossil Fuel Disinformation

A growing body of historical and empirical research documents the effects of fossil fuel disinformation in specific social and political spheres. For example, historical researchers have documented various ways in which fossil fuel communications and lobbying efforts have directly influenced climate policy in the United States, such as how fossil fuel companies influenced the United States' failure to ratify the Kyoto Protocol[235] and pass domestic legislation to address climate change.[236] Researchers have also demonstrated how economic consultants hired by the petroleum industry artificially inflated the costs of climate action, thus undermining major policy initiatives in the United States and internationally.[237]

This research demonstrates the pervasive effects of fossil fuel disinformation campaigns on U.S. policy. However, it would not be strategic for tort plaintiffs to rely exclusively on communications to lawmakers or direct policy effects to support claims of causation and harm. An exclusive focus on such evidence could lead courts to conclude that (1) the conduct at issue qualifies as political speech that is protected under the First Amendment[238]; (2) government inaction on climate change is a superseding cause that breaks the chain of liability[239]; or (3) the case should be dismissed for prudential or jurisdictional reasons, such as separation of powers, political question doctrine, legislative displacement, or federal preemption.[240]

Plaintiffs should therefore seek to compile evidence of how fossil fuel disinformation has also affected nongovernmental actors and their responses to climate change. Researchers have already demonstrated that fossil fuel companies targeted consumers and the public with disinformation,[241] and that this disinformation has infiltrated public discourse, contributed to climate denial, and undermined public support for climate action.[242] Although the research does not always go into detail about the extent to which changes in public discourse and opinion affected nongovernmental conduct, a reasonable inference could be drawn that disinformation campaigns likely reduced the

110 (finding that Exxon coordinated an international campaign to dispute climate science and weaken international climate policy beginning in the 1980s).

234. See discussion *supra* Part II.

235. In addition to intense lobbying from the fossil fuel industry, conservative think-tanks (funded by fossil fuel companies) published policy briefs undermining the science and exaggerating the costs of climate action. The tactics deployed in these publications ranged from "outright manipulation of information . . . to more subtle 'diversionary reframing' . . . to define [global warming] as non-problematic." Many "experts" from these think-tanks also provided testimony at congressional hearings. These efforts contributed to the 1997 Byrd-Hagel Resolution (stating that the U.S. Senate would not ratify any treaty that imposed mandatory GHG emission reductions on the United States without also imposing such reductions for developing nations, or that might result in serious harm to the economy). Aaron M. McCright & Riley E. Dunlap, *Defeating Kyoto: The Conservative Movement's Impact on U.S. Climate Change Policy*, 50 Soc. Probs. 348, 351 (2003).

236. Layzer, *supra* note 225.

237. Franta, *supra* note 110.

238. *See infra* Section I.C.1.

239. We do not think that courts should treat the government's failure to regulate GHG emissions as a superseding cause based on the factors outlined in the Restatement (Second) of Torts and case law, since this regulatory inaction was a foreseeable and intended consequence of the defendants' disinformation efforts. *See infra* Section II.C.2. However, there is significant variation in how courts deal with issues of factual and proximate cause, and we believe that a court would be more likely to treat government inaction as a superseding cause if evidence of policy inaction was the sole basis for plaintiffs' claims of causation and injury.

240. Characterizing government inaction as the primary route through which disinformation efforts harmed the public and the plaintiffs may contribute to the judicial perception that these cases implicate questions of policy that should be left to the executive and political branches of government (or which have already been addressed through legislation such as the Clean Air Act). For a critical discussion of preemption and displacement issues in the climate tort suits, see Adler, *supra* note 102. *See also* Lin & Burger, *supra* note 5 (explaining why courts should not reject these public nuisance claims on the basis of displacement, preemption, or other grounds related to the separation-of-powers doctrine).

241. Geoffrey Supran & Naomi Oreskes, *The Forgotten Oil Ads That Told Us Climate Change Was Nothing*, Guardian (Nov. 18, 2021), https://www.theguardian.com/environment/2021/nov/18/the-forgotten-oil-ads-that-told-us-climate-change-was-nothing; Supran & Oreskes, *supra* note 223; Supran & Oreskes, *supra* note 10.

