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INSURANCE AND CLIMATE CHANGE

JOSEPH MACDOUGALD AND PETER KOCHENBURGER¹

I. INTRODUCTION

Climate change started as a scientific theory, became the subject of environmental policy and international negotiation, and today manifests itself within the courts in a series of boundary testing cases that challenge the settled concepts of risk and redress available under both environmental and insurance law. As our climate becomes increasingly unstable and the causal link between damage from sea-level rise and severe weather events becomes ever more tangible and traceable, courts at all levels wrestle with varying avenues of legal authority, including the limitations of legal redress through the political question doctrine,² the appropriateness of traditional federal and state nuisance law,³ and the viability of addressing climate change through the established environmental statutory apparatus, such as the Clean Air Act (CAA), which had primarily regulated only traditional air pollution.⁴ By 2014, the first wave of climate law cases reached resolution. Yet, through (or perhaps despite) this process, clarity is emerging as it relates to an insured's liability for past emissions and insurer's obligations.

This paper will synthesize the developing field of climate law with the insurance industry's practice and policy.⁵ The first part of

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2. *See* *Comer v. Murphy Oil USA*, 585 F.3d 855, 879-80 (5th Cir. 2009) (reversing a lower court's decision that Comer's climate-based claims were non-justiciable under the political question doctrine).

3. *See, e.g.,* *Am. Elec. Power Co., Inc. v. Conn.*, 131 S. Ct. 2527 (2011) (holding that federal nuisance law was displaced in favor of the Environmental Protection Agencies' (EPA's) regulation of greenhouse gases (GHGs) under the CAA).

4. *Mass. v. EPA*, 549 U.S. 497 (2007); *see also* Transcript of Oral Argument at 22, *Mass. v. EPA*, 549 U.S. 497 (2007) (No. 05-1120) (quoting Justice Scalia: "But I always thought an air pollutant was something different from a stratospheric pollutant, and your claim here is not that the pollution of what we normally call "air" is endangering health. That isn't, that isn't—your assertion is that after the pollutant leaves the air and goes up into the stratosphere it is contributing to global warming.").

5. For a treatment of the future of climate change litigation, including the procedural histories of the cases mentioned in this article, *see generally*

this paper will discuss the evolving legal posture of climate liability law by summarizing the long timescale of climate change's awareness; reviewing a selection of the leading climate liability cases involving emitters, specifically *Massachusetts v. EPA*⁶ and the recent modifying case of *Utility Air Group v. EPA*;⁷ *Connecticut v. American Electric Power*;⁸ *Native Village of Kivalina v. ExxonMobil*;⁹ and finally assessing the impact of climate change litigation on the insurer by presenting the Supreme Court of Virginia case of *AES v. Steadfast*.¹⁰

The second part of this paper examines the insurance industry's response to this evolving legal environment, drawing from policy and the diverse public image presented by insurance companies as they relate to this evolving risk category.

II. CLIMATE CHANGE LITIGATION

A. A Brief History of Climate Change Awareness and Emissions

A well-documented rise in global temperatures has coincided with a significant increase in the concentration of carbon dioxide in the atmosphere. Respected scientists believe the two trends are related. For when carbon dioxide is released into the atmosphere, it acts like the ceiling of a greenhouse, trapping solar energy and retarding the escape of reflected heat. It is therefore a species—the most important species—of a “greenhouse gas.”¹¹

These words begin the *Massachusetts v. EPA* opinion,¹² the Supreme Court's most complete statement on the law's response to GHG emissions and their effect on Earth's climate. Justice Stevens' opening recognizes a relationship that the scientific community has long understood: that rising atmospheric carbon dioxide (CO₂) from anthropogenic sources could have a significant, disruptive impact on our climate. Scientists began wrestling with this fact almost 200 years before the *Massachusetts* decision.

In the 1820s Joseph Fourier was troubled by a simple thermodynamic calculation—the earth's warm temperature could not be explained by the sun's daily energy transferred to Earth and the subsequent radiant heat loss back out to space.¹³ The explanation behind this observation remained a mystery until decades later, when John Tyndall discovered that certain gases

Michael B. Gerrard & Joseph A. MacDougald, *An Introduction to Climate Change Liability and a View to the Future*, 20 CONN. INS. L. J. 153 (2013) (discussing emerging trends in climate change liability).

6. 549 U.S. 497 (2007).

7. *Utility Air Regulatory Group v. EPA*, 573 U.S. ___, 134 S. Ct. 2427 (2014).

8. 131 S. Ct. 2527 (2011).

9. 696 F.3d 849 (9th Cir. 2012), *cert denied* 133 S. Ct. 2390 (2013).

10. 283 Va. 609 (2012).

11. *Mass. v. EPA*, 549 U.S. at 504.

12. *Id.*

13. SPENCER WEART, *THE DISCOVERY OF GLOBAL WARMING* 2-3 (2003).

might be transparent to visible light, but relatively opaque (or insulating) as to infrared radiation.¹⁴ CO₂ is one of the GHGs that serve as a barrier or insulator to heat. Yet a full understanding of the greenhouse effect would wait until just before the dawn of the twentieth century, when Svante Arrhenius, a future Nobel Laureate, would put the pieces together and correctly identify the greenhouse effect.¹⁵ Arrhenius explained the ice age by drops in our atmosphere's concentration of GHGs.¹⁶ Looking into the future, he hypothesized that the Industrial Revolution's growing CO₂ emissions from smokestacks would one day warm the earth.¹⁷ Arrhenius viewed this as potentially positive, discussing expanded agriculture.¹⁸

The predicted build-up of atmospheric GHGs only took on a menacing characteristic with the multi-decade development of the now famous "Keeling Curve." Scientist Charles David Keeling began periodically sampling the atmosphere from an observatory on the big island of Hawaii in the 1950s.¹⁹ His carefully controlled sampling revealed the relentless upward staircase-climb of our global atmosphere's CO₂ concentration.²⁰ Keeling's work, which began in the middle of the twentieth century, visually demonstrates to policy makers that the expanding CO₂-concentration graph rose from 300 parts per million (ppm) to 350 ppm to over 400 ppm.²¹

14. *Id.* at 3.

15. *Id.* at 5-7.

16. *Id.*

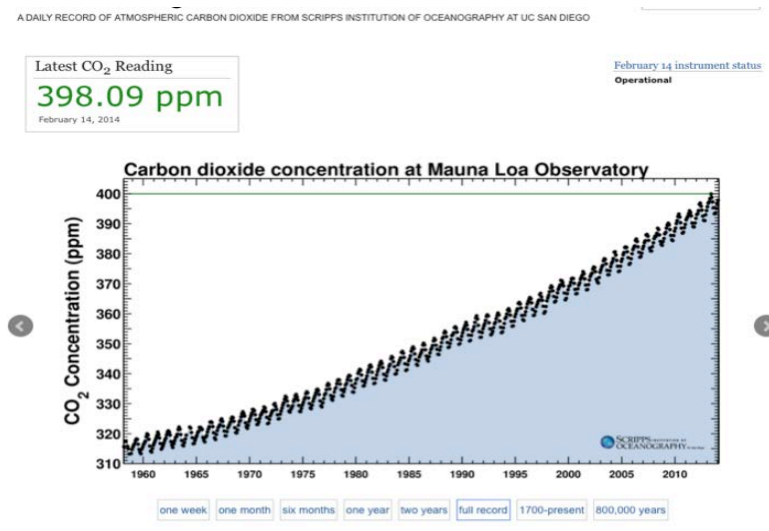
17. *Id.*

18. *Id.* at 7. "Arrhenius, like nearly everyone at the end of the nineteenth century, expected any technological change would be for the best."

19. *Id.* at 35. "[Keeling] set [a CO₂ measuring instrument] up atop the volcanic peak Mauna Loa in Hawaii, surrounded by thousands of miles of clean ocean, one of the best sites on Earth to measure the undisturbed atmosphere."

20. See David Hunter & James Salzman, *Negligence in the Air: The Duty of Care in Climate Change Litigation*, 155 U. PA. L. REV. 1741, 1771 (2007) (discussing tort litigation re: climate change issues); see generally WEART, *supra* note 12 (tracing the development of global warming scientific inquiry).

