ARTICLES

USING ISSUE CERTIFICATION AGAINST A DEFENDANT CLASS TO ESTABLISH CAUSATION IN CLIMATE CHANGE LITIGATION

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SUMMARY

Efforts to hold major greenhouse gas emitters accountable for the harms caused by global climate change have been consistently frustrated at the procedural stages of litigation in U.S. federal courts. This Article explores using a combination of class action mechanisms to engage with these threshold barriers and hold carbon-major corporations responsible for climate impacts. Specifically, it proposes using issue certification under Federal Rule of Civil Procedure 23(c)(4) against a defendant class of carbon-major polluters to overcome the causation question that has obstructed federal courts' engagement with the merits of climate change litigation.

> [T]he mere fact that [a single] suit alone cannot halt climate change does not mean that it presents no claim suitable for judicial resolution.
>
> *Juliana v. United States*, 947 F.3d 1159, 1175 (9th Cir. 2020) (Staton, J., dissenting)

To date, attempts to hold fossil fuel companies and other major greenhouse gas (GHG) emitters accountable for the damage wrought by global climate change have been consistently frustrated in U.S. federal courts. This Article examines the potential for a combination of class action mechanisms under the Federal Rules of Civil Procedure to overcome the threshold barriers hindering such litigation and to hold carbon-major corporations responsible for the impacts of climate change. Specifically, it proposes using issue certification under Rule 23(c)(4) against a defendant class of carbon-major polluters to overcome the causation problem obstructing federal courts' engagement with the merits of this critical environmental issue. Utilized to its fullest extent, this configuration could establish legal accountability for carbon-major corporations' contributions to global climate change. At a minimum, it can facilitate future lawsuits by engaging with the judicial obstacles preventing climate change claims from being litigated on the merits in federal fora.

The Article proceeds in five parts. Part I discusses existing problems with federal climate change litigation, and outlines the scope of prominent challenges. Part II introduces the defendant class, proposing its use as a means of aggregating the causation element described in Part I. Part III considers Rule 23(c)(4) as an additional class action mechanism that can isolate the aggregated causal question for a preliminary issues trial. Part IV charts a course for litigation that avoids threshold obstacles and addresses practical concerns under contemporary class action jurisprudence. Part V concludes.

I. Existing Issues With U.S. Climate Change Litigation

Defined broadly, climate change litigation includes "any piece of federal, state, tribal, or local administrative or judicial litigation in which the party filings or tribunal decisions directly and expressly raise an issue of fact or law regarding the substance or policy of climate change causes and impacts."[1] That definition covers a lot of ground, but the

Author's Note: The author wishes to express gratitude to Profs. Robert H. Klonoff and Dr. Lisa Benjamin for their guidance and encouragement.

1. David Markell & J.B. Ruhl, *An Empirical Assessment of Climate Change in the Courts: A New Jurisprudence or Business as Usual?*, 64 Fla. L. Rev. 15, 27 (2012).

relevant scope is easy enough to extract. There are basically two kinds of climate change litigation: (1) claims against government entities for regulatory failures; and (2) claims against private parties for wrongdoing and damages.

According to the Sabin Center for Climate Change Law's comprehensive database tracking worldwide climate change litigation, more than 750 lawsuits have been filed in the United States since 2016 seeking some kind of climate change-related relief across both of these categories.[2] These lawsuits run the gamut from federal statutory and constitutional claims, to state public trust and common-law actions, to Freedom of Information Act requests and financial disclosure disputes.[3]

Early attempts to litigate the impacts of climate change were met with significant resistance from U.S. federal courts. The sheer magnitude of the issue and its implications for economic development has resulted in significant reluctance from the judiciary to seriously engage with the merits of climate change litigation.[4] Federal courts have leaned heavily on procedural barriers to keep climate change litigation from gaining ground on their dockets. For example, displacement doctrine has allowed judges to duck the scientifically complex issues raised in this "first wave" of climate change litigation, by punting them to the legislative and executive branches to resolve with enforcement actions under environmental legislation and regulation.[5]

Article III standing has also been used to block efforts to litigate climate change claims in federal court because of the difficulty in attributing a "fairly traceable" link between a plaintiff's harm and a defendant's conduct, given the disparate nature of GHGs.[6] This same issue would also make it challenging to establish causation on the merits of these claims, because the nature of climate change appears to undermine the judicial capacity to configure causal relationships.[7] To date, federal courts' inability to draw a sufficient causal link between a plaintiff's injury and a particular defendant's emissions has effectively precluded the judiciary from engaging with such cases, defeating "even the most sympathetic of climate change plaintiffs."[8]

Substantial efforts have been made to circumvent these barriers over the past couple of decades. Some courts have tried utilizing the framework of common-law doctrines like public nuisance as a stand-in for the causal relationship required to satisfy Article III.[9] Several states and municipalities have attempted to avoid federal issues altogether by bringing innovative lawsuits against offending carbon-major corporations under state common-law, public trust, and consumer protection laws.[10] And there is a fast-growing trend in "second-wave" climate litigation to hone in on corporate vulnerabilities by characterizing the effects of climate change as a financial risk—rather than a public right or an environmental interest—in order to avoid displacement by complex federal regulatory frameworks.[11]

However, this contemporary litigation strategy has its own set of limitations. Foremost, it fails to achieve "core climate justice objectives such as attributing responsibility for the impacts of climate change and compensating its victims," because the emphasis is on forward-looking corporate behavior rather than accountability for past wrongdoing and ongoing harm.[12] At bottom, climate change litigation in the United States is a muddy field upon which a lot of players on several teams are experimenting with all kinds of different tactics as they navigate the fast-changing rules of a high-stakes game.

A. *Standing*

Among the landmarks that serve to "identify those disputes which are appropriately resolved through the judicial process" is the doctrine of standing.[13] Stated generally, standing is a constitutional prerequisite that requires a prospective plaintiff to have suffered a cognizable injury, fairly traceable to the defendant's conduct, that is redressable by a favorable judgment from the court. Modern standing doctrine can be distilled to a three-part test:

> [T]o satisfy Article III's standing requirements, a plaintiff must show (1) it has suffered an injury in fact that is

2. Sabin Center for Climate Change Law, *Climate Change Litigation Databases*, http://climatecasechart.com/search/?fwp_filing_year=2016%2C2017%2C2018%2C2019%2C2020%2C202 (last visited Mar. 1, 2022).
3. *See id*. Securities law and financial regulation is a promising avenue for climate change litigation that has emerged over the past few years. The idea is that shareholders can hold publicly traded companies liable for failure to disclose financial risks that arise from a changing climate, such as stranded assets or transitional issues. *See*, *e.g.*, Ramirez v. Exxon Mobil Corp., 334 F.3d 832 (N.D. Tex. 2018). Alternatively, shareholders can sue companies for making false or misleading representations about "green" initiatives like clean energy investments, emissions data, environmental compliance, sustainability practices, and so on. *See*, *e.g.*, Bentley v. Oatly Group AB, No. 1:21-cv-06485 (S.D.N.Y. July 30, 2021).
4. Lisa Benjamin, *The Road to Paris Runs Through Delaware: Climate Change Litigation and Directors' Duties*, 2020 Utah L. Rev. 313, 328-29 (2020).
5. American Elec. Power Co., Inc. v. Connecticut, 564 U.S. 410, 41 ELR 20210 (2011) (holding that the Clean Air Act displaces any federal common-law right seeking the abatement of GHG emissions).
6. Native Vill. of Kivalina v. ExxonMobil Corp., 663 F. Supp. 2d 863, 39 ELR 20236 (N.D. Cal. 2009).
7. Henry Weaver & Douglass A. Kysar, *Courting Disaster: Climate Change and the Adjudication of Catastrophe*, 93 Notre Dame L. Rev. 295, 308 (2017).
8. *Id*. at 328.
9. The U.S. Court of Appeals for the Second Circuit accepted as much in *Connecticut v. American Electric Power, Co.*, 582 F.3d 309, 39 ELR 20215 (2d Cir. 2009), arguing that the traceability analysis in climate change cases could use "the standard by which a public nuisance action imposes liability on contributors to an indivisible harm." *Id*. at 346. But the U.S. Supreme Court overruled on grounds that federal common law was displaced. *American Elec. Power Co.*, 564 U.S. 410.
10. *See*, *e.g.*, City & County of Honolulu v. Sunoco LP, No. CCV-20-380 (Haw. Cir. Ct. filed Mar. 9, 2020) (alleging climate-related harms to municipal infrastructure under state common law); Held v. Montana, No. CDV-2020-307 (Mont. Dist. Ct. filed Mar. 13, 2020) (alleging constitutional violations of the public trust for climate-related injuries); Massachusetts v. ExxonMobil Corp., 462 F. Supp. 3d 31 (D. Mass. 2020) (alleging that Exxon fraudulently concealed and misrepresented to investors and consumers about the risks of rising GHG emissions).
11. Benjamin, *supra* note 4.
12. Anita Foerster, *Climate Justice and Corporations*, 30 Kings L.J. 305, 318-19 (2019) (moreover, the tools of corporate law are limited by their focus on performance, value, and shareholder interests; while climate-harmful activities remain profitable in the short term, these tools will be ill-suited to compel corporate sustainability).
13. Lujan v. Defenders of Wildlife, 504 U.S. 555, 560, 22 ELR 20913 (1992) (quoting Whitmore v. Arkansas, 495 U.S. 149, 155 (1990)).

> (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.[14]

In the wider context of environmental litigation, standing doctrine already presents significant challenges, because its foundations in traditional notions of tort liability are often ill-suited to the realities of environmental harm.[15] And these issues are only exacerbated in the context of climate change. For claims against public entities, standing can be invoked to reject generalized, uncertain, and future-oriented injuries, or to disclaim judicial power to remedy even cognizable harms.[16] For claims against private parties, causation is the sticky wicket; the diffuse nature of GHG emissions and the global scope of the problem makes it difficult to trace a sufficient causal link from a given plaintiff's injury to the conduct of a particular defendant.[17]

With respect to climate change litigation in the United States, these requirements have been fatally burdensome. Climate-related injuries can be characterized as public, generalized grievances or discounted as vague, uncertain, and impermissibly forward-looking. The necessary causal relationship is difficult to establish against private defendants because it is hard to trace even cognizable harms to the individual contributions of any single polluter. And redressability can be challenging because the lack of obvious judicial solutions to such a widespread problem tends to frustrate remedy.

1. Injury

To satisfy this "irreducible constitutional minimum," a plaintiff's injury must constitute "an invasion of a legally protected interest which is (a) concrete and particularized, and (b) actual or imminent, not conjectural or hypothetical."[18] Injury issues in environmental litigation are less common outside of actions challenging the activity (or inactivity) of government entities, largely because the standard against which injury is evaluated "depends considerably upon whether the plaintiff is [themself] an object of the action (or forgone action) at issue."[19]

Injuries in climate change litigation aimed at public entities can be characterized as generalized grievances, because the harms associated with increased climate volatility as a result of regulatory failures are both widely shared and often dependent on public rights jurisprudence.[20] Additionally, the extent of future climate-related harms is inherently uncertain because there is a built-in blind spot in our scientific analysis: we do not know what (if any) mitigation measures will be employed in the future or how effective they will be. These difficulties by themselves do not necessarily defeat the injury analysis, but they do make public-facing climate change litigation inherently susceptible to standing challenges.[21]

2. Causation

The crux of the standing issue in climate change litigation against individual carbon-major corporations is causation. Although initially raised in the context of Article III, this issue also goes to the merits of any claim that relies on a causal element to establish liability. Resolving this causation issue in private climate change litigation is the primary objective of the class action configuration proposed here.

