Litigation's Regulatory Pathways and the Administrative State: Lessons from U.S. and Australian Climate Change Governance

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Litigation's Regulatory Pathways and the Administrative State: Lessons from U.S. and Australian Climate Change Governance

HARI M. OSOFSKY & JACQUELINE PEEL*

ABSTRACT

The administrative state struggles to address massive, complex problems such as ameliorating the financial crisis, preventing terrorism, or responding to climate change. These problems cut across levels of government—local, state, national, international—and substantive areas of law. Yet our governance structures, for the most part, are not designed to deal well with issues that involve multiple types of governance authority and institutions. A burgeoning literature by leading U.S. scholars describes this problem and proposes solutions. These analyses often include some case law, but their primary focus has been on the legislative and executive branches in the United States. This article argues that, even accepting the constraints of constitutional separation of powers and of administrative law in this country, a fuller exploration of the regulatory role of courts is needed. Drawing from the comparative experiences of the United States and Australia in responding to climate change, it provides a novel model for understanding the direct and indirect regulatory pathways that litigation provides in common law.

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jurisdictions. This model and its application help to illuminate the nexus between litigation and regulation, which allows for a more complete understanding of governance in the context of complex problems.

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INTRODUCTION

The administrative state struggles to regulate massive, complex problems adequately. Unfortunately, even a brief glance at a daily newspaper reveals their pervasiveness. From the ongoing problems with power outages to the repercussions of the financial crisis and government shutdown to debates over climate change, our society teems with urgent issues that our regulatory framework is ill equipped to face. These problems cut across levels of government—local, state, national, international—and substantive areas of law. Yet our governance structures, for the most part, are not designed to deal well with issues that require responses from multiple types of governance authority and institutions.

A burgeoning literature among leading U.S. scholars attempts to model how progress might be made. For example, Richard Lazarus describes climate change as a “super-wicked” problem—one that is not only enormously complicated, but
that also poses problems of timing, incentives, and massive scope. He considers how governance institutions should be designed to tackle this challenge. J.B. Ruhl and Jim Salzman have provided a model for “whittling away” at massive problems that cannot be solved by individual agencies. Jim Rossi and Jody Freeman have explored how agencies could coordinate more effectively in the shared regulatory space created when issues intersect the domains of multiple regulatory agencies. This scholarship makes an innovative and important contribution to conceptualizing how the structure of governance and institutions impacts regulatory effectiveness.

These analyses of how to address complex problems, however, primarily focus on the legislative and executive branches within the United States. Although they reference case law, they only minimally engage the role that the judicial branch can, and does, play in helping to create and develop administrative responses to complex problems. This emerging scholarship on complex problem solving also largely refrains from considering how the United States experience compares to that of other common law countries.

1. Richard J. Lazarus, Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future, 94 CORNELL L. REV. 1153 (2009). Lazarus explains that “Scholars long ago characterized a public-policy problem with the kinds of features presented by climate change as a “wicked problem” that defies resolution because of the enormous interdependencies, uncertainties, circularities, and conflicting stakeholders implicated by any effort to develop a solution.” Id. at 1159.


4. Although an extensive scholarly literature exists on the nexus between litigation and regulation, see, e.g., Andrew P. Morrisey, Bruce Yandle, and Andrew Dorchak, Regulation by Litigation (2009); Patrick Luff, Risk Regulation and Regulatory Litigation, 64 RUTGERS L. REV. 73 (2011); Jules Lobel, Courts as Forums for Protest, 52 UCLA L. REV. 477 (2004), it remains largely separate from the emerging scholarship on how to address complex regulatory problems in the administrative state. Part of this separation may result from the fact that this scholarship on complex problems is largely situated in the broader context of administrative law. In the United States, the Administrative Procedure Act structures this area of the law, supplemented by the “generally held view in the United States that federal courts should not make common law but should act only when they are statutorily authorised to act.” Jack M. Beerman, Common Law and Statute Law in US Administrative Law, in ADMINISTRATIVE LAW IN A CHANGING STATE: ESSAYS IN HONOUR OF MARK ARONSON 45 (Linda Pearson et al, eds., 2008). Australian administrative law takes a similar approach. This article does not contest the focus on the executive and legislative branches within the predominant administrative law framework in common law countries. As the Beerman quote reinforces, the judicial branch plays an interpretive role and separation of powers serves as an important constraint on the regulatory role of court. Numerous judicial doctrines, such as political question—through which courts decline to decide an issue because it is a political one within the purview of the legislative and executive branches—restrain the courts from trampling on political or executive authority. This article argues, however, that, even accepting constitutional and administrative law constraints on the judicial role, a fuller exploration of the regulatory role of courts in the context of complex problems is needed.

5. While a rich and long comparative law tradition exists in administrative law, that scholarship remains mostly separate from the emerging literature on complex problems. For examples of the comparative administrative law literature, see ADMINISTRATIVE LAW IN A CHANGING STATE, supra note 4; ADMINISTRATIVE LAW AND GOVERNANCE IN ASIA: COMPARATIVE PERSPECTIVES (Tom Ginsburg and Albert H.Y. Chen, eds. 2009); Frank
This article fills these gaps. Drawing from the comparative experiences of the United States and Australia in responding to climate change, the article provides a novel model for understanding the regulatory pathways that litigation provides in common law jurisdictions. It uses climate change as a case example for exploring linkages between litigation and regulation because it is a particularly complex problem that has been the subject of extensive litigation in both countries. Even within the constraints of constitutional separation of powers and administrative law, these lawsuits directly and indirectly influence when and how this complex problem is addressed, and, in the process, perform a regulatory function in the administrative state. The article maps these multiple pathways for influence and applies them to the regulatory and litigation experiences of the two jurisdictions.