21. Justin Gillis, *Heat-Trapping Gas Passes Milestone, Raising Fears*, N.Y. TIMES (May 10, 2013), available at www.nytimes.com/2013/05/11/science/earth/carbon-dioxide-level-passes-long-feared-milestone.html?pagewanted=all&_r=0 (stating, "It symbolizes that so far we have failed miserably in tackling this problem," said Pieter P. Tans, who runs the monitoring program at the National Oceanic and Atmospheric Administration that reported the new [400 ppm CO₂ atmospheric concentration] reading").

Figure 1. The Keeling Curve: Daily Atmospheric CO₂²²

As the phenomena of growing GHG concentrations gained broader acceptance and study, attention turned toward potentially catastrophic consequences of a warming globe. Over fifty-five years ago, in Frank Capra's film *Unchained Goddess*,²³ which is quaint by today's standards, the narrator warned that CO₂ emissions will change our climate, melting the glaciers and causing sea levels to rise.

Moving from entertainment and theorizing to careful scientific review, the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) and other organizations have documented the complex and various possible negative consequences of anthropogenic, or man-made, climate change.²⁴ Such consequences include sea level rise, more powerful storms, dislocated weather patterns of excess snowfall and drought, and human issues such as health effects and the creation of climate refugees.²⁵

22. SCRIPPS INSTITUTION OF OCEANOGRAPHY, <http://keelingcurve.ucsd.edu> (last visited Feb. 14, 2014).

23. THE UNCHAINED GODDESS (Frank Capra Productions 1958).

24. See UN IPCC, Fifth Assessment, Summary for policy makers, www.ipcc.ch/report/ar5/wg1/docs/WGIAR5_SPM_brochure_en.pdf for meteorological effects. See UN IPCC, Managing the Risks of Extreme Events and Disasters to Advance Climate Adaptation, Summary for Policy Makers 92012), p. 5 et seq. for a discussion of the health effects and mitigation steps. www.ipcc.wg2.gov/SREX/images/uploads/SREX-SPMbrochure_FINAL.pdf.

25. See Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the IPCC, 1, 2-10 (Thomas F. Stocker et. al eds., 2013), available at www.ipcc.ch/report/ar5/wg1/docs/WGIA R5_SPM_brochure_en.pdf (highlighting certain meteorological effects of global warming); see also UN IPCC, Managing the Risks of Extreme Events and Disasters to Advance Climate Adaptation, Summary for Policy Makers, 1, 5 et seq. (2012), available at www.ipcc-wg2.gov/SREX/images/uploads/SREX-SPMbrochure_FINAL.pdf (discussing health effects and possible mitigation steps).

The U.S. litigation system has found a basis to seek relief when there is science defining a harm, a potentially harmed class of victims, and a traceable cause. This has significant consequences for the insured and insurers alike.

B. The Rise of Climate Liability and Insurance Litigation

Climate change litigation can arise in many contexts.

Though climate related litigation exists in other countries, more climate change cases have been brought in the United States than in the rest of the world combined, and the United States stands alone in seeing significant litigation that seeks to hold greenhouse gas (GHG) emitters liable for the harms caused by climate change.²⁶

Environmental groups frequently challenge governmental action through the National Environmental Policy Act.²⁷ Opponents to climate change policy have used the Freedom of Information Act (FOIA) and similar acts to require climatologists, academics, and scientists, particularly those attached to state universities or federal departments, to turn over emails and other information to public scrutiny.²⁸ Similarly, environmental advocacy groups have sought to compel the EPA to regulate on behalf of the Endangered Species Act or the Clean Water Act.²⁹

Of particular relevance for this discussion is the line of cases that, taken together, discuss the role of the CAA versus federal nuisance law as a vehicle addressing climate change harm liability. Three cases, spanning a time frame from 2007 until 2013, reveal the Supreme Court's view of how climate liability is to be assessed: *Massachusetts v. EPA*,³⁰ (as modified by *Utility Air Regulatory Group*

26. Gerrard, *supra* note 5, at 153. Specifically, COLUMBIA LAW SCH. CENTER FOR CLIMATE CHANGE, <http://web.law.columbia.edu/climate-change/resources/non-us-climate-change-litigation-chart> (last visited Mar. 28, 2014) (providing multiple charts describing non-U.S. climate litigation). RICHARD LORD ET AL., CLIMATE CHANGE LIABILITY: TRANSNATIONAL LAW AND PRACTICE (Cambridge Univ. Press 2012).

27. *See, e.g.,* Ctr. for Biodiversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1200 (stating, "NHTSA's reasoning is arbitrary and capricious for several reasons. First, while the record shows that there is a range of values, the value of carbon emissions reduction is certainly not zero. NHTSA conceded as much during oral argument when, in response to questioning, counsel for NHTSA admitted that the range of values begins at \$3 per ton carbon. NHTSA insisted at argument that it placed no value on carbon emissions reduction rather than zero value. We fail to see the difference.").

28. *See* Cuccinelli v. Univ. of Va., 283 Va. 4210 (2012) (holding Virginia attorney general's Civil Investigative Demand for information was not applicable to the university); *see also* Am. Trad. Inst. v. Univ. of Va., 130934 Va. 1 (2014) (employing FOIA in a companion case before the Virginia Supreme Court).

29. Letter from the Center for Biological Diversity to the EPA (July 23, 2013), available at www.epa.gov/ogc/NOIdocuments/NoticeEPAWAOR303d2013.pdf (providing an example of one attempt to compel the EPA to act).

30. *See generally* Mass. v. EPA, 549 U.S. 497.

v. EPA in June 2014), *Connecticut v. American Electric Power*,³¹ and *Native Village of Kivalina v. ExxonMobil*.³² Of particular importance here is the case whose final disposition is the most recent: *Kivalina v. ExxonMobil*. The *Kivalina* case led to a dispute, ultimately resolved by the Supreme Court of Virginia, between an insured and the insurer regarding whether the harm alleged by the Inupiat tribe in the Native Village of Kivalina was the type appropriately covered by a Commercial General Liability (CGL) Policy.³³

1. Massachusetts v. EPA

Massachusetts v. EPA is the seminal case for climate law and the CAA. Brought on behalf of several states and other interested parties, the case sought to compel the EPA to regulate CO₂ from mobile sources as a pollutant within the meaning of the CAA. The EPA argued that it did not have authority to regulate due to many considerations, including the Bush Administration's negotiations with developing countries.³⁴

Justice Stevens noted in the opinion that "EPA does not dispute the existence of a causal connection between man-made greenhouse gas emissions and global warming. At a minimum, therefore, EPA's refusal to regulate such emissions 'contributes' to Massachusetts' injuries."³⁵ These injuries included loss of shoreline.

EPA no doubt has significant latitude as to the manner, timing, content, and coordination of its regulations with those of other agencies. But once EPA has responded to a petition for rulemaking, its reasons for action or inaction must conform to the authorizing statute. Under the clear terms of the Clean Air Act, EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do.³⁶

The Court ultimately endorsed the CAA as being responsive to GHGs.³⁷ Subsequent to this ruling, the EPA made an endangerment finding under the CAA; specifically the EPA found that CO₂ is a danger to the public health and welfare, making CO₂ a regulated pollutant under the CAA's authority to regulate mobile

31. See generally *Am. Elec. Power*, 131 S. Ct. 2527.

32. See generally *Kivalina*, 696 F.3d 849.

33. This article will discuss the liability and insurance implications of these cases. See generally Gerrard, *supra* note 5 (providing a more detailed case summary as well as additional procedural insight).

34. See Gerrard, *supra* note 5, at 155 (stating "The Agency's rationale was based on several considerations, including, among others, the assertion that since GHG emissions were the subject of international negotiations by the Executive Branch, regulatory development by the EPA would disrupt these delicate, international proceedings.").

35. *Mass v. EPA*, 549 U.S. at 523.

36. *Id.* at 533.

37. *Id.*

sources and, by extension, stationary sources.³⁸ While many other cases involving climate claims had been dismissed under the political question doctrine or on other grounds, indicating the courts were choosing not to engage in the climate change debate, *Massachusetts v. EPA* suggested that judicial rulings by the US Supreme Court were possible.