To be clear, the problem is not about an empirical link between GHG emissions and the effects of climate change. That question was squarely resolved in *Massachusetts v. Environmental Protection Agency*, when the U.S. Supreme Court explicitly accepted the conclusions of climate science as sufficiently plausible to establish "quasi-sovereign" standing, and enshrined a regulatory mandate to govern GHG emissions under the Clean Air Act (CAA).[22] The causation problem in private litigation against carbon-major corporations lies in the difficulty of tracing a plaintiff's injury to the conduct of a specific defendant. Several first-wave climate change lawsuits from the early 21st century fell prone to this pitfall because plaintiffs were "unable to establish that the actions of particular companies had *caused* the loss or damage resulting from climate change given the myriad of actors involved over space and time in causing climate change."[23]

For example, in *Native Village of Kivalina v. Exxon Mobil Corp.*, the district court dismissed an Alaskan village's claim seeking reimbursement for relocation costs from 24 large energy companies because the causal link between the defendants' conduct and the plaintiffs' injuries was insufficient to establish Article III standing.[24] The

14. Friends of the Earth, Inc. v. Laidlaw Env't Servs., Inc., 528 U.S. 167, 180-81, 30 ELR 20246 (2000) (internal citations omitted).
15. Barry Kellman, *Standing to Challenge Climate Change Decisions*, 46 ELR 10116 (Feb. 2016) (characterizing Article III standing as a charade that "serves as little more than a call for ritual observance of doctrine," because environmental disputes are often about acts that have net yet occurred or involve consequences that have not yet manifested).
16. *See*, *e.g.*, Juliana v. United States, 947 F.3d 1159, 50 ELR 20025 (9th Cir. 2020). *But see* Massachusetts v. Environmental Prot. Agency, 549 U.S. 497, 37 ELR 20075 (2007).
17. Benjamin Ewing & Douglas A. Kysar, *Prods and Pleas: Limited Government in an Era of Unlimited Harm*, 121 Yale L.J. 352, 392 (2011).
18. *Lujan*, 504 U.S. at 560.
19. *Id.* at 561 (explaining that in claims against private parties, the plaintiff is usually the object of the offending conduct, whereas in claims against public entities, plaintiffs may allege injuries that arise from regulatory action targeted at someone else).
20. The "generalized grievance" doctrine requires something more than just a widely shared harm because it relies on the premise that the U.S. Congress cannot vest an "abstract, self-contained, non-instrumental right" in the general public to have the executive branch follow the law or take specific regulatory actions. *Id.* at 573.
21. National Environmental Policy Act challenges to regulatory (in)action are a notable exception to this difficulty. *See*, *e.g.*, AquAlliance v. U.S. Bureau of Reclamation, 287 F. Supp. 3d 969 (E.D. Cal. 2018).
22. 549 U.S. 497, 37 ELR 20075 (2007); 42 U.S.C. §§7401-7671q, ELR Stat. CAA §§101-618.
23. Foerster, *supra* note 12, at 308-09.
24. 663 F. Supp. 2d 863, 39 ELR 20236 (N.D. Cal. 2009). On appeal, the U.S. Court of Appeals for the Ninth Circuit held that the CAA displaced Kivalina's federal common-law private-nuisance claim, relying on *American*

court rejected the principle of "contributory responsibility" upon which plaintiffs relied because it was derived from the statutory framework of the CAA,[25] under which parties that exceed federally prescribed discharge limits can be presumptively held accountable, even if "it may not be possible to trace the injury to a particular entity."[26] The district court held that absent any comparable regulatory standards limiting GHG discharges, no presumption arises—at which point "it is entirely irrelevant whether any defendant 'contributed' to the harm."[27]

Similar notions of contributory responsibility were almost endorsed in a plaintiff class action brought against several large energy companies by a group of property owners along the Mississippi Gulf Coast.[28] There, the U.S. Court of Appeals for the Fifth Circuit initially held that the plaintiffs did have standing to bring their nuisance, trespass, and negligence claims for damages wrought by climate change, relying heavily on *Massachusetts* as support for a theory of "contributory responsibility" to satisfy the causation element of Article III standing.[29] Under this standard, the "fairly traceable" test was framed not as an inquiry about the defendants' degree of culpability, but asked a binary question: "whether the pollutant causes or *contributes to* the kinds of injuries alleged by the plaintiff."[30]

However, that decision was swiftly overturned by an en banc panel, which dismissed the case and vacated the appellate decision without hearing argument on the grounds that it lacked a quorum to conduct judicial business.[31] Following the denial of mandamus review by the Supreme Court, the plaintiffs refiled in the Southern District of Mississippi, but the case was dismissed again on multiple grounds, including federal preemption of the state-law claims.[32] However, on appeal, the Fifth Circuit merely invoked res judicata to preclude relitigation of the same cause of action, leaving federal preemption an open question.[33]

In light of these challenges, subsequent litigation aimed at corporate accountability has drawn heavily on significant developments in climate science that allow discrete and precise quantities of GHGs to be traced to the largest-scale emitters: carbon-major corporations.[34] These advancements have led some global jurisdictions to begin grappling with this issue of corporate accountability for climate-related harms, albeit through a slightly patchwork process.[35] But despite these recent scientific advancements, "a concrete finding of legal responsibility against corporations" for their contributions to global climate change "remains elusive."[36]

Corporate defendants in the United States have successfully been able to fend off attempts to establish accountability by arguing that their individual contributions cannot be attributed to any particular harm, given the number of other major polluters contributing to the same problem. Judicial endorsement of this argument in federal court has tacitly accepted that the "emissions from one entity, even a single or a group of large industrial GHG emitters, cannot *on their own* be said to 'cause' climate change."[37]

3. Redressability

Another prominent issue with federal climate change litigation is redressability. This element of standing was the poison pill that killed *Juliana v. United States* in the U.S. Court of Appeals for the Ninth Circuit.[38] To satisfy this element, it must be "likely, as opposed to merely speculative, that the [plaintiff's] injury will be redressed by a favorable decision" from the court.[39] However, much like the injury requirement, this element tends to ensnare claims against public entities rather than private parties. In cases like *Juliana*, where the requested relief is affirmative conduct by the government to engage with climate change issues, judges are reluctant to reach into the political process and set policy objectives thought better left to the legislature.[40] In a claim for damages or declaratory relief, the availability of judicial redress should pose no significant issues.

Electric Power Co., Inc. v. Connecticut, 564 U.S. 410, 41 ELR 20210 (2011), which held that federal common-law public-nuisance actions for abatement against GHG emitters are displaced by the CAA. Native Vill. of Kivalina v. Exxon Mobil Corp., 696 F.3d 849, 42 ELR 20195 (9th Cir. 2012). But it is a little incongruous that while the district court's decision was based on a lack of federal standards with which to support the presumption of a "substantial likelihood" of harm, the Ninth Circuit dismissed the case on grounds that it was displaced by a federal regulatory scheme. Additionally, there is some "tension in Supreme Court authority on whether displacement of a claim for injunctive relief necessarily calls for displacement of a damages claim." *Id.* at 858 (Pro, J., concurring).

25. 33 U.S.C. §§1251-1387, ELR Stat. FWPCA §§101-607.
26. *Kivalina*, 663 F. Supp. 2d at 880.
27. *Id.*
28. Comer v. Murphy Oil USA, 585 F.3d 855, 39 ELR 20237 (5th Cir. 2009).
29. *Id.* at 866 (noting that the Fifth Circuit has held "that to satisfy the 'fairly traceable' element of standing plaintiffs need not 'show to a scientific certainty that defendant's pollutants, and defendant's pollutants alone, caused the precise harm suffered by the plaintiffs'").
30. *Id.*
31. Comer v. Murphy Oil USA, 607 F.3d 1049, 40 ELR 20147 (5th Cir. 2010) (en banc) (this particular outcome was remarkable because the Fifth Circuit relied on its inability to transact judicial business for lack of a quorum—in the wake of several well-timed and unexplained recusals—as grounds for refusing to hear the case *after* vacating the prior appellate decision and reinstating the judgment of the district court—which had dismissed the plaintiffs' claims for lack of standing—by default).
32. Comer v. Murphy Oil USA, 839 F. Supp. 2d 849, 42 ELR 20067 (S.D. Miss. 2012). The district court's preemption analysis took all of three paragraphs to unilaterally extend the Supreme Court's limited holding in *American Electric Power Co.* to include state common-law claims. It has not been followed or affirmed.
33. Comer v. Murphy Oil USA, 718 F.3d 460, 43 ELR 20109 (5th Cir. 2013).
34. Foerster, *supra* note 12, at 313; Richard Heede, *Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuels and Cement Producers*, 122 Climate Change 229 (2014).
35. *See*, *e.g.*, Lliuya v. RWE AG (Jan. 26, 2017) 2-O-28515 (in which a Peruvian farmer is suing a German utility company for loss and damage caused by glacial flooding as a result of climate change).
36. Foerster, *supra* note 12, at 313.
37. Martin Olszynski et al., *From Smokes to Smokestacks: Lessons From Tobacco for the Future of Climate Liability*, 30 Geo. L. Rev. 1, 22 (2018) (emphasis added).
38. 947 F.3d 1159, 50 ELR 20025 (9th Cir. 2020).
39. Friends of the Earth, Inc. v. Laidlaw Env't Servs., Inc., 528 U.S. 167, 180-81, 30 ELR 20246 (2000) (citations omitted).
40. *Juliana*, 947 F.3d at 1169 (noting that the injunctive remedy necessary to ameliorate the plaintiffs' injury would require "a fundamental transformation of [the] country's energy system, if not that of the industrialized world").

B. Displacement

"[W]hen Congress addresses a question previously governed by a decision [that] rested on federal common law, the need for such an unusual exercise of lawmaking by federal courts disappears."[41] This principle has operated to preclude aggrieved parties from seeking judicial redress for climate-related injuries in federal court through the doctrine of displacement, under which federal legislation obviates common-law claims arising within the scope of sufficiently regulated activities. In the context of climate change, it has allowed federal courts to duck the complexity of these issues by simply deferring the problem to the U.S. Congress or agencies.[42]

In practice, displacement doctrine effectively forecloses federal common-law claims aimed at reducing carbon emissions.[43] For example, in *American Electric Power Co. v. Connecticut*, the Supreme Court held that a federal common-law public nuisance lawsuit brought by several states, one municipality, and three land trusts seeking abatement of carbon emissions from a handful of utility companies was displaced by the regulatory mandate contained in the CAA.[44] In *Kivalina*, the Ninth Circuit extended this doctrine to include federal common-law nuisance claims for damages.[45] However, the courts have left open the question of whether state common-law claims would also be preempted by federal law.

II. The Defendant Class

The mechanism for binding a class of defendants to a single judgment long predates the codification of Federal Rule 23. In fact, the device was practiced by U.S. courts as early as 1853, when the Supreme Court relied on common-law principles to uphold the creation of a defendant class in *Smith v. Swormstedt*.[46] But even after 169 years, the application of Rule 23 to a defendant class is still frequently overlooked.[47]

Defendant class actions are among "the rarest types of complex litigation."[48] These elusive lawsuits are such uncommon vehicles for litigation that they have been compared to "unicorns."[49] But more often than not, they turn out to be nothing more than a donkey with a plunger stuck to its head. And it is easy to see why. Rule 23 offers no procedural guidance for the certification of a defendant class and provides little indication of its dual intent; but for the three little words "or be sued" in the first line of its text, the rule is all but silent on its applicability to a class of defendants.[50]

Commentators' opinions on the defendant class are both relatively sparse and remarkably diverse. Some have argued that its use should be encouraged because it promotes judicial efficiency, increases access to justice, facilitates desirable social change, and can supplement inadequate regulatory schemes.[51] Others criticize the device as unfair because absent defendants can be bound to a judgment without adequate notice, sufficient representation, opportunity to opt out or intervene, and be prevented from raising party-specific affirmative defenses or contesting personal jurisdiction.[52] A few have latched onto the defendant class as a vehicle to facilitate specific kinds of litigation.[53]

This Article falls within the third category. This section examines the application of Rule 23 to a class of carbon-major defendants, and proposes utilizing this mechanism to aggregate causation in climate change litigation. The resulting configuration provides a viable alternative to the awkward "contributory responsibility" analysis that has been unsuccessfully employed in federal climate change litigation against private parties.

A. Defendant Class Climate Change Litigation

The core causation problem in climate change litigation against carbon-major corporations is the difficulty in tracing the plaintiff's injury to a particular defendant's emissions. This barrier has prevented litigation on corporate accountability for climate change from gaining any real traction in the United States, because it allows federal courts to dismiss claims on standing grounds without engaging in substantive analysis.[54] But the issue is by no means limited to threshold concerns; as the Fifth Circuit noted in *Comer*, the question also goes to the merits of a case.[55] The difficulty arises from the fact that the inputs contributing to climate change, even among a short list of carbon-major polluters, are so diffuse that drawing a sufficient causal link between a specific defendant's conduct and a particular plaintiff's injuries is next to impossible. Although some progress has been made in other jurisdictions, the issue remains a significant barrier to climate change litigation in the United States.