In so doing, this article makes important contributions to the literature in administrative law on regulating complex problems, the interdisciplinary scholarship seeking to understand the explosion of litigation over climate change, and the work in comparative law on both countries. The article bridges these areas of scholarship through its innovative model for understanding the regulatory impact of climate change litigation. As a growing number of lawsuits over climate change have been filed in courts around the world in the past fifteen years—two of which resulted in high profile U.S. Supreme Court judgments—a “first wave” of scholarship has chronicled individual cases or developments in particular jurisdictions and a “second wave” has sought to systematize the case law by looking for patterns or trends and developing typologies to understand and categorize disparate actions. This article provides a critical next step in a “third wave” of scholarship on this litigation’s regulatory role through its framing and exploration of the regulatory pathways that litigation has taken, is taking, and likely will take in the United States and Australia. More broadly, the article's

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J. Goodnow, An Analysis of the Administrative Systems, National and Local, of the United States, England, France, and Germany (1893); Francesca Bignami, From Expert Administration to Accountability Network: A New Paradigm for Comparative Administrative Law, 59 Am. J. Comp. L. 859 (2011). This pattern of separation is not unique to U.S. scholars writing in this area. For example, in Australia, a group of scholars collaborating in the “Regulatory Institutions Network” have developed an extensive theory of how institutions could be more responsive to formal and informal dynamics and have created a regulatory pyramid to facilitate that structuring. This network’s occasional papers series generally focuses on Australia, with only one recent piece applying the model in cross-jurisdictional institutional contexts with relatively limited focus on how the jurisdictions themselves compare. For a discussion of this theory generally, see Valerie Braithwaite, Ten Things You Need to Know About Regulation and Never Wanted to Ask, RegNet Occasional Paper No. 10 (2006), available at http://ctsi.anu.edu.au/publications/occasionalpapers.htm. For the comparative law application, see Charlotte Wood, Mary Ivec, Jenny Job & Valerie Braithwaite, Applications of Responsive Regulatory Theory in Australia and Overseas, RegNet Occasional Paper No. 15 (2010), available at http://ctsi.anu.edu.au/publications/occasionalpapers.htm.

6. For further discussion of these waves, see infra notes 41–48 and accompanying text. We recognize that it may be premature at this still early stage in the development of this litigation to conceive of climate change litigation research as having any form of “tradition” that could be characterized in this way. We think that this concept of waves has value, though, in differentiating the nature of our work from what has gone before while
approach helps to illuminate the nexus between litigation and regulation, which allows for a more complete understanding of governance in the context of these challenging but important problems.

This article proceeds in three parts. Part I situates the discussion of climate change litigation as a form of regulation by defining it and considering its role in the emerging multi-dimensional system of climate change governance. It also examines how climate change litigation serves as more than simply a gap filler in the absence of robust national and international regulatory frameworks, and the concomitant need for greater research attention to be directed to the question of the regulatory impact of climate change litigation. Part II of the article turns to the specific regulatory contexts of the United States and Australia, sketching the state of government-led climate change regulation in each country in order to contextualize our discussion of the role that litigation plays. In addition, we explore the reasons why the climate change litigation experiences of the United States and Australia offer a rich basis for comparative analysis and for drawing broader lessons about the ways climate change litigation can and might influence regulatory pathways, with a consideration of the role of the common law tradition in creating those possibilities. Finally, Part III of the article proposes a model for litigation's pathways of regulatory influence, both direct and indirect, and applies that model to the examples of United States' and Australian climate change litigation. This application illustrates how the model can serve as a tool for understanding the judicial branch's regulatory role in addressing complex governance challenges.

I. CLIMATE CHANGE LITIGATION AND GOVERNANCE

Climate change litigation, in a range of forms, and brought in a multitude of fora, has captured the attention of the public and policy-makers, and is the subject of a rapidly developing body of academic literature. Climate change litigation has been particularly prominent and extensive in the United States and Australia—both common law jurisdictions with significant coal industries—due in part to the slow pace of development of climate change regulation in these countries, and at the international level in negotiations for future requirements for

acknowledging the important contribution made by previous research to developing our understanding of climate change litigation. These waves represent conceptual rather than chronological development; some third wave scholarship, including articles by the co-authors, was published several years ago, and some first and second wave scholarship continues to be produced. However, thinking of these types of scholarship as a progression helps to clarify how they fit together.

9. See, e.g., ADJUDICATING CLIMATE CHANGE: STATE, NATIONAL, & INTERNATIONAL APPROACHES, (William C.G. Burns & Hari M. Osofsky eds., Cambridge Univ. Press 2009); CLIMATE CHANGE LIABILITY: TRANSNATIONAL LAW AND PRACTICE (Richard Lord et al. eds., Cambridge Univ. Press 2012); infra section I.B.
greenhouse gas (GHG) emissions reduction. Even with the progress made at the 2011 and 2012 climate change negotiations in Durban and Doha on a schedule for a universal agreement in effect from 2020, paired with acceptance of a second commitment period by some Kyoto parties, a significant gap remains between what international treaties may achieve and the emissions reductions scientists stress are urgently needed in order to give the planet a reasonable chance of avoiding warming of greater than two degrees Celsius. In the lead-up to 2020, therefore, the role of national and sub-national regulation of climate change is likely to be critical, making pertinent the question of the part that climate change litigation plays in shaping regulatory pathways.