In July 2014, the Supreme Court revisited and clarified the *Mass. v. EPA* holding in the case of *Utility Air Regulatory Group v. EPA*.³⁹ In implementing the *Mass. v. EPA* decision, the EPA reasoned that if GHGs are “air pollutants” under the mobile sources portion of the CAA, then the Court’s decision must “trigger” an obligation to regulate GHGs under the stationary sources portion of the CAA.⁴⁰ Trying to avoid massively expanding the reach of CAA’s regulated base, the EPA issued a “tailoring rule” to increase the limits of GHG emissions that would require CAA compliance.⁴¹

In a holding that was considered by many to be a vindication of EPA’s regulatory approach,⁴² the Court, in a 7-2 ruling, upheld EPA’s regulation of GHGs from those sources whose control technologies were already being regulated for other reasons under the CAA, so-called “anyway sources,” but in a portion of the decision that divided 5-4, the Court held that a stationary source could not be regulated *solely* due to its GHG emissions.⁴³

38. See generally Patricia Ross McCubbin, *EPA’s Endangerment Finding for Greenhouse Gases and the Potential Duty to Adopt National Ambient Air Quality Standards to Address Global Climate Change*, 33 S. ILL. U. L.J. 437 (2009).

39. *Utility Air Regulatory Group v. Environmental Protection Agency*, 573 US __, 134 S. Ct. 2427 (2014) (hereinafter UARG).

40. *Id.* “EPA issued its ‘final decision’ regarding the prospect that motor-vehicle greenhouse-gas standards would trigger stationary-source permitting requirements” (hereinafter Triggering Rule).

41. *Id.* “EPA announced that beginning on the effective date of its greenhouse-gas standards for motor vehicles, stationary sources would be subject to the PSD program and Title V on the basis of their potential to emit greenhouse gases. ... EPA then announced steps it was taking to ‘tailor’ the PSD program and Title V to greenhouse gases. ... Those steps were necessary, it said, because the PSD program and Title V were designed to regulate ‘a relatively small number of large industrial sources,’ and requiring permits for all sources with greenhouse-gas emissions above the statutory thresholds would radically expand those programs, making them both unadministrable and ‘unrecognizable to the Congress that designed’ them.”

42. See Adam Liptak, *Justices Uphold Emissions Limits on Big Industry*, *N.Y. Times*, June 23, 2014. “In a big win for environmentalists, the Supreme Court on Monday effectively endorsed the Obama administration’s efforts to regulate greenhouse gas emissions from sources like power plants, even as it criticized what it called the administration’s overreaching.”

43. *Id.* at 2449. “We hold that EPA exceeded its statutory authority when it interpreted the Clean Air Act to require PSD and Title V permitting for stationary sources based on their greenhouse-gas emissions. Specifically, the Agency may not treat greenhouse gases as a pollutant for purposes of defining a ‘major emitting facility’ (or a ‘modification’ thereof) in the PSD context or a ‘major source’ in the Title V context. To the extent its regulations purport to do

Having dispatched this fundamental challenge to the *Mass v. EPA* rationale, the Court confirmed that the CAA exists as a primary vehicle to address climate change. However, at the time of the *Mass* ruling, several questions remained unanswered as to whether or not the CAA was the exclusive path at law to for the injured to seek redress from or to change the behavior of GHG emitters.

2. Connecticut v. AEP

Following *Massachusetts v. EPA*, the collection of states comprising the plaintiffs in *Connecticut v. AEP* argued that while as a statutory scheme, the CAA may exist to address GHGs, principles of federal nuisance law could allow a collection of states to seek injunctive relief against the emitters. The states that brought the action believed that while EPA may have the ability to regulate under the CAA and issue an endangerment finding, that until EPA actually regulates, the injunctive power of federal common law nuisance was still available to them.⁴⁴ The Court, having just supported the CAA as their regulatory vehicle for addressing GHG emissions, was not eager to open up an entire new enforcement regime in the judiciary through federal nuisance law. “The plaintiffs argue, as the Second Circuit held, that federal common law is not displaced until EPA actually exercises its regulatory authority, *i.e.*, until it sets standards governing emissions from the defendants’ plants. We disagree.”⁴⁵ Noting that Congress created the CAA with a purposeful and deliberative decision-making path before regulating a pollutant, the unanimous Court held:

Indeed, this prescribed order of decision making—the first decider under the Act is the expert administrative agency, the second, federal judges—is yet another reason to resist setting emissions standards by judicial decree under federal tort law. The appropriate amount of regulation in any particular greenhouse gas-producing sector cannot be prescribed in a vacuum: as with other questions of national or international policy, informed assessment of competing interests is required. Along with the environmental benefit potentially achievable, our Nation’s energy needs and the possibility of economic disruption must weigh in the balance.⁴⁶

This 2011 decision dismissing the complaint held that the regulation of GHGs was in the hands of the EPA, reinforcing

so, they are invalid. EPA may, however, continue to treat greenhouse gases as a ‘pollutant subject to regulation under this chapter’ for purposes of requiring BACT for ‘anyway’ sources. The judgment of the Court of Appeals is affirmed in part and reversed in part.”

44. See Gerrard, *supra* note 5, at 159. “As Connecticut had been the only GHG nuisance law case to be decided by the Supreme Court, and in that case plaintiffs sought only injunctive relief, the Kivalina plaintiffs hoped their case was distinguishable since it claimed money damages instead.”

45. *Conn. v. AEP*, 131 S. Ct. at 2538.

46. *Id.* at 2539.

Massachusetts v. EPA.⁴⁷3. *Native Village of Kivalina v. ExxonMobil Corporation*

Kivalina is an Alaskan village occupying some four square miles on the tip of a barrier island and is largely populated by the federally recognized tribe of Inupiat Native Alaskans.

Kivalina's survival has been threatened by erosion resulting from wave action and sea storms for several decades . . . The villagers of Kivalina depend on the sea ice that forms on their coastline in the fall, winter, and spring each year to shield them from powerful coastal storms. But in recent years, the sea ice has formed later in the year, attached later than usual, broken up earlier than expected, and has been thinner and less extensive in nature. As a result, Kivalina has been heavily impacted by storm waves and surges that are destroying the land where it sits. Massive erosion and the possibility of future storms threaten buildings and critical infrastructure in the city with imminent devastation. If the village is not relocated, it may soon cease to exist. [In its lawsuit], Kivalina attributes the impending destruction of its land to the effects of global warming, which it alleges results in part from emissions of large quantities of greenhouse gases by the Energy Producers.⁴⁸

Kivalina sued numerous emitters of GHGs including the AES Corporation, an owner-operator of many energy businesses including power generation from coal-fired power plants.⁴⁹ The lawsuit asked for monetary damages to relocate the native population. The Army Corps of Engineers had recommended evacuation and indicated the expense would be substantial.⁵⁰ Unlike in *Connecticut*, where the plaintiff state sought injunctive relief, the *Kivalina* plaintiffs sought only monetary damages. "As *Connecticut* had been the only GHG nuisance law case to be decided by the Supreme Court, and in that case plaintiffs sought only injunctive relief, the *Kivalina* plaintiffs hoped their case was distinguishable since it claimed money damages instead."⁵¹ The Ninth Circuit, however, dismissed the case on the grounds that, "the Supreme Court has held that federal common law addressing

47. *Id.*

48. *Native Vill. of Kivalina v. ExxonMobile Corp.*, 696 F.3d 849, 853 (9th Cir. 2012).

49. See AES Annual Report, 1, 14 (2012), available at <http://investor.aes.com/phoenix.zhtml?c=76149&p=irol-reportsAnnualArchive#2012> (stating, "We currently own and/or operate a generation portfolio of approximately 31,000 MW, excluding the generation capabilities of our integrated utilities. Our generation fleet is diversified by fuel type. As a percentage of installed capacity, coal and natural gas each account for 36% and 35%, respectively, of our generating capacity. Renewables, primarily hydro, wind and solar, represent 25% of our generating capacity and oil, diesel and petroleum coke comprise the rest.").

50. U.S. Army Corps of Eng'rs, *Alaska Vill. Erosion Tech. Assistance Program*, 1, 4-5, 23 (2006), www.housemajority.org/coms/cli/AVETA_Report.pdf.

51. Gerrard, *supra* note 5, at 159 (citations omitted).

domestic greenhouse gas emissions has been displaced by Congressional action. That determination displaces federal common law public nuisance actions seeking damages, as well as those actions seeking injunctive relief.”⁵² The Supreme Court denied certiorari in May 2013.⁵³

Combined, these three cases demonstrate the Court’s clear direction that the liability and regulation of GHGs is directed through the CAA, displacing federal common law claims.