242. Robert Brulle, *30 Years Ago Global Warming Became Front-Page News—And Both Republicans and Democrats Took It Seriously*, Conversation (June 19, 2018), https://theconversation.com/30-years-ago-global-warming-became-front-page-news-and-both-republicans-and-democrats-took-it-seriously-97658; John Cook et al., *Deconstructing Climate Misinformation to Identify Reasoning Errors*, 13 Env't Rsch. Letters 024018 (2018); Aaron M. McCright & Riley E. Dunlap, *Anti-Reflexivity: The American Conservative Movement's Success in Undermining Climate Science and Policy*, 27 Theory Culture & Soc'y 100 (2010); Anthony Leiserowitz et al., Yale University & George Mason University, Climate Change in the American Mind: May 2017 (2017), Riley E. Dunlap, *Climate Change Skepticism and Denial: An Introduction*, 57 Am. Behav. Scientist 691 (2013); Riley E. Dunlap & Aaron M. McCright, *Organized Climate Change Denial*, *in* The Oxford Handbook of Climate Change and Society 144 (John S. Dryzek et al. eds., Oxford Univ. Press 2011).

perceived incentive for effective climate responses in the private sector as well as in policymaking.[243]

Various metrics can be used to gauge the effects of disinformation on civil society and public attitudes toward climate change. For example, researchers have amassed data on the prevalence of climate misinformation in the media, and the ways in which disinformation campaigns contributed to media outlets creating "false balance" in climate coverage by treating climate contrarians as though their views were equally as valid as climate scientists'.[244] Researchers have also compiled data on the prevalence of climate misinformation in other areas, such as philanthropy.[245]

The evidence of how fossil fuel disinformation has affected public opinion should be sufficient to support an inference that it also affected the behavior of nongovernmental actors. However, plaintiffs could benefit from additional research on precisely how disinformation has affected nongovernmental conduct.

For example, researchers could explore whether climate denial and skepticism have affected the uptake of voluntary measures to address climate change, including corporate mitigation efforts and green investments, or, conversely, whether the decrease in climate change denial in recent years has affected the uptake of voluntary measures.[246] Researchers could also evaluate consumer preferences and purchasing trends over time and/or across different jurisdictions to better understand how disinformation may affect consumption habits. The plaintiffs can also use discovery tools to amass further evidence of the effect of disinformation efforts from the defendants' internal documents, such as internal corporate assessments of public opinion or the efficacy of corporate communications campaigns.[247]

Finally, research on the contribution of climate disinformation to political polarization in the United States also provides compelling evidence on the effectiveness of disinformation efforts in shaping both individual beliefs and social responses to climate change.[248] U.S. polling data show that individual concern about climate change (and support for climate policies) is strongly correlated with party affiliation,[249] and the United States has the highest numbers of climate skeptics in the world.[250] Researchers have also found that disinformation efforts have targeted conservative audiences,[251] there is a well-documented relationship between conservative think-tanks and corporate-sponsored climate change disinformation efforts,[252] and individuals tend to be more susceptible to climate misinformation if they identify as politically conservative.[253]

Thus, there is a strong basis for concluding that the partisan divide and prevalence of climate skepticism in the United States has been manufactured, at least in part, through climate disinformation efforts.[254] However, it is unclear whether the defendants' contribution to political

243. *See* Nason Maani et al., *Manufacturing Doubt: Assessing the Effects of Independent vs Industry-Sponsored Messaging About the Harms of Fossil Fuels, Smoking, Alcohol, and Sugar Sweetened Beverages*, 17 SSM—Population Health 101009 (2021). *See also infra* Section III.B.2 (discussing social science research on how disinformation affects individuals and societies).

244. *See, e.g.*, Justin Farrell, *Network Structure and Influence of the Climate Change Counter-Movement*, 6 Nature Climate Change 370 (2016); Maxwell T. Boykoff & Jules M. Boykoff, *Balance as Bias: Global Warming and the US Prestige Press*, 14 Glob. Env't Change 125 (2004); Michael Brüggemann & Sven Engesser, *Beyond False Balance: How Interpretive Journalism Shapes Media Coverage of Climate Change*, 42 Glob. Env't Change 58 (2017); Layzer, *supra* note 225.

245. Justin Farrell, *The Growth of Climate Change Misinformation in US Philanthropy: Evidence From Natural Language Processing*, 14 Env't Rsch. Letters 034013 (2019).