Climate change litigation is a phenomenon that extends beyond the United States and Australia. However, the volume and impact of the litigation in these two countries make a comparative examination of their contribution particularly important. They provide case examples for evaluating the extent to which climate change litigation can constructively impact regulatory pathways and, as a consequence, make a difference in addressing this complex problem. Understanding the ways in which litigation serves as regulation, mandates regulation, and fosters regulation—as well as its limits—helps to provide a more complete view of how litigation has, is, and could help to produce more effective approaches to mitigation and adaptation. Both successful cases and “ostensibly unsuccessful” cases, brought at times by those who want to strengthen regulation and at times by those who want to challenge or weaken it, can transform or tweak the regulatory landscape. Moreover, these examples have implications beyond the climate change context; they illuminate broader possibilities for the role of the judicial branch in solving complex problems faced by the administrative state.

This part considers the unique governance challenges that climate change poses and the role that climate change litigation can play and is playing in that regulatory context. It begins by presenting climate change as a multi-dimensional regulatory problem and considering the ways in which it cuts across levels of governance and areas of law. It then examines how the particular characteristics of litigation allow it to serve not only as a means of enforcement, but also as a generative source of regulation well-suited to the complexity of the problem.

10. The second commitment period will run from 2013-2020. See Outcome of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, 8 December 2012, Draft Decision -/CMP.8, FCCC/KP/CMP/2012/L.9, available at http://unfccc.int/resource/docs/2012/cmp8/eng/09.pdf. The commitment to take on further emissions reductions under the auspices of the Kyoto Protocol came primarily from the European Union and Australia. Japan and Russia insisted prior to Durban that they would not agree to a second commitment period. Canada has formally withdrawn from the Kyoto Protocol and the United States is, of course, not a party. Australia has accepted a second commitment period with an emissions reduction target of five percent below 2000 levels, retaining an option to increase its target to fifteen or twenty-five percent subject to certain conditions being met while the universal agreement is still being negotiated.

11. Preston, Climate Change Litigation (Part 1), supra note 8; Preston, Climate Change Litigation (Part 2), supra note 8.
Before turning to this analysis, though, it is important to consider the fundamental definitional question of what constitutes "climate change litigation." This issue is difficult to resolve because of the cross-cutting nature of the problem; disputes over climate change span a wide range of substantive areas of law and judicial and quasi-judicial fora. While most commentators would agree that lawsuits in courts with climate change as their central focus are climate change litigation, the outer boundaries are harder to establish. We choose in this article to take a relatively broad view of where these boundaries lie. Our definition of climate change litigation includes cases which take place in quasi-judicial contexts and which reference climate change amid a panoply of issues. However, we focus largely on cases at the core as exemplars in order to illuminate the regulatory role of litigation interacting most directly with efforts by the administrative state to address the climate change problem.

Interrelated with this narrower definitional question about climate change litigation are broader questions regarding the nature of regulation and its relationship to governance. Although these broad questions are not this article's primary focus, our analysis throughout is grounded in a socio-legal tradition that treats a wide range of formal and informal action by diverse actors as regulatory and as part of an overall governance process. This tradition takes a variety of forms across the relevant scholarly literature—such as legal pluralism, polycentric governance, new governance, and regulatory institutions theory, just to


13. For a discussion of polycentric governance, see infra note 29 and accompanying text.

name a few—and we examine how this tradition helps to frame our model in section III.A.16

A. CLIMATE CHANGE AS A MULTI-DIMENSIONAL REGULATORY PROBLEM

Because climate change involves emissions and impacts in multiple countries, nation-states have attempted to solve this problem through a multilateral treaty regime, the United Nations Framework Convention on Climate Change (UNFCCC), and additional agreements negotiated under it. Following a framework-protocol model, the UNFCCC provides general commitments and a framework for annual negotiations on more specific targets and timetables.17 The 2011 Conference of the Parties (COP) in Durban resulted in an agreement to launch a negotiating process with the aim of reaching a universal agreement by 2015 through an Ad Hoc Working Group on the Durban Platform for Enhanced Action.18 In addition, at the 2012 Doha COP, thirty-seven of the Parties to the Kyoto Protocol19—the only agreement negotiated under the UNFCCC which provides binding targets and timetables—agreed to extend the Protocol to a second commitment period running from 2013–2020.20

However, the international treaty regime faces two foundational limitations as the primary regulatory approach to climate change, both of which help to create litigation’s regulatory role. First, the existing regime and negotiations are failing to achieve their goal of mitigating emissions adequately.21 The Kyoto Protocol’s first period commitments were too limited, were not met by all Parties, and did not include the United States.22 Many Kyoto Protocol Parties, including key

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Change, Dead Zones, and Massive Problems in the Administrative State, supra note 2, at 97–98, 102–08.
15. For a discussion of the Regulatory Institutions Network, see supra note 7.
16. See infra Part III.A.
emitters like Canada, Japan, and Russia, are not making second period commitments. The universal agreement, even if negotiations are successful, is still many years away. The current failures create a regulatory gap that climate change litigation attempts to address.

Second, and perhaps more fundamentally, climate change is a problem that interacts with many levels of government and types of law and involves a wide range of public and private actors. The complex regulatory dynamics at each level involve: (1) scientific, technical, and legal uncertainty; (2) simultaneously overlapping and fragmented legal regimes; (3) difficulties of balancing inclusion and efficiency; and (4) inequality and resulting injustice. Even a more effective treaty regime would struggle to capture the ways in which both mitigation and adaptation interact with the individual, local, state, national, and interstitial regional scales. Hari Osofsky has drawn from numerous streams of international legal theory and geographic network theory to analyze pathways for exploring less nation-state-centric approaches to climate change regulation. In a parallel stream of scholarship, Elinor Ostrom, and scholars building upon her work, have presented a similar model for “polycentric” climate change governance, which examines the ways in which this myriad of key actors at different levels might form part of an overall regulatory approach.