C. AES v. Steadfast—First Impressions of Climate Law and Liability Insurance

While the questions of ultimate liability and regulation were being resolved in the federal courts, another climate case was making its way through the Virginia state court system. As discussed *supra*, the *Kivalina* plaintiffs had sought recovery from the AES Corporation as one of the energy providers. When sued, AES notified Steadfast Insurance Company, who had provided CGL insurance for several years during the period *Kivalina* was alleging that AES harmed them through GHG emissions. Steadfast filed a declaratory judgment action, stating that it did not owe a defense to AES for three reasons:

- (1) the Complaint did not allege “property damage” caused by an “occurrence,” which was necessary for there to be coverage under the policies; (2) any alleged injury arose prior to the inception of Steadfast’s coverage; and (3) the claims alleged in the Complaint fell within the scope of the pollution exclusion stated in AES’s policies.⁵⁴

The Supreme Court of Virginia applied its traditional “eight corners rule” to determine whether Steadfast had a duty to defend AES in the *Kivalina* litigation. The court stated:

Both AES and Steadfast agree that it is a well-established principle, consistently applied in this Commonwealth, that only the allegations in the complaint and the provisions of the insurance policy are to be considered in deciding whether there is a duty on the part of the insurer to defend and indemnify the insured. This principle is commonly known as the “eight corners rule” because the determination is made by comparing the “four corners” of the underlying complaint with the “four corners” of the policy, to determine whether the allegations in the underlying complaint come within the coverage provided by the policy.⁵⁵

Steadfast asserted three coverage defenses, though the Virginia Supreme Court focused on only one, whether the consequences of emitting GHGs were an “occurrence” under the

52. *Kivalina*, 696 F.3d at 858.

53. See UNITED STATES SUPREME COURT, ORDER LIST: 569 U.S. 1 (2013), www.supremecourt.gov/orders/courtorders/052013zor_m6io.pdf (denying certiorari without the participation of Justice Alito).

54. *AES v. Steadfast Ins. Corp.*, 725 S.E.2d 532, 533 (Va. 2012).

55. *Id.* at 535 (citations omitted).

policies. For coverage to be triggered, the occurrence could not have been a foreseeable consequence of GHG emissions, but instead an accident or unintended consequence. In their analysis of the policies, the Virginia Supreme Court stated:

[t]he relevant policies provide coverage for damage resulting from an “occurrence,” and define an occurrence as “an accident, including continuous or repeated exposure to substantially the same general harmful condition.” The terms “occurrence” and “accident” are “synonymous and . . . refer to an incident that was unexpected from the viewpoint of the insured.” [The Virginia Supreme Court had previously] held that an “accident” is commonly understood to mean “an event which creates an effect which is not the natural or probable consequence of the means employed and is not intended, designed, or reasonably anticipated.” An accidental injury is one that “happen[s] by chance, or unexpectedly; taking place not according to the usual course of things; casual; fortuitous.”⁵⁶

The Virginia court noted that when the action was intentional but the consequences were accidental then, “the dispositive issue in determining whether an accidental injury occurred is not whether *the action* undertaken by the insured was intended, but rather whether *the resulting harm* is alleged to have been reasonably anticipated or the natural or probable consequence of the insured’s intentional act.”⁵⁷ Thus, insurance coverage turned on one question: could the climate change consequences of GHG emissions have been reasonably anticipated by AES?

To solve this problem, the Virginia court did not need to look at the long history of climate change science, although Kivalina brought its lawsuit against the backdrop of the scientific background mentioned at the beginning of this article. Instead, adhering to its “eight corners” analysis, the Virginia Supreme Court noted that the entire Kivalina allegation was for intentional harm, and AES knew or should have known of the consequences of its emissions. Specifically:

Where the harmful consequences of an act are alleged to have been not just possible, but the natural or probable consequences of an intentional act, choosing to perform the act deliberately, even if in ignorance of that fact, does not make the resulting injury an “accident” even when the complaint alleges that such action was negligent. . . . Even if AES were actually ignorant of the effect of its actions and/or did not intend for such damages to occur, Kivalina alleges its damages were the natural and probable consequence of AES’s intentional actions. Therefore, Kivalina does not allege that its property damage was the result of a fortuitous event or accident, and such loss is not covered under the relevant CGL policies.⁵⁸

AES v. Steadfast is the only state supreme court decision

56. *Id.* at 536 (citations omitted).

57. *Id.* (citations omitted, emphasis from the original).

58. *Id.* at 538 (citations omitted).

directly applying climate change claims to a liability policy.⁵⁹ However, it may have little precedential power. The decision is based on a constricted view of “occurrence” and “accident” that, as the concurrence notes, could eliminate coverage for garden-variety negligence claims⁶⁰ and may not be adopted by other courts considering climate change liability. Perhaps more important, the court did not need to evaluate the pollution exclusions in the policies, which could provide firmer and more widely accepted grounds for excluding such claims.⁶¹ Finally, liability insurers can also modify their policy language to specifically exclude liability against policyholders arising from climate change claims, though state insurance regulators typically have the authority to review new policy forms and endorsements and perhaps to exclude their use.

For now, some questions appear answered in the evolving field of climate law. Now thrice-reinforced, the Supreme Court has made it clear that Congress intended CAA’s statutory scheme to be the legal source to address climate change. Barring congressional action, emitters are unlikely to be subject to liability or injunctive relief under federal law outside CAA. However, other regulatory approaches are being constantly urged upon the judiciary and the EPA through CAA, the Endangered Species Act, and others. None of these alternatives have faced any substantial court challenge.

Climate change is complex. There are many effects, some of which could lead to claims that are viable under state law. *Kivalina* was concerned with sea level rise,⁶² but what of claims for drought, shellfish population decimation, or enhanced storms? These scientific areas may not have been as predictable several years ago, a fact that could affect both liability for damages and the applicability of insurance coverage for such claims. Our weather systems are complex and so are the unintended and unforeseen consequences of changing a planet’s climate. New information appears to emerge almost daily.

III. INSURERS & CLIMATE CHANGE

A. *Why Insurers Are Involved*

Insurance companies are engaged with climate change as

59. *AES*, 725 S.E.2d at 532.

60. *Id.* at 538-539. Interpretation of an insurance contract is a matter of state law and there can be significant variation in how state courts address similar insurance policy language. *Id.*

61. Steadfast’s appeal brief cites this pollution exclusion: “[this policy does not apply to damages] arising out of the actual, alleged, or threatened discharge, dispersal, release or escape of ‘pollutants.’” “Pollutants” are “any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste.” (record citations deleted). *The AES Corporation, Appellant, v. Steadfast Insurance Company, Appellee*, 2010 WL 6893536 (Va.), 5-6.

62. *Kivalina*, 696 F.3d at 849.

corporate actors, as investors, and as insurers of risks. Insurers own and rent large amounts of real estate, and for those operating nationally and internationally, branches throughout the country and world. As landlords and tenants, insurers are subject to most types of weather and climate related risks, including hurricanes, earthquakes, tornadoes, blizzards, hail, and of course floods. The industry employs millions, purchases and consumes energy, and holds itself out as a “green” actor.⁶³ Whether organized as a stock company or a mutual owned (theoretically) by its policyholders, insurers are corporations also responsible to their stockholders, policyholders, reinsurers, private rating agencies, as well as government regulators in every jurisdiction they do business in. Insurers collect vast sums of money from premiums that must be reserved and conservatively invested so that the promise of insurance, paying claims lawfully owed, is upheld even when those claims come due years and sometimes many decades after the policy was issued. Insurers are major investors in government bonds, stocks and real estate generally⁶⁴ and this role provides both opportunities to influence development to adapt to climate change, as well as financial risks for failing to do so.

However, it is insurers’ business in underwriting risks that places them in a different role than most other corporate actors. Companies insure commercial and residential properties near oceans and rivers, on earthquake fault lines, and in areas subject to all forms of weather-related risks.⁶⁵ While property insurance may pose the greatest underwriting risk, liability insurance, life and health insurance and workers’ compensation can also be affected by climate change. Insurers utilize historical loss patterns and weather modeling to help set rates (premiums).⁶⁶ Climate change challenges these calculations by both increasing the number and severity of weather-related losses and by adding considerable uncertainty as to where and how these losses will develop. Insurers theoretically have the tools to manage some of this uncertainty, but scientific, regulatory and market constraints also limit their abilities to do so.

