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The Conundrum of Climate Change Causation: Using Market Share Liability to Satisfy the Identification Requirement in Native Village of Kivalina v. Exxonmobil Co.

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NOTES

THE CONUNDRUM OF CLIMATE CHANGE CAUSATION: USING MARKET SHARE LIABILITY TO SATISFY THE IDENTIFICATION REQUIREMENT IN *NATIVE VILLAGE OF KIVALINA V. EXXONMOBIL CO.*

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INTRODUCTION

Change is in the air. Over the past several decades numerous studies have indicated a general increase in global temperature.[1] The U.S. National Aeronautics and Space Administration ("NASA") reported that 2005 was the warmest year on record in more than a century.[2] While researchers are unsure if 2010 will surpass 2005 as the warmest year in the past century,[3] they are sure about one thing:

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1. *See, e.g.*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, THE SCIENCE OF CLIMATE CHANGE: SECOND ASSESSMENT REPORT 1995, at 4 (1995) [hereinafter IPCC, 1995 REPORT]; INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007 SYNTHESIS REPORT, at 30 (2007) [hereinafter IPCC, 2007 SYNTHESIS REPORT]; J. Hansen et al., *GISS Surface Temperature Analysis—Global Temperature Trends: 2005 Summation*, GODDARD INST. FOR SPACE STUDIES, NASA, http://data.giss.nasa.gov/gistemp/2005 (last updated Jan. 12, 2006) [hereinafter NASA, *GISS Surface Temperature Analysis-Global Temperature Trends*].

2. NASA, *GISS Surface Temperature Analysis-Global Temperature Trends*, *supra* note 1.

3. GODDARD INST. FOR SPACE STUDIES, NASA, *GISS Surface Temperature Analysis—2010—How Warm Was This Summer?*, http://data.giss.nasa.gov/gistemp/2010summer/ (last visited April 15, 2011) [hereinafter NASA, *How Warm Was This Summer?*] (noting that because the mean temperature of 2010 will likely

the warmest twelve month period in the Goddard Institute's 131 year history ended in mid 2010.[4]

In its 2010 report, the Intergovernmental Panel on Climate Change ("IPCC") demonstrated that the "[w]arming of the climate system is unequivocal, as is . . . . evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level."[5]

The IPCC indicated that the reported increase in global temperature is largely the result of human activities.[6] This proposition, along with the conclusion that climate change occurs through modification of the natural greenhouse effect, is not particularly controversial.[7] The greenhouse effect is a natural process whereby greenhouse gases, such as carbon dioxide (CO_2) provide additional warming for earth.[8]

The accumulation of greenhouse gases in the earth's atmosphere causes already warm, infrared solar radiation, normally released out of the atmosphere, to be trapped and re-radiated back to earth, warming the earth's surface.[9] An increased presence of greenhouse gases in the atmosphere results in an increased warming of the earth.[10]

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be so close to that of 2005 researchers may not be able to distinguish which year was the warmest).

4. *Id.*

5. *Id.* at 30.

6. *See id.* at 37 (concluding "[t]here is *very high confidence* that the global average net effect of human activities since 1750 has been one of warming"); *see also id.* at 39 ("Most of the observed increase in global average temperature since the mid-20th century is *very likely* due to the observed increase in anthropogenic greenhouse gas (GHG) concentrations.").

7. A.B.A, GLOBAL CLIMATE CHANGE AND U.S. LAW 5 (Michael B. Gerrard, ed. 2007); *see also* JAMES SALZMAN & BARTON H. THOMPSON, JR., ENVIRONMENTAL LAW AND POLICY 123 (3d ed. 2010) (noting the debate over climate change is not about the power of gases to warm the environment or if the greenhouse effect is real); Randall S. Abate, *Automobile Emissions and Climate Change Impacts: Employing Public Nuisance Doctrine as Part of a "Global Warming Solution" in California*, 40 CONN. L. REV. 591, 593 (2008) (recognizing that both the Supreme Court and the Environmental Protection Agency (EPA) recognize that there is a causal connection between greenhouse gases emitted by human beings and global warming).

8. *See* A.B.A., *supra* note 7, at 5; *see also* SALZMAN & THOMPSON, *supra* note 7, at 121.

9. A.B.A., *supra* note 7, at 5.

10. *Id.*

There has been a steady increase in the emission of greenhouse gases through human activities.[11] This Note focuses on the emission of CO_2 as it is the most significant anthropogenic greenhouse gas.[12] The United States and Canada contribute roughly twenty percent of all anthropogenic CO_2.[13] The primary CO_2 emitters are fossil fuel companies, electric utilities, and automobile manufacturers.[14]

A limited number of companies within these primary-emitter-industries most significantly contribute to CO_2 emissions.[15] In 1996, fifteen companies made up ninety-one percent of the American gasoline market and ten oil companies dominated over seventy-five percent of the American oil market.[16] In 1997 ten coal producers contributed sixty-one percent of the American coal market.[17] Though there are numerous utility companies in the United States, in 2000, it was the 100 largest electric generation owners who owned over 1,900 American power plants, produced approximately eighty-seven percent of America's electricity, and emitted eighty-eight percent of the CO_2 emissions of the electric power industry.[18]

Currently, there is no federal legislation regarding compensation for individuals adversely affected by climate change. While the United States is a member of the U.N. Framework Convention on Climate Change as of 1992, it remains one of two chief industrialized countries not party to the Kyoto Protocol, which began enforcement in February 2005.[19] President George W. Bush rejected the Kyoto

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11. IPCC, 2007 SYNTHESIS REPORT, *supra* note 1, at 36 (noting that between 1970 and 2004 annual CO_2 emissions have risen by approximately eighty percent).

12. *Id.* (noting that CO_2 emissions constitute seventy-seven percent of anthropogenic greenhouse gas emissions); *see also* David A. Grossman, *Warming Up to a Not-So-Radical Idea: Tort-Based Climate Change Litigation*, 28 COLUM. J. ENVTL. L. 1, 7 (2003).

13. IPCC, 2007 SYNTHESIS REPORT, *supra* note 1, at 36.

14. Grossman, *supra* note 12, at 28 (noting that in 2000, fossil fuel combustion was responsible for about ninety-eight percent of total U.S. CO_2 emissions).

15. *Id.* at 29.

16. *Id.* at 30.

17. *Id.*

18. *Id.* The total number of power plants in the U.S. as of 2000 was 2,776. *See* ELECTRICITY INFORMATION ADMINISTRATION, NUMBER OF PLANTS AT U.S. ELECTRIC UTILITIES BY CENSUS DIVISION AND STATE, 2000, tbl. E1, *available at* http://www.eia.doe.gov/cneaf/electricity/ipp/html1/ippv1te1p1.html (last modified Sep. 4, 2002).

19. A.B.A., *supra* note 7, at 19. The Kyoto Protocol is an international agreement that sets binding emissions caps on all signing countries. *Id.* at 18. The

Protocol on the basis that it would significantly damage the U.S. economy.[20] The Bush Administration sought to persuade emissions reductions on a voluntary basis.[21] Nevertheless, the constant growth of the U.S. economy and lack of mandatory emissions reduction plans have allowed U.S. emission levels to continue to rise.[22]

Hundreds of lawsuits have been filed in state and federal court by a variety of plaintiffs to bridge the gaps in the regulatory response to the climate change crisis.[23] One category of cases is claims based on existing statutes.[24] In *Massachusetts v. EPA*[25] the Supreme Court addressed the issue of whether agencies, in this case the Environmental Protection Agency ("EPA") had authority to take action against CO_2 emissions under the Clean Air Act ("CAA").[26] The Court held that (1) greenhouse gases are classified as air pollutants and are thus regulated by the EPA, (2) the EPA is obligated to issue a finding that emissions from vehicles "may reasonably be anticipated to endanger public health or welfare[,]"[27] i.e. an endangerment finding, and (3) states have a lower standing threshold than do private parties in the context of climate change litigation.[28] The EPA issued an endangerment finding in April 2009,

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limitations are expected to be met during a timeline of 2008 to 2012, and reductions are set based on emissions levels from 1990. *Id.* The percentage reductions are not uniform and the U.S. was set to seven percent below its 1990 emissions level. *Id.* The goal of the Kyoto Protocol was to reduce emissions, from what they would have been without reduction efforts, by approximately thirty percent. *Id.*

20. *Id.* at 19.

21. *Id.* (noting that there are "tax incentives for renewable energy and energy efficiency" in addition to the Asia-Pacific Partnership on Clean Development and Climate which provides a framework, on a voluntary basis, for international development of clean practices); *see also*, SALZMAN & THOMPSON, *supra* note 7, at 134.

22. A.B.A., *supra* note 7, at 19; *see also* Eduardo M. Peñalver, *Acts of God or Toxic Torts? Applying Tort Principles to the Problem of Climate Change*, 38 NAT. RESOURCES J. 563 (1998) (noting the 1992 U.S. goal to keep emissions at 1990 levels by 2000 remains unmet).

23. *See* A.B.A., *supra* note 7, at 21; SALZMAN & THOMPSON, *supra* note 7, at 134.

24. *See, e.g.*, Massachusetts v. EPA, 549 U.S. 497 (2007).

25. 549 U.S. 497 (2007).

26. *See id.*

27. *Id.* at 532-33.

28. *See id.* at 520.

a significant step toward the regulation of CO_2 from automobiles, but is yet to regulate emissions levels.[29]

This Note focuses on a second category of litigation: civil lawsuits filed by local governments, environmental groups, private parties, and states claiming that greenhouse gas emissions are actionable at common law.[30] These plaintiffs bring public nuisance claims against greenhouse gas emitters, such as oil, energy, and utility companies, for the effects of their contributions to global warming.[31] They seek damages and injunctions both to deal with the financial cost of climate change and to control future damage.[32] These cases present challenges to nearly every element of the traditional tort.

This Note endeavors to provide a framework by which plaintiffs in climate change nuisance cases may address one of those challenges: the identification requirement of causation. Part I of this Note outlines the use of public nuisance as a cause of action, particularly in the environmental litigation context. Part I examines in detail two climate change nuisance cases, followed by challenges the plaintiffs in each case will face in proving causation. Part II describes the development and application of market share liability ("MSL") from its inception in the diethystilbesterol ("DES") litigation context. Part II summarizes the critiques of MSL and the limits on its extension to other products. Finally, Part III argues that MSL is appropriate for satisfying the identification requirement of causation, based on policy and practical concerns in *certain* climate change public nuisance cases.

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29. Leslie Z. Walker, *EPA Issues Proposed Endangerment Finding for Greenhouse Gas Emissions*, ABBOTT & KINDERMAN LAND USE LAW BLOG (Apr. 20, 2009), http://blog.aklandlaw.com/2009/04/articles/climate-change/epa-issues-proposed-endangerment-finding-for-greenhouse-gas-emissions/.

30. *See, e.g.*, Native Vill. of Kivalina v. ExxonMobil Corp., 663 F. Supp. 2d 863 (N.D. Cal. 2009); Order Granting Defendants' Motion to Dismiss, California v. General Motors Corp., No. C06-05755, 2007 WL 2726871 (N.D. Cal. Sept. 17, 2007); Order Granting Defendants' Motion to Dismiss, Comer v. Murphy Oil, U.S.A., No. 1:05 CV-436-LG-RHW (S.D. Miss. Aug 30, 2007), *rev'd*, 585 F.3d 855 (5th Cir. 2009), *panel opinion vacated*, 607 F.3d 1049 (5th Cir. 2010) (en banc); Connecticut v. Am. Elec. Power ("AEP"), 406 F. Supp. 2d 265 (S.D.N.Y. 2005), *vacated*, 582 F.3d 309 (2d Cir. 2009).

31. *See, supra* note 30.

32. *AEP*, 582 F.3d at 318 (plaintiffs seeking injunctions); *Kivalina*, 663 F. Supp. 2d at 868 (plaintiffs seeking only damages).

I. PUBLIC NUISANCE AND CLIMATE CHANGE LITIGATION

Part I of this Note introduces the legal claim of public nuisance and its elastic application to a wide range of litigation scenarios. Part I also highlights the element of causation required in any public nuisance suit, and the difficulties climate change plaintiffs face in proving causation. Part I.A discusses the history of public nuisance and the remedies available in public nuisance suits. Part I.B explores modern public nuisance claims and two different examples of public nuisance claims in the context of climate change litigation: *Connecticut v. American Electric Power* ("*AEP*"),[33] which maps a traditional public nuisance claim of a state seeking abatement of the nuisance, and *The Native Village of Kivalina v. ExxonMobil Co.*,[34] which traces an alternative nuisance claim seeking monetary damages as a remedy. Finally, Part I.C highlights the three hurdles plaintiffs face in proving causation in nuisance cases in the climate change context: general causation, specific causation, and the identification requirement of causation.

A. History of Public Nuisance

Dean William Prosser and Dean W. Page Keeton have noted, "[t]here is perhaps no more impenetrable jungle in the entire law than that which surrounds the word 'nuisance.'"[35] The elastic boundaries of nuisance mean it has been used by a variety of plaintiffs and applied to a vast array of circumstances.[36] This amorphous and all-encompassing reputation places nuisance well within the notion that certain aspects of the law of torts should morph alongside changed circumstances.[37]

Public nuisance originated around the thirteenth century as a criminal action brought by the government against interferences with the general public's right to the enjoyment of land.[38] The right to bring a public nuisance claim traditionally derived from the

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33. 406 F. Supp. 2d 265 (S.D.N.Y. 2005), *vacated*, 582 F.3d 309 (2d Cir. 2009).

34. 663 F. Supp. 2d 863 (N.D. Cal. 2009).

35. W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS, § 86 (5th ed. 1984).

36. *See id.*

37. *See* MacPherson v. Buick Motor Co., 217 N.Y. 382, 390 (1916).

38. J.R. Spencer, *Public Nuisance – A Critical Examination*, 48 CAMBRIDGE L. J. 55, 58-59 (1989).

sovereign's police power, not from tort law,[39] thus public nuisance was remedied by criminal sentencing, often coupled with injunctions.[40]

In the sixteenth century, English courts crafted an exception to the rule that only criminal actions arose from public nuisance.[41] The logic behind the old rule was that if civil actions were available for public nuisance, the defendant's liability would be too great because every member of the public would have an action.[42] To account for this concern courts fashioned a rule whereby a plaintiff can bring a public nuisance civil action "if he has suffered 'special damage' as a result" of the nuisance.[43] Though the meaning of special damage within public nuisance was "obscure,"[44] scholars note that the kind of damage "clearly includes personal injury and physical damage to property and . . . . purely economic losses . . . ."[45]

B. Modern Public Nuisance Claims

Most courts in modern public nuisance claims have followed the Restatement's definition of public nuisance.[46] The Restatement states that a public nuisance is any "unreasonable interference with a right common to the general public."[47] The Restatement follows the special damages rule in its outline for who can recover for public nuisance. To recover damages, plaintiffs must prove that they "have suffered harm of a kind different from that" experienced by the general public.[48]

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39. *Id.*

40. *Id.* at 66.

41. *Id.* at 73; *see also* Abate, *supra* note 7, at 599 (citing the sixteenth century as the time when courts recognized public nuisance claims); Robert Abrams, *The Misunderstood Law of Public Nuisance: A Comparison with Private Nuisance Twenty Years After Boomer*, 54 ALB. L. REV. 359, 362 (1990) (noting that the change in law allowed "private citizens to bring an action . . . for public nuisance").

42. Spencer, *supra* note 38, at 73.

43. *Id.* at 74.

44. *Id.*

45. *Id.*; *see also id.* at n. 85–88.

46. Connecticut v. AEP, 582 F.3d 309, 350 (2d Cir. 2009); *see also* Grossman, *supra* note 12, at 53.

47. RESTATEMENT (SECOND) OF TORTS §821(B)(1) (1979).

48. *Id.* § 821(C); *see also* Abate, *supra* note 7, at 601 & n. 79 (noting the "different in kind" harm requirement may be waived in the case of abnormally dangerous activity such as disposing hazardous waste).