246. One possible approach for such research would be to compare the uptake of voluntary measures in the United States with countries where climate disinformation and skepticism are not as prevalent.

247. *See infra* Section III.B.3.

248. *See* Naomi Oreskes & Erik M. Conway, Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues From Tobacco Smoke to Global Warming (2011); Constantine Boussalis & Travis G. Coan, *Text-Mining the Signals of Climate Change Doubt*, 36 Glob. Env't Change 89 (2016); Riley E. Dunlap et al., *The Political Divide on Climate Change: Partisan Polarization Widens in the U.S.*, 58 Env't: Sci. & Pol'y for Sustainable Dev. 4 (2016); Salil D. Benegal & Lyle Scruggs, *Correcting Misinformation About Climate Change: The Impact of Partisanship in an Experimental Setting*, 148 Climatic Change 61 (2018); Aaron M. McCright & Riley E. Dunlap, *The Politicization of Climate Change and Polarization in the American Public's Views of Global Warming, 2001-2010*, 52 Socio. Q. 155 (2011); Justin Farrell, *Corporate Funding and Ideological Polarization About Climate Change*, 113 PNAS 92 (2016); Robert J. Antonio & Robert J. Brulle, *The Unbearable Lightness of Politics: Climate Change Denial and Political Polarization*, 52 Socio. Q. 195 (2011); Riley E. Dunlap & Aaron M. McCright, *A Widening Gap: Republican and Democratic Views on Climate Change*, 50 Env't: Sci. & Pol'y for Sustainable Dev. 26 (2008).

249. Dunlap & McCright, *supra* note 242; Brulle, *supra* note 242; Jean-Daniel Collomb, *The Ideology of Climate Change Denial in the United States*, 9 Eur. J. Am. Stud. 1 (2014).

250. Brice Teinturier & Sarah Duhautois, *Climate Change: Citizens Are Worried but Torn Between a Need to Act and a Rejection of Constraints*, Ipsos (Dec. 3, 2020), https://www.ipsos.com/en/climate-change-citizens-are-worried-torn-between-need-act-and-rejection-constraints.

251. Brulle, *supra* note 242; Robert Brulle, *Institutionalizing Delay: Foundation Funding and the Creation of U.S. Climate Change Counter-Movement Organizations*, 122 Climatic Change 681 (2014); Shaun W. Elsasser & Riley E. Dunlap, *Leading Voices in the Denier Choir: Conservative Columnists' Dismissal of Global Warming and Denigration of Climate Science*, 57 Am. Behav. Scientist 754 (2013).

252. Jacques et al., *supra* note 224.

253. *See, e.g.*, Arunima Krishna, *Lacuna Publics: Advancing a Typology of Disinformation-Susceptible Publics Using the Motivation-Attitude-Knowledge Framework*, 33 J. Pub. Rels. Rsch. 1, 14-15 (2021):

> Nearly 70% of the disinformation-receptive publics (n = 257) identified as being either conservative (n = 100) or very conservative (n = 79). On the other hand, almost 81% of those who identified as liberal (n = 109) were part of the disinformation-immune public (n = 88 . . .). One-way ANOVA [analysis of variance] tests revealed significant differences across the four groups in terms of political ideology [$F(3, 624) = 77.42$, $p < .0001$]. Disinformation-immune publics were found to be the most liberal (M = 2.71; SD = .83) whereas disinformation-receptive publics were found to be most conservative (M = 3.93; SD = .94 . . .).

See also John Cook et al., *Neutralizing Misinformation Through Inoculation: Exposing Misleading Argumentation Techniques Reduces Their Influence*, 12 PLOS ONE e0175799 (2017); Sander van der Linden et al., *Inoculating the Public Against Misinformation About Climate Change*, 1 Glob. Challenges 1600008 (2017).