The insurance industry’s economic interests and capabilities

63. See, e.g., websites for Allstate, USAA, and The Hartford, *infra* notes 55-63.

64. See INSURANCE INFORMATION INSTITUTE, *A Firm Foundation: How Insurance Support the Economy*, available at www2.iii.org/firm-foundation/introduction/to-the-reader.html (describing that in 2012 the insurance industry held \$7 trillion in invested assets and cash; the majority of investments was held in bonds, with government-related bonds the majority of the bond portfolio).

65. However, not all potentially catastrophic events are natural. Chemical, nuclear and biological hazards are risks that are not necessarily insurable, and insuring against acts of terrorism has required a government role to maintain a private insurance market. See, e.g., Terrorism Risk Insurance Program Reauthorization Act of 2007, Pub. L. No. 110–160, 121 Stat 1839.

66. See, e.g., CHRISTINA M. CARROLL ET AL., CLIMATE CHANGE AND INSURANCE, 135-37 (2012).

can enable it to contribute to climate change adaption in several important ways. First, as well-funded private actors, insurers can participate in research on mitigation strategies (e.g., hurricane-resistant buildings),⁶⁷ educate their policyholders and the public generally, and as part of their extensive lobbying activities, advocate at the state, federal and international levels public for adaption policies such as up-to-date building codes and environmental and zoning laws limiting building in particularly sensitive areas. Insurers do this now, though with significant variations in how they present to the public.⁶⁸

As underwriters, insurers assess, categorize and price risk for policyholders. Their decisions on whether to insure, and if so at what price and with what limitations, provide powerful economic incentives for policyholders to modify their actions in socially desirable ways.⁶⁹ For example, a property insurer might increase or decrease a premium based on the building design and materials used to construct it (e.g., if it incorporate the latest in hurricane and wind-resistant roofing, windows and doors), its proximity to flood waters, and the existence and sophistication of its emergency management and business interruption planning.⁷⁰ Or, an insurer might refuse to insure a structure altogether, because of its location, inadequate construction, or repeated loss history. In some instances, the private market's refusal to insure specific risks or industries can mean the creation of a government-sponsored insurance program, such as a state windstorm program⁷¹ or the federal National Flood Insurance Program (NFIP).⁷²

67. See, e.g., THE INSURANCE INSTITUTE FOR BUSINESS AND HOME SAFETY, www.disastersafety.org (last visited Mar. 30, 2014).

68. See *infra* Section II C (discussing such variations).

69. See, e.g., Tom Baker and Rick Swedloff, *Regulation by Liability Insurance: From Auto to Lawyers Professional Liability*, 60 UCLA L. REV. 1412, 1416-27 (2013) (explaining there is a large volume of literature from multiple disciplines on the role of insurance as a "private regulator"); RICHARD V. ERICSON, AARON DOYLE & DEAN BARRY, *INSURANCE AS GOVERNANCE*, Ch. 2 (2003).

70. Standard commercial property insurance covers "business interruption" losses as well as the costs of repairing or replacing physical structures. Business interruption insurance covers continuing expenses that must be paid despite the temporary cessation of business, as well as net profit. This coverage can be the largest source of insurer claim payments when the physical damage is largely to commercial rather than residential structures. See, e.g., CLIMATE CHANGE AND INSURANCE, *supra* note 59, at 137.

71. See, e.g., CITIZENS PROPERTY INSURANCE CORPORATION, www.citizensfla.com/index.cfm (last visited Mar. 30, 2014) (indicating that Florida's Citizens Property Insurance Corp. serves as a residual market for a large number of residential properties).

72. 42 U.S.C. § 4001, et. seq. (2012). The NFIP is within the Department of Homeland Security and under the Federal Emergency Management Agency (FEMA). Government-sponsored insurance programs may serve as the primary insurer of a specific risk (e.g., flood coverage for residential and small business properties), or as a supplement or reinsurer to the private insurance market (e.g., the Terrorism Risk Insurance Act, *supra* note 41). *Id.*

B. Insurance and Public Policy

Insurers' flexibility is limited not only by competitive pressures and scientific uncertainty, but also by operating in a complex regulatory environment that can inhibit their ability to utilize risk-based pricing with insureds who are susceptible to weather events and the effects of climate change. States, rather than the federal government, regulate most areas of property, casualty, and life insurance.⁷³ Individual states have great latitude in regulating insurance rates, the types and forms of coverage, and insurers' relationships with their policyholders, including limitations on canceling or non-renewing policies.⁷⁴ Insurance is also not only a desirable product for property owners; it is often a prerequisite, as lenders require property insurance on mortgaged properties throughout the loan period.⁷⁵ Public and political pressure may cause insurance regulators to limit rates where insurance is required, such as in homeowners, auto, and workers' compensation lines.⁷⁶ Catastrophic events often bring these pressures to the forefront, as happened after Hurricanes Katrina (2005) and Sandy (2012), with political and regulatory struggles as insurers attempted

73. While the federal government has had clear constitutional authority to regulate insurance since 1944 (*See* U.S. v. S.E. Underwriters Ass'n, 322 U.S. 533, 552-53 (1944) (defining insurance as interstate commerce), it has specifically declined to exercise this authority in most areas of insurance. *See* 15 U.S.C. § 1011 (2012) (stating in the preamble of the 1945 McCarran-Ferguson Act that state insurance regulation "is in the public interest"). The U.S. is one of the few nations in the world with a mature insurance market that regulates insurance primarily at the regional rather than federal level. This regulatory structure (or lack thereof) creates both challenges and opportunities for insurers in addressing climate change issues. *See, e.g.,* RESEARCH HANDBOOK ON INTERNATIONAL INSURANCE LAW AND REGULATION, 226-27, 656-61 (Edward Elger, 2011); Chapter 10; Susan Randall, *Insurance Regulation in the United States: Regulatory Federalism and the national Association of Insurance Commissioners*, 26 FLORIDA ST. U. L. REV. 625 (1999).

74. The degree of rate and form regulation varies by state, though personal lines insurance (homeowner and auto) is more regulated than commercial lines, including commercial property. *See supra* note 61.

75. In addition to insuring property, insurance acts a gatekeeper for individuals and companies desiring to engage in a variety of activities, including driving, operating a business (workers' compensation and now health insurance), engaging in certain professions (states often require liability insurance for doctors, lawyers, insurance agents, and other occupations), thus its description or term as a "private regulator."

76. G.A.O., *National Disasters: Public Policy Options for Changing the Federal Role in Natural Catastrophe Insurance*, 11-14 (GAO-08-07, Nov. 2007). Rate regulation—or "suppression"—is not necessarily inappropriate, as the decisions on insurance access and affordability can determine who can own property and where, who can drive, or who can provide for their family in the event of death or disability. Regulating rates and risk classifications allows government the option of subsidizing premiums to the benefit of one risk class, and possible detriment to others, and to determine what risks should be borne by society as a whole. These are or should be political (public policy) decisions and not determined solely by market forces.

to raise rates and limit exposure to hurricane-prone properties and property owners fighting to keep insurance affordable.

Regardless of the wisdom of regulating the rates and terms of an insurance contract, doing so often limits or eliminates the benefits of risk-based pricing. If insurers cannot charge an actuarially accurate premium for a home located on the Gulf Coast, or the New Jersey shore, then the policyholder is not bearing the full insurance cost of the risk.⁷⁷ This allows the policyholder to make decisions, such as where to locate property and which costs are partially paid for by others,⁷⁸ and can encourage more development in risk-prone areas than a full risk-based premium would. The political and legal debate surrounding the 2012 amendments to the federal NFIP⁷⁹ that attempted to eliminate subsidized rates for residences and small businesses, and the March 2014 legislation that partially repealed them,⁸⁰ demonstrates the challenges of allowing risk-based premiums to fully operate.⁸¹ The cost of insurance can be a powerful incentive in directing private economic decisions that can aid in climate change adaptation and mitigation, such as how and where to build. Legal restrictions on insurance rates may reflect an explicit public policy determination to spread certain risks, but also should be viewed as an obstacle to utilizing insurance as a private regulatory tool to mitigate some of the effects of climate change.

C. Climate Change and Insurers' Public Face

Insurers have ample reason to closely follow climate change science and predictions for increased flooding, storms and other weather-related events. However, how individual insurers publicly communicate their awareness of climate change varies greatly.