41. City of Milwaukee v. Illinois & Michigan, 451 U.S. 304, 11 ELR 20406 (1981).
42. Benjamin, *supra* note 4.
43. The Supreme Court has also held that displacement does not turn on the specific remedy sought; where a federal common-law public-nuisance claim for injunctive relief (such as abatement of GHGs) is displaced, so too is a federal common-law claim for damages. Middlesex Cnty. Sewage Auth. v. National Sea Clammers Ass'n, 453 U.S. 1, 11 ELR 20684 (1981).
44. 564 U.S. 410, 41 ELR 20210 (2011).
45. Native Vill. of Kivalina v. Exxon Mobil Corp., 696 F.3d 849, 42 ELR 20195 (9th Cir. 2012).
46. 57 U.S. (16 How.) 288 (1853); Robert E. Holo, *Defendant Class Actions: The Failure of Rule 23 and a Proposed Solution*, 38 UCLA L. Rev. 223 (1990).
47. Some scholars have argued persuasively that the defendant class is not just overlooked, but underutilized. *See*, *e.g.*, Francis X. Shen, *The Overlooked Utility of the Defendant Class Action*, 88 Denv. U. L. Rev. 73 (2010).
48. Bell v. Brockett, 922 F.3d 502, 504 (4th Cir. 2019).
49. CIGNA Healthcare of St. Louis, Inc. v. Kaiser, 294 F.3d 849, 853 (7th Cir. 2002).
50. Fed. R. Civ. P. 23(a).
51. Holo, *supra* note 46, at 224, 225-28.
52. Elizabeth Barker Brandt, *Fairness to the Absent Members of a Defendant Class: A Proposed Revision of Rule 23*, 1990 BYU L. Rev. 909, 911 (1990).
53. *See*, *e.g.*, Peter Parsons & Kenneth W. Starr, *Environmental Litigation and Defendant Class Actions: The Unrealized Viability of Rule 23*, 4 Ecology L.Q. 881 (1975) (arguing that the defendant class action device is particularly well-suited for environmental litigation).
54. Olszynski et al., *supra* note 37, at 20.
55. *See* Comer v. Murphy Oil USA, 585 F.3d 855, 39 ELR 20237 (5th Cir. 2009).

One method of addressing this issue, commonly practiced in other areas of environmental law, allows "contributory responsibility" to satisfy this causal link for individual defendants. But this causal link relies on regulatory violations to create a presumption of harm.[56] Moreover, the binary configuration of this causation analysis is judicially awkward because it elicits no clear definition for the upper bounds of contributory responsibility. Without a statutory framework to provide clear conditions, the test for contributory liability is crude and inefficient, requiring an uncomfortable degree of ad hoc judicial line-drawing that contains no inherent limiting principle.

If a corporate polluter can be held liable simply because its answer to the question of whether it contributes to the increase of global GHGs is "yes," then why shouldn't anyone who drives a gas-fueled vehicle be held liable too? The point of a binary analysis is to do away with degrees of culpability. But the test fails on its own terms because the dispositive question in every case will be one of degree anyway: how much contribution is sufficient to support causation under a given set of circumstances? And the answers will be hopelessly inconsistent, because the factual content of each case will be too distinct to extract workable principles of general applicability.[57]

The solution proposed here is essentially the opposite of contributory responsibility. Rather than analyze causation to establish accountability for each carbon-major polluter on an individual, artificially attenuated basis, action could be brought against a class of defendants alleging responsibility in a way that reflects the nature of the problem: aggregated. Note that the causal link necessary to establish responsibility for climate-related harms can be broken down into its component parts: (1) the connection between a plaintiff's injury and global climate change; and (2) the connection between global climate change and the defendants' GHG emissions. The latter is the focus of this inquiry. Instead of trying to establish the causal element of climate change claims by relying on minute and attenuated links to the emissions of individual carbon-major corporations, a defendant class could be certified to litigate the causal question collectively.

B. *Types of Defendant Class Actions*

All of the essential principles that guide complex litigation also apply to a defendant class action. The fact that "[d]efendant class actions, just like plaintiff class actions, must comply with Rule 23," is one of the few undisputed elements of their jurisprudence, because "[t]he primary function of Rule 23 is . . . 'to ensure the protection of absent class members' rights and, hence, the justification of the binding effect of the resulting judgment.'"[58] However, some threshold concerns are exacerbated in this context; the precautionary functions of Rule 23 are "especially important for a defendant class action [because] due process risks are magnified."[59]

Rule 23(b) provides three primary types of class actions, depending on the kind of claim giving rise to litigation. Rule 23(b)(1) offers class certification if the adjudication of individual claims would risk either (A) inconsistent outcomes that would result in "incompatible standards of conduct for the party opposing the class," or (B) substantial impairment of non-parties' ability to protect interests that would be determined by the outcome.[60] Rule 23(b)(2) applies to cases where the challenged conduct of the opposing party rests on grounds that are generally applicable to the class as a whole.[61] And Rule 23(b)(3) governs claims for monetary damages where the court determines that common questions of law or fact predominate over individual issues and that the class action is superior to individual adjudication.[62]

It is clear from the text of the rule itself that at least 23(b)(1) contemplates application to a defendant class.[63] However, neither subcategory of the (b)(1) class action is well-suited to climate change litigation, because it is inconceivable that individual adjudications against each polluter-defendant would either (A) impose incompatible standards of conduct on plaintiffs, or (B) practically impede defendants' ability to protect their interests. In fact, as to the latter, the opposite is true; individual lawsuits against carbon-major polluters provide them with a much better opportunity to protect their interests precisely because of the causal issues described in Part I.

It remains an open question whether Rule 23(b)(2) is an appropriate vehicle for defendant class actions. The text of the rule offers some indication that 23(b)(2) was not intended to accommodate defendant class actions because of its singular language: "the *party* opposing the class—the plaintiffs—would not be the party who has acted or refused to act on grounds that apply generally to the class."[64] However, commentators have noted that this language can be

56. Native Vill. of Kivalina v. ExxonMobil Corp., 663 F. Supp. 2d 863, 880, 39 ELR 20236 (N.D. Cal. 2009).

57. This provides a pretty good policy rationale for applying (c)(4) class certification to threshold issues like this one, because the difficulty in extracting useful mechanisms to handle otherwise viable claims from conventional litigation methods suggests a need for tools that are better suited to aggregate conduct and liability.

58. Bell v. Brockett, 922 F.3d 502, 510 (4th Cir. 2019) (quoting 1 William B. Rubenstein, Newberg on Class Actions §1:10 (5th ed. 2011)).

59. *Id.* at 511 (citing Joseph M. McLaughlin, McLaughlin on Class Actions §4:46 (15th ed. 2018)).

60. Fed. R. Civ. P. 23(b)(1)(A)-(B).

61. *Id.* 23(b)(2). Remedy under this type of claim is limited to declaratory or injunctive relief.

62. *Id.* 23(b)(3). These findings are based on four elements provided by the rule: (A) the class members' interests in individually controlling the prosecution or defense of separate actions; (B) the extent and nature of any litigation concerning the controversy already begun by or against absent class members; (C) the desirability or undesirability of concentrating the litigation of the claims in a particular forum; and (D) the likely difficulties of managing a class action.

63. *Id.* 23(b)(1) ("prosecuting separate actions by or against individual class members").

64. Brown v. Kelly, 609 F.3d 467, 478 (2d Cir. 2010) (emphasis added). Although certification was overturned because of adequacy and typicality issues, the Second Circuit took pains to uphold 23(b)(2)'s applicability to defendant class actions.

read consistently with respect to bilateral class actions.[65] And courts that have permitted a defendant class under 23(b)(2) reason that it accords with the general authorization permitting members of a class to "sue or be sued" in the introductory text of 23(a).[66] Moreover, the text of 23(b)(2) is only ambiguous; it does not explicitly prohibit defendant classes—the language is just an awkward fit.

On the other hand, the validity of (b)(2) defendant class actions has been challenged by an influential case from the U.S. Court of Appeals for the Seventh Circuit.[67] In a claim seeking injunctive relief to enforce compliance with regulatory procedures against a defendant class of 770 welfare departments across Illinois, Judge Richard Posner held that both the language of and rationale behind the rule unequivocally precluded the use of (b)(2) against a class of defendants.[68] Taking issue with the lack of notice and opt-out requirements embedded in this type of class action, the court reasoned that this application of Rule 23 would give federal courts an improperly expansive claim to personal jurisdiction not intentionally conferred by the rules' drafters.[69]

Either way, class certification under Rule 23(b)(3) is the most common type used in defendant class actions. This device is better suited to cure some of the fairness deficiencies described above, because it affirmatively requires that notice be sent to all reasonably identifiable class members.[70] However, two components of this mechanism raise considerable barriers when applied to a defendant class in climate change litigation.

First, given the availability of the "insufficient causal link" argument for individual claims, defendant class members would have a significant interest in controlling their own legal defense against separate causes of action. This factor is not dispositive to the (b)(3) analysis, but it could weigh against certification in this context. Additionally, the opt-out provision required by this type of class action creates potential superiority concerns because—given the defensive benefits of individual litigation—there is a substantial incentive for polluter-defendants to opt out of the class, which could effectively nullify the utility of the class action device in the first place.

III. The Issue Class

Rule 23(c)(4) provides that "[w]hen appropriate, an action may be brought or maintained as a class action with respect to particular issues."[71] This provision enables courts to break up complicated lawsuits into manageable pieces, separating out common issues that can be litigated in the aggregate from individual issues that require subsequent adjudication.[72] Issue certification is often utilized to overcome problems with the predominance and superiority requirements of Rule 23(b)(3) because it allows courts to circumvent some of the highly fact-specific, individualized questions that frequently kill class action claims.

However, this utility also creates tension with the policy objectives behind Rule 23's strictures in the first place, because permitting courts to simply "sever issues until the remaining common issue predominates over the remaining individual issues would eviscerate the predominance requirement of Rule 23(b)(3)."[73] Note, however, that the opposite is also true: restricting the use of Rule 23(c)(4) just because it can better navigate some of the obstacles preventing adjudication of otherwise cognizable claims would effectively blunt "one of the sharpest instruments available to trial courts managing mass [action] litigation."[74] Thus, narrowly restricting courts' ability to carve out common issues to resolve on a classwide basis—issues that, if included, would defeat an equitable and efficient use of the class action device—is arguably just as harmful to the policy objectives set forth by Rule 23.

A. *Issue-Class Certification*

Issue certification is particularly well-suited to litigation in which two criteria exist: (1) a common set of underlying facts; and (2) varying degrees of harm.[75] Because the latter often defeats the predominance and superiority requirements of (b)(3) class actions, (c)(4) is most commonly used to bifurcate liability and damages,[76] such that liability can be litigated in the aggregate and damages determined on a case-by-case basis in follow-on proceedings. But its utility is not so limited; an effective way to conceptualize the function of (c)(4) is the separation of "upstream" conduct from "downstream" effects,[77] isolating matters generally applicable to the class from those that only apply to individual claims.

Contemporary class action jurisprudence indicates that courts are increasingly willing to permit issue certification to "isolate threshold issues for class treatment—even if class members' suits might need to be adjudicated individually—as long as resolution of the common issues will substantially advance the disposition of the litigation as a whole."[78] Thus, both existing and emerging practices align with this Article's core proposition: utilizing issue certi-

65. 2 William B. Rubenstein, Newberg on Class Actions §4:46 (5th ed. 2021).
66. *Brown*, 609 F.3d at 478.
67. Henson v. E. Lincoln Twp., 814 F.2d 410 (7th Cir. 1987).
68. *Id.* at 416.
69. *Id.* Judge Posner's opinion clearly articulates the court's intent to foreclose certification of a defendant class under (b)(2) in all circumstances. However, the blanket ban is arguably dicta and thus not binding precedent even in the Seventh Circuit because it reaches past the issues and facts necessary to decide this case.
70. Fed. R. Civ. P. 23(c)(2)(B).
71. *Id.* 23(c)(4).
72. Robert H. Klonoff, Class Actions and Other Multi-Party Litigation: Cases and Materials 298 (4th ed. 2017).
73. Castano v. American Tobacco Co., 84 F.3d 734, 745 (5th Cir. 1996) (asserting the narrow view that "[a] district court cannot manufacture predominance through the nimble use of subdivision (c)(4)").
74. In re Copley Pharm., Inc., 161 F.R.D. 456, 461 (D. Wyo. 1995).
75. Joseph A. Seiner, *The Issue Class*, 56 B.C. L. Rev. 121, 123 (2015).
76. This proposal essentially asks the court to bifurcate causation and liability.
77. Klonoff, *supra* note 72, at 300.
78. Jenna C. Smith, *"Carving at the Joints": Using Issue Classes to Reframe Consumer Class Actions*, 88 Wash. L. Rev. 1187, 1188 (2013).

fication to resolve the causal question in private climate change litigation.