Most relevant to this article’s project, these models all provide possibilities for valuing the role of litigation in climate change regulation. If a vision of climate change governance views treaties among nation-states as only one piece of a regulatory puzzle, even if the most important one, that opens an inquiry into how other approaches to regulation fit into an overall scheme. The next section focuses in particular on litigation as one such complementary approach.

B. LITIGATION AS A REGULATORY APPROACH

Litigation is primarily treated in common law countries as a forum for enforcement and interpretation of the law, rather than as a site of potential regulatory development. However, both the United States and Australia also have traditions of activists using lawsuits to try to influence the shape of law and regulation in addition to assisting their clients in a particular case.\(^{28}\) Most relevant to this article’s focus on the administrative state, governmental and nongovernmental actors seeking greater or less regulation often use lawsuits to clarify an agency’s regulatory authority under a statute, to change how an agency exercises that authority, or to enforce that authority.\(^{29}\)

Jacqueline Peel has argued in the climate change context that litigation has often been used in a strategic fashion as a response to inadequate law-making activity by government and to prompt wider policy change.\(^{30}\) In Australia, for example, a leaked Greenpeace campaign document revealed plans for the extensive use of legal challenges to coal-mining projects as part of a wider strategy of “Stopping the Australian coal export boom.”\(^{31}\) Similar campaigns operate in the United States targeting coal-fired power stations and seeking to “quit coal” in favor of “clean energy” sources.\(^{32}\) While litigation is by no means the only mechanism available for social mobilization and activism on climate change,\(^{33}\) litigation is unique in being able to take advantage of the apparatus of the state (that is, courts as the third branch of government) to achieve regulatory change. As the Australian Greenpeace campaign document outlines:

Legal challenges can stop projects outright, or can delay them in order to buy time to build a much stronger movement and powerful public campaigns. They

\(^{28}\) This strategy, which takes many forms, is at times referred to in the United States as “impact litigation.” For a discussion of different impact litigation strategies, arguing for the value of large numbers of small claims in addition to class action approaches, see Andrew D. Freeman & Juli E. Farris, Grassroots Impact Litigation: Mass Filing of Small Claims, 26 U.S.F. L. Rev. 261 (1992).

\(^{29}\) This section focuses on the literature exploring the regulatory role of climate change litigation. For examples of the broader literature on litigation and regulation, see sources cited supra note 4.


\(^{31}\) John Hepburn et al., Greenpeace Austl., Stopping the Australian Coal Export Boom: Funding Proposal for the Australian Anti-Coal Movement (2011). A copy of the leaked report is available at http://www.abc.net.au/mediawatch/transcripts/1206_greenpeace.pdf. Coal mining companies reacted with veiled threats to have any such claims struck out as an abuse of process entailing substantial costs orders for unsuccessful claimants.

\(^{32}\) See Quit Coal, http://quitcoal.org/ (last visited June 14, 2012). Other sites, such as Coalswarm.org, provide information resources for community-based campaigns. There is also a Quit Coal organization in the Australian state of Victoria, http://quitcoal.org.au/ (last visited August 5, 2012).

can also expose the impacts, increase costs, raise investor uncertainty, and create a powerful platform for public campaigning.\textsuperscript{34}

Navraj Ghaleigh describes climate change litigation of this kind as "promotive," where often "applicants are seeking to deploy more general legal norms which have no necessary climate-change characteristics in ways that can promote positive environmental outcomes by way of regulatory intervention sanctioned or even required by courts."\textsuperscript{35} In reaction to "promotive" climate change litigation, regulation resulting from it, and regulatory initiatives by state and local government, a body of "anti-regulatory" climate lawsuits has developed, particularly in the United States.\textsuperscript{36}

Characteristic of both "promotive" and "anti-regulatory" climate litigation is the involvement of many diverse actors, including sub-national governments, not-for-profit environmental groups, corporations, business organizations, community groups, and individuals. Climate change litigation cases thus often function as a forum for diverse actors to engage in a dialogue about the appropriateness of particular regulation. The disagreements often have scalar dimensions, with anti-regulatory parties arguing that climate change is too big a problem for regulation at a particular level and pro-regulatory parties demonstrating state and local impacts.\textsuperscript{37}

Moreover, the issues that courts are asked to address in climate change cases, although framed in the context of specific legal requirements and factual settings, often reflect common themes.\textsuperscript{38} These include questions around: what amounts to a significant or meaningful contribution to global climate change (a single large coal mine? if so, how large?); what level and type of evidence is necessary to establish such a contribution; and whether impacts should be assessed cumulatively (in light of all other contributing sources) and holistically (taking account of all emissions associated with the activity—for example, these might be emissions from burning coal at offshore locations for a coal mine). The rulings issued by courts in climate change cases, across various jurisdictions and at different levels of governance (sub-national, national, and international) can thus be seen to play an important role in articulating forms of "transnational climate change regulation."\textsuperscript{39}