77. HOWARD C. KUNREUTHER AND ERWANN O. MICHEL-KERJAN, AT WAR WITH THE WEATHER, 25-27 (2009). An "actuarially accurate premium" is itself an area of dispute between insurers and policyholders, with regulators authorized in many states to determine the appropriate rate (subject to appeal to the courts). The growing complexity and sophistication of risk modeling poses major challenges for regulators who may not have full access to the models or the technical staff to evaluate them. This topic needs greater attention, but not in this paper.

78. *Id.* And, since insurers spread risk and losses over the long term rather than absorbing them, other policyholders rather than the insurance industry subsidize these property owners.

79. Biggert-Waters Flood Insurance Reform Act of 2012, Pub. L. No. 112-141, Div. F, Title II, Subtitle A, § 100201, 126 Stat. 916 (2012).

80. See note [112], *infra*.

81. A subsidized NFIP is not by definition a bad choice, if our public policy is to spread the risk of flood loss throughout the country, including taxpayers who have no realistic flood exposure. We have made similar choices in other areas, such as the federal terrorism reinsurance program or in the Affordable Care Act, by eliminating health insurers' ability to utilize pre-existing conditions in rate-setting, thereby subsidizing individuals with expensive medical conditions. Terrorism Risk Insurance Act, *supra* note 41; Patient Protection and Affordable Care Act, Pub. L. No. 111-148, 124 Stat. 119 (2010).

These differences may reflect a company's estimation of how climate change may alter its business, or a company's perception of how its policyholders and potential policyholders consider the issue.

The authors have reviewed the websites of various property casualty insurers over a one-year period, selecting the largest personal lines carriers in the U.S. as well as several insurers who have major commercial lines operations, including commercial property.⁸² As a comparison, four large reinsurers, three in Europe and one in the U.S., were also examined.⁸³ This is not intended as comprehensive study, which could include more insurers, other regions (and languages) reviewing websites over a multi-year period, and examining other documents that insurers produce as part of their "public face."⁸⁴

There are significant differences in how these companies present their public positions on climate change among insurers in the U.S., as well as overall differences between U.S. companies and European reinsurers. Figures 2-6 provide examples of the search results for five companies.⁸⁵

Figure 2. Swiss Re⁸⁶



"Managing climate and natural disaster risk:

Re/insurance plays an important role in managing climate and natural disaster risk, and that's why it's part of Swiss Re's core business."

82. Included: Allstate, American Family, CNA, Farmers, GEICO, The Hartford, Liberty Mutual, Nationwide, Progressive, Travelers, State Farm and USAA.

83. Swiss Re, Hannover Re, Munich Re, and Gen Re (a Berkshire Hathaway company based in New York).

84. Though a company's website and the issues it decides to emphasize on it are likely to be the best example of its public messaging outside of direct insurance product marketing, some U.S. insurers with minimal web-based discussion of climate change do report on the issue in their annual reports filed with regulators.

85. "Climate change" was the initial search term used on every insurer website. If no results came up additional search terms, such as "global warming," were used. On all sites, various company pages were also reviewed such as "about us," corporate governance, and social and environmental responsibility.

86. SWISS RE, www.swissre.com/rethinking/climate_and_natural_disaster_risk (last visited Apr. 4, 2014).

Figure 3. Munich Re⁸⁷**Figure 4. State Farm**⁸⁸

You Searched For

climate change

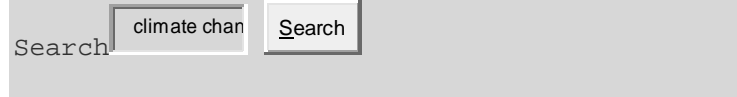
1 - 2 of 2 | Showing:

Tips for Avoiding Tractor-Trailer Accidents—Safety Learning Center—State Farm

... truck driver can see you and knows your intention. Don't **change** lanes abruptly. Any sudden motion in a truck driver's periphery ... visual indicator of your intentions. Adjust driving speed to **climate** conditions. Rain, snow, and high winds can make driving ...

Figure 5. Nationwide⁸⁹

Search Results for "climate change"



1 - 1 of 1 results for **climate change**.

[Disaster Preparedness | Read About Disaster Management and ...](#)

www.nationwide.com/catastrophe-center.jsp

87. MUNICH RE, www.munichre.com/en/group/focus/climate_change/default.aspx (last visited Apr. 4, 2014).

88. STATE FARM, [https://sfesearch.statefarm.com/Gateway/QueryService.aspx?view=statefarmcomspublished&query=climate change&original=climate change](https://sfesearch.statefarm.com/Gateway/QueryService.aspx?view=statefarmcomspublished&query=climate%20change&original=climate%20change) (last visited Apr. 4, 2014).

89. NATIONWIDE, www.nationwide.com/search/query.htm (last visited Apr. 4, 2014).

Find how disaster preparedness may help keep you and your family safe. Nationwide's disaster management team is here to assist in the case of an emergency.

Figure 6. Travelers⁹⁰ Climate & the Environment



Travelers is one of the largest providers of property casualty insurance products in the United States. Our success is built upon our ability to provide innovative insurance and risk protection products and services tailored to our customers' needs. We are continually monitoring, anticipating and reacting to changing climate conditions across all of our operations.

European reinsurers utilize their websites as a forum for climate change information far more than any U.S. insurer. The thoroughness with which this material is discussed may indicate that these companies believe that an extensive public dialogue on climate change, including how they are addressing it, is a marketing or promotional advantage, reflecting the view that responsible insurers and reinsurers should confront climate change and help their policyholders do so as well.⁹¹

These insurers' public acceptance of climate change contrasts dramatically to the reticence of many major U.S. property-casualty insurers to publicly address the issue. State Farm is the most notable example. Figure 3 is the result of the most recent search conducted on State Farm's website; there is virtually no public information provided on climate change or adaptation, nor have repeated searches over the last year discovered any.⁹² State Farm is the largest personal lines property-casualty insurer in the

90. TRAVELERS, <https://www.travelers.com/about-us/travelers-institute/through-leadership/climate-and-environment.aspx> (last visited Apr. 4, 2014).

91. This does not imply that insurers' concern is a facade; as noted, insurers have very good reasons to participate in the climate change debate and to research and promote adaptation strategies. There is also some variation among the three European reinsurers; Hannover Re provides extensive information on various environmental initiatives, but does not prominently reference "climate change"—at least not on their English language web pages. HANNOVER RE, www.hannover-re.com (last visited Apr. 4, 2014).

92. See State Farm, *supra* note 62.

country, operates in most states, and has millions of policyholders potentially exposed to climate change-related losses.⁹³

This is also true for other property casualty insurers in the U.S., including American Family, GEICO, Liberty Mutual, Nationwide and USAA. In contrast, several large commercial lines insurers who also have significant personal lines operations are more descriptive or public about their views toward climate change, including The Hartford and Travelers. These differences among U.S. insurers might reflect a split between stock and mutual companies; American Family, Nationwide and State Farm are mutual companies, whereas The Hartford and Travelers are stock companies. There is still significant doubt in the American public about climate change, so mutual insurers might be more reluctant to publicly engage in the debate. In contrast, stock companies are owned by sophisticated investors more likely to believe in the reality of climate change and perhaps expect insurers to address it directly. This is speculation however and there are contrary examples. CNA is a large commercial stock insurer with no personal lines operations, yet it has virtually no information on climate change on its website.⁹⁴ Progressive is a personal lines stock company and similarly has no climate change information on its website.⁹⁵

That reinsurers have a significantly greater public (website) focus on climate change than do property-casualty direct insurers,⁹⁶ could suggest that the reinsurance industry is simply more exposed and therefore more concerned over the potential effects of climate change. Additionally, reinsurance has historically been a global business. Swiss Re, Munich Re and Hannover Re reinsure risks throughout the world that are potentially subject to every weather pattern that climate change could worsen.⁹⁷ However, large property-casualty insurers, at least

93. Based on 2012 data, State Farm was the largest homeowner insurer in the U.S., with approximately 20.74% of the market, as well as the leading property casualty insurer with 10.3% of the overall property casualty market, based on direction written premiums. INSURANCE INFORMATION INSTITUTE FACT BOOK, 96, 15 (2014).

94. CNA, www.cna.com (last visited Apr. 4, 2014) (searching "climate change").

95. PROGRESSIVE, www.progressive.com (last visited Apr. 4, 2014). Progressive does reference climate change in describing a fuel-efficient automobile initiative. PROGRESSIVE, <http://search.progressive.com/search> (last visited Apr. 4, 2014) (searching "climate change").