254. Brulle, *supra* note 242; Arunima Krishna, *Motivation With Misinformation: Conceptualizing Lacuna Individuals and Publics as Knowledge Deficient, Issue-Negative Activists*, 29 J. Pub. Rels. Rsch. 176 (2017); Arunima Krishna, *Understanding the Differences Between Climate Change Deniers and Believers' Knowledge, Media Use, and Trust in Related Information Sources*, 47 Pub. Rels. Rev. 1 (2021); Arunima Krishna & Soojin Kim, *Exploring Consumers' Situational and Word-of-Mouth Motivations in Corporate Misconduct*, 46 Pub. Rels. Rev. 101892 (2020); Arunima Krishna & Soojin Kim, *Understanding Customers' Reactions to Allegations of Corporate Environmental Irresponsibility*, 99 Journalism & Mass Commc'n Q. 563 (2020).

polarization could serve as a basis for liability, since courts may conclude that polarization is a consequence of protected political speech or that the policy gridlock caused by such polarization is a superseding cause that breaks the chain of liability. One potential problem for plaintiffs is that evidence suggesting that the defendants *intended* for their communications to create political polarization may be viewed by a judge as evidence that the communications themselves are protected political speech. On the other hand, it is possible that a court could conclude that the defendants contributed to polarization in part through commercial speech (e.g., advertisements) and that evidence of polarization is therefore relevant to the question of causation.

2. Social Science Research on How Disinformation Affects Individuals and Societies

As the public has become more concerned about the spread of misinformation on news outlets and social media platforms, an influx of behavioral and social science research has examined the effects of misinformation and disinformation on individuals, groups, social dynamics, and political processes.[255] Some of this research deals specifically with the effects of environmental and climate disinformation.[256] This research supplements the historical and empirical evidence by providing theoretical and process-based insights on *how* disinformation influences individual and collective beliefs and public discourse on climate change.

Research to date has demonstrated that misinformation and disinformation can influence individual beliefs, increase political polarization, and decrease the quality of policymaking in democracies.[257] This polarization effect appears to have become more pronounced with the growth of social media.[258] Misinformation can also erode individual trust in science, and individuals with lower trust in science are more susceptible to misinformation.[259]

Looking more specifically at climate change, researchers have found that misinformation and disinformation have distorted public perception of climate issues in a manner that has almost certainly contributed to climate inaction.[260] Climate disinformation can undermine individual support for climate action by casting doubt on the veracity of climate science and the efficacy of GHG mitigation measures.[261] Disinformation can also affect perceptions about what other entities (including individuals and governments) are willing to do to respond to climate change, leading people to "underestimate pro-climate positions" among other entities and thus increasing skepticism about the efficacy of climate action.[262] Individuals who identify as politically conservative tend to be more susceptible to the effects of climate disinformation, which may explain the polarization effect discussed above.[263]

These effects are not limited to voters and consumers—disinformation can influence the beliefs, preferences, and conduct of politicians, civil servants, executives, and other individuals who have direct control over government and corporate policies. Politicians and other authority figures can also use disinformation to justify inaction on climate change, regardless of their actual beliefs.[264] However, as discussed above, the effect of disinformation on government

255. *See, e.g.*, John Cook et al., *Misinformation and How to Correct It*, *in* Emerging Trends in the Social and Behavioral Sciences 1 (Robert A. Scott et al. eds., Wiley & Sons 2015); Gordon Pennycook & David Rand, *The Psychology of Fake News*, 25 Trends Cognitive Scis. 388 (2021); Ullrich K.H. Ecker et al., *The Psychological Drivers of Misinformation Belief and Its Resistance to Correction*, 1 Nature Revs. Psych. 13 (2022); Brian G. Southwell et al., Misinformation and Mass Audiences (2018); Alexandre Bovet & Hernán A. Makse, *Influence of Fake News in Twitter During the 2016 US Presidential Election*, 10 Nature Commc'ns 7 (2019); Stephan Lewandowsky et al., *Misinformation and Its Correction: Continued Influence and Successful Debiasing*, 13 Psych. Sci. Pub. Int. 106 (2012).

256. *See, e.g.*, Aaron M. McCright et al., *Examining the Effectiveness of Climate Change Frames in the Face of a Climate Change Denial Counter-Frame*, 8 Topics Cognitive Sci. 76 (2016); Stephan Lewandowsky, *Climate Change Disinformation and How to Combat It*, 42 Ann. Rev. Pub. Health 1 (2021); Michael Andrew Ranney & Dav Clark, *Climate Change Conceptual Change: Scientific Information Can Transform Attitudes*, 8 Topics Cognitive Sci. 49 (2016); Kathie M. d'I. Treen et al., *Online Misinformation About Climate Change*, 11 WIREs Climate Change E665 (2020); Ashley A. Anderson, *Effects of Social Media Use on Climate Change Opinion, Knowledge, and Behavior*, *in* Oxford Research Encyclopedia of Climate Science (Oxford Univ. Press 2017); Björnberg et al., *supra* note 222. Much of the research in this field is also concerned with techniques for addressing misinformation. *See, e.g.*, Daniel Bedford et al., *Raising Climate Literacy Through Addressing Misinformation: Case Studies in Agnotology-Based Learning*, 62 J. Geoscience Educ. 296 (2014); Cook et al., *supra* note 253; Eva K. Lawrence & Sarah Estow, *Responding to Misinformation About Climate Change*, 16 Applied Env't Educ. & Commc'n 117 (2017).