Moreover, issue-class certification is *precisely* equipped to solve this problem. First, there is a common set of underlying facts that establish the basis of legal challenges against carbon-major defendants: their contributions to the global increase of atmospheric GHGs. And the causal issue is perfectly positioned against a defendant class, because aggregate liability is the only real way to adequately address injuries that are caused by collective conduct. By severing this one "upstream" element, common to all the polluter-defendant class members, the causal issue can be resolved and individual claims can proceed to litigation on the merits of "downstream" facts.

Second, the nature of injuries resulting from climate change are necessarily diverse, which means that the degree of harm will differ from plaintiff to plaintiff and proportional responsibility will vary from defendant to defendant. Without the ability to splice out common issues, these vagaries would almost certainly defeat class certification. But properly equipped with Rule 23(c)(4), courts are empowered to carve out individual issues that would otherwise fall prone to predominance and superiority. In *Mejdrech v. Met-Coil Systems Corp.*, the Seventh Circuit enshrined this exact use of issue-class certification in the context of environmental litigation, stating that where

> there are genuinely common issues, issues identical across all the claimants, issues moreover the accuracy of the resolution of which is unlikely to be enhanced by repeated proceedings, then it makes good sense especially when the class is large, to resolve those issues in one fell swoop while leaving the remaining, claimant-specific issues to individual follow-on proceedings.[79]

Notably, this use of Rule 23(c)(4) has been steadily gathering momentum. Almost 20 years ago, the Seventh Circuit upheld issue certification in a (b)(3) class action to isolate from individual issues the conduct of a defendant corporation that allegedly leaked a noxious solvent into the soil and groundwater beneath plaintiffs' homes, because the underlying question—whether and where the defendant had leaked the substance—was common to all of the class members' claims.[80] More recently, in *McReynolds v. Merrill Lynch & Co., Inc.*, Judge Posner relied on similar reasoning in a class action under (b)(2) to arrive at essentially the same result, reversing a district court's denial of issue-class certification for "upstream" discriminatory corporate practices.[81] And a few years ago, the U.S. Court of Appeals for the Sixth Circuit joined the growing number of jurisdictions that have adopted this potent "broad view" of (c)(4) utility in the environmental litigation context.[82]

Applied to climate change litigation, preliminary classwide resolution of the causal issue would effectuate complete preclusion against the defendant class members in individual, follow-on litigation. This would prevent carbon-major corporations from avoiding liability by artificially attenuating their collective responsibility for climate change. Then, as present and future plaintiffs with manifested harms bring suit, the only remaining causal question in each claim would be the connection between the plaintiff's injury and the effects of global climate change; the defendant's responsibility for the latter will have already been established. Although this configuration does not resolve the causal element for every case entirely, it advances the disposition of litigation by shifting focus from the question of defendants' responsibility for the effects of their GHG emissions to whether the plaintiff's injury was a result of climate change.

B. *Interaction Between Rule 23(c)(4) and the Defendant Class*

While recognizing that it is not used very often, legal scholarship generally acknowledges that Rule 23(c)(4) permits a group of plaintiffs "to certify certain issues common among them," even in cases where "a class has not been permitted to proceed."[83] Whether the same permissive approach applies to a class of defendants remains an open question, but one that should be answered in the affirmative. The theory behind issue-class certification is based on the advantages of judicial economy that can be achieved by adjudicating issues that are common to the entire class, even when other issues may need to be litigated separately with respect to individual class members.[84] This conception of the issue class is inherently compatible with the established model of defendant class actions, where litigation is limited to the resolution of "upstream" issues anyway.

Traditionally, defendant class actions are strictly "limited to the resolution of issues that are perfectly common to all class members."[85] Accordingly, in the typical case "a loss by the defendant class will not, without more, lead to a final determination that particular [parties] owe anything to the plaintiff."[86] Patent litigation provides a useful illustration of this dynamic: a defendant class action can determine the validity of the plaintiff's patent against alleged violators, while leaving individual issues of actual infringement and damages to subsequent trials.[87]

The configuration proposed here follows a parallel track: an issue trial against a defendant class can resolve the causal connection between the defendants' GHG emissions and the effects of climate change in the aggregate, leaving individual issues of harm and restitution for follow-on litigation. In fact, the accepted model of defendant class actions presupposes the notion that classwide resolution is

79. 319 F.3d 910, 911, 33 ELR 20152 (7th Cir. 2003).
80. *Id.*
81. 672 F.3d 482 (7th Cir. 2012).
82. Martin v. Behr Dayton Thermal Prods. LLC, 896 F.3d 405 (6th Cir. 2018).
83. Seiner, *supra* note 75, at 122-23.
84. Charles Alan Wright & Arthur R. Miller, Federal Practice and Procedure §1790 (3d ed. 2021).
85. *Defendant Class Actions*, 91 Harv. L. Rev. 630, 637 (1978).
86. *Id.* n.40.
87. *Id.* at 637.

suitable for common issues. Foundational cases establishing how defendant class actions function even cite to Rule 23(c)(4) as support for this interpretation.[88] Additionally, the defendant class permits the use of offensive nonmutual collateral estoppel in follow-on litigation where individual rights and liabilities are ascertained once common issues have been resolved.[89]

Careful consideration of the class action mechanism reveals no obvious reasons why certification of common issues in the defendant class context should be prohibited. The text of the rule certainly offers no such distinction, and on principle "the limits of the drafters' imagination supply no reason to ignore the law's demands."[90] On a pragmatic level, Rule 23(c)(4) is designed to be a flexible mechanism. Certification of common issues for class treatment may occur at any time during litigation.[91] Courts are empowered to "redefine classes *sua sponte* prior to certification," although it is not incumbent upon them to do so.[92]

Courts frequently use (c)(4) when even just a single common issue can be identified, as long as certification of the issue for class treatment is otherwise in accordance with the foundational prerequisites of Rule 23.[93] And courts routinely apply (c)(4) to allow partial class actions to proceed, leaving complicated questions of liability, damages, and other such individual issues to follow-on adjudications.[94] Although (c)(4) can be invoked at any time, the most efficacious use of this mechanism is at the certification stage, so courts can determine at the outset whether the other requirements of Rule 23 are satisfied by the plaintiff's chosen configuration.[95] Proper use of this provision is confined to circumstances where the isolation of common issues can resolve certification difficulties in a manner that advances the disposition of the litigation as a whole.[96]

The issue to be certified for class treatment in this proposed configuration is whether the defendant class members' conduct has caused the global increase in atmospheric GHGs precipitating anthropogenic climate change. This question is designed to prime issue preclusion on the causal element of any legal theory that relies on the link between the defendants' GHG emissions and global climate change in subsequent litigation. For plaintiffs, this has the potential to preclude the class of carbon-major corporations from raising attenuated causation as a defense in future litigation for climate change-related harms. And on the other side, defendants have the same incentive for vigorous adversarial litigation—if they prevail on this issue, any chance of establishing legal accountability for climate change would be eliminated. The balance of interests is the same for both parties: high risk, high reward.

C. *Interaction Between Rules 23(c)(4) and 23(b)(3)*

While the precise interaction between 23(b)(3) and 23(c)(4) is not yet entirely agreed upon, there is a growing consensus toward an interpretation that supports this configuration. For example, in *Martin v. Behr Dayton Thermal Products LLC*, the Sixth Circuit joined four other jurisdictions that have expressly adopted the "broad view" of (c)(4), reasoning that it maintains the best balance between these two provisions of Rule 23.[97] This standard permits issue certification even where the predominance and superiority requirements of (b)(3) are not satisfied with respect to the class action considered as a whole.

In *Martin*, the Sixth Circuit explained that the broad view best "respects each provision's contribution to class determinations by maintaining [(b)(3)'s] rigor without rendering [(c)(4)] superfluous."[98] Under this approach, courts still engage in the predominance and superiority inquiries, but only after identifying common issues that are well-suited for class treatment.[99] By contrast, the "narrow view" effectively eliminates (c)(4)'s utility, because it "prohibits issue classing if predominance has not been satisfied for the cause of action as a whole."[100] However, the *Martin* court noted that no other circuit has expressly adopted *Castano*'s narrow interpretation, and subsequent case law in the Fifth Circuit itself has diminished whatever potency it may have had.[101]

At the very least, proper use of (c)(4) contemplates certification of "issues capable of resolution with generalized, class-wide proof."[102] Here, the issue for certification—whether the defendant class members' conduct caused the global increase in atmospheric GHGs precipitating anthropogenic climate change—requires no elements of proof that are not generally applicable to the class. Because of its position against a class of defendants, rather than individual polluters, the only facts that are necessary to resolve the certified issue go straight to the merits of the causal

88. *See*, *e.g.*, Guy v. Abdulla, 57 F.R.D. 14, 16 (N.D. Ohio 1972).
89. *Defendant Class Actions*, *supra* note 85, at 637. *See also*, *e.g.*, Research Corp. v. Edward J. Funk & Sons Co., Inc., 15 Fed. R. Serv. 2d 580 (N.D. Ind. 1971) (granting plaintiff's motion for summary judgment because the defendant was found to be a class member in prior litigation on the same subject).
90. Bostock v. Clayton County, Ga., 140 S. Ct. 1731, 1737 (2020).
91. Wright & Miller, *supra* note 84, §1790.
92. *See*, *e.g.*, American Fin. Sys., Inc. v. Harlow, 65 F.R.D. 94, 107 (D. Md. 1974) (addressing the subdivision of counter-plaintiff classes in a bilateral class action); U.S. Parole Comm'n v. Geraghty, 445 U.S. 388, 407-08 (1980) (ruling that courts have no sua sponte obligation to invoke 23(c)(4)).
93. Wright & Miller, *supra* note 84, §1790.
94. *Id.*
95. *Id.*
96. *Id.*
97. 896 F.3d 405 (6th Cir. 2018).
98. *Id.* at 413.
99. *Id.*
100. *Id.* at 412 (quoting Castano v. American Tobacco Co., 84 F.3d 734 (5th Cir. 1996):
> A district court cannot manufacture predominance through the nimble use of subdivision (c)(4). The proper interpretation of the interaction between subdivisions (b)(3) and (c)(4) is that a cause of action, as a whole, must satisfy the predominance requirement and that (c)(4) is a housekeeping rule that allows courts to sever common issues for a class trial.
101. *See*, *e.g.*, Steering Comm. v. Exxon Mobile Corp., 461 F.3d 598, 603 (5th Cir. 2006) (discussing issue class bifurcation under 23(c)(4) "as a remedy for the obstacles preventing a finding of predominance," but noting the plaintiffs had not proposed such a solution to the district court).
102. *Martin*, 896 F.3d at 414.

relationship between the defendants' GHG emissions and anthropogenic climate change.

IV. Litigation Concerns

Coming up with creative combinations of class action mechanisms to circumvent barriers obstructing climate change litigation is all well and good, but there is little value in a legal theory unless it can actually do some work. This configuration eliminates the causal barrier impeding federal litigation aimed at carbon-major corporations for their individual contributions to climate change by resolving the link between the defendants' GHG emissions and the effects of global climate change.

However, issue certification of this causal question against a defendant class is a novel application of Rule 23. And the scientifically complex and politically contentious context of climate change does nothing to diminish the difficulty in charting a navigable course through the process of litigation. As such, this part is devoted to a closer consideration of practical concerns about the application of this theoretical framework.

A. The Cause of Action

For this proposed configuration, the plaintiffs' claims serve as a vehicle to isolate and litigate the causal issue at the core of climate change against a defendant class of carbon-major corporations. Since the viability of any case is rooted in the precise cause of action brought before the court, it is necessary to consider what kind of claims might facilitate the most effective lawsuit. There are a couple of feasible options.