Viewing litigation as an appropriate site for regulatory development to address

\begin{itemize}
  \item \textsuperscript{34} John Hepburn et al., supra note 31, at 6.
  \item \textsuperscript{35} Navraj Ghaleigh, "Six honest serving men": Climate change litigation as legal mobilization and the utility of typologies, CLIMATE LAW, no. 1, 2010 at 45.
  \item \textsuperscript{36} David Markell & J.B. Ruhl, An Empirical Assessment of Climate Change in the Courts: A New Jurisprudence or Business as Usual, 64 FLA. L. REV. 15, 15-86 (2012).
  \item \textsuperscript{37} Hari M. Osofsky, Is Climate Change "International"?, supra note 26, at 585-650.
  \item \textsuperscript{38} Jacqueline Peel, Issues in Climate Change Litigation, 1 CARBON & CLIMATE L. REV. 15 (2011).
  \item \textsuperscript{39} Hari M. Osofsky, The Continuing Importance of Climate Change Litigation, CLIMATE L., supra note 26, at 3-29.
\end{itemize}
climate change is not uncontroversial. Various criticisms have been advanced, for instance, that courts lack the necessary expertise to determine questions of climate change regulation, that policy decisions should be left to elected politicians, and that, ultimately, climate change litigation will be ineffective as a mechanism for the mitigation of climate change given hurdles posed by technical legal rules around standing, costs, and justiciability (or political doctrine) questions. These factors certainly may act as restraints on the capacity of litigation to contribute to climate change regulation and require serious attention in any project concerned with climate change litigation's broader regulatory impact. However, it is important not to neglect the potential for the evolving case law itself to generate innovation, especially in the interpretation and application of technical legal rules, which may help to overcome some of the existing barriers faced by claimants.

A more pervasive concern, articulated by a number of the critics of climate change litigation, is that the focus of regulatory efforts should be on developing national and international laws to address climate change in a top-down, coordinated fashion. They argue that bottom-up modes for generating legal change run the risk of being piecemeal, uncoordinated and even contradictory. As highlighted in the parts that follow, this criticism, in our view, simultaneously overestimates the appetite for concluding far-reaching, timely climate change measures at the national and international levels, and underestimates the complex, multi-dimensional character of climate change regulation. Hence, in the current political environment, while climate change litigation may not provide the whole answer to the problem of climate change, it is increasingly clear that it will be an important part of the answer.

As this view has gained prominence, there has been a corresponding shift in the nature of research and scholarship on climate change litigation. In what we

40. Hari M. Osofsky, The Intersection of Science, Scale, and Law in Massachusetts v. EPA, 9 OR. REV. INT'L L. 233, 233–60 (2007). Hence, while these questions fall outside the scope of the current article they will be treated in detail in the broader book project being undertaken by the authors.

41. See, e.g., Shi-Ling Hsu, A Realistic Evaluation of Climate Change Litigation through the Lens of a Hypothetical Lawsuit, 79 U. COLO. L. REV. 701, 704 (2008) (arguing that “[t]he somewhat tenuous bases for liability in this hypothetical lawsuit tell us a number of things about climate change litigation: (1) that for all the discussion of climate change litigation, the reality is that under current laws, liability is likely to be imposed, if at all, only in a fairly narrow set of circumstances; (2) that although courts have often filled in gaps left by legislative inaction, their ability to adapt to the evidentiary issues posed by global climate change law is limited; and (3) that, in the end, litigation can probably only play a modest role in bringing about reductions in greenhouse gases, and that broad-based legislative and international action must be the primary means of addressing the problem of global climate change.”); Laurence H. Tribe et al., Too Hot for Courts to Handle: Fuel Temperatures, Global Warming, and the Political Question Doctrine, at 12 (Wash. Legal Found., Critical Legal Issues Working Paper Series no. 169, 2010) (arguing as part of their claim that the political question doctrine should have barred climate change nuisance cases that "global climate change raises such manifestly insuperable obstacles to principled judicial management that its very identification as a judicially redressable source of injury cries out for the response that the plaintiffs have taken their "petition for redress of grievances" to the wrong institution altogether.")
have dubbed the “first wave” of such scholarship, the focus was generally on particular, high-profile cases, or the emerging case law in a particular jurisdiction.⁴² Case law in the United States and Australia has often been a focus here given the U.S. Supreme Court’s influential climate law rulings in Massachusetts v. EPA⁴³ and American Electric Power v. Connecticut,⁴⁴ and, in both countries, their relatively long (in climate law terms) history of climate change cases going back to the earliest decisions in 1994 in Australia⁴⁵ and 1998 in the United States.⁴⁶ As climate change case law began to accumulate and accelerate during 2009–2010, and also as such litigation took on a more global profile with the emergence of cases in other jurisdictions, a “second wave” of scholarship emerged. Here the goal, as in Ghaleigh’s seminal piece, has been to try to make sense of the diversity of cases brought in different jurisdictions, under a range of different legal theories and legal regimes, by creating typologies for understanding the function of or motivation for these cases.⁴⁷ This more holistic view of climate change litigation has provided an important foundation for a “third wave” of scholarship concerned with the regulatory impact of such litigation to which both co-authors have been leading contributors.⁴⁸ Key issues in this latter area of research include the following: (1) how has climate litigation shaped the behavior of important actors in the climate regulatory sphere, such as major emitters, financiers and insurers, government decision-makers, and environmental not-for-profit groups? and (2) what part does climate change litigation play in the multi-dimensional climate change regulatory system to foster actions to reduce GHG emissions and minimize associated climate change impacts? As noted by David Markell and J.B. Ruhl—two pioneers of “third wave”⁴⁹ research in the United States—scholarship focusing on the broader impact of litigation necessitates a comprehensive view of the case law in order to identify trends and litigation’s multiple pathways of regulatory influence.⁵⁰ To

⁴⁶. In the Matter of the Quantification of Environmental Costs, 578 N.W.2d 794 (Minn. App. 1998).
⁴⁹. Markell & Ruhl, An Empirical Assessment of Climate Change in the Courts, supra note 36, at 15–86.
that end, this article provides a conceptual mapping in Part III of regulatory pathways for climate change litigation.