1. Modern Remedies for Public Nuisance: Damages v. Injunctions

As noted above, in public nuisance actions plaintiffs can seek: (1) an injunction to enjoin the injurious party from continuing its harmful activities, and/or (2) monetary damages.[49] In an effort to rein in the broad definition of nuisance,[50] the doctrine is limited by an unreasonableness standard.[51] Therefore, conduct is unreasonable "only if the gravity of the harm caused outweighs the utility of the conduct."[52]

In circumstances where plaintiffs seek injunctive relief, the plaintiff must prove that defendant's harmful activity is unreasonable, i.e., the social benefit of such activity is not greater than the harm caused.[53] This is logical because an injunction would cease the activity altogether, affecting third parties.[54] Accordingly, in seeking an injunction, the plaintiff must show the social benefit of such activity is not greater than the harm caused.[55]

This evaluation is different from that used when deciding to award damages for a nuisance.[56] Prosser and Keeton note that there must be a distinction between "enterprises . . . . of such social value" that justifies their continuance, and those enterprises that the public would

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49. KEETON ET AL., *supra* note 35, § 88(A), at 631; *see also* Abate, *supra* note 7, at 601 (recognizing an injunction, damages, or both, as the remedies for public nuisance claims).

50. *See* RESTATEMENT (SECOND) OF TORTS, *supra* note 47 and accompanying text.

51. KEETON ET AL., *supra* note 35, § 88(A), at 631.

52. *Id.* at 630-31 (noting that this test is assessed by a reasonable person standard, even if the benefits outweigh the harm but there is a "feasible way, economically and scientifically" to eliminate a significant portion of the harm without negatively impacting the benefits).

53. *Id.*; *see generally* Boomer v. Atlantic Cement Co., 257 N.E.2d 870 (N.Y. 1970) *aff'd sub nom.* Kinley v. Atlantic Cement Co., 42 A.D.2d 496 (1973); *see also* Abate, *supra* note 7, at 601-02 (highlighting the difference between awarding damages and an injunction—damages are awarded when "the harm caused is significant and unreasonable despite the utility of the actor's conduct" and an injunction is available "when the actor's conduct is so unreasonable that it must cease").

54. Abate, *supra* note 7, at 601-02.

55. KEETON ET AL., *supra* note 35, § 88(A), at 631.

56. *See id.* (noting the requirement of unreasonable as different for plaintiffs seeking injunctive relief from those seeking damages); Abate, *supra* note 7, at 601-02 (same).

be better off without.[57] Plaintiffs harmed by enterprises of "social value" should be made whole through damages, while injunctions should be imposed on the latter enterprises.[58] The court will often choose to award damages where plaintiffs can be fully compensated, rather than enjoin lawful activity.[59]

2. Public Nuisance in the Environmental Litigation Context

Public nuisance's use in environmental litigation is an example of the flexibility of the doctrine in allowing non-traditional causes of action.[60] The plaintiff's identification of damage to a public right is necessary for the success of a public nuisance claim.[61] The use and enjoyment of the environment is just such a public right.[62] With this principle, plaintiffs have used public nuisance claims to combat air pollution,[63] hazardous waste disposal,[64] and excessive noise.[65] Environmental public nuisance suits may be preempted by federal

57. KEETON ET AL., *supra* note 35, § 88(A), at 631.

58. *See id.*; *see also* Salem Iron Co. v. Hyland, 77 N.E. 751, 752 (Ohio 1906) (holding plaintiffs cannot prevail on a suit for an injunction against lawful business operated with care, but can obtain a damages award); Berkey v. Berwind-White Coal Mining Co., 69 A. 329 (Pa. 1908) (same); W. Page Keeton & Clarence Morris, *Notes on Balancing the Equities*, 18 TEX. L. REV. 412, 418 (1940).

59. *See* Baldwin v. McClendon, 288 So.2d 761, 767 (Ala. 1974) (holding defendants' compensation for the depreciation in the market value of plaintiffs' property, resulting from defendants' operation of a hog production plant, was sufficient not to enjoin production).

60. *See supra* notes 35–37 and accompanying text.

61. Abate, *supra* note 7, at 600.

62. Grossman, *supra* note 12, at 53 (noting that pollution can harm an environment that affects all members of that community and thus the public right of that community).

63. *See generally* Georgia v. Tennessee Copper Co., 206 U.S. 230 (1907). The Supreme Court granted an injunction to the State of Georgia when it initiated a public nuisance case in the context of interstate air pollution. *Id.* at 239. Georgia sued Tennessee Copper Company for its emissions of sulfur dioxide into the air, which harmed the crops and environment in Georgia. *Id.* at 236–38. *But see* Abate, *supra* note 7, at 606 (noting that "public nuisance air pollution claims have not been as successful since Congress's enactment of the [CAA]").

64. *See, e.g.*, Wood v. Picillo, 443 A.2d 1244, 1248 (R.I. 1982) (holding that a chemical dump site that caused harm to neighbors and had the potential for harm to the general public was a public and private nuisance).

65. *See, e.g.*, New York v. Waterloo Stock Car Raceway, Inc., 409 N.Y.S.2d 40 (N.Y. Sup. Ct. 1978) (finding a public nuisance in a raceway because of the danger, noise and dust it produced).

litigation where Congress has specifically addressed the issue to be litigated.[66]

3. Public Nuisance Claims in the Climate Change Litigation Context

Scholars disagree about whether the environmental nuisance cases establish a federal common-law foundation for climate change public nuisance cases.[67]

a. Connecticut v. AEP[68]

The *AEP* case represents the traditional public nuisance claim: government actors seeking injunctive relief against defendants for their nuisance affecting a right common to the general public.[69]

i. Facts

In July 2004, eight states[70] and three land trusts[71] filed a complaint against six energy companies[72] in the Southern District of New York.[73] The plaintiffs represented upwards of seventy-seven million people in their common environments.[74]

The states "sought abatement of defendants' ongoing contributions to a public nuisance under federal common law, or in the alternative, under state law."[75] The states contended that the defendants

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66. The Clean Water Act ("CWA") is now the basis for denying public nuisance claims in water pollution cases. *See* Abate, *supra* note 7, at 604; *see also* Middlesex Cnty. Sewerage Auth. v. Nat'l Sea Clammers Ass'n, 453 U.S. 1 (1981) (holding that statute had preempted the federal common law of nuisance in the context of ocean pollution); *see also supra* note 63.

67. *Compare* Abate, *supra* note 7, at 607, *with* Connecticut v. AEP, 406 F. Supp. 2d 265 (S.D.N.Y. 2005), *vacated*, 582 F.3d 309, 316 (2d Cir. 2009).

68. 406 F. Supp. 2d 265 (S.D.N.Y. 2005), *vacated*, 582 F.3d 309 (2d Cir. 2009).

69. *See infra* Part I.B.3.a.i.

70. California, Connecticut, Iowa, New Jersey, New York, Rhode Island, Vermont, and Wisconsin, along with the City of New York. 582 F.3d at 316.

71. The Open Space Institute, the Open Space Conservancy, and the Audubon Society of New Hampshire. *Id.* at 318.

72. American Electric Power Company, American Electric Power Service Corporation, the Southern Company, Tennessee Valley Authority, Xcel Energy Corporation, and Cinergy Corporation. *Id.* at 316.

73. 406 F. Supp. 2d at 267.

74. *Id.* at 268.

75. 582 F.3d at 316 (internal quotations and citations omitted).

contribute about one quarter of the U.S. electric power sector's CO_2 emissions and roughly ten percent of all anthropogenic CO_2 emissions worldwide.[76] Accordingly, they argued, defendants were "substantial contributors" to global warming and raised anthropogenic CO_2 levels.[77]

The complaint cited environmental reports from the IPCC and the U.S. National Academy of Sciences to support its discussion of the causal link between increased greenhouse gas emissions and global warming.[78] The states alleged that the changes in the Earth's climate will have negative impacts on their "environments, residents[,] and property," costing the states billions of dollars to correct.[79] The complaint outlined the current and future injuries that result from global warming and defendants' increased CO_2 emissions.[80] The range of future injuries was vaster than those characterized as current injuries.[81]

The states sought equitable relief from defendants whom they sought to hold jointly and severally liable for their public nuisance.[82] They sought "to abate that nuisance" through CO_2 emissions caps and reductions.[83]

The Land Trusts' complaint was largely the same as the states' complaint.[84] The significant difference was that, regarding the property they held in trust, the Land Trusts alleged special injuries different in degree and kind from injuries to the general public resulting from global warming.[85]

Defendants moved to dismiss both complaints on the grounds that:

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76. *Id.*

77. *Id.*

78. *Id.* at 317.

79. *Id.*

80. *Id.* at 317-18.

81. *Id.* (including current injuries such as a reduction in California's mountain snowpack, warmer temperatures on average, earlier spring thaws and later fall freezes, decrease in average snowfall, and future injuries such as increased illnesses and deaths due to harm to the biodiversity of the states).

82. *Id.* at 318.

83. *Id.*

84. *Id.* at 319.

85. *Id.*

> Plaintiffs have failed to state a claim upon which relief can be granted because: (1) there is no recognized federal common law cause of action to abate greenhouse gas emissions . . . (2) separation of powers principles preclude [the courts] from adjudicating the[] actions . . . and (3) Congress has displaced any federal common law cause of action to address the issue of global warming.[86] [Defendants also claimed the district court] lack[ed] jurisdiction to resolve [the] claims because: (1) Plaintiffs do not have standing to sue on account of global warming and (2) Plaintiffs[] fail[] to state a claim under federal law . . . .[87]

The district court found that the complaints presented a political question in seeking CO_2 emissions caps and dismissed them.[88]

Following the district court's dismissal, plaintiffs appealed.[89] The Court of Appeals for the Second Circuit held that the district court erred in its dismissal based on the existence of a political question.[90] The Second Circuit addressed defendants' other objections, finding that plaintiffs had *parens patriae* standing[91] and proprietary standing to bring their public nuisance claim.[92] The Second Circuit also held that plaintiffs had stated a legitimate claim under the federal common law of nuisance.[93] Finally, the Second Circuit held that the CAA had not preempted a federal common law of nuisance claim because the EPA had yet to regulate greenhouse gas emissions such that the regulation "speaks directly" to the issues raised by plaintiffs.[94] The

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86. Connecticut v. AEP, 406 F. Supp. 2d 265, 270 (S.D.N.Y. 2005).

87. *Id.*

88. *See id.* at 272 (noting that in air pollution cases the Supreme Court has required courts to balance environmental interests, economic interests, and social costs, and that the court cannot balance those interests without an "initial policy determination" by the government regarding the interests).

89. Connecticut v. AEP, 582 F.3d 309, 314 (2d Cir. 2009).

90. *Id.* at 315.

91. *Id.* at 334-39 (noting "[f]or over a century, states have been accorded standing in common law nuisance causes of action when suing as *parens patriae*").

92. *Id.* at 349.

93. *Id.* at 353, 371.

94. *Id.* at 387-88 (noting that Milwaukee II, 451 U.S. 304 (1981), was distinguishable because the CWA was so comprehensive that it left no place for common law nuisance claims in the context of water pollution).

Second Circuit vacated the judgment of the district court and remanded for proceedings consistent with its opinion.[95] Defendants petitioned for certiorari to the Supreme Court.[96]

ii. The Current Status of AEP

On December 6, 2010 the Supreme Court granted certiorari in *AEP v. Connecticut*.[97] The Supreme Court granted certiorari on all questions presented by defendants: (1) whether states and private parties have standing to seek judicially-fashioned emissions caps on utilities for their contribution to climate change, (2) whether a cause of action to cap carbon dioxide emissions can be implied under federal common law, and (3) whether an injunction aiming to cap defendants' CO_2 emissions constitutes a political question better suited for the legislature, i.e. whether it requires initial policy determinations.[98] The Court is set to hear the case in the Spring 2011 term.[99]

b. Native Village of Kivalina v. ExxonMobil Co.[100]

Native Village of Kivalina v. ExxonMobil Co., represents a second, nontraditional, public nuisance claim brought by a government plaintiff seeking *only* monetary damages for the nuisance.

i. Facts

In 2008, the city of Kivalina and the Native Village of Kivalina (the governing body of about 400 Inupiat Eskimo inhabitants) brought a federal common law nuisance claim, or in the alternative state law claims, against twenty-four oil, energy and utility

95. *Id.* at 393.

96. Petition for Writ of Certiorari, Connecticut v. AEP, 582 F.3d 309 (2d Cir. 2009) (No. 10-174), 2010 WL 3054374.

97. Connecticut v. AEP, 582 F.3d 309 (2d Cir. 2009), *cert. granted*, 79 U.S.L.W. 3092, 79 U.S.L.W. 3339, 79 U.S.L.W. 3342 (U.S. 2010) (No. 10-174).

98. Petition for Writ of Certiorari at 1, Connecticut v. AEP, 582 F.3d 309 (2d Cir. 2009) (No. 10-174), 2010 WL 3054374 (internal citations and quotations omitted).

99. Connecticut v. AEP, 582 F.3d 309 (2d Cir. 2009), *cert. granted*, 79 U.S.L.W. 3092, 79 U.S.L.W. 3339, 79 U.S.L.W. 3342 (U.S. Dec. 6, 2010) (No. 10-174).

100. 663 F. Supp. 2d 863 (N.D. Cal. 2009).

companies.[101] The plaintiffs alleged that defendants' contribution to global warming through their activities in the oil, energy, and utilities fields caused their harm.[102]

Kivalina is situated on the end of a six-mile barrier reef between the Chukchi Sea and the Kivalina and Wulik Rivers.[103] The village is located seventy miles north of the Arctic Circle on Alaska's Northwest coast.[104] Arctic sea ice, specifically the "land-fast sea ice," abundant in the fall, winter, and spring, has protected the Kivalina coast for centuries.[105] The ice acts as a barrier against the storms that pummel the very area upon which Kivalina is situated.[106] Plaintiffs allege that increased annual temperatures, resulting from global warming, have negatively affected the "thickness, extent, and duration of sea ice" that protects Kivalina's coast.[107] The reduction of the sea ice has left Kivalina vulnerable to "waves, storm surges[,] and erosion."[108] As a result of the increased battery by coastal storms, Kivalina's residents are now forced to relocate or risk the annihilation of their village.[109] The plaintiffs seek the costs of their relocation.[110]

That Kivalina's inhabitants must relocate is a fact, corroborated by the U.S. Army Corps of Engineers (ACE), Alaska District in April,

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101. *Id.* at 869. Defendants were BP Entities, Chevron Entities, Conoco Phillips, ExxonMobil Corporation, Shell Entities, Peabody Energy Corporation, AES Corporation, the American Electric Power Corporation, DTE Energy Company, Duke Entities, Dynegy Entities, Edison International, MidAmerican, Mirant, NRG Energy, Pinnacle West, Reliant, The Southern Company, Xcel Energy. Complaint, Native Village of Kivalina v. ExxonMobil Corp., No. CV-08-01138 SBA (N.D. Cal. Feb. 26, 2008), ¶¶ 1, 18–122 [hereinafter *Complaint*]. These defendants as a group represent "some of the most profitable corporations in the world." Douglas Kysar, *What Climate Change Can Do About Tort Law* 28 (Yale Law. Sch. Research Paper No. 215), *available at* http://papers.ssrn.com/abstract=1645871. The complaint also claims civil conspiracy and concert of action, but those allegations are not relevant to this Note, so will not be addressed. *Id.* ¶ 2.

102. *Complaint*, *supra* note 101, at ¶ 1.

103. *Id.* ¶ 1.

104. *Id.*

105. *Id.* ¶ 4, 16.

106. *Id.* ¶ 16.

107. *Id.* ¶ 185.

108. *Id.* (noting that "[s]torms now routinely batter Kivalina and are destroying its property . . . .").