1. Tort Law

Traditionally, courts of common law can serve to "provide a mechanism by which the victims of catastrophe may employ state power against people and institutions responsible for rupture."[103] Tort may be an effective vehicle for litigation seeking to hold carbon-major corporations accountable for climate change because, on a fundamental level, "tort divides . . . misfortune from injustice."[104] However, the edges of tort liability become frayed in the context of catastrophe. When disaster strikes, the judicial division between bad actors and bad luck is often maintained with an eye toward "limit[ing] the legal consequences of wrongs to a controllable degree."[105] Thus, even where ordinary legal principles might otherwise support restitution, "catastrophic harms change the rules of the game."[106]

However, in the long run, "legal systems, including rules of responsibility and liability, change with advancements in scientific understanding and shifts in social values."[107] Advances in climate science can better trace individual emissions to discrete injuries.[108] And the accelerating normalization of catastrophic harms threatened by increasing climate volatility—becoming steadily more apparent within just the past few years alone—may give courts an opportunity to shed some of their reticence about extending liability in tort to allow restitution for victims of climate change. Recent scholarship has advanced several ideas about possible causes of action in tort, including public nuisance, negligence, conspiracy, and even strict liability—drawing on inherent similarities between asbestos, tobacco, and climate change litigation to make their case.[109] And plaintiffs are already experimenting with various common-law claims in state courts across the United States.

Regardless of the precise cause of action, the doctrines of displacement and preemption raise serious concerns for climate change claims in tort because the interstate nature of GHG emissions means that federal common law may operate in lieu of state-law claims that stray too far from the limits of their sovereign borders.[110] Plaintiffs bringing suit under the auspices of state law will have to avoid accidentally invoking federal common law by alleging claims that reach too far into the realm of interstate activity. This is difficult in the context of climate change litigation, but it can still be done by restricting the scope of state-law claims to their respective locales.

For example, in *Mayor & City Council of Baltimore v. BP P.L.C.*, the district court rejected defendants' attempt to remove state-law claims to federal court under federal question jurisdiction on grounds that they were "founded upon" federal common law, because the court recognized that defendants' position was little more than a thinly veiled argument for incomplete preemption.[111] And in *County of San Mateo v. Chevron Corp.*, the district court held that once federal common law is displaced, it can no longer supersede state-law claims to provide federal question jurisdiction because the operative question (left open by the Supreme Court in *American Electric Power*) is

103. Weaver & Kysar, *supra* note 7, at 300 (considering the ability of tort law to accommodate climate change claims).
104. *Id.* at 312.
105. *Id.* at 320 (quoting Strauss v. Belle Realty Co., 482 N.E.2d 34, 36 (N.Y. 1985)).
106. *Id.*
107. Olszynski et al., *supra* note 37, at 9.
108. Heede, *supra* note 34.
109. Olszynski et al., *supra* note 37.
110. City of New York v. BP P.L.C., 325 F. Supp. 3d 466, 48 ELR 20128 (S.D.N.Y. 2018) (noting that while state law becomes available when federal common law is displaced, the city's lawsuit could not properly fit within state law because it was not limited to "New York law claims related to the production of fossil fuels in New York").
111. 388 F. Supp. 3d 538, 49 ELR 20102 (D. Md. 2019) (rejecting defendants' argument that federal common law preempts state-law claims merely because they grapple with climate change-related issues). The district court ordered remand to state court and defendants appealed to the U.S. Court of Appeals for the Fourth Circuit, which affirmed on grounds that it lacked appellate jurisdiction over questions of remand not arising under 28 U.S.C. §§1442 and 1443. Mayor & City Council of Baltimore v. BP P.L.C., 952 F.3d 452, 50 ELR 20051 (4th Cir. 2020). BP appealed, and the Supreme Court reversed, holding that the Fourth Circuit had jurisdiction to review the remand order in its entirety. BP P.L.C. v. Mayor & City Council of Baltimore, 141 S. Ct. 1532, 51 ELR 20086 (2021). Further litigation remains pending.

whether state-law claims are preempted by the statute that displaced federal common law.[112]

Still, second-wave climate change plaintiffs' reliance on state common law has evoked judicial concerns about "[a] patchwork of fifty different answers to the same fundamental global issue," leading some courts to hold that even state-law claims are "necessarily governed by federal common law."[113] But complex litigation tools could also be used to preserve the state-law nature of plaintiffs' claims while providing for litigation in a federal forum. For instance, multidistrict litigation could be employed to manage such a fragmented patchwork of state-law class action climate change lawsuits without turning them into federal common-law claims.

2. Corporate Law

Another promising avenue for class action climate change litigation runs through the boardroom. This kind of litigation uses corporate law to impose climate-related disclosure and fiduciary obligations on companies and their directors, which can be leveraged to facilitate the transition away from carbon-intensive business models by framing climate change issues in terms of "corporate performance and value."[114] Rather than litigating corporate accountability for the human and environmental harms caused by increasing climate volatility, this strategy frames climate change in terms of corporate risks and responsibilities. Since "[c]ompanies have legal obligations to disclose and manage the financial risks posed to their business,"[115] the characterization of climate change as a corporate vulnerability allows environmentally conscious shareholders to move the needle toward sustainable corporate conduct.

There are two basic categories of corporate-law climate change litigation. The first uses financial disclosure requirements to provide the legal hooks for derivative lawsuits. The second raises legal challenges in the context of directors' fiduciary duties to evaluate and respond to the financial risks posed by climate change.[116]

❑ *Financial disclosures*. Characterizing the effects of climate change as a financial risk allows plaintiffs to avoid some of the pitfalls that plague federal climate litigation. This strategy treats climate change as a risk to shareholder interests that publicly traded companies are obligated to disclose under financial reporting rules. According to the Task Force on Climate-Related Financial Disclosures (TCFD), climate-related risks threaten up to 30% of global manageable assets—totaling upwards of about $43 trillion over the next 30 years.117 Under this litigation theory, corporations' failure to disclose or improper disclosure of climate-related risks provides the necessary hook for legal action.

For example, in *Ramirez v. Exxon Mobil Corp.*, beneficiaries to a pension fund brought a class action lawsuit against a major oil company for securities fraud.[118] The plaintiffs alleged that Exxon made material misrepresentations of the financial risks posed by climate change during the three-year period in which class members purchased the defendant's common stock. The claim included the following allegations: false disclosures of proxy carbon costs; failure to disclose operational risks at extraction sites; and misrepresentations regarding the strength of Exxon's market position during the 2014 oil and gas price plunge. As a result of these misrepresentations, Exxon's stocks were allegedly traded at artificially high prices, for which the plaintiffs suffered significant losses when the stock plummeted after the New York and California attorneys general started investigating Exxon's financial disclosures in late 2015 and early 2016, respectively.

However, this disclosure-based strategy is limited in terms of its effectiveness. For one, the short list of potentially "aggrieved plaintiffs" is exclusive to shareholders and institutional investors who already have a stake in the corporation. In that respect, this strategy fails to account for concerns about climate justice and environmental equity, because liability cannot reach injuries that arise from the effects of climate change on people and property. Moreover, the only available redress for plaintiffs is a payout based on the difference in dollar amounts between speculative stock prices, because at bottom these claims are just about money. Establishing liability for a company's failure to account for climate change-related risks creates more transparency on these issues through robust corporate disclosure practices, but it does not require corporations to affirmatively *do* anything about the problem writ large.

112. 294 F. Supp. 3d 934, 48 ELR 20051 (N.D. Cal. 2018).

113. California v. BP P.L.C., No. C 17-06011, 2018 WL 1064293 (N.D. Cal. Feb. 27, 2018) (rejecting plaintiffs' motion for remand on grounds that climate change-related issues are too widespread for state-law adjudication). This decision has been heavily criticized for looking beyond the scope of the pleadings, transgressing "the venerable rule that the plaintiff is the master of [their] complaint," and disregarding their choice "to eschew federal claims in favor of ones grounded in state law." Gil Seinfeld, *Climate Change Litigation in the Federal Courts: Jurisdictional Lessons From* California v. BP, 117 Mich. L. Rev. Online 25, 32-35 (2018). Fortunately, the district court's decision was vacated and remanded on appeal in *City of Oakland v. BP P.L.C.*, 969 F.3d 895 (9th Cir. 2021).

114. Foerster, *supra* note 12, at 321.

115. *Id.* at 308.

116. *Id.* at 317-18.

117. Benjamin, *supra* note 4, at 348; Task Force on Climate-Related Financial Disclosures, Final Report: Recommendations of the Task Force on Climate-Related Financial Disclosures 13-24 (2017), https://www.fsbtcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf. TCFD's report breaks down financial risks into two categories: transitional and physical. Transitional risks arise in the context of market, regulatory, litigation, and technological changes that accompany global shifts toward sustainable practices and a lower-carbon economy. This type assumes a certain degree of forward momentum on addressing climate change, and allocates risk on the basis of compliance costs and projected changes in the regulatory playing field.

Physical risks are much more direct, and include damage to assets, resource scarcity, supply chain problems, and labor issues resulting from the effects of climate change. This type can manifest as acute threats, such as weather events like hurricanes and wildfires, or chronic vulnerabilities that result from longer-term climate patterns like drought and famine.

118. 334 F. Supp. 3d 832 (N.D. Tex. 2018). Although it has not yet concluded, this case is a significant milestone for strategic climate change litigation against private companies; surviving even the threshold stages of complex litigation in federal court is no minor feat.

❑ *Directors' duties*. The second category of corporate-law claims is a little bit more complicated. While financial risk disclosure requirements are relatively cut-and-dried, directors' duties are intentionally vague and flexible mechanisms that allow corporate leaders to manage the best interests of their business as they see fit. The inherent fluidity of these duties makes it difficult for shareholders to challenge corporate decisions on any theory that failure to properly mitigate the risks posed by climate change violates the directors' obligations to act in the best interests of the company.

Directors' duties are split into care and loyalty. The duty of care is mostly about the process of decisionmaking. Courts ask whether directors have considered all the relevant and reasonably available information before making a significant business decision. In part because of the rise in disclosure litigation on this topic, which has already increased the financial risks associated with climate inaction, climate change-related issues have arguably become a relevant part of this corporate calculus.[119] This puts pressure on directors to consider information about climate change when making business decisions, and potentially exposes them to liability if they fail to account for material risks.

By contrast, the duty of loyalty is about ensuring that directors' decisions are made in good faith with the purpose of advancing the best interests of the corporation. This duty can be breached when directors take action with motives other than the best interests of the company, intentionally violate any applicable laws, or act with conscious disregard for the faithful discharge of their responsibilities. Combining these duties of loyalty and care and applying them to the framework of risks posed by climate change, derivative actions alleging deliberate ignorance of, or reckless disregard for, reasonably available material information about climate-related risks start to look like a viable litigation strategy to challenge corporate conduct.

On this front, Exxon once again proves to be fertile ground for these seeds of second-wave corporate litigation to germinate. A group of shareholders recently brought a derivative action against the company and its officers alleging material breach of fiduciary duties for failure to manage climate-related risks to its assets and operations.[120] This litigation follows the threads of prior litigation on similar issues, discussed in *Ramirez*, but also includes allegations of director misconduct and breach of these fiduciary duties.

B. Jurisdiction

1. Federal Rule of Civil Procedure 82

Rule 82 of the Federal Rules of Civil Procedure states: "These rules shall not be construed to extend or limit the jurisdiction of the United States district courts or the venue of actions therein."[121] Some of the most contentious applications of this rule have arisen in the class action context, policing the boundaries of jurisdiction for aggregate causes of action.[122] However, federal jurisprudence has recognized statutory expansions in this context because Congress ultimately controls the limits of federal jurisdiction.[123]

There are a handful of cases that grapple with Rule 82 in the defendant class context. In *Speberg v. Firestone Tire & Rubber Co.*, Rule 82 precluded the district court from enlarging venue conferred by statute in a patent claim against a class member alleged to have infringed the plaintiff's method of assessing tire durability.[124] Under federal patent law, the proper venue depends on either where the defendant resides or the location of an act of infringement.[125] In *Speberg*, the court ruled that if the plaintiff failed to show that an act of infringement had occurred in the correct location, the defendant would have to be dismissed from the case entirely—as both class representative and member—because permitting a defendant to be sued in the wrong venue would constitute an impermissible "legislative enlargement of the patent venue statute."[126]

But *Speberg* is an outlier, and stands in opposition to subsequent decisions that criticize using Rule 82 as a means of avoiding jurisdiction on venue grounds in defendant class actions. For instance, in *United States v. Trucking Empire, Inc.* the court denied defendant class members' petition to relinquish its jurisdiction over them in an employment discrimination claim under Title VII on grounds that venue was improper.[127] The court ruled that venue restrictions were not dispositive of its ability to hear the claim because class actions do not require members' presence to adjudicate their rights and liabilities *in personam* anyway. Accordingly, the relevant question under Rule 23 is whether venue is proper among the representative parties.