257. Joshua A. Tucker et al., Social Media, Political Polarization, and Political Disinformation: A Review of the Scientific Literature (2018); Andrew J. Hoffman, *Talking Past Each Other? Cultural Framing of Skeptical and Convinced Logics in the Climate Change Debate*, 24 Org. & Env't 33 (2011); Jackson Bellamy, North American and Arctic Defence and Security Network, Climate Change Disinformation and Polarization in Canadian Society (2020).

258. Tucker et al., *supra* note 257.

259. *See* Stephan Lewandowsky et al., *Beyond Misinformation: Understanding and Coping With the "Post-Truth" Era*, 6 J. Applied Rsch. Memory & Cognition 353 (2017); Jon Roozenbeek et al., *Susceptibility to Misinformation About COVID-19 Around the World*, 7 Royal Soc'y Open Sci. 201199 (2020); Lawrence C. Hamilton & Thomas G. Safford, *Elite Cues and the Rapid Decline in Trust in Science Agencies on COVID-19*, 64 Socio. Persps. 988 (2021).

260. *See* Maani et al., *supra* note 243; Ding et al., *Support for Climate Policy and Societal Action Are Linked to Perceptions About Scientific Agreement*, 1 Nature Climate Change 462 (2011); Cook et al., *supra* note 242; van der Linden et al., *supra* note 253; Ranney & Clark, *supra* note 256; McCright & Dunlap, *supra* note 242; Leiserowitz et al., *supra* note 242; Dunlap, *supra* note 242; Dunlap & McCright, *supra* note 242. *Cf.* Caitlin Drummond et al., *Limited Effects of Exposure to Fake News About Climate Change*, 2 Env't Rsch. Commc'ns 081003 (2020) (finding that exposure to fake news only had a minor effect on climate views, suggesting that while exposure to fake news may once have been a driver of climate skepticism, its effects are now overshadowed by political party and ideology).

261. Ding et al., *supra* note 260; Leiserowitz et al., *supra* note 242; McCright & Dunlap, *supra* note 242. *See also* Michaël Aklin & Johannes Urpelainen, *Perceptions of Scientific Dissent Undermine Public Support for Environmental Policy*, 38 Env't Sci. & Pol'y 173 (2014).

262. Matto Mildenberger & Dustin Tingley, *Beliefs About Climate Beliefs: The Importance of Second-Order Opinions for Climate Policies*, 49 Brit. J. Pol. Sci. 1279 (2019).

263. *See, e.g.*, Krishna, *supra* note 253.

264. Amelia Sharman & Richard Perkins, *Post-Decisional Logics of Inaction: The Influence of Knowledge Controversy in Climate Policy Decision-Making*, 49 Env't & Plan. 2281 (2017).

officials may be of lesser relevance in litigation contexts due to First Amendment protections for political speech.

3. Fleshing Out Evidentiary Arguments Through Discovery, Testimony, and Amicus Briefs

Plaintiffs can supplement the existing record of research and documentary evidence before and during trials in the fossil fuel disinformation cases in several ways. The plaintiffs can follow the example set by tobacco litigants, and use discovery tactics to uncover additional evidence of impact from the defendants' own internal records. Such evidence may include, for example, internal reports touting the success of the defendants' advertising and public relations campaigns and internal assessments evaluating the reach and effect of those campaigns. The plaintiffs should cast a wide net to capture any data or communications relevant to the effect of the defendants' public communications.

The plaintiffs can also supplement the record with expert testimony on the effects of fossil fuel disinformation. The individuals engaged in the research efforts described above could provide insights on the historical, sociological, and psychological effects of fossil fuel disinformation campaigns. Such testimony would be particularly useful for communicating existing research to fact finders, and also for fleshing out linkages between different areas of research (e.g., explaining how general findings on the effects of disinformation can support more specific conclusions about the effects of fossil fuel disinformation).