109. *Id.*

110. *Id.*

2006.[111] The U.S. Government Accountability Office ("GAO") reported in December 2003 that: "[I]t is believed that the right combination of storm events could flood the entire village at any time [and r]emaining on the island . . . . is no longer a viable option for the community."[112] The ACE and the GAO estimate that it would cost between ninety-five and 125 million dollars and 100 and 400 million dollars, respectively, to relocate the village.[113] While plaintiffs concede that global warming injures the public at large, they argue that they suffer special injuries unique "in degree and kind from injuries to the general public."[114]

Plaintiffs are "discrete and identifiable entities that have contributed little or nothing to global warming."[115] Defendants, categorized into oil, power, and coal production companies, have all emitted significant amounts of greenhouse gases, specifically CO_2, and thus contributed to global warming and the Kivalina's harm.[116]

ii. The Current Status of Kivalina

The district court held that Plaintiffs' federal common law claim of nuisance was barred as a political question and for lack of standing under Article III.[117] Plaintiffs have subsequently appealed.[118]

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111. *Id.* (citing U.S. ARMY CORPS OF ENG'RS, ALASKA DIST., *Alaska Village Erosion Technical Assistance Program: An Examination of Erosion Issues in the Communities of Bethel, Dillingham, Kaktovik, Kivalina, Newtok, Shishmaref, and Unalakleet,* 23 (Apr. 2006) (noting in their report that as a result of "global climate change . . . . the Chukchi Sea is less likely to be frozen when damaging winter storms occur. [This has] resulted in significant erosion that is now threatening [entities in the village]")).

112. *Id.*

113. *Id.* ¶ 186.

114. *Id.* ¶ 185.

115. *Id.* ¶ 188; *see also* Kysar, *supra* note 101, at 28 (noting that the plaintiffs in *Kivalina* are "sympathetic" and are "among the most vulnerable people in the world to climate change while also being among the least responsible for it").

116. *See id.* ¶¶ 18–122. Plaintiffs concede that the transportation sector is to blame for significant greenhouse gas emissions, but have not joined members of this sector in their claims. Native Vill. of Kivalina v. ExxonMobil Corp., 663 F. Supp. 2d 863, 877 n. 4 (N.D. Cal 2009).

117. *Kivalina*, 663 F. Supp. 2d at 882.

118. Brief of Plaintiff-Appellant, Native Vill. of Kivalina v. ExxonMobil Corp., No. 09-17490 at 1 (March 10, 2010) (noting that Plaintiffs filed Notice of Appeal on November 9, 2009), *available at* http://www.pawalaw.com/assets/docs/kivalina-9th-circuit-appellants-brief.pdf.

C. The Causation Element in Climate Change Nuisance Claims

As discussed below, causation presents a challenging task in climate change litigation. Nevertheless, this Note endeavors to provide a possible framework through which plaintiffs may be able to prove one element of causation.

Part I.B.3 examined two different types of climate change nuisance cases and the different bars defendants raised to prevent adjudication of the merits, such as political question and standing. This section looks at the element of causation, which plaintiffs must prove to succeed on the merits of any public nuisance claim. As discussed below, causation presents a challenging task in climate change litigation, but this Note endeavors to provide a possible framework through which plaintiffs may be able to prove one element of causation.

While the *AEP* and *Kivalina* cases represent two different types of nuisance claims, both groups of plaintiffs will face the same challenges in proving causation. In fact, in dismissing the claims on grounds other than causation, the courts have expressed doubt that a causal nexus in climate change cases can be established.[119] The ideal tort causation situation exists when one party is proved to be the direct and sole cause of harm to another party.[120] Many harms in the modern world do not reflect this simplistic view of causation in tort,[121] and thus the law has had to adapt. Toxic torts, personal injury lawsuits in which chemicals or faulty drugs cause many plaintiff injuries, presented significant problems with traditional causation requirements.[122]

In toxic tort cases, plaintiffs face two hurdles in proving causation: (1) establishing general causation or "whether the alleged causal factor *can* cause the *type of effect* from which the victim suffers[;]"[123]

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119. *See* Christopher R. Reeves, *Climate Change on Trial: Making the Case For Causation*, 32 AM. J. TRIAL ADVOC. 495, 507 (2009) (noting that courts have taken "significant efforts" in expressing concern about the issues of causation and damages in climate change litigation).

120. *See* Kysar, *supra* note 101, at 62.

121. Kysar, *supra* note 101, at 62 (noting complications arising from "not one action or series of actions by a single actor, but rather a confluence of multiple actions by multiple actors").

122. Peñalver, *supra* note 22, at 579-80.

123. *Id.* (emphasis added); *see also* Kirsten H. Engel, *Harmonizing Regulatory and Litigation Approaches to Climate Change Mitigation: Incorporating Tradable*

and (2) establishing individual/specific causation or whether the alleged causal factor *did indeed* cause a particular victim's injury . . . ."[124] Problems such as long time lapses between exposure and harm, the existence of other possible causes of the harm, and the possibility of exposure not leading to development of the harm, plague plaintiffs in proving causation, particularly specific causation, in toxic torts.[125] Plaintiffs bringing climate change litigation will be required to establish general[126] and specific causation,[127] and will suffer from many of the problems faced by plaintiffs in toxic tort cases.[128] This Note presumes that plaintiffs have surpassed these first two hurdles and the litigation has reached the final causal hurdle presented.

A third causal hurdle that plaintiffs face in the climate change context, which is relevant to this Note, is related to specific causation. The so-called identification requirement answers the questions of whether a particular defendant's activities caused the harm suffered

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Emissions Offsets into Common Law Remedies, 155 U. PA. L. REV. 1563, 1586–87 (2007) (recognizing two inquiries in questions of causation); Reeves, *supra* note 119, at 509 (recognizing the necessity of proving general causation in tort cases).

124. Peñalver, *supra* note 22, at 579 (emphasis added); *see also* Engel, *supra* note 123, at 1586, n.70 (recognizing the necessity of proving the "legal cause" or specific cause of a harm in addition to the general cause); Reeves, *supra* note 119, at 509 (same); David Rosenberg, *The Causal Connection in Mass Exposure Cases: A "Public Law" Vision of the Tort System*, 97 HARV. L. REV. 849, 856-57 (discussing the difficulties with proving specific causation in mass exposure cases).

125. Peñalver, *supra* note 22, at 580.

126. In climate change litigation, plaintiffs must first show that anthropogenic greenhouse gas emissions are capable of causing climate change, which they should have little difficulty meeting. See A.B.A., *supra* note 7, at 200 ("[I]t may be possible to prove [general] causation."); Engel, *supra* note 123, at 1586 & n.71 ("[A] plaintiff should not have trouble meeting the [general causation] requirement.").

127. Proving specific causation seems to be more problematic for plaintiffs in the climate change litigation context than general causation. In the climate change context the harm most likely will be the result of an intensified climatic behavior that exists independent of defendant's actions. This is distinct from toxic torts where the harm is usually a "signature disease", caused *solely* by defendants' activity. The fact that the climate is affected by a variety of factors makes scientific measurement of the percentage of climate change influenced by greenhouse gas emissions difficult. A.B.A., *supra* note 7, at 200–01; Peñalver, *supra* note 22, at 581 (noting that climate change plaintiffs' injuries are the result of "shifts in climatic activity," not inception of new types of issues).

128. *See* A.B.A., *supra* note 7, at 200; Peñalver, *supra* note 22, at 579.

by plaintiffs.[129] This hurdle becomes a challenge when a plaintiff cannot *specifically* identify the defendant who has harmed her.[130]

The identification requirement serves two of the important functions of tort law: compensating victims and protecting people from excess liability.[131] First, tort law seeks to rectify harms to plaintiffs where defendants can be identified as having caused the harm.[132] But, protecting manufacturers from excessive liability is connected with the goal of compensating victims.[133] In order to encourage socially desirable activity, there must be a limit to manufacturer liability for victim compensation.[134] Requiring defendant identification limits any manufacturer's potential liability to the harms they themselves have caused.[135] A plaintiff's failure to meet the identification requirement has traditionally resulted in a dismissal of the case.[136]

Fulfilling the identification requirement in climate change litigation is unachievable. Because there are a large number of greenhouse gas emitters and it is impossible to trace each emitter's contribution to the plaintiff's harm, identifying that a particular named defendant's emission directly harmed plaintiff, and thus satisfying the identification requirement in a traditional way is out of the question.[137]

Scholars have not extensively considered the identification requirement, as most focus on the trouble with specific causation

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129. *See* David M. Schultz, *Market Share Liability in DES Cases: The Unwarranted Erosion of Causation in Fact*, 40 DEPAUL L. REV. 771, 778 (1991).

130. *Id.* at 778-82 & n.56.

131. Schultz, *supra* note 129, at 779.

132. *See id.*; *see also* Williams v. Coca-Cola Bottling Co., 285 S.W.2d 53, 56-57 (Mo. App. 1955) (holding that a plaintiff who failed to prove defendant bottle manufacturer in fact manufactured the defective bottle causing her injury did not satisfy her burden).

133. *See* Schultz, *supra* note 129, at 779.

134. *See id.* (noting that to achieve the right balance between compensation and excessive liability the plaintiff must identify the defendant that caused her harm).

135. *Id.*

136. Jonathan B. Newcomb, *Market Share Liability for Defective Products: An Ill-Advised Remedy for the Problem of Identification*, 76 NW. U. L. REV. 300, 301 (1982).

137. *See supra* notes 8–10, 14 and accompanying text.

alone.[138] Nevertheless, this Note proposes that plaintiffs can overcome the hurdle of the identification requirement through MSL. Having examined the difficulties inherent in proving the identification requirement in climate change litigation, this Note will now consider the theory of MSL and its viability as a substitute for the identification requirement.

II. THE PROPOSED SOLUTION: MARKET SHARE LIABILITY

Part II of this Note introduces a possible tool climate change plaintiffs may use to overcome the identification requirement: MSL. In order to understand the application of MSL to climate change litigation, Part II.A first describes the context for the development of MSL and how it helps overcome the causation problem presented in diethystilbesterol ("DES") litigation. Next, Part II.B describes the theories used to develop MSL, highlighting the distinctions between other alternative liability frameworks and MSL. Part II.C describes the application of MSL in *Sindell v. Abbott Laboratories*.[139] Part II.D introduces the important questions the *Sindell* court did not answer. Next, Part II.E summarizes the critiques of and commentary on MSL in the DES context. Part II.F considers the subsequent application of MSL to other products and how the MSL's requirements significantly limit the scope of its application, a fact that helps the case for its application to climate change litigation in *Kivalina*. Finally, Part II.G discusses the limited scholarship addressing MSL in climate change nuisance claims.

A. The Context of DES Litigation

DES litigation presented an extremely complicated causation problem analogous to identification problems facing climate change plaintiffs. Between 1938 and 1971 U.S. physicians prescribed DES, a synthetic composite of estrogen, to women to prevent miscarriage

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138. *See supra* notes 127–130 and accompanying text. *But see* Daniel J. Grimm, Note, *Global Warming and Market Share Liability: A Proposed Model for Allocating Tort Damages Among CO_2 Producers*, 32 COLUM. J. ENVTL. L. 209, 216-17 (2007) (proposing a framework by which market share liability ("MSL") could impose liability in climate change litigation).

139. 607 P.2d 924, 928, 931, 933 (Cal. 1980).

and avoid pre-term births.[140] In 1971, the FDA classified DES as a cause of Clear Cell Adenocarcinoma ("CCA"), and several other cancerous and precancerous vaginal and cervical growths in females whose exposure to the drug occurred in the womb.[141]

In the 1970s and 1980s DES victims sued various drug company manufacturers seeking damages for their injuries.[142] CCA has a minimum latent period of ten or twelve years before its effects are manifested, but the time lapse can be much longer.[143] DES daughters were faced with significant problems in identifying the particular manufacturer that had caused their harm: (1) DES daughters had not ingested DES themselves, (2) the effects of DES were latent, and (3) there were numerous DES manufacturers contributing to the drug's market.[144]

These unique circumstances forced the courts to consider alternatives to the plaintiffs' burden of proof of causation in fact and led to the development of MSL.

B. Sindell v. Abbott Laboratories*: The Theory of Market Share Liability*

Sindell pioneered the application of MSL to DES cases. Prior to *Sindell*, courts considering DES cases had held in favor of defendants on the grounds that plaintiffs could not identify the exact manufacturer of the DES.[145] The court in *Sindell* was tasked with determining if the obstacle of causation in fact could be overcome in the DES context.[146]

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140. *See About DES: DES History*, CTR. FOR DISEASE CONTROL, http://www.cdc.gov/des/consumers/about/history.html (last visited Mar. 25, 2011) [hereinafter CDC, *DES History*].

141. *See id.*

142. *See id.*; *see generally* Conley v. Boyle Drug Co., 570 So.2d 275 (Fla. 1991); Smith v. Eli Lilly Co., 560 N.E.2d 324 (Ill. 1990); Hymowitz v. Eli Lilly & Co., 73 N.Y.2d 487 (N.Y. 1989), *cert. denied*, 493 U.S. 944 (1989); Kaufman v. Lilly & Co., 65 N.Y.2d 449 (N.Y. 1985); Bichler v. Lilly & Co., 55 N.Y.2d 571 (N.Y. 1982); Martin v. Abbott Labs., 689 P.2d 368 (Wash. 1984).

143. *Sindell*, 607 P.2d at 925.

144. *See id.*

145. *See, e.g.*, McCreery v. Eli Lilly & Co., 87 Cal. App. 3d 77, 82–84 (Cal. Ct. App. 1978).

146. *Sindell*, 607 P.2d at 925 ("[M]ay a plaintiff, injured as the result of a drug administered to her mother during pregnancy, who knows the type of drug involved

Sindell brought several causes of action against eleven drug companies in a class action.[147] The second cause of action, the one of interest in this Note, alleged that the specific type of DES ingested is immaterial and all defendants are jointly liable because "DES was produced from a common and mutually agreed upon formula as a fungible drug interchangeable with other brands of the same product."[148]

The lower court dismissed Sindell's action on the grounds that she was unable to identify the exact manufacturer of the DES that caused her harm.[149] On appeal, the court reversed the lower court, holding that defendants would be liable to plaintiff for the effects of their identical products as long as they manufactured a "substantial percentage" of the DES market.[150]

In its opinion the California Supreme Court considered three exceptions to the identification requirement: concert of action theory,[151] alternative liability, and enterprise liability.

1. Alternative Liability

In *Summers v. Tice*[152] the California Supreme Court established an exception to the causation in fact requirement: alternative liability.[153] In *Summers*, two hunters fired their guns in the general direction of plaintiff who was injured by only one of them.[154] Relying on *Ybarra*

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but cannot identify the manufacturer . . . . hold liable for her injuries a maker of a drug produced from an identical formula?").

147. *Id.* at 926.

148. *Id.*

149. *Id.*

150. *Id.* at 937-38; *see also* Andrew R. Klein, *Causation and Uncertainty: Making Connections in a Time of Change*, 49 JURIMETRICS J. 5, 16 (2008) (citing the holding in *Sindell*).

151. The civil theory of concert of action arose from the criminal law notion of aiding and abetting. *See* Ryan v. Eli Lilly & Co., 514 F. Supp 1004, 1015 (D.S.C. 1981); Newcomb, *supra* note 136, at 312. Concert of action holds defendants jointly and severally liable if they act "together or pursuant to a common plan to knowingly commit or encourage the commission of a tortious act." *Id.* As concert of action is inapplicable to the climate change context this Note declines further elaboration on the theory.

152. 199 P.2d 1 (Cal. 1948).

153. *See generally id.*

154. *Id.* at 1–2.

v. Spangard,[155] the court held that both hunters were negligent toward the plaintiff and the plaintiff had an impossible burden of proof in discerning which hunter was responsible in fact for his injury.[156] Accordingly, the court held both parties jointly and severally liable and transferred the burden to defendants to prove they were not responsible.[157] The court justified this burden shift based largely on the fact that one of the two hunters was responsible for the injury,[158] i.e. there was a fifty percent chance that one hunter was the cause, and without the shift of the burden, the hunters would be silent, and the plaintiff would not recover.[159] If defendants are unable to absolve themselves they will be jointly and severally liable without proof of causation in fact.[160]

2. Enterprise Liability

Another proposed theory that relaxes the causation in fact requirement and has led to the development of MSL is enterprise or industry-wide liability. The Eastern District of New York promulgated this theory in *Hall v. E. I. Du Pont de Nemours & Co.*[161] In *Hall*, plaintiffs were injured in separate occasions in separate states by blasting caps which could have come from a national market of six manufacturers, or, less likely, from one of a number of Canadian manufacturers.[162]

The court reasoned that because there was cooperation within the industry in the design and manufacture of the caps and that all defendants had abided by the industry norm, the defendants jointly

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155. 154 P.2d 687, 691 (Cal. 1944) (an inference of medical professionals' negligence could be drawn under the doctrine of res ipsa loquitur when plaintiff was injured during a surgical procedure while he was unconscious and the professionals were in control of the harm inducing instruments); *see also* Newcomb, *supra* note 136, at 307–11 (explaining the development of alternative liability from the doctrine of *res ipsa loquitur*).