The tension between these two cases illustrates the complexity of Rule 82 problems in the class action context, and the discretion that district courts have to interpret the tangled mess of procedural interactions inherent to complex litigation. But venue is not the most significant challenge facing this proposed class action configuration. More fundamental to the jurisdictional commands of Rule 82 in this context is the prohibition on using Rule 23 to manufacture standing.

For example, in *Weiner v. Bank of King of Prussia*, the plaintiff attempted to create standing in a bilateral class action by claiming to represent a class of plaintiffs with sim-

119. Benjamin, *supra* note 4, at 356.
120. In re Exxon Mobil Corp., No. 3:19-cv-01067 (N.D. Tex. May 2, 2019).
121. Fed. R. Civ. P. 82.
122. *See*, *e.g.*, Snyder v. Harris, 394 U.S. 332 (1969); Zahn v. International Paper Co., 414 U.S. 291, 4 ELR 20100 (1973).
123. *See*, *e.g.*, Exxon Mobil Corp. v. Allapattah Servs., Inc., 545 U.S. 546 (2005) (allowing supplemental jurisdiction under 28 U.S.C. §1367 to expand federal courts' ability to hear pendant claims that fail to meet the amount-in-controversy requirement of diversity jurisdiction).
124. 61 F.R.D. 70 (N.D. Ohio 1973).
125. 28 U.S.C. §1400(b).
126. *Speberg*, 61 F.R.D. at 73. Ultimately, the case did not proceed as a class action anyway because it failed to meet the essential prerequisites of Rule 23, and the court determined that consolidation under Rule 42 or the use of multidistrict litigation under 28 U.S.C. §1407 would be more appropriate under the circumstances. But the court made a point to belabor the Rule 82 issue anyway.
127. 72 F.R.D. 98 (D.D.C. 1976).

ilar injuries against a defendant class of state and national banks—most of which the plaintiff had no dealings with whatsoever.[128] Fortunately, the court recognized that this was just an attempt to enhance the potential recovery from additional defendants against whom the plaintiff had no cause of action, by purporting to represent the hypothetical claims of nonexistent class members under the guise of Rule 23.

Such misuse of procedural devices is precisely what Rule 82 was designed to prevent. And in this case, it worked perfectly. The *Weiner* plaintiff's inability to allege injuries against all of the defendant class members could not be cured by purporting to represent a class of plaintiffs with claims arising from hypothetical transactions. The court's application of Rule 82 prevented the plaintiff from transforming an isolated dispute arising from a private transaction between two parties into a massive class action lawsuit with much larger potential for recovery.[129] In doing so, the *Weiner* court established an important principle. Since "standing to sue is an essential threshold which must be crossed before any determination as to class [certification] under Rule 23 can be made," the court held that "[a] plaintiff may not use the procedural device of a class action to bootstrap [themselves] into standing [they] lack[ ] under the express terms of the substantive law."[130]

However, *Weiner* is distinguishable from this proposed configuration because it only addresses the question of injury. There, the plaintiff invoked Rule 23 to conjure injuries from nothing in order to expand the pool of defendants that could be sued, trying to enlarge the potential recovery on a relatively insignificant statutory remedy. But in the context of climate change, the plaintiff's injuries are very real and clearly connected to the conduct of each defendant class member. Specific climate-related injuries may be distinct, but they all stem from the same root. And although the isolated emissions of an individual defendant are difficult to trace to any particular plaintiff's harm, all of the defendants participate in the same causal relationship at issue. Certifying that connection for issue-class treatment does not enlarge federal jurisdiction—it merely changes the focus of the court's analysis.

In this configuration, Rule 23 does not manufacture nonexistent injuries—it is used to permit the aggregation of cause in order to evaluate the collective effect of the defendants' GHG emissions. Article III's commands are not infringed when a court uses the lens of Rule 23 to look at the conduct of a defendant class when evaluating the "fairly traceable" requirement to determine whether a "sufficient likelihood" exists to establish standing. Moreover, to reject standing for an issue trial on the causal element of plaintiffs' claims, because it is not "reasonably likely" that the defendants caused or contributed to their injuries, assumes an answer on the merits without even considering them.

These are not unreasonable arguments. But in the event that a federal judge finds this distinction unpersuasive, some version of the *Weiner* court's reasoning would almost certainly be used to prevent Rule 23 from supporting standing for this configuration. However, there are litigation paths available that could be used to avoid this outcome.

2. Class Action Fairness Act

In order to circumvent the problem posed by Rule 82, this lawsuit must arrive in federal court though a mechanism that does not use Rule 23 to manufacture standing. An obvious solution would be to avoid Article III issues entirely by filing in a state court with looser threshold jurisdictional requirements, and simply litigate there. The problem is that defendants usually prefer to litigate class action claims in federal court. And they have significant latitude to make that happen. In 2005, Congress passed the Class Action Fairness Act (CAFA).[131] Among other things, this legislation enabled defendants facing class action lawsuits to more easily remove cases to federal court in order to litigate in their preferred forum. Here, plaintiffs should let them.

The first step is to file suit in state court. The standing hurdles that foreclose federal engagement with climate change litigation will not apply, since state courts are not bound by Article III.[132] The second step is a little bit trickier because it involves some degree of speculation. The defendants will almost certainly invoke CAFA to remove the case to federal court. That move is the strategic lynchpin for this solution, but it is not absolutely essential to the efficacy of this proposal—if the defendants fail to remove the case, then plaintiffs can simply litigate in state court and try to win on the merits there. But if defendants remove the case as anticipated, then CAFA provides the statutory hook that brings the case under federal jurisdiction, and Rule 82 is inapplicable.

It bears mentioning that at this point, plaintiffs are placed in an interesting tactical position. They can proceed to litigate in federal court with this proposed configuration, or they can challenge removal on Article III grounds to trigger remand back to state court under 28 U.S.C. §1447(c). Notably, the latter option can be invoked at any time. Ordinarily, defective removals require plaintiffs to file a timely motion to remand, or else they waive their right to object on those grounds. But removal defects pursuant to subject matter jurisdiction require remand as long as they are raised at any time prior to the final judgment, so it is possible to wait and see how the litigation proceeds in federal court before pulling the pin on standing.[133]

128. 358 F. Supp. 684 (E.D. Pa. 1973).
129. *Id.* at 705.
130. *Id.* at 694.
131. Pub. L. No. 109-2, 119 Stat. 4 (2005).
132. ASARCO Inc. v. Kadish, 490 U.S. 605, 617 (1989) (recognizing that "the constraints of Article III do not apply to state courts"). *See also* Trans Union LLC v. Ramirez, 141 S. Ct. 2190, 2224 n.9 (2021) (Thomas, J., dissenting) (pointing out that tightening the standards of Article III only "ensures that state courts will exercise exclusive jurisdiction over these sorts of class actions").
133. 28 U.S.C. §1447(c).

Either way, where a federal court finds no standing in a case that was removed under CAFA, it *must* remand the case back to state court.[134] This principle puts pressure on a federal court's Article III analysis for this litigation configuration because unless it accepts that plaintiffs have standing, it will not be able to dismiss the case.[135] And, if defendants want to remain in federal court, they will be forced to argue that plaintiffs *do* have standing.

In similar postures, defendants have attempted to argue that federal courts are permitted to dismiss removed cases when they are "absolutely certain" that remand will be futile because a state court would immediately dismiss the case.[136] But the Supreme Court declined to adopt this exception in *International Primate Protection League v. Administrators of Tulane Educational Fund*, and several circuits have taken that to mean that remand is mandatory, leaving the viability of this "futility exception" suspect.[137] Therefore, in order to dismiss the case—rather than remand to state court for adjudication—the federal court will be forced to accept that plaintiffs have standing before proceeding to other issues. Even if the case is dismissed at a later stage, by forcing engagement with Article III on favorable ground, climate change litigation gains traction in federal court.

C. Class Certification

Routine application of the class action device offers relief to plaintiffs with injuries that they are not capable of litigating on their own. With respect to this class of defendants, the dynamic is inverted: providing an opportunity to establish accountability for the damage they have wrought together. Recent findings in the field of climate science indicate that "nearly two-thirds of total industrial CO2 and CH4 (carbon dioxide and methane) emissions can be traced to 90 major industrial carbon producers."[138] The defendant class can be defined and ascertained by simply specifying a threshold of GHG emissions based on this research, above which a corporate entity becomes a member of the class. This class definition could also be tailored to look backward, accounting for historical emissions, as well as forward, to capture future polluters as they continue contributing to climate change.

1. General Prerequisites

Rule 23(a) enshrines four fundamental prerequisites that every class action must satisfy. Numerosity requires a prospective class to have enough members that conventional joinder is impractical. Commonality requires that some question of law or fact be shared among the class members. Typicality ensures that the claims or defenses of the representatives are characteristic of the class. And adequacy of representation ensures that the named parties will sufficiently protect and pursue absent class members' interests. Of these four essential elements, only the latter two tend to raise unique challenges when applied to a defendant class; numerosity and commonality requirements rarely pose additional difficulties specific to this context.[139]

❑ *Numerosity*. Under Rule 23(a)(1), a class action may only be maintained if "the class is so numerous that joinder of all its members is impracticable."[140] Precisely what constitutes sufficient "impracticability" to satisfy this requirement is a highly fact-dependent, "subjective determination based on number, expediency and inconvenience of trying individual suits."[141] No set of clear rules regarding these considerations has been established by the courts, but at the very least, the bar for "impracticable" is not set so high as to be synonymous with "impossible."[142]

Neither are there any "magic numbers" that automatically satisfy the numerosity requirement; the parties "need only demonstrate that it is extremely inconvenient or difficult to join members of the class."[143] Generally speaking, "a higher threshold number of members is required for a plaintiff class than a defendant class."[144] In some cases, as few as 13 defendants have been certified as a class.[145] But the size of the class is not the only consideration: courts also look to such factors as the nature of the action, the value of the claims, the physical location of the class members, and the whereabouts of the object of the lawsuit.[146] Additionally, the Supreme Court has suggested that "impracticability" may be satisfied when personal jurisdiction over some of the class members would be impossible to obtain.[147]

Because of Richard Heede's work tracing GHG emissions to their corporate sources, the proposed class of exist-

134. Polo v. Innoventions Int'l, LLC, 833 F.3d 1193, 1196 (9th Cir. 2016) (holding that "the rule that a removed case in which the plaintiff lacks Article III standing must be remanded to state court under [28 U.S.C.] §1447(c)" also applies to cases removed under CAFA); Wheeler v. Travelers Ins. Co., 22 F.3d 534 (3d Cir. 1994) (holding that "a determination that there is no standing 'does not extinguish a removed state court case' . . . [r]ather, federal law 'only requires us to remand Wheeler's case to state court'" (citing Bradgate Assocs., Inc. v. Fellows, Read & Assocs., Inc., 999 F.2d 745, 751 (3d Cir. 1993))); Coyne v. American Tobacco Co., 183 F.3d 488 (6th Cir. 1999) (holding that "in a removed action, upon determination that a federal court lacks jurisdiction, remand to state court is mandatory"); Roach v. West Virginia Reg'l Jail & Corr. Facility Auth., 74 F.3d 46, 49 (4th Cir. 1996) (holding that 28 U.S.C. §1447(c) requires federal courts to remand where it determines that there is no subject matter jurisdiction).

135. A motion to dismiss could even be challenged on grounds that the federal court lacks standing to hear the case.

136. Bell v. City of Kellogg, 922 F.2d 1418 (9th Cir. 1991).

137. 500 U.S. 72 (1991) (holding that the plain language of 28 U.S.C. §1447(c) gives "no discretion to dismiss rather than remand an action removed from state court"). *See also* University of S. Ala. v. American Tobacco Co., 168 F.3d 405, 410 (11th Cir. 1999) (holding that "[28 U.S.C. §1447(c)] is mandatory and may not be disregarded based on speculation about the proceeding's futility in state court").

138. Heede, *supra* note 34.

139. Holo, *supra* note 46, at 224, 228-30.

140. Wright & Miller, *supra* note 84, §1762.

141. Pabon v. McIntosh, 546 F. Supp. 1328, 1333 (E.D. Pa. 1982).

142. Robidoux v. Celani, 987 F.2d 931, 935 (2d Cir. 1993).

143. Rodriguez by Rodriguez v. Berrybrook Farms, Inc., 672 F. Supp. 1009, 1013 (W.D. Mich. 1987).

144. Luyando v. Bowen, 124 F.R.D. 52, 57 (S.D.N.Y. 1989) (certifying a defendant class of 58 public officials). *See also* Marcera v. Chinlund, 595 F.2d 1231 (2d Cir. 1979) (certifying a defendant class of 42 sheriffs).