II. THE U.S. AND AUSTRALIAN REGULATORY CONTEXTS

In order to provide context for understanding these pathways, this part provides a comparative assessment of the United States and Australian regulatory contexts and how climate change litigation fits into them. These two contexts provide a particularly rich environment for analyzing the role of litigation. Beyond the fact that both countries have been the sites of a tremendous amount of litigation and so contain significant amounts of data to analyze, they also are both major emitters with a significant investment in coal and other fossil fuel resources, and have been slow to take action at international and national levels. Although Australia has surpassed the United States in recent years by becoming party to the Kyoto Protocol and implementing national climate change legislation, litigation has played a significant role in shaping the regulatory paths of both of these common law jurisdictions. This part compares the role of climate change litigation in the two countries by examining each of them individually, and then considering convergences and divergences.

A. U.S. CLIMATE CHANGE REGULATION

The United States plays a pivotal role in global efforts to reduce GHG emissions because of its massive total and per capita contribution. As of 2005, the United States is the second biggest total emitter in the world, surpassed only by China, and 2009 data shows the same ranking for carbon dioxide emissions. The 2009 per capita carbon dioxide emissions of the United States ranked it seventeenth in the world. Moreover, U.S. emissions continue to increase over time. In 2012, the U.S. Environmental Protection Agency (EPA) reported that total U.S. greenhouse gas emissions increased by 11 percent from 1990 to 2010 and 3.3 percent from 2009 to 2010.

Carbon dioxide emissions, most of which are related to fossil fuel production, comprised 83.3 percent of total U.S. emissions as of 2010. Fossil fuel carbon dioxide emissions increased 14 percent between 1990 and 2010—and 3.7 percent between 2009 and 2010 alone—due to a combination of a generally growing economy over that twenty-year period and growth in emissions from electricity production.

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51. Mark McCormick & Paul Scruton, World Carbon Dioxide Emissions Data by Country, supra note 50.
generation and transportation. In 2010, electricity generation accounted for 34 percent, transportation accounted for 27 percent, and industrial emissions accounted for 20 percent of total U.S. greenhouse gas emissions. Agricultural, commercial, and residential sectors provided the other 19 percent of emissions.53

In 2010, U.S. energy consumption among various sources was: 37 percent petroleum, 25.8 percent natural gas, 21.8 percent coal, 8.8 percent nuclear, and 5.9 percent renewable energy.54 The World Energy Council's 2008 data puts U.S. supply and use of its three largest energy sources in global perspective. The United States is the third largest oil producer in the world, though its recoverable resources lag well behind major Middle East producers. It also contains the world's sixth largest proved reserves of natural gas, almost 4 percent of the world total. Finally, U.S. recoverable coal resources, 237,295 million tons, were by far the largest in the world and 28 percent of the global total; the United States was also second in the world for coal production and eleventh in the world for coal used in energy generation.55

Despite the important U.S. contribution to GHG emissions, its regulation of them has lagged. The following sections detail U.S. regulatory approaches at international, national, and sub-national levels, and the ways in which litigation has helped to shape the domestic regulatory approach.

1. United States and the International Climate Change Regime

The United States is party to the UNFCCC and actively participates in negotiations under it. However, it has lagged behind other major emitters in its willingness to make binding commitments. Although President Clinton's administration helped to shape the Kyoto Protocol through U.S. negotiating positions, the U.S. Senate provided such clear opposition to ratification that President Clinton did not even submit the treaty to that body. The Senate unanimously passed a resolution stating that the United States should not become party to the Kyoto Protocol due to its exclusion of developing country major emitters like China and India.56 Under President George W. Bush's leadership, the United States further reinforced its unwillingness to participate in the Kyoto Protocol.57

President Obama brought the United States back into more active participation in the UNFCCC and even played a pivotal role in negotiating the 2009 Copenhagen Accord, but the U.S. international-level position has not changed fundamentally. The nation remains outside of the Kyoto Protocol regime, even as some Parties agreed to a second commitment period at the 2011 Durban and 2012

53. Id.
54. Id.
55. WORLD ENERGY COUNCIL, SURVEY OF ENERGY RESOURCES 2010 (World Energy Council 22d ed. 2010).
Doha negotiations. Instead, the United States continues to press for a universal regime and has made limited voluntary commitments under the Copenhagen Accord.\(^5^8\)

Litigation has not influenced the U.S. international posture substantially. The Inuit’s petition to the Inter-American Commission on Human Rights—claiming that U.S. climate change policy violated the human rights of its U.S. and Canadian citizens—was rejected and does not appear to have changed the formal U.S. position.\(^5^9\) In contrast, domestic litigation, discussed in more depth below, has fundamentally shaped the U.S. national-level approach. These national-level regulatory impacts affect the global contribution of the United States, but have not for the most part been connected directly to the U.S. negotiating position or commitments under climate change treaties. The closest tie was when the Obama Administration announced regulatory action pursuant to the Supreme Court decision in *Massachusetts v. EPA* just before the 2009 Copenhagen negotiations that occurred in the aftermath of comprehensive climate change legislation failing in the U.S. Congress.\(^6^0\)