156. *Summers*, 199 P.2d at 4.

157. *Id.* at 5.

158. *See id.* at 3.

159. Hymowitz v. Eli Lilly Co., 539 N.E.2d 1069, 1074 (N.Y. 1989). Applying alternative liability, defendants are forced to speak and reveal the culpable party. *Id.*

160. *See id.* at 1084.

161. 345 F. Supp. 353 (E.D.N.Y. 1972).

162. *Id.* at 359, 379.

had control of the risk of the blasting caps.[163] Accordingly, the burden of proof of causation in fact would shift to defendants if plaintiffs could prove by a preponderance of the evidence that the caps that caused their injury were manufactured by one of the defendants.[164]

C. Sindell's *Application of Market Share Liability*

While the court found the reasoning of alternative liability advanced in *Summers v. Tice* most persuasive, it rejected all three of these theories in the context of DES manufacturer liability, and chose to adopt MSL instead.[165] As a preliminary matter, the court recognized that we live in a complex industrial society where fungible goods are placed on the market, which can cause injury to consumers, and where the injuries are impossible to attribute to any individual manufacturer.[166] Fungibility of product constituted the first requirement for application of MSL.

Next, the court relied on three policy justifications for modifying the traditional tort rules: (1) a creation of risk to innocent victims, (2) the superior position of defendants to absorb the costs of the harm, and (3) the better position of the manufacturer to guard against defects.[167]

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163. *Id.* at 374.

164. *Id.* The court recognized that industry-wide liability is appropriate when applied to an industry with a small number of manufacturers, but may not be reasonable in a decentralized industry with many producers. *Id.* at 378. This explains why enterprise liability should not be applied in climate change cases.

165. *Sindell*, 607 P.2d at 928–38. The court reasoned that *Hall* had cautioned against applying enterprise/industry-wide liability to industries with a large amount of manufacturers. Additionally, the court found *Hall* inapplicable because the DES manufacturers had not delegated safety functions to trade associations and therefore they did not control the risk to the same degree as defendants in *Hall*. Finally the court found it significant that the federal government, through the FDA, regulates the drug industry closely. The court held that it would be "unfair to impose upon a manufacturer liability for injuries resulting from the use of a drug which it did not supply simply because it followed the standards of the industry." *Id.* at 935; *see also* Abel v. Eli Lilly & Co., 289 N.W.2d 20, 26–27 (Mich. 1979) (relying on alternative liability and concert of action theories in finding plaintiffs had stated a cause of action, despite being unable to isolate the specific manufacturer).

166. *Sindell*, 607 P.3d at 936.

167. *Id.*

The court held that where there is a fungible product, the specific producer of which is impossible to ascertain, and the plaintiff is not at fault for being unable to produce evidence of causation, liability based on the percentage of the product defendant sold on the market for the purpose of miscarriage prevention was appropriate.[168]

The court added that a manufacturer must contribute a "substantial percentage" of the market, which the court did not define, to be joined in liability; therefore, "each defendant will be held liable for the proportion of the judgment represented by its share of that market."[169] *Sindell* allowed defendants an opportunity to prove that they *could not* have produced the DES that caused plaintiffs' injury, and thus, exculpate them from liability.[170] The court held that the determination of market share, and therefore the determination of monetary damages, does not have to be determined "with mathematical exactitude."[171] Rather, it is up to the jury to assign liability to the best of their ability.[172]

D. Questions Left Open By Sindell

Sindell left several questions open for subsequent courts to grapple with when attempting to apply MSL in the DES context. Other courts applying MSL have filled in some of the holes left by *Sindell*,

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168. *Id.* at 936–37; *see also* Margaret A. Berger, *Eliminating General Causation: Notes Towards a New Theory of Justice and Toxic Torts*, 97 COLUM. L. REV. 2117, 2121 & n. 16 (1997) (recognizing that the strong statistical association between exposure to DES and the harm suffered, made exposure, sufficient to prove causation).

169. *Sindell*, 607 P.3d at 937.

170. *Id.* A defendant can exculpate themselves from liability by proving they did not produce DES during the years plaintiff's mother took the drug, or that the drug had some discernable physical feature that plaintiff's mother does not assign to the DES she ingested, etc. *Id.*

171. *Id.*

172. *Id.* The court dismissed defendants' claims that holding manufacturers liable for injury, without proof that they were the cause in fact of plaintiff's injuries, is against public policy and unfair. The court reasoned that defendant's arguments rested on the assumption that only one producer would be responsible for the whole industry. MSL eliminates this concern as it holds producers liable only for their contribution to the market, and thus the injury caused by that contribution. *Id.* at 938.

[173] such as the questions of whether joint and several liability applies, what market to use, and whether MSL can be applied to other products.

1. Joint and Several Liability

In *Sindell*, the court did not address whether liability among defendants would be joint and several, as in *Summers v. Tice*,[174] allowing the plaintiff to recover one hundred percent of her damages. In *Martin v. Abbott Laboratories*,[175] the court modified the *Sindell* approach in fashioning a market-share alternate theory of liability.[176] Among other modifications, the court in *Martin* held that members of the relevant market are presumed to hold equal shares in the market, but that defendants can establish their actual market share.[177] The presumed market share of defendants unable to exculpate themselves is adjusted to ensure one hundred percent of the market is covered.[178] The court felt this was just because all the manufacturers in the DES industry contributed to the public risk and therefore "each defendant share[d] in some measure a degree of culpability in producing or marketing DES."[179]

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173. *See, e.g.*, McElhaney v. Eli Lilly & Co., 564 F. Supp. 265, 270–71 (D.S.D. 1983); Conley v. Boyle Drug Co., 570 So.2d 275, 280 n.6, 284 (Fla. 1991); Hymowitz v. Eli Lilly & Co., 539 N.E.2d 1069, 1076-77 (N.Y. 1989); Martin v. Abbott Labs., 689 P.2d 368, 380-82 (Wash. 1984).

174. *See supra* note 157 and accompanying text.

175. 689 P.2d 368 (Wash. 1984).

176. *Id.* at 381.

177. *Id.* at 383; *see, e.g.*, McCormack v. Abbott Labs., 617 F. Supp. 1521, 1526 (D. Mass. 1985) (applying the *Martin*-modified *Sindell* theory of MSL); Brown v. Super. Ct., 751 P.2d 470 (Cal. 1988) (resolving ambiguity in *Sindell* and holding that manufacturer liability is *several* only); *In re* DES Litigation, No. 830-109 (Cal. Super. Ct., S.F., Aug. 16, 1985) (General Order No. 11) (holding a national market as the most effective and fair market in DES cases and compiling this national market information); Conley v. Boyle Drug Co., 570 So.2d 275, 286 (Fla. 1991) (same but requiring that plaintiffs prove that they have "made a genuine attempt to locate" the responsible manufacturer before using national market information).

178. *Martin*, 689 P.2d at 383; *see also McCormack*, 617 F. Supp. at 1526 (applying the *Martin*-modified *Sindell* theory of MSL); *Conley*, 570 So.2d at 286 (extending *Martin* to require that plaintiffs prove that they have "made a genuine attempt to locate" the responsible manufacturer).

179. *Martin*, 689 P.2d at 382.

Some courts found the application of joint and several liability inappropriate.[180] In *Brown v. Superior Court*,[181] the court held that manufacturers are only severally liable.[182] Thus, in cases where not all manufacturers are joined, liability is still based on actual market share, potentially resulting in less than a full recovery for plaintiffs.[183]

In *Hymowitz v. Eli Lilly & Co.*[184] the court adopted a more radical modification of *Sindell*'s MSL. As in *Martin*, the New York Court of Appeals relied on the idea of the "over-all culpability" of all the manufacturers, which is measured by the "amount of risk of injury each defendant created to the public-at-large."[185] Because the court relied on an overall risk produced theory in assigning liability, all defendant members of the market that manufactured DES for pregnancy were liable.[186] Additionally, the court held, as in *Brown*, that DES manufacturer liability is several.[187]

2. National v. Local Market

Another ambiguity in the *Sindell* holding is what constitutes the market for purposes of determining defendants' market shares. The *Martin* court held that the relevant market should be narrowly defined and tied to evidence of the geographic market, characteristics of the DES ingested, and the time period.[188] In contrast, the *Hymowitz* court found a national market to be the most fair and appropriate way to

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180. *See Brown*, 751 P.2d at 485 (Cal. 1988) (holding defendants severally liable); Hymowitz v. Eli Lilly & Co. 539 N.E.2d 1069, 1078 (N.Y. 1989) (same).

181. 751 P.2d 470 (Cal. 1988).

182. *Id.*

183. *Id.*

184. 539 N.E.2d 1069 (N.Y. 1989).

185. *Id.* at 1078 (noting that a national market is fair because it assesses liability based on the *total culpability* of defendants).

186. *Id.* (noting "[I]t is merely a windfall for a producer to escape liability solely because it manufactured a more identifiable pill, or sold only to certain drugstores. These fortuities in no way diminish the culpability of defendant for marketing the product, which is the basis for liability here").

187. *Id.* (noting that exculpation would provide a windfall where liability is based on marketing a product and declining "to increase a defendant's liability beyond its fair share of responsibility").

188. Martin v. Abbott Labs., 689 P.2d 368, 382–83 (Wash. 1984).

assess causation because it assigns liability based on the total culpability of defendants.[189]

3. Application to Other Products

In *Sindell*, the court dealt exclusively with market share liability as applied to DES cases.[190] In the absence of a strict prohibition against applying MSL to other contexts, commentators have argued that MSL is appropriate for application in other contexts,[191] arguably in climate change litigation. Plaintiffs nationwide have attempted to apply MSL (or modified MSL) to other products liability cases.[192]

E. Commentary on and Critiques of Market Share Liability in the DES Context

Some courts rejected MSL as a novel theory, and commentators both praised and criticized the theory.[193] Judicial opinions and articles supporting or critiquing MSL's applicability have focused on arguments based in policy and practicality.[194]

1. Courts Rejecting Market Share Liability in DES Cases

Despite the acceptance of MSL and its variations, some courts have declined to adopt the theory as a substitute for causation in the

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189. *Hymowitz*, 539 N.E.2d at 1076, 1078; *see also In re* DES Litigation, No. 830-109 (Cal. Super. Ct., S.F., Aug. 16, 1985) (holding a national market as the most effective and fair market in DES cases and compiling this national market information).

190. *See supra* Part II.C.

191. *See, e.g.*, Richard Delgado, *Beyond Sindell: Relaxation of Cause-In-Fact Rules for Indeterminate Plaintiffs*, 70 CALIF. L. REV. 881, 883 (1982) (arguing for an extension of MSL to indeterminate plaintiffs); Grimm, *supra* note 138, at 211 (discussing the possibility of an extension of MSL); Glen O. Robinson, *Multiple Causation in Tort Law: Reflections on the DES Cases*, 68 VA. L. REV. 713, 749–67 (1982) (same).

192. *E.g.*, Hamilton v. Accu-Tek, 62 F. Supp. 2d 802, 837 (E.D.N.Y. 1999) (considering MSL when applied to guns); Sheffield v. Eli Lilly & Co., 144 Cal. App. 3d 583 (Cal. 1983) (vaccines); Smith v. Cutter Biological, Inc., 823 P.2d 717 (Haw. 1991) (blood products); Shackil v. Lederle Labs., 561 A.2d 511 (N.J. 1989) (vaccines); Celotex Corp. v. Copeland, 471 So.2d 533, 537 (Fla. 1985) (asbestos).

193. *See infra* Part II.E.

194. *See id.*

context of DES cases.[195] The Iowa Supreme Court relied on a policy justification for rejecting MSL.[196] The court reasoned that MSL constituted an insurance plan whereby producers would become insurers for injuries they did not directly cause.[197] The court also noted that the doctrine was a drastic departure from long-standing tort principles, and "involve[d] social engineering more appropriately within the legislative domain."[198]

Similarly, the Missouri Supreme Court held that MSL was unfair, impracticable, and contradictory to the state's public policy.[199] The court did not find the policy justifications of *Sindell* persuasive.[200] The court also expressed concern that liability of this magnitude would discourage pharmaceutical research and development of safe products because manufacturers would be subject to liability despite their safety efforts.[201]

2. Scholarship Favoring Market Share Liability in the DES Context

A significant breadth of legal scholarship has been written supporting the court's adoption of MSL in the DES context.[202] The

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195. *See infra* note 196.

196. Mulcahy v. Eli Lilly & Co., 386 N.W.2d 67, 75 (Iowa 1986).

197. *Id.* at 76.

198. *Id.*

199. Zafft v. Eli Lilly & Co., 676 S.W.2d 241, 246 (Mo. 1984).

200. *See supra* note 167; *Zafft*, 676 S.W.2d at 247.

201. *Zafft*, 676 S.W.2d at 247; *see also* Gorman v. Abbott Labs., 599 A.2d 1364 (R.I. 1991) (requiring identification of particular manufacturer for recovery); Smith v. Eli Lilly & Co., 560 N.E.2d 324, 337 (Ill. 1990) ("[MSL] is not a sound theory, is too great a deviation from our existing tort principles and should not be applied [in DES cases]."). The dissent in *Smith* offered a comprehensive analysis as to why the modified MSL theory in *Hymowitz* should be adopted. *Smith*, 560 N.E.2d at 345-52 (Clark, J. dissenting).

202. *See generally* Delgado, *supra* note 191; John H. Grundhauser, Case Note, *The DES Manufacturer Identification Problem: A Florida Public Policy Approach*, 40 U. MIAMI L. REV. 857 (1986); Glenn O. Robinson, *Multiple Causation in Tort Law: Reflections on the DES Cases*, 68 VA. L. REV. 713 (1982); Allen Rostron, *Beyond Market Share Liability: A Theory of Proportional Share Liability for Non-Fungible Products*, 52 UCLA L. REV. 151 (2004); Note, *Market Share Liability: An Answer to the DES Causation Problem*, 94 HARV. L. REV. 668 (1981) [hereinafter Note, *Market Share Liability: An Answer to the DES Causation Problem*]; Patricia A. Meagher, Note, *Market Share Liability: A New Method of Recovery for DES Litigants*, 30 CATH. U.L. REV. 551 (1981); David J. Murray, Note, *The DES Causation Conundrum: A Functional Analysis*, 32 N.Y.L. SCH. L. REV. 939 (1987);

scholarship focused on policy reasons for allowing recovery based on MSL, such as: victim compensation as a goal of tort law, fairness to those that have been harmed, and deterrence.[203] Another favorable aspect of MSL has been found in the rule's narrow scope, which stems from the practical reality that MSL can only be applied to cases that meet specific strict requirements.

First, as discussed previously, one of the central goals of tort law is the compensation of victims.[204] Because of the factual circumstances surrounding the DES crisis, plaintiffs who could not prove, through no fault of their own, that a particular defendant manufactured the DES they ingested were left without remedy under the traditional tort rules.[205] Commentators suggested that this alternative is unacceptable and used compensation of innocent victims as a policy justification for the use of MSL.[206]

Second, commentators have found that overall fairness justifies the application of MSL. Fairness mandates that wrongdoers be held liable for the consequences of their harm.[207] MSL provides a

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Richard M. Russell, Note, *The Causation Requirement: Guardian of Fairness or Obstacle to Justice?-Making Sense of a Decade of DES Litigation*, 25 SUFFOLK U.L. REV. 1071 (1991).

203. *See, e.g.*, Grundhauser, *supra* note 202, at 862 (addressing victim compensation); Russell, *supra* note 202, at 1102 (addressing fairness); Russell, *supra* note 202, at 1089–90, 1105 (addressing deterrence).

204. *See supra* note 131 and accompanying text; *see also*, Grundhauser, *supra* note 202, at 862 (recognizing that courts look "to compensate an injured plaintiff for wrongs others commit").

205. *See supra* note 145 and accompanying text; *see also*, *Market Share Liability: An Answer to the DES Causation Problem*, *supra* note 202, at 679 (recognizing that because of the facts of the DES cases, many plaintiffs would go without compensation if not for MSL); Russell, *supra* note 202, at 1081 (noting the practical problems with proving the identification requirement).