In addition, plaintiffs may be able to identify fact witnesses who could testify on how fossil fuel disinformation affected their own conduct and fossil fuel consumption decisions. For example, a corporate officer of a company with significant GHG emissions could explain how disinformation influenced corporate policy and decisions about GHG mitigation. Perhaps the company would have pursued measures to reduce fossil fuel use from its direct operations or supply chain if corporate leadership had not been misled about the dangers of climate change.

Other potential fact witnesses would include the heads of consumer groups and trade associations, who may be able to testify on how disinformation affected consumers or industries that they represent, and the heads of asset management groups, who may be able to testify on the fact that they would have divested or reduced investment in fossil fuels had they been fully aware of the harms of those products. Individuals have already begun speaking about these issues outside of the courtroom, as evinced by the growing number of media interviews where prominent people have asserted that they were deceived by fossil fuel companies and that they would have acted differently had they known the truth.[265]

Amicus briefs are another vehicle through which the courts can gain insights from experts and affected individuals on the effects of disinformation. Historians and other researchers have already submitted amicus briefs in some of the fossil fuel disinformation cases, where they provide additional information about the defendants' misrepresentations and greenwashing.[266] An amicus brief may be more appropriate than testimony for certain purposes, such as where the insight provided to the court is based on the collective views of numerous individuals and/or groups (as opposed to the knowledge of a specific expert or fact witness). In particular, it would make sense to introduce information about the aggregate effect of fossil fuel disinformation on consumer groups and/or trade associations through an amicus brief.

IV. Conclusion

The fossil fuel disinformation lawsuits are part of a growing trend in litigation seeking to hold corporations liable for the harmful effects of public deception schemes. Precedent from tobacco, lead paint, and opioid litigation suggests that the plaintiffs in these cases do not necessarily need to have a "silver bullet" or "smoking gun" in order to demonstrate a causal nexus between disinformation and damages. Rather, courts may accept reasonable inferences of causation based on multiple lines of evidence, such as the scale and scope of deceptive communications, acknowledgements by defendants or their agents of the intended or observed effects of such communications, and academic scholarship on the effects of disinformation on the public.

First Amendment protections for political speech may impose limitations on the types of evidence that can be used to demonstrate this causal nexus.[267] The best strategy for prevailing in these cases may be to focus on the nexus between commercial communications and changes in consumer perception and behavior, and a growing body of scholarship can be utilized for this purpose. The plaintiffs may also be able to use discovery tools to uncover additional evidence on the implementation and effects of disinformation campaigns, similar to the approach taken in past tobacco litigation. Ultimately, demonstrating causation in the context of wide-reaching and prolonged disinformation by defendants is achievable, but may require innovative and thorough analysis by plaintiffs.

265. Many of these interviews are with politicians or individuals involved in lobbying and policy, and plaintiffs may be unable to rely on testimony from such individuals due to the First Amendment issues discussed above. But there is no reason to think that political figures are the only individuals who could provide such testimony—other actors who have been "duped" by fossil fuel disinformation may want to speak out about these issues in order to protect their reputation and/or hold these companies accountable. For examples of interviews with people who were deceived by these companies, see *Frontline: The Power of Big Oil* (PBS television broadcast 2022); Black Gold (TIME Studios & Protozoa Pictures 2022).

266. *See, e.g.*, Brief of Amici Curiae Robert Brule, Center for Climate Integrity, Chesapeake Climate Action Network, Justin Farrell, Benjamin Franta, Stephan Lewandowsky, Naomi Oreskes, Geoffrey Supran, and the Union of Concerned Scientists in Support of Plaintiff-Appellee and Affirmance, Delaware v. BP Am. Inc., No. 22-1096 (3d Cir. filed Apr. 21, 2022); Brief of Amici Curiae Robert Brule, Center for Climate Integrity, Justin Farrell, Benjamin Franta, Stephan Lewandowsky, Naomi Oreskes, and Geoffrey Supran in Support of Appellees and Affirmance, County of San Mateo v. Chevron, No. 18-15499 (9th Cir. filed Apr. 29, 2019).

267. *See* Katie G. Horner, *Does the First Amendment Protect Fossil Fuel Companies' Public Speech?*, 53 ELR ___ (forthcoming January 2023).