### 2. Federal Climate Change Regulation

The United States has limited statutory law directly focused on climate change, but has a long-standing robust regime of broader environmental law. Advocates for greater regulation of climate change have pushed for regulation through lawsuits under that more general environmental law. This litigation, particularly under the Clean Air Act paired with the Administrative Procedure Act, has served as a primary driver of federal climate change regulation. Agency action under energy law and economic recovery law complement that environmental regulation. The United States seems likely to continue along this regulatory path for the foreseeable future. Unlike in Australia, which as discussed in Section II.B has legislated to introduce a nationwide carbon price, the U.S. Congress appears to lack sufficient political support to pass comprehensive climate change legislation.\(^6^1\)

In addition to these air pollution control efforts relevant to climate change, the United States has had a limited statutory regime directly focused on climate change. The 1978 National Climate Program Act focused on forwarding scientific understanding of climate change, and President Carter commissioned a


National Research Council Report under that Act. The 1987 Global Climate Protection Act built on the 1978 law, with a focus on establishing "coordinated national policy," forwarding U.S. international leadership on climate change, and supporting additional data collection. Neither of these laws require specific mitigation action, and efforts to pass comprehensive climate change legislation beyond these statutes have repeatedly failed.

The U.S. Clean Air Act, the statute under which the most significant litigation and regulation has occurred, was first passed in 1963. It built upon the 1955 Air Pollution Control Act and has been amended many times, most significantly in the 1970 amendments that brought it into its modern formulation. Other legislation targeting the environment, energy, and economic recovery also have a significant impact on U.S. emissions and, at times, have been a focus of litigation. For example, suits under the National Environmental Policy Act (NEPA) have attempted to incorporate climate change into environmental assessments and actions under the Endangered Species Act have attempted to list species as threatened or endangered based on climate change. The Energy Policy Act of 2005 established national interest electric transmission corridors, which could help bring more renewable energy onto the grid, but legal challenges have slowed the federal government's efforts to implement these corridors. The American Recovery and Reinvestment Act of 2009 resulted in substantial investment in energy efficiency and renewable energy.

Recent U.S. regulation of motor vehicles and power plants under the Clean Air Act stems from the U.S. Supreme Court's 2007 decision in Massachusetts v. EPA. In that case, petitioners challenged the U.S. EPA's denial of a petition requesting that it regulate motor vehicles' GHG emissions under section 202(a)(1) of the Clean Air Act. The parties to the petition mirrored the sub-national divisions in the United States that will be explored more in the next section. Twelve states, a U.S. territory, three cities, and thirteen nongovernmental organizations pushed for the regulation, while the EPA, ten other states, and nineteen

64. Hari M. Osofsky, Diagonal Federalism and Climate Change, supra note 26.
66. Id.
67. Id. § 7401; U.S. Air Pollution Control Act of 1955, 42 U.S.C. §§ 7401-7671q (2006); see also Hari M. Osofsky, Diagonal Federalism and Climate Change, supra note 26.
industry and utility groups opposed it.\textsuperscript{72}

\textit{Massachusetts v. EPA} has shaped federal climate change regulation not only through its direct regulatory impact, but also because of the way in which it approached threshold and substantive issues. Most significantly regarding threshold issues like standing, it decided that at least the state of Massachusetts had sufficient interest in the case to have standing before the Court and that the state had made claims which could satisfy the requirements of injury, causation, and remedy. This ruling both made it easier for other governments to establish standing in future cases and, through its focus on the special sovereign nature of Massachusetts, created substantial uncertainty over whether nongovernmental petitioners would have standing. Substantively, despite a deferential standard of review, the Supreme Court decided that the Clean Air Act’s broad definition of air pollutant applied to GHG emissions despite their substantial differences from the types of pollutants, like those contributing to smog, which were the initial focus of the Act. It found that the EPA had abused its discretion through the manner in which it justified not regulating greenhouse gas emissions and required it to “ground its reasons for action or inaction in the statute.”\textsuperscript{73}

In the several years since this decision, Congress has passed neither legislation to eliminate this Clean Air Act regulatory authority nor additional legislation directly addressing climate change. As a result, EPA regulation pursuant to this decision—often in collaboration with other federal agencies, state governments, and relevant industries—has served as the core of the U.S. federal efforts on climate change. Although the Bush Administration did not act on the \textit{Massachusetts v. EPA} decision in its final months in office, the Obama Administration began taking steps pursuant to the decision immediately upon entering office. It both commenced considering whether GHG emissions from motor vehicles endanger public health and welfare and whether California should receive a waiver to regulate motor vehicle greenhouse gas emissions. Since making the endangerment finding and granting the waiver, the U.S. EPA has created substantial new regulations for both motor vehicles and major stationary sources of GHG emissions. Its regulation of motor vehicle GHG emissions combines authority under the Clean Air Act with that under the Energy Policy Conservation Act of 1975\textsuperscript{74} and other clean air legislation due to the fragmented nature of U.S. law applicable to motor vehicles.

This regulatory approach remains controversial. Those supportive of regulation tend to view regulation under the Clean Air Act as less desirable than comprehensive legislation focused on climate change, while those opposed to

\textsuperscript{72} Hari M. Osofsky, \textit{Is Climate Change “International”?}, supra note 26, 585–650.