206. *See, e.g.*, Delgado, *supra* note 202, at 892 (recognizing compensation as a legitimate purpose to justify the application and possible extension of MSL); Russell, *supra* note 202, at 1081 (providing a plaintiff a remedy as the appropriate policy in the DES context); *Market Share Liability: An Answer to the DES Causation Problem*, *supra* note 202, at 680 (noting that compensation of victims is a reason why MSL is a positive development); Grundhauser, *supra* note 202, at 877 (indicating that where "the court's focus is on providing compensation to an injured plaintiff . . . . then relaxation of the identification requirement is appropriate"). *But see*, Meagher, *supra* note 202, at 581 (noting that injury is not a sufficient basis for recovery without proof that each defendant marketed a defective product).

207. *See* Robinson, *supra* note 202, at 743 (recognizing that the policy of holding a tortfeasor accountable for his fair share of the costs of the harm is fulfilled in

mechanism through which tortious manufacturers are held liable where they would escape liability under traditional causation requirements.[208] Richard Delgado notes that fairness is well served in MSL because it "allocat[es] loss according to the risk created by each tortfeasor,"[209] however no tortfeasor is held liable for more than their contribution to the risk to the public (i.e. their market share).[210] Finally, MSL establishes confidence in the drug industry, by ensuring that the industry will be held accountable and unable to escape liability merely because it followed industry practices.[211]

A second fairness consideration highlighted by scholars contemplates who should bear the risk of an accident, such as DES and who is better able to bear that risk.[212] DES plaintiffs had no way of ascertaining the negligent defendant who harmed them.[213] Therefore, the negligent defendant should bear the risk of his negligence.[214]

A third policy justification is the goal of defendants' deterrence of defendants from acting negligently and manufacturing defective products. Scholars argue that holding negligent producers liable, even though the entire market was equally negligent, "will deter manufacturers from negligently following others' designs and tests in the belief that there is safety in the anonymity of numbers."[215] This is an important policy goal, made more significant because the manufacturers are the only actors able to guard against defective products in these circumstances.[216] Deterrence and accident

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apportionment of damages); Russell, *supra* note 202, at 1102 (noting that "[f]rom a policy standpoint, charging the negligent defendant with its fair share of liability" is a sound choice).

208. Delgado, *supra* note 202, at 895.

209. Robinson, *supra* note 202, at 749.

210. *See supra* notes 177, 180–183, 187 and accompanying text.

211. *See* Russell, *supra* note 202, at 1108.

212. *See* Meagher, *supra* note 202, at 580 (discussing the logical application of the concept promulgated in *Summers* that "as between an innocent plaintiff and negligent defendants, the latter should bear the loss").

213. *See supra* note 144 and accompanying text.

214. Russell, *supra* note 202, at 1089–90, 1105 (noting that all defendants produced the drug causing plaintiff's harm, therefore they should be liable for their negligence).

215. *Market Share Liability: An Answer to the DES Causation Problem*, *supra* note 202, at 677.

216. Grundhauser, *supra* note 202, at 881–82 (noting that victims of DES would not be able to take precautions against defective medication).

avoidance are principles of tort law, which are arguably achieved through the application of MSL to cases involving DES.[217]

Practically, commentators argue that MSL is appropriate in the DES context because the unique set of facts limits the scope of the rule.[218] In order to use MSL, scholars argue, plaintiffs must have suffered some harm where the passage of time, or other factors, makes discovery of the individual defendant impossible.[219] Additionally, the requirement of a fungible product limits the types of cases in which MSL could be applied.[220] Finally, the defendants' market share must be ascertainable, which will preclude a wide array of defendants.[221] While many scholars and courts argue that the requirement of a "substantial share" of the market is unnecessary,[222] the type of cases to which MSL is applicable remains narrow.

3. Scholarship Disfavoring Market Share Liability in the DES Context

While significant legal scholarship has praised the development of MSL,[223] some commentators have harshly critiqued the theory and its application to the DES cases.[224]

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217. Robinson, *supra* note 202, at 740 (cautioning that "insist[ing] that a particular injury be linked to a particular manufacturer's product is to invite underdeterrence of the *risk* in every case where there is no proof of [the identification requirement]").

218. *Id.* at 749; *see also* Meagher, *supra* note 202, at 580–81.

219. Meagher, *supra* note 202, at 580–81.

220. *Market Share Liability: An Answer to the DES Causation Problem*, *supra* note 202, at 677. *But see* Robinson, *supra* note 202, at 750 (arguing there is no need for the fungibility requirement to be so stringent); Rostron, *supra* note 202, at 154 (advocating an elimination of the fungibility requirement).

221. *See Market Share Liability: An Answer to the DES Causation Problem*, *supra* note 202, at 678–79 (arguing MSL is appropriate only in contexts where the market is a "reasonably good estimate of the harm done.").

222. *See, e.g.*, Russell, *supra* note 202, at 1105 (arguing for the elimination of the "substantial share" requirement).

223. *See supra* Part II.D.2.

224. *See generally* Newcomb, *supra* note 136; Schultz, *supra* note 129; Lewis W. Bell, Recent Decisions, *Torts-Products Liability-Where a Plaintiff Cannot Identify Which Drug Company Manufactured the DES Ingested, a Cause of Action Exists Under the Market Share Alternate Theory of Liability*, 55 MISS. L.J. 195 (1985); Cynthia L. Chase, Note, *Market Share Liability: A Plea for Legislative Alternatives*, 1982 U. ILL. L. REV. 1003 (1982).

The first policy argument against the application of MSL to DES cases is that MSL strays too far from existing tort principles.[225] Well-accepted exceptions to the identification requirement such as alternative liability and concert of action[226] ensure that "the burden of proof would be placed on blameworthy defendants and that liability would fall, in some measure, on the actual wrongdoer."[227] MSL, critics argue, deviates from this expansion of tort doctrine, assigning liability to blameless defendants.[228] This result pushes the boundaries of tort law too far and cannot be justified by the policy of sensitivity to plaintiff recovery.[229] Additionally, critics argue that, in accordance with tort law, drug manufacturers should not be forced into the role of insurers of their industry, a likely result of the application of MSL.[230]

The second criticism of MSL responds to the justification that defendants in the pharmaceutical industry are better able to absorb the costs of liability through insurance and their ability to pass costs on to consumers.[231] Critics of MSL argue that liability will prevent companies from obtaining insurance, resulting in a decrease in development of much needed pharmaceuticals.[232] The heightened exposure to liability coupled with the increase in insurance costs for drug companies will force the companies to cut back on scientific research for new drugs and raise the prices of existing drugs, unrelated to the unsafe drug, to potentially preclusive levels.[233] Finally, critics argue that these increased costs will lead to a

225. *See* Schultz, *supra* note 129, at 806.

226. *See supra* Part II.B.

227. Newcomb, *supra* note 136, at 313.

228. *Id.*

229. *Id.*; *see also* Schultz, *supra* note 129, at 806.

230. *See* Schultz, *supra* note 129, at 813.

231. *See supra* notes 212–214 and accompanying text.

232. *See* Bell, *supra* note 224, at 211; *see also* Newcomb, *supra* note 136, at 322 (noting that the policy argument that companies can insure for their losses "ignores the realities of the modern insurance system"); Schultz, *supra* note 129, at 809–10 (emphasizing that drug companies are not all in "solid financial condition" and showing examples of "safe and useful" drugs, Oculinum and Benedectin, that were forced off the market because of "increased product costs related to potential liability").

233. *See* Bell, *supra* note 224, at 211; Newcomb, *supra* note 136, at 322.

narrowing of the market decreasing the availability and variety of pharmaceutical drugs available to the consumer.[234]

A final policy argument for rejecting the application of MSL in DES cases is that the legislature is the more appropriate forum to provide compensation in DES cases.[235] Critics of MSL recognize the need to compensate the victims of the DES crisis.[236] They argue, however, that compensation through judicial application of MSL is legislating from the bench, as it involves a public policy determination more appropriate for the legislature.[237] Critics argue that, "Congress can best formulate an equitable yet functional alternative to the market share theory by analyzing both operative and pending pieces of legislation which assess a fee or tax on producers of a particular substance or product."[238] Such a recovery fund would eliminate costs of litigation and keep traditional tort principles intact, while allowing the legislature to perform its proper function.[239]

Critics of MSL in the DES context have practical concerns as well.[240] Generally, critics find difficulties in applying the theory based on the "substantial share" requirement,[241] defining the relevant market, and determining the market shares of defendants.[242]

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234. Schultz, *supra* note 129, at 810.

235. *See* Schultz, *supra* note 129, at 814; *see also* Chase, *supra* note 224, at 1042.

236. Schultz, *supra* note 129, at 814.

237. *Id.*

238. Chase, *supra* note 224, at 1042 (noting that, in the past, legislation has created a trust for victims of emergency that require compensation in the analogous contexts of oil spills, black lung enactments and the superfund, and that this method of compensation is the appropriate one).

239. *See* Schultz, *supra* note 129, at 814.

240. *Id.* at 797–805; *see also* Chase, *supra* note 224, at 1007–18.

241. Schultz, *supra* note 129, at 798. Critics argue that *Sindell's* failure to define what constitutes a "substantial share" of the DES market, has lead to confusion about the requirements and a "realistic potential of creating liability disproportionate to the amount of damage a manufacturer caused" from the requirement itself. *Id.* at 798. Because courts have held that the "substantial share" requirement is unnecessary, and commentators have agreed, further analysis regarding critiques of the "substantial share" requirement is unnecessary. *See* Russell, *supra* note 202, at 1105 (arguing for the elimination of the "substantial share" requirement).

242. Schultz, *supra* note 129, at 797–805; *see also* Chase, *supra* note 224, at 1007–18.

First, critics argue that defining the relevant market will be prohibitively difficult and potentially arbitrary and unfair.[243] Because DES was a product sold for a variety of uses "the quantity of DES manufactured solely for use in problem pregnancies is impossible to calculate."[244] Additionally determining the geographic market is significant because a defendant's liability will vary considerably depending on whether a local or national market is used.[245] This could lead to an arbitrary determination of the market and unfair apportionment of liability.[246] Finally, determining the time frame of the market poses problems in situations "where the exposure takes place over an extended length of time."[247] Second, critics argue that determining individual market shares in DES cases is almost impossible because of the "unavailability or inadequacy of the relevant economic data."[248]

F. Limitations on the Application of Market Share Liability Post-Sindell

This section examines the limitations of applying MSL to other contexts, which is relevant in determining if MSL is appropriate in climate change cases. Commentators have argued that MSL is appropriate for application in other contexts.[249] Similarly, various plaintiffs nationwide have attempted to extend MSL (or modified MSL) theory to other products liability cases involving traditional tort rules.[250] This section looks at limitations on expanding MSL into other contexts through judicial and scholarly discussions.

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243. Chase, *supra* note 224, at 1007–09.

244. *Id.* at 1007.

245. Schultz, *supra* note 129, at 799.

246. *See* Chase, *supra* note 224, at 1008.

247. *See id.* at 1009 (noting that time frame is not a significant issue in DES cases but would be for cases like asbestos if the "market share percentages are fluid and constantly in flux").

248. *Id.* at 1010; *see also* Schultz, *supra* note 129, at 801 (noting that the inadequacy of the records is no fault of either party, but insufficient records stemming from poor record keeping practices and the fact that many manufacturers are not in business anymore will prove to be a problem at the trial stage).

249. *See, e.g.*, Delgado, *supra* note 202, at 883 (arguing for an extension of MSL to indeterminate plaintiffs); Robinson, *supra* note 202, at 749–67 (discussing the possibility of an extension of MSL); Note, *Market Share Liability: An Answer to the DES Causation Problem*, *supra* note 202, at 678–79.

250. *See supra* note 192 and accompanying text.

1. Fungibility

The process of designating a product as fungible is delicate and nuanced for courts; while some deem items such as blood products, vaccines, and asbestos-lined-break pads fungible, others find fungibility missing in similar circumstances based on minor factual differences.[251] First, courts have considered whether the plaintiff is alleging a design defect,[252] or alternatively, a manufacturing defect[253] in its determination of whether the product is fungible.[254] The *Morris* court explained that because a design defect means the entire class of vaccines was defective, it is more fungible than a manufacturing defect where one vaccine deviated from the class.[255] Similarly, the *Sheffield* court noted injuries resulting from a manufacturing defect were the result "not of a unit of total generic pharmaceutical product [as was the case in *Sindell*] but a deviant defective vaccine."[256] The court explained that it would be unfair for innocent manufacturers to be held responsible for the injury caused by one manufacturer who produced a defective vaccine.[257]

Secondly, courts consider the product's composition in determining if the product meets the fungibility requirement.[258] DES was a product made from an identical formula, making the determination of fungibility quite straightforward.[259] While some

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251. *See infra* notes 254-60 and accompanying text.

252. A design defect is an "injury producing agent . . . common to all products of a certain line, and the defect lies in the original design or model." Morris v. Parket, Davis & Co., 667 F. Supp. 1332, 1335 (C.D. Cal. 1987).

253. A manufacturing defect is a deviation from "the manufacturer's intended result or from other ostensibly identical units of the same product line." *See id.*

254. *See id.* at 1348 (holding that a vaccine was fungible where it had a design defect). *But see*, Sheffield v. Eli Lilly & Co., 144 Cal. App. 3d 583, 594, 599 (C.D. Cal. 1983) (holding a vaccine was not fungible where it had a manufacturing rather than a design defect).

255. *Morris*, 667 F. Supp. at 1341.

256. *Sheffield*, 144 Cal. App. 3d at 599.

257. *See id.*

258. *See* Shackil v. Lederle Labs., 561 A.2d 511, 522 (N.J. 1989) (holding a vaccine may be fungible even if made from a biological, as opposed to chemical, formula, but ultimately reinstating the judgment for defendant manufacturers on public policy grounds).

259. *See supra* note 148 and accompanying text; *see also* Smith v. Cutter Biological, Inc., 823 P.2d 717, 724 (Haw. 1991) (noting that Factor VIII, a blood product used to treat hemophilia did not have the "constant quality" of DES).

courts have held strictly that variance in chemical or biological formula destroys fungibility,[260] other courts and commentators have argued for a looser standard of fungibility.[261] For example, in declining to apply MSL to the defectively manufactured vaccine in *Shackil*, the court noted that it was not persuaded that all biological formulas are inappropriate for MSL as some courts argued.[262] The court relied on interchangeability of use as an indication that the product is fungible.[263]

In a more dramatic move away from the strict fungibility requirement, the Eastern District of New York engaged in a debate regarding the fungibility of handguns.[264] There, the courts fashioned another factor to rely on in determining fungibility: the uniformity of risk posed by the product.[265] The district court found handguns to be fungible for the purposes of MSL.[266] The court highlighted the fungibility of handguns from the view of both users and victims.[267] Criminal defendants using the guns have indicated there is no

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260. *See Shackil*, 561 A.2d at 521-22 (holding that variances in the method of manufacturing destroyed fungibility). *See also* City of Phila. v. Lead Indus. Assn., 994 F.2d 112, 123–24 (3d Cir. 1993) (holding that lead paint was not fungible for purposes of MSL because of differing formulas used by manufacturers); Brenner v. Am. Cyanamid Co., 263 A.D. 2d 165, 172 (N.Y. 1999) (same); *see also* Marshall v. Celotex Corp., 651 F. Supp. 389, 393 (E.D. Mich. 1987) (recognizing the differences between DES, an identical physical composition, and asbestos products containing varying ranges of toxicity and thus not fungible); Goldman v. Johns-Manville Sales Corp., 514 N.E.2d 691, 700-01 (Ohio 1987) (noting that asbestos is not fungible as was DES because it is a name for a "family of minerals" and that there is a "significant difference in the percentage of asbestos used" in the products causing the harm); Rostron, *supra* note 202, at 183–84 (noting that MSL was a bad rule of law to apply to asbestos cases because of its fungibility requirement and favoring a recovery based on proportional share liability); Jane Stapleton, *The Two Explosive Proof-of-Causation Doctrines Central to Asbestos Claims*, 74 BROOK. L. REV. 1011, 1020 (2009) (noting that the absence of fungibility precluded recovery under MSL in asbestos cases).

261. *See Shackil*, 561 A.2d at 522, 529.