96. Eric Reguly, *No Climate-change deniers to be found in the reinsurance business*, THE GLOBE AND MAIL, Nov. 28, 2013, available at www.theglobeandmail.com/report-on-business/rob-magazine/an-industry-that-has-woken-up-to-climate-change-no-deniers-at-global-resinsurance-giant/article15635331/?page=all. We have not researched European insurers other than the three reinsurers and Zurich Insurance Group.

97. Gen Re, a Berkshire Hathaway company based in Stamford, Conn., has more information on climate change than most U.S. insurers but not as prominently available on its website as Swiss Re and Munich Re. GEN RE, www.genre.com (last visited Apr. 4, 2014) (searching "climate change").

in the U.S., have similar reasons to be concerned about climate change and increased losses among its policyholders. The U.S., with its many thousands of miles of shoreline and rivers, much of it densely populated and heavily insured, is always at risk for enormous flood losses.⁹⁸ Various regions in the country are also subject to hurricanes, tornadoes, earthquakes, hail, blizzards, drought, heat waves, deep freezes, forest fires, mudslides, and other weather-related losses that could become both more common and more destructive. Insurers are as much or more a stakeholder in efforts to address climate change as any other industry.⁹⁹

A more accurate explanation may be that major U.S. property casualty insurers are not ignoring climate change but see little business advantage in publicizing their views and work in the field, as public acceptance to even the existence of climate change remains controversial in the U.S. Informal discussions with State Farm representatives suggest this idea, as they noted that State Farm has been tracking weather patterns for 125 years as part of its risk modeling and continues to do so today, regardless of how it publicly characterizes the reasons for changing weather patterns. This is a more likely explanation than believing the country's largest property casualty insurer is simply ignoring climate change and the added risks it presents to the company and its policyholders.¹⁰⁰ Whether it applies to other insurers, especially those with a regional rather than national focus, is uncertain.

98. G.A.O., *National Disasters: Public Policy Options for Changing the Federal Role in Natural Catastrophe Insurance*, 9 (GAO-08-07, Nov. 2007). Hurricanes Andrew (1992) and Katrina (2005) and “Super Storm” Sandy (2012) were the three largest natural disasters in the U.S. in terms of property insurance payments—\$24.3 billion, \$47.4 billion, and \$18.8 billion, respectively. INSURANCE INFORMATION INSTITUTE, *Catastrophes: Insurance Issues*, www.iii.org/issues_updates/catastrophes-insurance-issues.html (last visited Apr. 4, 2014). These figures, adjusted for 2012 dollars, do *not* include flood claims paid by the NFIP. *Id.* The 2011 World Trade Center attacks accounted for approximately \$24.35 billion in property claims, and additional insurance payments for life, health, liability and workers’ compensation claims. THE INSURANCE FACT BOOK, 140 (2014).

99. Recognizing this, the UN has a special initiative to recruit insurers as allies in climate change adaption and mitigation. UNEP PRINCIPLES FOR SUSTAINABLE INSURANCE, www.unepfi.org/psi (last visited Apr. 4, 2014).

100. “Most insurers, including the reinsurance companies that bear much of the ultimate risk in the industry, have little time for the arguments heard in some right-wing circles that climate change isn’t happening, and are quite comfortable with the scientific consensus that burning fossil fuels is the main culprit of global warming.” Eduardo Porter, *For Insurers, No Doubts on Climate Change*, N.Y. TIMES, May 14, 2013, available at www.nytimes.com/2013/05/15/business/insurers-stray-from-the-conservative-line-on-climate-change.html?pagewanted=all. Frank Nutter, longtime president of the Reinsurance Association of America, was interviewed in this article: “[i]nsurance is heavily dependent on scientific thought ... It is not as amenable to politicized scientific thought ... the insurance industry’s reluctance [to publicly address climate change] is born of hesitation to become embroiled in controversies over energy policy.” *Id.*

Zurich Insurance Group's various websites strongly support this thesis. Zurich, a Swiss-based insurer with a large U.S. presence, is prominently engaged in climate change research and advocacy. Its home page (English version) provides extensive web-based information on climate change, including its own "Climate Initiative," which studies the effects of climate change on policyholders and insurers.¹⁰¹ However, in contrast, there are no climate change references on the website of its U.S. subsidiary, Farmers Insurance.¹⁰² Zurich made opposite decisions on how to disclose and promote its involvement with climate change in Europe and the U.S.—or at least related to their personal lines products.¹⁰³

U.S. opinion polls have generally demonstrated that, compared to Europeans, the American public is more skeptical of both the existence of climate change and the need to mitigate and prepare for it. Acceptance of climate change by the American public has varied from 52% to 72% between 2008 and 2012, as evaluated by the Center for Local, State and Urban Policy at the University of Michigan (Figure 7, *infra*).¹⁰⁴ Although belief in climate change has increased to 67% from its low of 52% in spring 2010, it has not yet climbed back to its high of 72% in fall 2008.

Figure 7. Belief in Global Warming

"Is there solid evidence that the average temperature on Earth has been getting warmer over the past four decades?"

	Fall 2008	Fall 2009	Spring 2010	Fall 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012 (Early)	Fall 2012 (Late)
Yes	72%	65%	52%	58%	55%	62%	65%	68%	67%
No	17%	20%	36%	26%	32%	26%	24%	21%	22%
Not Sure	11%	15%	13%	16%	12%	12%	11%	11%	12%

This contrasts with polling results in the European Union (EU). In 2011 an EU survey asked residents to identify "the greatest problem facing the world."¹⁰⁵ Climate change was second out of eleven choices, with 20% of those surveyed ranked it the

101. ZURICH FINANCIAL SERVICES GROUP, *The Climate Risk Challenge: the Role of Insurance in Pricing Climate-Related Risks* (2009), available at www.zurich.com/aboutus/resourcecenter/pdfdownloads.

102. Since Farmers' website does not have a search function, all likely web-based topic pages were reviewed, as was done for other insurer websites. Farmers Insurance provides insurance primarily for individuals and small businesses. FARMERS INSURANCE, www.farmers.com (last visited Apr. 4, 2014).

103. Zurich also does commercial insurance business under its own name in the U.S. and a "climate change" website search on its North American website pulls up the same documents as it does on Zurich's home page. ZURICH, www.zurichna.com/zna/home/welcome.htm (last visited Apr. 4, 2014).

104. FORD SCHOOL CENTER FOR LOCAL, STATE, AND URBAN POLICY, <http://closup.umich.edu/issues-in-energy-and-environmental-policy/2/nsee-findings-report-for-belief-related-questions/> (last visited Apr. 4, 2014).

105. EUROPEAN COMMISSION, *Special Eurobarometer 372: Climate Change Report*, 5 (Oct. 2011), available at http://ec.europa.eu/public_opinion/index_en.htm.

number one problem.¹⁰⁶ While this is a somewhat different question than belief in climate change, it necessarily assumes a high level of public acceptance. A similar poll in the U.S. placed climate change as eleventh out of thirteen issues upon which Congress and the president should focus.¹⁰⁷

The political sensitivity of the climate change debate in the U.S. is also illustrated by how state insurance regulators address the issue. The National Association of Insurance Commissioners (NAIC), a private organization composed of the insurance regulators of all fifty states and six districts and territories,¹⁰⁸ has had a climate change and global warming working group since 2006.¹⁰⁹ In 2009, the NAIC approved a mandatory climate risk disclosure survey that each state would administer, but faced with strong opposition, it reversed itself a year later and made it voluntary. The NAIC further qualifies this optional survey:

This survey, and the questions contained herein, do not endorse, reject or otherwise express an opinion on the existence or absence of climate change. Further, this survey, and the questions contained herein, do not express an opinion regarding scientific confirmation or refutation of the existence or absence of climate change.¹¹⁰

Fortunately, California, New York and Washington, and recently Connecticut and Minnesota, require insurers writing more than \$100 million in annual premium to complete the

106. *Id.* “Poverty, hunger and lack of drinking water” was ranked the greatest problem, followed by “climate change,” “the economic situation,” and “international terrorism.” *Id.*

107. YALE PROJECT ON CLIMATE CHANGE COMMUNICATION & GEORGE MASON UNIVERSITY CENTER FOR CLIMATE CHANGE COMMUNICATION, *Public Support for Climate and Energy Policies in November 2013*, 8 (2013), available at <http://environment.yale.edu/climate-communication/article/public-support-climate-energy-policies-november-2013>. The survey stated, “Here are some issues now being discussed in Washington D.C. Do you think each of these issues should be a low, medium, high, or very high priority for the president and Congress,” where 14% of respondents said global warming should be a “very high priority” and 13% “high.” *Id.*

108. See Susan Randall, *Insurance Regulation in the United States: Regulatory Federalism and the National Association of Insurance Commissioners*, 26 FLA. ST. U. L. REV. 625 (1999) (describing that, while the NAIC is a private entity without formal regulatory authority, given the absence of any significant federal regulatory oversight of the insurance industry, it has long served as the major national forum for insurance regulatory issues). Its work includes developing model laws, regulations and regulatory bulletins, which states may enact, and issuing reports and studies on insurance regulatory and industry issues. *Id.* Much of the NAIC’s substantive work is done through its numerous committees and working groups consisting of state insurance commissioners and their senior staff, supported by NAIC personnel and its administrative and financial resources. *Id.*

109. NAIC, THE POTENTIAL IMPACT OF CLIMATE CHANGE ON INSURANCE REGULATION, 1 (2008), available at www.naic.org/documents/cipr_potential_impact_climate_change.pdf.