145. *Defendant Class Actions*, *supra* note 85, at 633 (citing Dale Elecs. Inc. v. R.C.L. Elecs., Inc., 53 F.R.D. 531 (D.N.H. 1971)).

146. Wright & Miller, *supra* note 84, §1762.

147. Hansberry v. Lee, 311 U.S. 32 (1940).

ing carbon-major defendants can be readily identified.[148] This might caution against class certification of a smaller, more localized group of defendants. But a class of 90 defendants is sufficiently large enough to satisfy impracticability on the basis of size alone. And these carbon-major corporations are not remotely localized—they are huge, multinational corporate entities with officers, formal headquarters, and principal places of business spanning the globe.

Conventional joinder of these defendant class members as named parties to this litigation could easily tie up the courts in a jurisdictional battle for years, especially given the resources that each defendant could bring to bear on their own. Additionally, the nature of the action supports class certification because the injuries suffered by plaintiff(s) from the effects of climate change are attributable to the collective conduct of the defendants. This indicates that resolution of the issue in the aggregate is appropriate. Therefore, numerosity favors certification of the class.

❑ *Commonality*. Under Rule 23(a)(2), a class action can only be sustained if there are some "questions of law or fact common to the class." Historically, this requirement has been relatively easy to satisfy, with courts rarely spending much time or effort on an exhaustive analysis of this prerequisite.[149] However, more recent jurisprudence has called that simplicity into doubt. The Supreme Court's opinion in *Wal-Mart Stores, Inc. v. Dukes* heightened the inquiry, placing greater emphasis on the differences between class members that might impede the resolution of shared issues.[150]

That decision has been criticized for effectively shoehorning the predominance criteria from 23(b)(3) into a (b)(2) civil rights claim by heightening the commonality prerequisite.[151] But even with the stricter test, so long as resolution of common issues will "generate common answers apt to drive the resolution of the litigation," there need only be a single through-line to establish commonality.[152] In plaintiff class actions, commonality essentially requires a demonstration that class members "have suffered the same injury."[153] In defendant class actions, commonality hinges on legal or factual questions about the defendants' conduct as it relates to the plaintiff's claims.[154]

Rule 23(c)(4) simplifies this analysis because the common issues to be resolved in isolation are already posed to the court. Applied properly, the common question required to satisfy this element would be precisely the same as the issue proposed for certification: whether the defendant class members' conduct has caused the global increase in atmospheric GHGs precipitating anthropogenic climate change. This factual question is about causal relationships, common to the conduct of all the defendant class members, and is a necessary element of every cause of action held by the plaintiffs. Therefore, certification on this element is favorable.

❑ *Typicality*. Rule 23(a)(3) requires that "the claims or defenses of the representative parties [be] typical of the claims or defenses of the class." Courts have employed a variety of tests to evaluate this prerequisite. Some require the claims or defenses be strictly co-extensive, such that the representative parties need to prove precisely what must be proven for the claims of absentees.[155] Others adhere to a more relaxed requirement that the claims or defenses of the class representative and members are based on the same legal or remedial theory.[156]

Several courts have blended the typicality inquiry into the other threshold requirements by applying tests that can also be used to determine whether other provisions of 23(a) are satisfied.[157] Specifically, courts have noted that the typicality requirement overlaps with and was "intended to buttress the fair representation requirement in 23(a)(4)," so that the claims or defenses of the representative and class members are similar enough to ensure that the absentees' interests are adequately represented.[158] More often than not, this element hinges on the specific causes of action brought before the court. As such, the results from this diversity of applicable tests can be broken down and better categorized by litigation type. For claims alleging antitrust offenses, fraud, discrimination, statutory violations, and tortious conduct, typicality tends to be upheld almost as a matter of course.[159]

However, typicality can raise additional problems in bilateral class actions because "a representative of the plaintiff class who has suffered injury at the hands of only one member of the defendant class cannot bring an action on behalf of a class of persons who have suffered identical injuries by the conduct of other defendants."[160] There are two notable exceptions to this rule. The first contemplates

148. Heede, *supra* note 34.
149. Wright & Miller, *supra* note 84, §1763.
150. 564 U.S. 338, 350 (2011).
151. *Id.* at 369 (Ginsburg, J., dissenting).
152. *Id.* at 350 (quoting Richard A. Nagareda, *Class Certification in the Age of Aggregate Proof*, 84 N.Y.U. L. Rev. 97, 132 (2009)).
153. General Telephone Co. of Sw. v. Falcon, 457 U.S. 147, 157 (2011).
154. *See, e.g.*, Northwestern Nat'l Bank of Minneapolis v. Fox & Co., 102 F.R.D. 507 (S.D.N.Y. 1984) (finding the common question of whether any of the senior partners were involved in an alleged plan to misrepresent the financial condition of a corporation); Thillens, Inc. v. Community Currency Exch. Ass'n of Ill., Inc., 97 F.R.D. 668 (N.D. Ill. 1983) (finding sufficiently common questions of fact in the elements of proof necessary to resolve plaintiff's antitrust claim against the defendants); In re Itel Sec. Litig., 89 F.R.D. 104 (N.D. Cal. 1981) (finding common questions of law and fact in the necessary elements of proof to establish a violation of §11 of the Securities Act of 1993).
155. *See, e.g.*, Scott v. University of Del., 601 F.2d 76 (3d Cir. 1979).
156. *See, e.g.*, DG ex rel. Stricklin v. Devaughn, 594 F.3d 1188 (10th Cir. 2010) (holding that "typicality exists where . . . all class members are at risk of being subjected to the same harmful practices, regardless of any class members individual circumstances").
157. Wright & Miller, *supra* note 84, §1764.
158. Fertig v. Blue Cross of Iowa, 68 F.R.D. 53, 57 (N.D. Iowa 1974).
159. *See, e.g.*, In re Flag Telecom Holdings, Ltd. Sec. Litig., 574 F.3d 29 (2d Cir. 2009) (fraud/statutory securities violation); In re Chocolate Confectionary Antitrust Litig., 289 F.R.D. 200 (M.D. Pa. 2012) (antitrust violation); Bazemore v. Friday, 478 U.S. 385 (1986) (employment discrimination); In re Deepwater Horizon, 739 F.3d 790 (5th Cir. 2014) (strict liability/settlement).
160. Wright & Miller, *supra* note 84, §1770 (citing La Mar v. H & B Novelty & Loan Co., 489 F.2d 461 (9th Cir. 1973)).

concerted action between defendants as the cause of plaintiffs' individual injuries, and the second applies when the defendants possess enough "juridical links" such that class treatment would be expedient.[161]

The first case to grapple with this doctrine and articulate the juridical link exception was *La Mar v. H & B Novelty & Loan Co.*, where representative plaintiffs lacking a cause of action against each defendant alleged a common method of injury as grounds to unite an otherwise untethered defendant class.[162] Rejecting the plaintiffs' theory, the Ninth Circuit articulated these two exceptions to the rule governing bilateral typicality, upon which subsequent courts have constructed an eyesore of a doctrine.[163] At first, juridical linkage was narrowly applied to government action and certain contractual dealings between private defendants, but it has since developed into a very squishy doctrine of judicial efficiency.[164] Existing case law on this exception does not offer an authoritative definition of "juridical linkage," leaving courts with discretion to apply the doctrine whenever "all defendants are juridically related in a manner that suggests a single resolution of the dispute would be expeditious."[165] Whatever that means.

Applied to climate change litigation, neither of these exceptions—concerted action or juridical linkage—offers a compelling reason to certify a bilateral class action without parity of claims between all the plaintiffs and defendants. However, the *Kivalina* case provides an example of how concerted action could be plausibly alleged. Arguing that they had conspired to engage in a "campaign to deceive the public about the science of global warming," the village claimed that the defendants "deliberately propped up front groups to spread misinformation and distort public opinion on the issue of climate change."[166] But the court refused to address this allegation by declining to extend supplemental jurisdiction over the state-law conspiracy claim.[167]

Unless some sort of collusion were alleged with respect to widespread concealment of conclusive evidence that burning fossil fuels would have significant impacts on the global climate, there would be no reason to infer concerted action between the defendants. And since the elusive definition of "juridical linkage" appears to contemplate some kind of legal relationship, such as participation in a trade association,[168] common corporate ownership,[169] indemnity and expense-sharing,[170] or collective bargaining agreements,[171] it is unlikely that the mere classwide conduct of emitting industrial-scale GHGs (i.e., a common method of injury) would satisfy this exception on its own.

But there is room to argue that juridical links are unnecessary in the context of issue-class litigation, because the individual injuries suffered by the plaintiffs are irrelevant to the "upstream" question to be resolved. In an ordinary bilateral class action, the individual harms suffered by climate change plaintiffs (the "downstream" details) would differ significantly from one another, which means that commonality or predominance could preclude class certification. But these circumstances are precisely the kind of situation for which issue certification is perfectly situated, because the representative defendant will be limited to litigating a defense that is common to all the absentee defendants: that their GHG emissions are not responsible for anthropogenic climate change.

Individually, this defense has been successful because considering the effects of their contributions in isolation artificially attenuates the web of responsibility. But collectively, the causal barrier breaks down and the only remaining avenue of defense is to litigate on the merits of the question. Certification of the causal question under 23(c)(4) avoids the bilateral typicality problem, because the differences between the plaintiffs' individual injuries are excluded from litigation on the common issue.

❑ *Adequacy*. Adequacy of representation also presents some interesting challenges when applied to a defendant class. The adequate representation requirement of Rule 23(a)(4) is perhaps the most hotly contested aspect of defendant class certification.[172] First, defendants are rarely willing to serve as class representatives, which sometimes raises questions about their adequacy to defend the interests of unnamed class members.[173] And courts often fear that unwilling representatives will fail to muster as vigorous a defense, or that plaintiffs will "appoint a weak, ineffective opponent as class representative."[174] However, such concerns are not well-founded. There is no real incentive for plaintiffs to appoint an impotent class representative because it would provide grounds for denial of class certification, effectively tanking their own lawsuit.

For similar reasons, defendants' self-serving protestations regarding their own inadequacy should only be given "token weight."[175] Ironically, "the best defendant class representative may well be the one who most vigorously and persuasively opposes certification, since [they] are the one most likely to guarantee an adversary presentation of the issues."[176] On the other hand, overeagerness to represent a defendant class should be treated with suspicion, because it raises the possibility of collusion between putative adversaries. Either way, the fact that representation is completely

161. William D. Henderson, *Reconciling the Juridical Links Doctrine With the Federal Rules of Civil Procedure and Article III*, 67 U. Chi. L. Rev. 1347, 1347-48 (2000).
162. *Id.* at 1354-55; *see* 489 F.2d 461.
163. Henderson, *supra* note 161, at 1355.
164. *Id.* at 1356-59.
165. *Id.* at 1359 (quoting Thompson v. Board of Educ. of Romeo Cmty. Schs., 709 F.2d 1200, 1204-05 (6th Cir. 1983)).
166. Weaver & Kysar, *supra* note 7, at 329.
167. *Id.*
168. Heffler v. U.S. Fid. & Guar. Ins. Co., No. 90-7126, 1992 WL 50095 (E.D. Pa. 1992).
169. Barker v. FSC Sec. Corp., 133 F.R.D. 548 (W.D. Ark. 1989).
170. Endo v. Albertine, 147 F.R.D. 164, 172 (N.D. Ill. 1993).
171. United States v. Trucking Emps., Inc., 75 F.R.D. 682, 689-90 (D.D.C. 1977).
172. In re Gap Stores Sec. Litig., 79 F.R.D. 283, 290 (N.D. Cal. 1978) (taking note that many "commentators have frequently criticized the potential for inadequate representation of defendant classes").
173. Holo, *supra* note 46, at 232.
174. *Gap Stores*, 79 F.R.D. at 290.
175. *Defendant Class Actions*, *supra* note 85, at 639.
176. *Gap Stores*, 79 F.R.D. at 290.

within the sphere of the defendants' control suggests that this issue should be carefully scrutinized. Absent serious and unavoidable concerns, denying certification of a defendant class because the lack of willing representatives raises adequacy issues creates a problem of perverse incentives; defendants can simply oppose certification on inadequacy grounds by deliberately failing to represent their interests.