262. *See id.*

263. *See id.*

264. *See* Hamilton v. Accu-Tek, 62 F. Supp. 2d 802, 837 (E.D.N.Y. 1999); *rev'd sub nom* Hamilton v. Beretta U.S.A. Corp., 750 N.E.2d 1055, 1067 (N.Y. 2001).

265. *Hamilton*, 750 N.E.2d at 1067.

266. *Hamilton*, 62 F. Supp. 2d at 844.

267. *Id.*

difference in the type of handgun they use, despite the guns having different manufacturers or designs.[268]

Nevertheless, the Second Circuit reversed the district court's holding on the basis that guns were not fungible in that they did not pose a uniform risk.[269] Because gun manufacturers participated in "different marketing activities that allegedly contributed to the illegal handgun market in different ways and to different extents," the application of MSL would not result in an allocation that reflected contribution of risk.[270] Despite this reversal, the debate is significant in fashioning what it means to be a fungible product.

Courts have shifted the focus of the fungibility determination to the interchangeability of products.[271] In *Thomas ex rel. Gramling v. Mallet*,[272] the Wisconsin Supreme Court held that a variation of MSL, was applicable in a lead paint poisoning case.[273] In *Thomas*, the court held that the white lead carbonate used by defendant pigment manufacturers was fungible even though it could have been made from one of three moderately distinct chemical formulas.[274] Fungibility depended on the interchangeability of the product, the inability to distinguish the product physically, and the presence of a uniform degree of risk.[275] Based on those factors, the court found that the lead pigment was fungible.[276]

Finally, in *Wheeler v. Raybestos-Manhattan*,[277] five plaintiffs sought compensation for injuries resulting from exposure to asbestos lined brake pads. Regarding fungibility, the court held that the break pads were fungible based on use and interchangeability of the product, despite the absence of one chemical formula for break

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268. *Id.* (highlighting that the fungibility of handguns is even clearer from the vantage point of the victims).

269. Hamilton v. Beretta U.S.A. Corp., 750 N.E.2d 1055, 1067 (N.Y. 2001).

270. *Id.*

271. *See* Smith v. Cutter Biological, Inc., 823 P.2d 717, 724 (Haw. 1991) (recognizing that "the [HIV infected blood] product is fungible insofar as it can be used interchangeably"). *See also* Thomas ex rel. Gramling v. Mallet, 701 N.W.2d 523, 559 (Wis. 2005) (holding the same in the lead paint context).

272. 701 N.W.2d 523 (Wis. 2005).

273. *Thomas*, 701 N.W.2d at 557–58.

274. *Id.* at 559–62.

275. *Id.* at 560–62.

276. *See id.* at 562.

277. 8 Cal. App. 4th 1152 (1st Dist. 1992).

pads.[278] Additionally, the court noted that the pads were all composed solely of the *same kind* of asbestos and that the amount of asbestos in each pad varied within a limited range (between forty and sixty percent asbestos by weight).[279]

2. Determining a Market

Sindell and subsequent DES cases recognize that it is necessary to find the relevant market from which to ascertain defendants' market share in order to apply MSL.[280] The debate is generally whether to use a local or national market.[281] The determination of what market to use limits the scope of plaintiffs that can use MSL, so only in cases where a market can be ascertained will MSL be applied.[282]

In extending the use of MSL to contexts other than DES, courts and critics have noted the difficulty of determining a market for certain products.[283] Where courts have done so and used MSL, they have used national markets for DES and other products alike.[284] Commentators argue that the difficulty of obtaining a suitable market

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278. *Id.* at 1156.

279. *Id.* at 1156 (noting that even though the brake pads are not "absolutely interchangeable" for each other and therefore are "not fungible from the standpoint of an auto mechanic, they are fungible for the purposes of *Sindell* by virtue of containing roughly comparable quantities of the single asbestos fiber, chrysotile"). *Cf* Goldman v. Johns-Manville Sales Corp. 514 N.E.2d 691, 697, 701 (Ohio 1987) (holding that the variance of asbestos content by weight in duct tape from 15 to 100 percent was too significant for fungibility and also affected the risk of harm each manufacturer undertook).

280. *See supra* notes 169, 188–189.

281. *See supra* notes 188–189. This debate is mirrored in the climate change context but between the use of a national or international market. *See supra* Part II.D.2.

282. *See supra* notes 221 and accompanying text.

283. Brenner v. Am. Cyanamid Co., 263 A.D.2d 165, 171 (N.Y. 1999) (recognizing that one type of lead would only account for about eighty percent of the lead in all lead paint, and the remainder may be manufactured by unnamed defendants, as well as the fact that the market was not limited to products for interior use).

284. Smith v. Cutter Biological, Inc., 823 P.2d 717, 728 (Haw. 1991) (noting, in the context of blood products, overall culpability for marketing the product was appropriate due to the minimal number of manufacturers and thus a "national market is the more equitable consideration"); *see also supra* note 189.

appropriately limits the use of MSL to a unique set of facts, quelling the policy concern of overwhelming liability for manufacturers.[285]

3. Policy Considerations

Policy considerations also cabin the extension of MSL to other products.

a. Stunting Development

In rejecting the application of MSL particularly in the vaccine context, the California Court of Appeals for the First District and the Supreme Court of New Jersey emphasized concern that imposing liability on vaccine manufacturers would deter development of safe and necessary drugs.[286] In *Sheffield* and subsequent cases, the crucial public policy concern was to encourage the production of new and potentially life-saving drug products.[287] The court reasoned that manufacturers would be reluctant to produce these products, such as the polio vaccine, if MSL applied to them.[288] Accordingly, thousands of people suffering from polio would not have had the benefit of Salk's polio vaccine.[289]

Though *Sheffield* seems to drastically limit the applicability of MSL, other courts have gone out of their way to note that the theory should be used in some circumstances. For example, the majority in *Shackil* noted that its opinion "should not be read as forecasting an inhospitable response to the theory of market[]share liability in an appropriate context, perhaps one in which its application would be consistent with public policy and where no other remedy would be available."[290]

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285. *See supra* note 225 and accompanying text.

286. *See* Sheffield v. Eli Lilly & Co., 144 Cal. App. 3d 583. 597-98 (Cal. 1983); Shackil v. Lederle Labs., 561 A.2d 511, 522 (N.J. 1989).

287. *See Sheffield*, 144 Cal. App. 3d at 597–98.

288. *Id.* at 599.

289. *Id.*

290. *See Shackil*, 561 A.2d at 529. *See also id.* at 535 (O'Hern J. dissenting) (recognizing the majority opinion as having "no objection to the market[]share concept of causation, but is solely, and perhaps justifiably concerned that the imposition of *any* liability on this clearly beneficial vaccine will be detrimental to society's interest . . . .").

Commentators have recognized that the prominent reason that courts have rejected the application of MSL in the vaccines context is the negative impact liability would have on the development of safer vaccines and on the general availability of drugs that have a high social utility.[291]

b. Preemption of Claims by Federal Legislation

Another limit on the ability of courts to extend MSL to cases outside the DES context is potentially preemptive legislative compensation schemes. Where Congress has spoken and awarded a comprehensive recovery system for victims of a toxic tort or product defect, courts and commentators will not allow the extension of MSL to those claims, such as in the context of vaccines[292] and blood products.[293] However, the courts saw the lack of a congressional compensation act in the lead paint context as indicative of the legislature's intent not to compensate victims of lead paint poisoning and subsequently barred victim recovery through MSL.[294]

4. Justification for Limiting the Extension of Market Share Liability to Particularized Facts

The attempted extension of MSL to contexts other than DES shows the limits on the applicability of the doctrine. An Oklahoma court denying the appropriateness of MSL in the asbestos context highlighted the importance of the right set of facts in the possibility of its application.[295] It stated: "Because [MSL] . . . eliminates proof of causation of injury for public policy reasons, it must also be

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291. *See* Schultz, *supra* note 129, at 793–94.

292. *See Shackil*, 561 A.2d at 524, 527 (noting that the expansion of tort concepts in MSL would conflict with the goals of recent efforts of Congress through the comprehensive National Childhood Vaccine Act of 1986 and thus MSL should not apply); *see also* Andrew R. Klein, *Causation and Uncertainty: Making Connections in a Time of Change*, 49 JURIMETRICS J. 5, 41–42 (2008) (recognizing that the legislation asks litigants to waive any claims against manufacturers). *But see*, Rosenberg, *supra* note 124, at 866 (arguing that the court in *Sheffield* should impose a form of MSL called proportional liability).

293. *See* Klein, *supra* note 292, at 38–39 (noting that the Rickey Ray Hemophilia Relief Act of 1998, which allocated compensation to victims who had contracted HIV from contaminated blood products provided a "limited-scope" relief system).

294. Brenner v. Am. Cyanamid Co., 263 A.D.2d 165, 169, 173–74, (N.Y. 1999).

295. *See generally* Case v. Fibreboard Corp., 743 P.2d 1062 (Okla. 1987).

clearly founded in facts which support the link between the injury suffered and the risk to which the plaintiff was exposed."[296] It is precisely these limits that help quell critics' fears of excessive liability on manufacturers in contexts outside DES such as climate change.

Next, this Note will briefly look at the limited legal commentary regarding the application of MSL to climate change litigation to help determine the appropriateness of such an application.

G. Scholarship Addressing Market Share Liability in Climate Change Nuisance Claims

There is limited scholarship undertaking an analysis of the application of MSL to climate change litigation. Mostly, this limited pool has rejected MSL based on courts' reluctance to expand the application to other areas and the complicated factual issues involved.[297] Douglas Kysar suggests that climate change plaintiffs do not need MSL.[298] Kysar acknowledges that greenhouse gas emissions "*do* seem to have that elusive quality of fungibility."[299] Nevertheless, he notes that because all the defendants' emissions contribute to a "*single* global process that causes *all* harms[,]" only several liability

296. *Id.* at 1066.

297. *See* A.B.A., *supra* note 7, at 4–5; Kysar, *supra* note 101, at 56; Reeves, *supra* note 119, at 522.

298. Kysar, *supra* note 101, at 33.

299. *Id.*; *see also* Jonathan Zasloff, Symposium, *The Judicial Carbon Tax: Reconstructing Public Nuisance and Climate Change*, 55 UCLA L. REV. 1827, 1868 (2008) (noting that CO_2 is fungible for purposes of MSL because "a carbon is a carbon is a carbon. It makes no difference in terms of its impact" where it comes from). *But see* Grimm, *supra* note 138, at 219 (2007) (noting that a fungible product is lacking in greenhouse gas emissions but that they are fungible "in that they are indivisible once released into the atmosphere").

is appropriate.[300] Kysar provides no explanation as to why this is the answer or how this would be workable in practice.[301]

One student Note created a proposed model for using MSL to allocate damages among CO_2 producers.[302] The Note focuses on a practical scientific model for using MSL in this context.[303] It proposes that defendants should be allowed a reasonable level of emissions (to be determined by a micro-balancing theory) and will be held liable based on MSL if they exceed that level.[304]

While the model itself is similar to the emissions regulation plaintiffs seek in *AEP*, and thus could be similarly fraught with political question problems,[305] the Note provides a useful answer to the problem of absent causes in climate change litigation.[306] The Note recognizes that a problem with climate change litigation is that no market of greenhouse gas emitters will be complete.[307] But because the liability is based on the harmful effects of greenhouse gas emissions and not negligent manufacturing, there is more of a connection between volume of emissions and actual harm.[308] Therefore, there is less of a risk of in-market free riding (where

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300. Kysar, *supra* note 101, at 37. *But see* Lauren Case, Comment, *Climate Change: A New Realm of Tort Litigation, and How to Recover When the Litigation Heats Up*, 51 SANTA CLARA L. REV. 265, 287–88, 296–97 (2011) (arguing for the application of the "commingled product" theory of market share liability advanced in Methyl Tertiary Butyl Ether products liability litigation promulgated in 2005 and highlighting policy goals of deterrence and practical requirements of comingling into a "single batch," as in the petroleum product litigation).

301. Kysar, *supra* note 101, at 37. *But see* Grimm, *supra* note 138, at 226–27 (noting that a "more refined approach" to liability in the climate change context is MSL rather than traditional tort principles because of the requirement of proximate cause).

302. *See* Grimm, *supra* note 138, at 209.

303. *Id.* at 211.

304. *See id.* at 232–39.

305. *See supra* notes 83, 86, 88, 90.

306. Grimm, *supra* note 138, at 224–32 (noting that it may be reasonable to apply market share liability principles, hold CO_2 emitters culpable in proportion to their emissions provided that they emit a substantial amount of the CO_2 released by humans, but also noting that a joint and several liability scheme may be fair because every CO_2 emitter is culpable).

307. *See id.* at 224-25 (noting that greenhouse gas emissions come from natural causes that also contribute to global warming and not all emitters can be practically joined in a lawsuit).

308. *Id.* at 229.

smaller firms are able to escape substantial liability by hiding behind larger firms).[309] In climate change litigation, harm is based on the volume of greenhouse gas emitted, not manufacturers' negligence in producing a product.[310] Using a MSL theory, defendants can join unnatural absent causal factors not joined by plaintiffs.[311]

Having addressed the scholarship on the application of MSL to climate change cases, this Note now explains why MSL is a viable option for some climate change plaintiffs.

III. USING MARKET SHARE LIABILITY TO SATISFY THE IDENTIFICATION REQUIREMENT IN *KIVALINA*

Part III considers why MSL is an appropriate theory to meet the third element of causation, the identification requirement, in *Kivalina* and cases like it, where plaintiffs have suffered damages that can be monetized. First, Part III.A explains how the Supreme Court is likely to rule in *AEP* and why, because of the factual differences between *AEP* and *Kivalina*, even a broad Supreme Court ruling in *AEP* will not preempt suit in *Kivalina*. Next, Part III.B explains that the policy justifications used for adopting MSL in the DES and other contexts apply to the *Kivalina* plaintiffs. Next, Part III.C outlines how *Kivalina* meets the practical requirements of *Sindell*. Next, Part III.D explains why the market share model used in *Hymowitz* is the most appropriate. Finally, Part III.E addresses the policy critiques of MSL cases, and shows they are not dispositive here, because defendants' several liability, the remedy sought, and the special standing of plaintiffs seeking damages in a nuisance suit will help shield defendants from excessive liability and prevent harm to their social utility.

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309. *See id.* at 228–29 (noting that "in [torts resulting from negligence] . . . actual harm is largely detached from volume, while tort liability and volume are closely connected").

310. *Id.* at 229.

311. *See id.* at 229–30 (noting that joint and several liability, which requires a substantial factor test in determining who may be joined, is not as appropriate as MSL in climate change litigation because emitters that do not constitute a substantial factor are still responsible for causing the harm and should be joined if desired by the parties).

A. Implications of a Supreme Court Ruling in AEP *on* Kivalina

As a preliminary matter this section considers how a ruling in *AEP* might affect an opportunity for *Kivalina* plaintiffs to continue litigating.

1. Standing

In considering *AEP*, the Supreme Court must decide if the plaintiffs—states and private parties—have standing to bring a federal nuisance claim.[312] In order to establish standing plaintiffs must show an "injury in fact attributable to the defendant and redressable by relief against that defendant."[313] The Second Circuit held that the plaintiff need only allege that defendants "contribute[d]" to global warming to prove traceability.[314] Nevertheless, it is possible the Supreme Court will find the injury alleged would not be redressable by emissions caps because of third party contribution and the latent nature of climate change,[315] or that *Massachusetts v. EPA* does not apply because *AEP* is a non-statutory cause of action.[316] On the other hand, the Court may find that *Massachusetts* requires a relaxed standing requirement for states bringing nuisance claims regarding pollution.[317] Even if the Supreme Court does not adopt the Second Circuit's relaxed standing requirement, it is likely that the Court would find *Kivalina* plaintiffs, unlike *AEP* plaintiffs, have standing to proceed.

First, defendants concede *Kivalina* plaintiffs' concrete injury,[318] and the injury in *AEP* and *Kivalina* is significantly different. Douglas

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312. *See* Brief for Petitioner, *supra* note 96, at *2.

313. *Id.* at *13 (internal quotations and citations omitted).

314. Connecticut v. AEP, 583 F.3d 309, 345 (2d Cir. 2009).

315. *See* Brief for Petitioner, *supra* note 96, at *13-14.