110. NAIC, *Insurer Climate Risk Disclosure Survey*, 1 (Mar. 28, 2010), available at www.naic.org/documents/committees_explen_climate_survey_032810.pdf.

survey, effectively capturing the national market.¹¹¹

However, some organizations believe that insurers in the U.S. are ill prepared and unwilling as of yet to confront climate change threats. Ceres, the private investor advocacy group that encourages and promotes environmentalism in major public companies, has issued several reports over the last four years criticizing insurers for their lack of discussion on climate change and lobbied the NAIC on this issue. Ceres has characterized this silence or indifference as a potential failure in corporate governance, given how insurers are exposed to climate changes risks as investors, employers and as risk underwriters. In 2011 Ceres commented, “Yet despite widespread recognition of the effects climate change will likely have on extreme events, few insurers were able to articulate a coherent plan to manage the risks and opportunities associated with climate change.”¹¹² Ceres found little improvement by March 2013:

In general, almost all companies responding to the survey show significant weakness in their preparedness to address the effects of climate change may have on their business. However a small subset of industry leaders are evolving their business strategies to remain competitive as the impacts of climate change unfold.¹¹³

Our state-based insurance regulatory system makes a national response to concerns raised by Ceres, other organizations, or the states themselves, more difficult to coordinate. For example, the NAIC, which exists in part to promote regulatory consistency (and expertise), could not achieve consensus on even a climate change survey for insurers. State regulators have concerns similar to industry about publicly addressing climate change and they operate in a more politically charged environment, regardless of whether they are appointed or elected. However, our insurance regulatory structure is probably a far less significant impediment to developing a national strategy on climate change than the lack of public acceptance, multiplicity of building codes and land use laws, and often uncoordinated, underfunded and inconsistent federal responses. Further, the federal government does not lack the authority to require regulatory action or consistency in

111. For a succinct history of the NAIC climate disclosure survey, see CERES, *Insurer Climate Risk Disclosure Survey: 2012 Findings & Recommendations*, 15-16 (Mar. 2013), available at www.ceres.org/resources/reports/naic-report/view. “Despite rising concerns over the financial risks facing the insurance industry from climate change, climate risk disclosure efforts at the [NAIC] have been almost as volatile as recent weather.” *Id.* at 15. Insurer survey responses are public and available on the California Department of Insurance website. CALIFORNIA DEPARTMENT OF INSURANCE, www.insurance.ca.gov/0400-news/0100-press-releases/release108-13.cfm (last visited Apr. 4, 2014).

112. *Supra* note 98, CERES, *Climate Risk Disclosures by Insurers* (Sept. 2011), available at www.ceres.org/resources/reports/insurance.

113. CERES, *Insurer Climate Risk Disclosure Survey*, p. 6 (Mar. 2013), available at www.ceres.org/resources/reports/naic-report/view.

insurance, they simply do not use it often.¹¹⁴

We do not have a national consensus on how to recognize and spread the cost of catastrophic risks that affect regions of the country unequally.¹¹⁵ And, while insurance can be a powerful tool to allocate these risks and provide private sector incentives encouraging mitigation and adaptation to the effects of climate change, utilizing it requires regulatory consent, whether state, or federal, on how to do so. Allowing insurers to utilize fully risk-based pricing places much of the risk of loss onto the property owner (policyholder). Suppressing rates or developing government-backed insurance pools spreads the risks and costs to a larger base of policyholders and taxpayers. This can alleviate some of the access and affordability concerns but also reduces the incentives to build better or elsewhere.¹¹⁶

Often a “consensus” is implicit. For example, the NFIP was not designed to assess through premiums the full cost of flooding, which means claims would be partially paid by taxpayers throughout the country, regardless of their flood exposure.¹¹⁷ Similarly, government assistance to rebuild properties after a catastrophic event could be an appropriate public policy, but it can also reduce the incentives for property owners to purchase insurance.

Recent amendments to the NFIP capture this debate. In 2012 Congress passed the Biggert-Waters Act, which would have largely eliminated these subsidies, shifting the risk allocation more to the individual policyholder and away from the country as a whole.¹¹⁸ When the magnitude of the rate increases became more widely known in 2013, a lengthy political debate occurred, which was frequently captured on the front pages of major newspapers. As a consequence, in March 2014 Congress passed and the president signed the Homeowners Flood Insurance Affordability Act of 2014.¹¹⁹ This Act postpones, revises or repeals the various premium increases Biggert-Waters required and as a result, our implicit system of national subsidization of flood losses will continue.

IV. CONCLUSION

This is a pivotal time in the intersection of climate policy, climate law, and insurance. The regulatory and legal response to

114. *See supra* note 47. The NFIP is one notable exception, which may prove the point about problems with federal responses to date.

115. CORNEL QUINTO, *INSURANCE SYSTEMS IN TIMES OF CLIMATE CHANGE: INSURANCE OF BUILDINGS AGAINST NATURAL HAZARDS*, 74-75 (Springer, 2010).

116. And perhaps reduces insurers’ willingness to participate in the market.

117. The NFIP is approximately \$30 billion in debt, stemming from the 2005 hurricanes and Storm Sandy.

118. *Supra* note 68.

119. House Resolution 3370, enacted as Public Law No.113-89. Summaries for this Act can be found through THOMAS, the Library of Congress’ legislative research engine, <http://thomas.loc.gov/home/thomas.php>.

climate emissions is even more channeled to the CAA. While climate science has a long history, the real-world impact and disruption of climate change is very much an evolving question. New understandings of climate harm yield new challenges for the insurance industry.

Insurers, at least publicly, are dealing with this uncertain environment in a spectrum that runs from direct engagement to, perhaps, complete avoidance. However, avoidance or inaction for whatever reasons could have dire consequences. Insurance is based on a portfolio of risk assessment, pricing, spreading, and when thought necessary, avoidance. Climate change challenges these functions because the science is uncertain, mitigation and adaptation responses often largely outside insurer control, and regulatory responses inconsistent—and without any immediate promise of uniformity. Litigation risk, whether from claims against policyholders or insurers directly (e.g., failure of corporate governance) adds additional uncertainty. This can lead to less, rather than more, insurer engagement with climate change, as a logical reaction is to add exclusions and reduce exposure to property losses and liability claims. But, reducing insurance coverage would only shift the risks from insurers to policyholders without any reduction in the magnitude of risk, and lessen the ability to utilize risk-based premiums as a tool to encourage mitigation and adaptation.

For now, perhaps the best regulatory solution is to follow the lead of the state regulators who are actively engaged in climate change legislation and insist on greater climate information, study, and portfolio risk evaluation. Providing incentives or encouraging insurers to engage in the climate change debate in the U.S. could also contribute to greater acceptance of the reality of climate change and enhance the ability to develop and implement more effective responses.¹²⁰

Traditional insurance functions—compensating for losses and providing financial incentives for safety, risk avoidance and mitigation—make it a valuable ally in adapting to climate change, but only if it perceives the possibility of profitably insuring the risks. The legislative and regulatory challenge is to balance these concerns with equally important questions of insurance access, affordability, and ultimately the development of a public consensus of how risks should be socialized throughout a state or the nation.

120. If deciding not to engage in climate change planning is considered a corporate governance failure, there will also be financial penalties when this inaction leads to corporate litigation against the insurer and its officers and directors.