The real concern with unwilling class representatives contemplates the burdens of litigation that would be forced upon a single, unwilling defendant.[177] But all defendants are in this sense unwilling participants to litigation. If the resolution of plaintiffs' claims were dependent on a defendant's willingness to be sued, civil jurisprudence would be nonexistent. And with respect to the costs of litigation, for the carbon-major corporations proposed as class members in this configuration, expense is simply not a measurable problem.

Conflicts of interest between defendant class members are another common adequacy issue. However, courts are generally less sympathetic to these concerns,[178] despite the fact that defendant classes tend to be more susceptible to intraclass conflicts because any given class of defendants will almost certainly include competitors. Unlike a plaintiff class, where there is at least some unified interest in successful litigation or a favorable settlement, negative outcomes for one member may result in benefits for another among a class of competitor-defendants.

Mismatched potential for liability between a representative defendant and unnamed class members also creates adequacy concerns, because a "defendant[ ] with only a small amount of money at stake[ ] could scarcely feel compelled to provide a vigorous defense" on behalf of competitors who stand to lose far more.[179] This last point in particular pairs poorly with the fact that plaintiffs (under court supervision) usually end up designating representative defendants, in part because of the unwillingness of defendant class members to voluntarily bear the costs of litigation.[180] This means that there is at least some incentive for plaintiffs to choose a representative who has little stake in the outcome and therefore less reason to present a vigorous defense.[181]

Any of these adequacy issues could arise in the context of climate change litigation. Defendants might refuse to litigate the case as a representative for the class, but then challenge certification on grounds that the plaintiff-chosen litigant is insufficient to represent their interests because its proportional liability for damages is mismatched or there are intraclass conflicts of interest that would preclude adequate representation. But most of these concerns share common ground: they arise outside the scope of the common question certified for trial, attaching to individual follow-on questions based on allocation of liability and distribution of damages. Separating the underlying causal issue from these matters with (c)(4) makes resolution of the common question with respect to the defendants' conduct more appropriate.

❑ *Constitutionality*. Tensions with due process and personal jurisdiction are also implicated by this use of the class action device, because *in personam* jurisdiction over a defendant is fundamental to the notion that a court may determine that defendant's rights, obligations, or liabilities.[182] Although the class action device itself somewhat challenges this conception of judicial power, since it requires that absent parties can be bound to the judgment of a proceeding in which they took no part, Rule 23 was designed to help safeguard absent parties' rights and the judicial responsibility to protect their interests is well established.

But this low-key conflict between Rule 23 and these constitutional principles is amplified in defendant class actions, because the interests at stake and the consequences of the outcome are different for absent plaintiffs than for absent defendants. The core of this distinction comes down to the fact that absent plaintiffs stand to gain, whereas absent defendants stand to lose.[183] While the former may be prevented from bringing individual suit against a defendant because the class representative failed to sustain its claim, they are compensated by essentially free legal representation with well-developed procedural safeguards and the possibility of risk-free recovery for a claim they might never have brought on their own.[184]

By contrast, the burdens borne by a defendant class member are much heavier. Absent defendants may suddenly find themselves inexplicably liable for significant damages, or get blindsided by offensive collateral estoppel against a potentially winning defense in subsequent litigation because the issue was resolved by a representative defendant in a prior class action to which they were an unwitting party. These concerns are typically resolved by sufficient adequacy of representation.[185]

However, these considerations are largely irrelevant because the focus of this configuration does not reach the constitutional issues that would implicate significant due process concerns. The only issue to be litigated determines the extent of a causal relationship; no rights or duties are determined at this stage, and no questions of individual liability or damages are to be resolved against the absent defendants. This distinction is important because the majority of substantive objections to defendant class actions arise from notions of personal jurisdiction and fairness with respect

177. *Id.*
178. Holo, *supra* note 46, at 233.
179. *Id.* at 234.
180. Brandt, *supra* note 52, at 917.
181. However, this incentive is sufficiently balanced by the plaintiff's interest in certifying the class and pursuing its claim; a chosen representative without enough skin in the game would simply give defendants grounds to challenge certification.
182. Parsons & Starr, *supra* note 53, at 888 (discussing the traditional conceptions of judicial power stemming from *Pennoyer v. Neff*, 95 U.S. 714 (1878), as they relate to the class action device in modern jurisprudence).
183. Thillens, Inc. v. Community Currency Exch. Ass'n of Ill., 97 F.R.D. 668 (N.D. Ill. 1983).
184. Parsons & Starr, *supra* note 53, at 891.
185. Hansberry v. Lee, 311 U.S. 32, 42 (1940) (noting that "there has been a failure of due process only in those cases where it cannot be said that the procedure adopted, fairly [e]nsures the protection of the interests of absent parties who are to be bound by it").

to the imposition of liability without opportunity to raise individual defenses. But issue certification preserves these opportunities for follow-on adjudication, effectively eliminating such concerns until they become relevant.

2. Predominance

The predominance inquiry under Rule 23(b)(3) requires courts to "first *characterize* the issues in the case as common or individual and then *weigh* which predominate."[186] Isolating the causal connection between the defendants' GHG emissions and anthropogenic climate change for issue certification simplifies this evaluation because the common question is the only one to be litigated. Any individual issues that could be used to defeat certification become irrelevant at this stage, because they have been carved out and reserved for subsequent adjudication.

To defeat predominance in the context of issue-class certification, defendants must show that individualized inquiries "outweigh the common questions prevalent *within each issue*" certified for class treatment.[187] But there can be no dispute that the common issue predominates when it is the only one up for litigation. Even a determination that subsequent "individualized inquiries predominate over the elements of actual injury and causation does not . . . taint the certified issues."[188]

Moreover, "whether defendants created the risk of [climate change-related harms] is distinct from the ultimate question of whether they caused an actual injury to [plaintiffs]," which insulates the common issue from overlap with elements of liability and damages.[189] Therefore, regardless of any proportional variance in emissions from each defendant or individual defenses that could be used to stave off liability and damages, none of the issues to which such concerns attach fall within the scope of this configuration.

3. Superiority

Rule 23(b)(3) also asks whether "a class action is superior to other methods for fairly and efficiently adjudicating the controversy." This evaluation requires courts to consider four non-exhaustive factors: (1) "the class members' interest in controlling the prosecution or defense of separate actions"; (2) "the extent and nature of any litigation concerning the controversy already begun by or against class members"; (3) "the desirability or undesirability of concentrating the litigation of claims in the particular forum"; and (4) "the likely difficulties in managing a class action."[190]

In theory, these factors would likely support certification of this proposed configuration. First, the defendants have a compelling interest in controlling their own litigation because history has shown that threshold causal issues preclude federal courts from engaging with the merits of climate change-related claims. This factor weighs against class certification because it eliminates a strong procedural defense only available to the defendants individually. Second, whether there are concurrent lawsuits that address similar issues is a factual question, and not one that can be resolved in a theoretical capacity.

Third, the desirability of concentrating litigation within a single forum is a relatively fact-dependent question, but it tends to follow threads of judicial efficiency and the necessity of aggregation for the proper resolution of claims.[191] Although it has been suggested that novel approaches to litigation weigh against certification on this factor, "there is no basis in Rule 23 for arbitrarily foreclosing plaintiffs from pursuing innovative theories through the vehicle of a class action lawsuit."[192] And fourth, the ordinary difficulties inherent to managing a (b)(3) tort claim against a defendant class of this magnitude would likely weigh against certification. But that is precisely why (c)(4) is deployed to mitigate manageability issues, by separating the common causal issue from individual questions of actual liability and proportional responsibility.

In practice, the superiority analysis does not always track so precisely with these enumerated factors, often yielding to a more general analysis of the lawsuit's character and disposition. Courts recognize that these factors are non-exhaustive and primarily designed to ensure that the core objectives of the class action device are advanced in a given case, effectively requiring them to consider whether and to what extent other means of resolving the dispute are available.[193] If such a comparative evaluation reveals no viable alternative means of resolving an otherwise cognizable claim, the superiority requirement is often satisfied by default.[194] Indeed, courts have granted certification on grounds that "a class action [is] the *only* fair method of adjudication for plaintiffs."[195]

On the other hand, the Supreme Court has indicated that the inability of individual litigation to deal with a controversy does not, on its own, justify class certification based on outlandish interpretations of Rule 23.[196] The Supreme Court's jurisprudence reveals a certain degree of reluctance to use the class action device to validate claims that could not otherwise be brought before a court. Regardless, the lack of viable claims against individual defendants would be a critical factor to the superiority inquiry, and likely the strongest argument in support of certification for this class action configuration. Parts of the analysis resemble the numerosity requirement because it looks at the potential for other procedural mechanisms like joinder to render class certification unnecessary. But here, the jurisdictional

186. Martin v. Behr Dayton Thermal Prods. LLC, 896 F.3d 405, 413 (6th Cir. 2018) (quoting 2 William B. Rubenstein, Newberg on Class Actions §4:50 (5th ed. 2010)).
187. *Id.* at 414.
188. *Id.*
189. *Id.*
190. Fed. R. Civ. P. 23(b)(3)(A)-(D).
191. *See*, *e.g.*, Klay v. Humana, Inc., 382 F.3d 1241 (11th Cir. 2004).
192. *Id.* at 1272.
193. Wright & Miller, *supra* note 84, §1779.
194. *Id.*
195. In re Domestic Air Transp. Antitrust Litig., 137 F.R.D. 677 (N.D. Ga. 1991).
196. *See*, *e.g.*, Amchem Prods., Inc. v. Windsor, 521 U.S. 591 (1997); Ortiz v. Fireboard Corp., 527 U.S. 815 (1999).

issues inherent to this proposed configuration preclude joinder from being a viable option.

At bottom, superiority speaks to the essential problem with establishing accountability for climate change: individual lawsuits against carbon-major defendants consistently fail to get past threshold issues because each defendant can rely on an artificially attenuated causation defense at the threshold stage and foreclose engagement with the merits of otherwise cognizable claims. But the structure of Rule 23 is designed to afford aggrieved parties the opportunity to resolve disputes that would be unviable as individual actions by litigating in an aggregated, representative capacity. Since the defendants' collective conduct is at the core of the plaintiff's injuries, a procedural mechanism that allows for the efficient resolution of this common issue is the superior method of adjudication. Other methods that rely on artificially isolated causal connections fail to reconcile the aggregate effect of the defendants' conduct necessary to give plaintiffs their day in court for the injuries caused by climate change.

4. Settlement

The class action device can also be used to create a settlement structure under Rule 23(e) that could resolve carbon-majors' accountability for climate change while moving the needle on corporate conduct toward long-term sustainability. Faced with the potential for enormous liability, a class of carbon-major defendants could be induced to settle, allowing them to take part in the negotiation of their culpability for climate-related injuries and achieve truly global peace. Settlement in this context could be creatively utilized to facilitate the development of flexible and innovative restitution because it creates an opportunity to tailor remedies that promote inventive solutions to the underlying problem.

For instance, an uncapped common benefit fund covering future climate-related injuries could be set up to run for a period of time determined by long-term sustainability targets on both collective and individual axes. Global emissions reduction metrics could be used to determine the remaining duration of the fund overall, while each carbon-major defendant's proportional responsibility for payouts could be recalculated based on their achievement of individual sustainability goals.

Such a settlement structure incentivizes both competitive and cooperative development of innovative solutions to climate change, because while individual carbon-major defendants can reduce their portion of liability in the short term, the class itself would remain collectively on the hook until the global targets are met. Additionally, a financial incentive would attach to the development of realistic adaptation and mitigation efforts, because every harm that can be prevented with immediate action is one less future payout. Unfortunately, without the threat of liability hanging over the heads of carbon-major corporations, the chances of arriving at an equitable settlement are remote. And given the barriers currently standing in the way of climate change litigation, the necessary incentives are unlikely to materialize without further innovation.

V. Conclusion

Climate change threatens unprecedented harms of incalculable magnitude reaching further into the future than we can reasonably foresee. Even assuming immediate action and steady progress toward global sustainability over the next several decades, significant damage from atmospheric exposure to historical GHG emissions has already been done and will manifest in ongoing and increasingly harmful climate volatility. While significant legal challenges remain, it is only a matter of time before climate change litigation finds enough purchase to hold carbon-major corporations accountable for the harms caused by their collective conduct.

With the right claim, the class action configuration proposed here creates an opportunity to hold industrial polluters accountable for the damage caused by climate change. Aggregating and isolating the causal element for an issue trial against a defendant class of carbon-major corporations allows plaintiffs to circumvent the causation barriers that have prevented climate change litigation from gaining ground in U.S. federal courts.