316. *Id.*, at 15-16 (internal quotations and citations omitted).

317. *See AEP*, 582 F.3d at 337-38 (relying on Supreme Court precedent in *Massachusetts v. EPA*, 549 U.S. 497 (2007), where the Court held a lower standing requirement was appropriate where a state sought the right of judicial review conferred by the CAA); *see also* Kysar, *supra* note 101, at 31 (noting "it is clear that contribution to a pollution nuisance above a *de minimis* threshold can give rise to damages liability or injunctive relief, notwithstanding the presence of numerous other contributors").

318. *See* Plaintiff's Corrected Consolidated Opposition to Rule 12(b)(1) and 12(b)(6) Motions at 97, Native Vill. of Kivalina v. ExxonMobil Co., 663 F. Supp. 2d 863 (N.D. Cal. 2008) (No. 08-01138), 2008 WL 4579993.

Kysar suggests that the damage to the *Kivalina* plaintiffs' community due to increased storm exposure "is more amenable to causal attribution than many other impacts of climate change."[319] In contrast, plaintiffs in *AEP* allege a variety of present and future harms where the connection seems more untenable.[320]

Additionally, the *AEP* plaintiffs include government plaintiffs, states, and non-government plaintiffs, the land trusts.[321] Plaintiffs are extremely diverse and represent the interests of seventy-seven million people.[322] It can be presumed that these seventy-seven million people have had an impact on global warming through their use of fossil fuels.[323] On the other hand, the plaintiffs in *Kivalina*, while still government plaintiffs, are limited to the interests of the 400 Inupiat Eskimo residents.[324] Additionally, they are extremely vulnerable in their current situation and have contributed negligibly to global warming.[325]

Second, defendants' emissions of global warming have, in part, caused plaintiffs' injuries through their contribution to the uncontroversial process of global warming.[326] Finally, unlike the plaintiffs in *AEP*, defendants' liability and contribution of damages would directly redress the harm alleged.[327]

2. Federal Common Law

The Second Circuit held that a nuisance claim brought under federal common law was appropriate where plaintiffs state a nuisance

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319. Kysar, *supra* note 101, at 28.

320. *See supra* notes 80–81 and accompanying text.

321. *See supra* notes 70–71 and accompanying text.

322. *See supra* note 74 and accompanying text.

323. *See supra* notes 6-7 and accompanying text.

324. *See Kivalina*, 663 F. Supp. 2d at 868 and accompanying text.

325. *See supra* notes 108–109, 115 and accompanying text.

326. *See supra* note 126; Brief of Plaintiffs at 98, Native Vill. of Kivalina v. ExxonMobil Corp., 663 F. Supp.2d 863 (N.D. Cal. 2008) (No. 08-01138), 2008 WL 4579993.

327. *See* Brief of Plaintiffs, *supra* note 318, at 105. Additionally scholars note that, like the *Kivalina* plaintiffs, "states suing in their proprietary capacity as landowners typically are not restricted from pursuing damages." Kysar *supra* note 101, at 24.

claim based on interstate pollution that is unregulated by the EPA.[328] It is possible that the Supreme Court may find that because, under *Massachusetts*, the EPA has authority through the CAA to regulate greenhouse gas emissions, the CAA constitutes a regulatory scheme that "speaks directly to the alleged problem identified in the complaint, rendering resort to federal common law not only unnecessary but improper."[329]

Even if the Supreme Court rules that the EPA's authority under the CAA displaces federal common law suits, it is likely that the Court would still find *Kivalina* viable under federal common law. *Massachusetts* bestowed upon the EPA the authority to regulate, or cap, greenhouse gas emissions.[330] Nevertheless, the EPA has yet to act on this authority.[331] Even if the EPA does regulate emissions, there is "no federal liability regime under which Kivalina could seek compensatory damages."[332] Defendants in *AEP* argue, and the Court may agree, that displacement of federal common law does not come from "whether or to what extent an agency has" regulated behavior but "whether Congress has addressed the subject in a legislative scheme."[333] Regardless of the actions of the EPA, the Court arguably can find *AEP* plaintiffs' claims displaced. But because no conception of proposed emissions regulation covers monetary compensation for past harms attributed to emissions, Kivalina's claims are not displaced.

3. Political Question

The Supreme Court may rule that *AEP* presents political questions inappropriate for judicial determination. The plaintiffs seek to cap defendants' CO_2 emissions at a reasonable level in order to reduce

328. *See* Connecticut v. AEP, 582 F.3d 309, 332 (2d Cir. 2009) (noting that the CAA provides the EPA authority to regulate CO_2 emissions, but that until the EPA exercises that authority a federal common law claim is not displaced).

329. *See* Brief for Petitioner, *supra* note 96, at *21 (internal quotations and citations omitted).

330. *See supra* notes 26-28 and accompanying text.

331. *See supra* note 29 and accompanying text.

332. *See* Brief of Plaintiffs, *supra* note 317, at 20-21 (noting that "no remedial scheme for past emissions" would come from the EPA's regulation of greenhouse gas emissions).

333. Brief for Petitioner, *supra* note 96, at *21 (emphasis added).

future harm from the effects of global warming.[334] The United States has refused to enact legislation regulating emissions or even to join in the Kyoto Protocol's pledge to reduce emissions.[335] The executive and legislature have considered these options[336] and declined to act on them, indicating that to do so would involve a policy determination. Because a decision to cap emissions would involve a policy determination of what the reasonable level of emissions would be and whether or not emissions can be capped at all, it is possible the Court will hold *AEP* involves political questions better suited for the legislature.

Even if the Court finds a political question in *AEP*, the facts of *Kivalina* are so distinct that such a holding does not present a bar to *Kivalina* and similar cases. Most significantly, plaintiffs in *AEP* seek injunctive relief, while plaintiffs in *Kivalina* seek damages only, limited to the cost of relocation.[337] As discussed above, defendants must have acted unreasonably in causing the plaintiffs harm when awarding injunctive relief.[338] Additionally, courts are more reluctant to award injunctive relief when the defendant provides a social utility.[339] Not only are courts more willing to award damages over an injunction, but an award of damages involves fewer policy determinations.[340]

Damages are a long-standing remedy in tort to recover for past harms.[341] Plaintiffs in *Kivalina* seek to recover damages based on past harms in a tort suit.[342] Unlike the plaintiffs in *AEP* who seek to determine an appropriate level to cap defendants' emissions,[343] and potentially all CO_2 emitters' emissions, *Kivalina* plaintiffs seek only

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334. *See supra* note 83 and accompanying text.

335. *See supra* notes 19–21 and accompanying text.

336. *See supra* notes 19–21 and accompanying text.

337. *See supra* notes 83, 110 and accompanying text.

338. *See supra* note 53 and accompanying text.

339. *See supra* notes 56–59 and accompanying text; *see also* Kysar, *supra* note 101, at 26 (noting that "[judges] are understandably reluctant to shut down activities of central economic importance" and thus shy away from injunctive relief in such circumstances).

340. Here the determination is not at what level emissions should be capped and not even who should bear the cost of liability, but rather tort liability for monetary harm caused.

341. *See supra* note 48 and accompanying text.

342. *See supra* note 110 and accompanying text.

343. *See supra* notes 82-83 and accompanying text.

the traditional tort remedy to recover their relocation costs, making them whole.[344]

Because *AEP* and *Kivalina* are factually distinguishable, a narrow or broad Supreme Court ruling in *AEP* will not preclude *Kivalina* and similar suits from adjudication on the merits.

B. Do Sindell's *Policy Justifications Apply to* Kivalina*?*

This section now turns to whether MSL is appropriate beginning with the policy justifications of *Sindell*. The majority of the policy justifications used by courts and commentators for accepting the application of MSL in DES and other contexts is applicable to climate change litigation. As a background matter, the *Sindell* court noted that in a complex industrial society, modifications to strict tort requirements are appropriate where these standards are inadequate to administer the responsibility of a manufacturer to a consumer.[345]

1. Creation of Risk to an Innocent Victim

The first policy justification is a creation of risk to an innocent victim.[346] The defendants in *Kivalina* are composed of twenty-four oil, energy, and utility companies.[347] These companies have contributed to global warming through emissions of greenhouse gases, most notably CO_2.[348] As noted above, the creation of risk in climate change litigation is based on volume of emissions, not on negligence in manufacturing a defective product.[349] The risk to plaintiffs has been created based on defendants' contributions to global warming. Global warming has already taken its toll on Kivalina: the reduction of sea ice due to increased annual temperatures has decreased the village's protection from winter storms.[350] As a result, the village has become nearly uninhabitable, and must be relocated to ensure survival.[351]

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344. *See supra* note 110 and accompanying text.
345. *See supra* note 166 and accompanying text.
346. *See supra* note 167 and accompanying text.
347. *See supra* note 101 and accompanying text.
348. *See supra* notes 14–18 and accompanying text.
349. *See supra* note 310 and accompanying text.
350. *See supra* notes 107–108 and accompanying text.
351. *See supra* notes 110–114.

Commentators might question the innocence of plaintiffs here, suggesting that individuals also contribute significantly to global warming.[352] However, *Kivalina* plaintiffs are innocent because their contribution to global warming is negligible in volume compared to the twenty-four named defendants, given the size of their group and their lifestyle.[353] This is further supported by academic commentary that highlights compensation of victims as a central goal of tort law.[354] As in the context of DES, plaintiffs here would go without a remedy without a relaxation of the identification requirement because of the nature of greenhouse gas emissions.[355] The application of MSL in the *Kivalina* case is appropriate to serve the goal of victim compensation.

2. Defendants Are In a Superior Position to Absorb the Costs of the Harm

The second policy justification, that defendants are in a superior position to absorb the costs of the harm,[356] is also met here. The defendants joined in *Kivalina* represent some of the most gainful and lucrative companies in the world.[357] The ACE and the GAO estimate the cost of Kivalina's relocation to be between ninety-five and 400 million dollars.[358] The 400 Inupiat Eskimos living in Kivalina, who have been self-sustained there for centuries, cannot absorb this cost.[359] Clearly, twenty-four lucrative energy and utility companies can much more reasonably absorb Kivalina's ninety-five to 400 million dollar relocation costs than can 400 self-sustaining Eskimos.

3. Fairness

An additional policy concern is the concept of fairness—holding people liable for the consequences of their harm.[360] Because it is

352. *See, e.g.*, Albert C. Lin, *Evangelizing Climate Change*, 17 N.Y.U. ENVTL. L.J. 1146 (2009) (internal citation omitted).

353. *See supra* note 115.

354. *See* Grundhauser, *supra* note 202, at 862.

355. *See* articles cited *supra* note 205 and accompanying text; *see also supra* notes 7–10 and accompanying text.

356. *See supra* note 167 and accompanying text.

357. *See* Kysar, *supra* note 101, at 28.

358. *See supra* note 113 and accompanying text.

359. *See supra* notes 101, 105 and accompanying text.

360. *See* Robinson, *supra* note 202, at 743.

factually impossible for plaintiffs in *Kivalina* to identify who has caused their injury, defendants who have significantly contributed to plaintiffs' harm would not be held liable. MSL is especially fair in holding defendants liable because it ensures that no one will be responsible for more than their market share, or their contribution to the risk of injury.[361] In this sense, defendants would not become insurers of their industry, a major critique by opponents of MSL,[362] because they are only accountable for their direct contribution to the injury.[363]

Additionally, scholars have argued that MSL applied to greenhouse gas emissions may be a more accurate substitute for the identification requirement than when applied to chemically fungible products such as DES.[364] Unlike the DES context, or that of vaccines, handguns, blood products, lead paint, or asbestos, *every* producer in the greenhouse gas market has not merely added to the risk of injury, but has directly caused plaintiffs harm through some contribution to global warming.[365]

The policy justifications given for the creation and application of MSL are applicable in the *Kivalina* context and also justify an application to other similar climate change litigation.[366] Next, this

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361. *See id.* at 749.

362. *See generally,* Mulcahy v. Eli Lilly & Co., 386 N.W.2d 67, 75 (Iowa 1986); Schultz, *supra* note 129, at 813.

363. *See supra* notes 309–310 and accompanying text.

364. *See* Grimm, *supra* note 138, at 221.

365. *Id.*

366. One potential criticism of the assertion that the policy justifications of *Sindell* apply in climate change litigation is that MSL is less appropriate because the defendants did not act negligently in the traditional sense. This concern is addressed in two ways. First, the critique is addressed by the design v. manufacturing defect question mentioned in the application of MSL to other products. *See supra* notes 252–254 and accompanying text. A design defect claim in the MSL context is more like strict liability because companies were not acting negligently but rather there was something inherently wrong with the design that was not anticipated. A manufacturing defect is a clearer display of negligence and generally courts did not apply MSL in manufacturing defect cases. *See supra* notes 252–254 and accompanying text. Defendants are not acting negligently by emitting greenhouse gasses, at least in a traditional sense, but their non-negligent behavior has caused plaintiffs harm and thus they should be held accountable. A second answer is found in the nuisance claim itself. To recover damages the interference need not be unreasonable it must only be a monetizeable interference. *See supra* notes 54–59 and accompanying text. Therefore, the special injury

Note considers whether plaintiffs in *Kivalina* can satisfy the practical requirements of *Sindell*.

C. *Do the* Kivalina *Plaintiffs Meet the Practical Requirements of* Sindell*?*

Courts and scholars have unanimously argued that MSL is only appropriate in very specialized factual circumstances.[367] Courts and scholars considering the appropriateness of MSL have required that the product be fungible,[368] plaintiff is unable, through no fault of her own, to identify the defendant responsible for her harm,[369] and defendants market shares are determinable.[370] For *Kivalina* plaintiffs to utilize MSL they must prove that (1) greenhouse gases are fungible, (2) that they cannot identify the defendant responsible for their harm, and (3) that defendants' market shares of greenhouse gas emissions are determinable. Because the plaintiffs in *Kivalina* meet all of these requirements, MSL is appropriate for use in their case.

1. Fungibility

Strictly speaking, greenhouse gas emissions are not products placed on the market for consumers made with a common formula. Therefore, the fungibility standard that the "formula of the [product be] identical"[371] is not easily met. Indeed, a justification by many courts for refusing to extend MSL to handguns,[372] lead paint,[373] and asbestos[374] was based on the lack of fungibility of the product. Nevertheless, by focusing on the inherent interchangeability of the product, courts have found that products that lack identical formulas are fungible for the purpose of MSL.[375] Additionally, New York's

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requirement for damages adds up to a strict liability recovery rather than negligence.

367. *See supra* notes 168, 218 and accompanying text.

368. *See supra* notes 168, 220 and accompanying text.

369. *See supra* notes 168, 219 and accompanying text.

370. *See supra* note 221 and accompanying text.

371. *See supra* note 271 and accompanying text.

372. *See supra* notes 269–270 and accompanying text. *But see supra* notes 264–268 and accompanying text.

373. *See supra* note 260 and accompanying text. *But see supra* notes 271–276 and accompanying text.

374. *See supra* note 260 and accompanying text. *But see supra* notes 277–279.

375. *See supra* note 279 and accompanying text.

use of a common risk of injury in determining fungibility (or lack thereof) of handguns is particularly useful here.[376]

First, greenhouse gases are inherently interchangeable in that they combine to produce a common effect, global warming, and they are indistinguishable from one another once released.[377] Thus, based on the looser standard of fungibility promulgated by courts,[378] greenhouse gases are interchangeable and fungible for MSL purposes. Second, because global warming is caused by greenhouse gas emissions (a fact not reputably debated in scientific communities)[379] the emission of any and every greenhouse gas creates a common risk of injury, satisfying New York's test for fungibility.[380] Based on these two tests, interchangeability and common risk of injury, greenhouse gases qualify as fungible for market share purposes.

In further support of the fungibility of greenhouse gases, scholars that have addressed the issue have found them to be fungible.[381] This insight should be considered in the *Kivalina* case.

2. Plaintiffs' Inability to Identify the Defendant Responsible for Their Harm

The second requirement articulated in *Sindell* is that a plaintiff, through no fault of her own, must be unable to identify the responsible defendant.[382] The plaintiffs in *Kivalina* are absolutely unable to identify the particular defendants that caused their harm, because of the nature of greenhouse gas emissions: they are invisible and create negative effects over long periods of time, and the harm is a product of a variety of factors, some man-made and some natural.[383] No amount of due diligence would allow the *Kivalina* plaintiffs to discover the particular defendant that caused their harm. Therefore, MSL is appropriate in this context. Critics might suggest proving causation is difficult, even impossible, in climate change cases because of the diffuse nature of greenhouse gases. While proof

376. *See* cases cited *supra* notes 264–279.
377. *See supra* notes 8–10, 299 and accompanying text.
378. *See supra* notes 274-76 and accompanying text.
379. *See supra* note 126 and accompanying text.
380. *See supra* notes 264–268 and accompanying text.
381. *See supra* note 299.
382. *See supra* notes 168, 219 and accompanying text.
383. *See generally supra* Introduction.

of causation in these cases is a daunting task, the fact that the *Kivalina* defendants produce significant amounts of greenhouse gases,[384] which have been proven to cause global warming,[385] demonstrates that defendants as a group are responsible, even if not solely responsible. As parties responsible for plaintiffs' injuries, defendants should be held liable under MSL.

3. Determination of Market Share

The final requirement, the ability to determine defendants' market shares, was not set out in *Sindell*. Rather, the requirement emerged through academic critiques of the DES cases and later DES cases, and was subsequently a factor considered in the extension of the doctrine to other products.[386] Critics of the MSL theory in the DES context objected to the theory based on the difficulties defining the relevant market and determining the market shares of defendants.[387] The determination of the relevant market is significant because *Sindell* never laid down a rule and liability could potentially change based on the use of a broad market over a narrow market.[388] Even if the parties can agree upon a market, determining defendants' shares of the markets in the DES context was extremely difficult because of a lack of accurate records regarding this information.[389]

Determining the relevant market is also a heady task in the *Kivalina* context.[390] While the debate in the DES context was over a local or national market,[391] in the climate change context the debate would be whether to use a national or international market. The basis of defendants' liability is their emission of greenhouse gases, i.e., their contribution to the overall risk of injury of plaintiffs. The reason the court assigned a national market, or the broader market, in the DES context in *Hymowitz* is because the culpability of manufacturers was measured by the defendants' level of risk to the public at

384. *See supra* notes 101–102 and accompanying text.

385. *See supra* note 126 and accompanying text.

386. *See supra* note 221 and accompanying text.

387. *See supra* notes 242–248 and accompanying text.

388. *See supra* note 245 and accompanying text.

389. *See supra* note 248 and accompanying text.

390. This task is made simpler because, unlike DES which was sold for many purposes, CO_2 emissions combine to cause the same common result. *See supra* note 244 and accompanying text.

391. *See supra* notes 188–189 and accompanying text.

large.[392] In the climate change context the "risk of harm" is more than a risk. There is no question that defendants have contributed to the harm suffered.[393] Defendants have emitted greenhouse gases, which have caused coastal erosion harming plaintiffs.[394] There is documented data verifying the percentage of the CO_2 national market emitted by the sectors represented as defendants in *Kivalina*.[395]

Commentators may argue, and would likely succeed in suggesting, that an international market (the broader market in climate change litigation) is appropriate because climate change is a global phenomenon, with all contributions globally combining to result in plaintiffs' harm. In such circumstances, there are workable solutions to the potential jurisdictional and arbitrariness problems posed by use of an international market. First, based on studies of historical responsibility for CO_2 emissions between 1900 and 1999, the United States, Europe, and a combination of China, India, and other developing parts of Asia, are responsible for 30%, 27%, and 12% of total global emissions respectively.[396] In the European Union countries and the United States, 73% and 81% of CO_2 emissions, respectively, are attributable to the industry, energy, and transportation sectors.[397] There is significant data suggesting market concentration in the United States among fossil fuel and electricity sectors.[398] If such a concentration exists among European sectors, as is suggested at least in the electricity sector,[399] then the group of defendants joined would be manageable there as well. For

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392. *See supra* note 186 and accompanying text.

393. *See supra* notes 7, 14-18 and accompanying text.

394. *See supra* notes 108–109 and accompanying text.

395. *See supra* notes 14–18 and accompanying text.

396. WORLD RES. INST., *EarthTrends: The Environmental Information Portal*, http://earthtrends.wri.org (follow "Climate and Atmosphere" hyperlink; then follow "Maps" hyperlink; then follow "Contributions to Global Warming") (last visited Mar. 23, 2011).

397. *Compare* Kysar, *supra* note 101, at 19, *with EU Energy in Figures 2010*, EUROPEAN COMM'N DIRECTORATE-GENERAL FOR ENERGY AND TRANSPORTATION 3 (Jan. 26, 2010), http://ec.europa.eu/energy/publications/doc/statistics/ext_co2_emissions_by_sector.pdf.

398. *See supra* notes 14–18 and accompanying text.

399. *See* Marc-Kevin Codognet et. al., *Mergers and Acquisitions in the European Electricity Sector, Cases and Patterns*, Centre D'Economie Industrielle 128-31 figs.6 & 7 (Sept. 23, 2002), http://www.cerna.ensmp.fr/Documents/FL-MA-MAsEU.pdf.

jurisdiction purposes, most of the companies joined in *Kivalina* are international companies with offices worldwide.[400] This fact suggests that at least some of the companies joined internationally would be subject to suit in the United States and plaintiffs in *Kivalina*, or similar cases, could join an international market.

Plaintiffs also are not required to join the entire international market. Plaintiffs may choose to sue only defendants who represent the thirty percent U.S. share of the international market.[401] This would avoid any jurisdictional and manageability problems an international market presents. However, should plaintiffs decide to join only national defendants they would then only recover from that thirty percent pool of the international market. Defendants' shares in the national market may be used to allocate liability based within the U.S.'s thirty percent segment of the international market.

Thus, regardless of whether plaintiffs join members of the international market, or simply deduct from their recovery those defendants not joined, an international market, the broader choice of market as in *Hymowitz*, should be used in climate change cases. The market shares should be easily determined based on the volume of defendants' greenhouse gas emissions. Having met the practical requirements of *Sindell*, this Note will now discuss the best model of MSL to use in climate change litigation.

D. Hymowitz *As the Appropriate Model of Market Share Liability for* Kivalina

Because the *Sindell* policy justifications support climate change cases and the *Sindell* requirements are met, this section now examines which model of MSL is appropriate in the context of

400. *See supra* note 101.

401. *See supra* note 396 and accompanying text. A reduced recovery is not ideal for plaintiffs. It is possible that because defendants' liability is based on their risk of harm, or actual harm, to plaintiffs, defendants should cover 100 percent of the *national market*, or the narrow market as in Martin v. Abbott Labs. *See supra* notes 176–179 and accompanying text. However, because MSL measures culpability based on volume of emissions it would be unfair to inflate the shares of defendants by using a national market in what is clearly a global phenomenon. The best option for *Kivalina* plaintiffs is to join defendants from other high-emission countries for a more complete recovery.

climate change. This section submits that the MSL model promoted in *Hymowitz v. Eli Lilly & Co.*[402] is ideal.

First, as previously discussed, the broader choice of market, as in *Hymowitz* is preferable to a local market.[403] Based on the nature of *global* warming it would be inequitable to require defendants to cover injuries based on a *national* market.[404] Next, in *Hymowitz*, the court declined to allow defendants to exculpate themselves from liability because their culpability was based on the overall risk the defendants produced.[405] Exculpation should similarly be disallowed in the context of climate change litigation because all defendants joined who emit greenhouse gases have, in fact, contributed to plaintiffs' harm.

Finally, the court in *Hymowitz* held that liability was several only.[406] The court found it unfair to hold any defendant liable for any larger amount than their market share, or their "fair share of responsibility."[407] Other courts in the DES context had held that defendants were required to cover 100% of the market to give plaintiffs a full recovery.[408] Under that approach the market shares of the remaining defendants are adjusted after exculpation to ensure that 100% of the market is covered and plaintiffs obtain a complete recovery.[409] The *Hymowitz* court found this proposal to be unfair and determined that in cases where not all manufacturers are joined, defendants are still only responsible for their market share, resulting in a reduced recovery for plaintiffs.[410]

Because joining all potential climate change defendants is nearly impossible, even if limited to a national market, it would be unfair and excessive to force defendants who are joined in a lawsuit to cover the market shares of missing defendants. Defendants are not identified individually under the traditional tort requirement, therefore, it is equitable to limit their liability to the harm they have contributed to avoid concerns about excessive liability.

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402. *See generally supra* Part II.D.
403. *See supra* Part III.C.3.
404. *See supra* Part III.C.3.
405. *See supra* note 186 and accompanying text.
406. *See supra* note 187 and accompanying text.
407. *See supra* note 187 and accompanying text.
408. *See* cases cited *supra* note 177 and accompanying text.
409. *See* cases cited *supra* note 177 and accompanying text.
410. *See supra* note 189.

E. Policy Critiques of an Extension of Market Share Liability to Kivalina

Having decided that the *Hymowitz* model of MSL is appropriate for use in the climate change context, this section will now address critiques of MSL raised in the DES and post-DES cases likely to be raised in the climate change context: the abandonment of traditional tort principles, that climate change is better suited for the legislature, federal preemption, and the social cost of imposing liability.

1. Too Far from Existing Tort Principles

Critics in the DES context argued that the application of MSL would cause too great a deviation from existing tort principles by holding blameless defendants liable.[411] This concern is unjustified in the climate change context because as greenhouse gas emitters, each defendant has in fact contributed to plaintiffs' harm.[412] Additionally, the use of several liability will ensure that defendants will only pay for the emissions they contributed, and therefore the harm they caused.[413] For the same reasons the critique that defendants might become insurers of their industry[414] is unjustified. Defendants are only paying for their contribution to the harm based on the volume of their emissions. Defendants are not responsible for the emissions of other defendants not parties to the action, and therefore they are not insurers of the entire industry.

2. Political Question

A critique not fully developed in the DES context but raised in the climate change context in both *AEP* and *Kivalina* is that recovery surrounding climate change involves determinations of policy and therefore that the legislature is better suited to fashion resolutions of this kind. This critique is arguably valid in cases like *AEP* where plaintiffs seek injunctive remedies.[415] The political question critique does not apply to cases like *Kivalina* where plaintiffs seek damages

411. *See supra* notes 198, 201, 228–29 and accompanying text; *see also supra* note 115 (noting that *Kivalina* plaintiffs *are* almost entirely blameless).

412. *See supra* note 310 and accompanying text.

413. *See supra* notes 186–187 and accompanying text.

414. *See supra* notes 197, 230 and accompanying text.

415. *See supra* notes 334–339 and accompanying text.

for past harms.[416] In nuisance cases where damages are sought through the special standing requirement, a less stringent standard is applied because there is no implication that the activity will cease.[417] Where there is no suggestion that defendants must stop or limit their emissions, plaintiffs' request for damages, a classic tort remedy for past harms, cannot be deemed to be a political question simply because the harms resulted from contributions to global warming.

3. Preemption

Another potential critique is that the CAA has precluded judicial action. Nevertheless, at this point, the EPA is authorized under the CAA to regulate greenhouse gas emissions, but has not yet done so.[418] In DES and post-DES cases courts were reluctant to allow the application of MSL where Congress had enacted comprehensive legislation providing a remedy for potential plaintiffs.[419] No such legislation has been enacted for plaintiffs with monetizeable harms resulting from climate change. Additionally, regulatory legislation regarding levels of emissions is not the type of remedial legislation described in the post-DES cases.[420] Even if Congress passed legislation regulating levels of emissions, that legislation still would not provide a remedy for the past harms in the *Kivalina* case.

4. Social Cost

The final and most significant critique is how liability will affect the social utility of the defendant power and electric companies. This critique is similar to the policy of encouraging scientific development in the DES and post-DES context.[421] It is true that defendant companies provide an enormous social utility through their production of energy and provision of fossil fuels to the world. The loss of these products would drastically damage the American and global economies. Therefore, critics may argue that imposing liability on defendants would have impermissible effects on a socially useful service.

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416. *See supra* Part III.A.3.
417. *See supra* notes 53–59 and accompanying text.
418. *See supra* notes 28–29 and accompanying text.
419. *See supra* notes 292–296 and accompanying text.
420. *See supra* notes 292–296 and accompanying text.
421. *See supra* notes 134, 286–291 and accompanying text.

First, this critique is cabined by the remedy sought by plaintiffs. In nuisance cases like *Kivalina*, where plaintiffs meet the special injury standing requirement[422] and are able to request damages,[423] the objectionable activity is permitted to continue. Therefore, if the court were to hold the *Kivalina* defendants liable under MSL they would still be able to provide their socially useful service while compensating plaintiffs for their loss.

Critics may argue that imposing liability on these companies even in the form of damages would harm their social utility by forcing them to pass costs onto consumers or even by forcing them into bankruptcy.[424] This critique is not dispositive both on a narrow level relating only to the *Kivalina* litigation and on a broad level relating to litigation of this type. First, narrowly, the *Kivalina* defendants are some of the most profitable companies in the world.[425] The cost of relocating the village split amongst them would not be significant enough to pass on to consumers or force the companies into bankruptcy as suggested by critics of MSL.[426]

Broadly, recovery of this type will be narrowly limited to particularized factual circumstances because both the limitations on applying MSL[427] and the requirements for special injury standing in a public nuisance suit apply.[428] In order to obtain damages in a public nuisance suit, plaintiffs must have special injury standing.[429] To achieve this standing, plaintiffs must prove they have suffered harm distinct from harm suffered by the community at large.[430] Therefore, by virtue of seeking damages, plaintiffs are restricted from claiming future damage, seeking abatement, or using harm to the environment in general to show special injury.[431] This means that even if the *AEP* plaintiffs sought damages, their claim would fail because they have

422. *See supra* notes 43–45 and accompanying text (noting special injury is obtained where plaintiff experienced damage to property or purely economic losses); *see also supra* notes 110, 113–114 (explaining *Kivalina's* injury as damage to property and monetary losses for relocation).

423. *See supra* note 48 and accompanying text.

424. *See supra* notes 231–234 and accompanying text.

425. *See supra* note 101.

426. *See supra* notes 231–234 and accompanying text.

427. *See supra* Part III.C; *see also* notes 218–221 & Part II.E.

428. *See supra* note 48 and accompanying text.

429. *See supra* note 48 and accompanying text.

430. *See supra* notes 47–51 and accompanying text.

431. *See supra* notes 47–51 and accompanying text.

not proved a harm distinct from that of the general public.[432] Because special injury standing is difficult to prove in climate change cases, only very few nuisance cases, like *Kivalina*, will be able to proceed and warrant the application of MSL. Therefore, the concern of critics that liability will be crippling is unfounded and should not bar climate change cases from utilizing MSL.

CONCLUSION

The plaintiffs in *Kivalina* face significant obstacles in succeeding on the merits of their public nuisance claims, including succeeding on their pending appeal regarding standing and political question. This Note suggested that the *Kivalina* plaintiffs may be able to proceed with their claims after a broad Supreme Court ruling in *AEP*, limiting climate change nuisance claims seeking injunctions. Nevertheless, plaintiffs still face an uphill battle, particularly in the area of causation.

This Note proposed a potential framework for plaintiffs to satisfy one element of causation, the identification requirement, through MSL. This Note discussed the policy behind allowing MSL, the practical requirements, which limit significantly the scope of the rule, and the policy critiques against applying MSL in a variety of contexts.

This Note concluded by suggesting that MSL is appropriate for use by *Kivalina* plaintiffs, and others similarly situated, to recover damages in a climate change public nuisance suit. Specifically, where the *Sindell* policy justifications apply, and the practical requirements—fungibility, plaintiffs' inability to identify the responsible defendant, and the determination of an appropriate and usable market, here an international market—are met the use of MSL in climate change nuisance suits is appropriate. Finally, this Note recognized that because the policy critiques against extending the use of MSL do not apply in the *Kivalina* context, plaintiffs are not barred from using MSL and in doing so achieving a classic tort goal of balancing victim compensation with the social utility of defendants' activity.

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432. *See supra* notes 70–74 and accompanying text. States may argue that their specific coastlines are affected uniquely, thus they have suffered special injury. Nevertheless, the states in *Connecticut* represent the interests of seventy-seven million people, a number large enough to potentially serve as the general public.