\textsuperscript{73} \textit{Massachusetts v. EPA}, 549 U.S. 497, 535 (2007); see also Hari M. Osofsky, \textit{Is Climate Change “International”?}, supra note 26, at 585–650.

regulation continue to view it as inappropriate.\textsuperscript{75} These regulations have been challenged in U.S. courts, but in June 2012, the U.S. District Court for the District of Columbia upheld them in a \textit{per curiam} opinion. The court concluded: "1) the Endangerment Finding and Tailpipe Rule are neither arbitrary nor capricious; 2) EPA's interpretation of the governing [Clean Air Act] CAA provisions is unambiguously correct; and 3) no petitioner has standing to challenge the Timing and Tailoring Rules."\textsuperscript{76} In December 2012, the D.C. Circuit denied rehearing \textit{en banc}, and so to date these regulations appear to be withstanding judicial challenge.\textsuperscript{77}

In addition to lawsuits focused on forcing or limiting governmental regulation of GHG emissions, a smaller subset of claims in U.S. federal courts have focused directly on major corporate emitters under federal common law nuisance doctrine. In June 2011, the U.S. Supreme Court produced its second climate change ruling in one of these nuisance cases, \textit{American Electric Power v. Connecticut}.\textsuperscript{78} With respect to threshold issues, a four justice plurality—with Justice Sotomayor recusing herself—reaffirmed \textit{Massachusetts v. EPA}'s approach to standing and also held that no other threshold issues barred review. This decision on threshold issues did not analyze the political question doctrine—which had been an issue in lower courts—in any depth, but indicated that it would not pose a barrier to review. However, after finding that these public nuisance claims fell within the limited parameters of federal common law, the Court used the displacement doctrine to foreclose federal public nuisance as a pathway so long as the EPA retained its authority to regulate GHG emissions under the Clean Air Act. In the process of its analysis, the Court reinforced regulatory suits under the Clean Air Act and Administrative Procedure Act as an appropriate way to shape the path of climate change regulation. The Court did not reach the question of whether state law nuisance claims were preempted, an issue that has not yet been resolved in other courts.\textsuperscript{79}

Thus, at the federal level in the United States climate change regulation is proceeding along pathways shaped by the Supreme Court despite the lack of political will to produce comprehensive legislation. This approach leaves U.S.

\textsuperscript{75} Hari M. Osofsky, \textit{Litigation's Role in the Path of U.S. Federal Climate Change Regulation}, supra note 25.


\textsuperscript{77} Coal. for Responsible Regulation, Inc. v. E.P.A., 2012 WL 6621785 (D.C. Cir., Dec 20, 2012) (No. 09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038) (denying rehearing \textit{en banc}).

\textsuperscript{78} 131 S. Ct. 2527 (2011).

regulation vulnerable to changes in presidential administrations that influence the enforcement efforts by the U.S. EPA and other agencies, and to ongoing legal challenges. However, the inertia in the U.S. Senate that stymies the passage of comprehensive climate change legislation will also likely prevent legislative action to strip the U.S. EPA of its authority to regulate GHG emissions under the Clean Air Act.

3. State- and Local-Based Climate Change Regulation

Due to the federal system of government in the United States, state and local governments have substantial powers relevant to climate change mitigation and adaptation. Specifically, most land use planning and energy decision-making occurs at sub-national levels. In addition, the federal environmental statutes have numerous provisions that allow states flexibility in implementation and, at times, opportunities to exceed federal standards. These provisions vary in whether they set a minimum standard for states (floor preemption), mandate particular standards for states (ceiling preemption), or defer to the states with minimal preemption. As a consequence of these various powers, state and local governments, along with interstitial regional entities, form an important part of the U.S. regulatory landscape relevant to climate change.

As at the federal level, litigation has played a crucial role in state and local regulatory approaches. States and localities have been parties in lawsuits over federal regulation, states have sued the federal government to have the ability to regulate GHGs more stringently than federal agencies, state and localities have faced lawsuits over their climate change statutes and regulations, states have sued their localities to force climate change regulation, and state courts have heard a diverse set of claims involving climate change.  

For example, cities and states were parties in both Massachusetts v. EPA and American Electric Power v. Connecticut. California sued the EPA over its denial of a waiver that would allow the state to regulate motor vehicle GHG emissions prior to the Obama Administration granting the waiver, which ended the case. California is currently facing challenges to its...
state climate change laws and has sued San Bernardino County for failing to include climate change in its general plan. Numerous challenges to projects, particularly involving coal-fired power plants, have been heard in state courts. As these examples indicate, the deep divides among states and localities regarding climate change complicate the regulatory role of these lawsuits; some states and localities support stronger regulation and some oppose it.

By far the most common type of climate change lawsuit in the United States is that challenging coal-fired power plants. While many of these cases are litigated in federal courts, a substantial number take place in state-level tribunals due to the critical state role in land use planning and energy regulation. This litigation, even when ultimately unsuccessful, often delays projects involving coal-fired power plants or makes them more expensive. In the aggregate, these cases over power plants, and the other diverse regulatory roles that U.S. states and localities play as they interact with litigation, have a substantial influence over the overall U.S. regulatory approach.

B. AUSTRALIAN CLIMATE CHANGE REGULATION

As in the United States, climate change regulation in Australia has encountered significant political obstacles and has been forced to navigate federal-state tensions over the issue. Central to the Australian climate change regulatory story is the country's economic dependence on fossil fuel production and exports, particularly coal. Coal is Australia's largest commodity export, earning the


84. For a summary of these cases, see GERRARD ET AL., U.S. CLIMATE CHANGE LITIGATION CHART, supra note 79.


country around $36 billion in 2009–2010. Australia has the fourth largest
proved recoverable coal reserves and is currently the largest coal exporter in the
world. The majority of Australian coal mining and other fossil fuel production
(current and planned) is concentrated in the States of Queensland, Western
Australia, and New South Wales. Consequently, there has been strong political
support in these states for policies that support continuing high levels of fossil
fuel production and export.

Within Australia, energy production is also heavily dependent on fossil fuel
energy sources. In the financial year 2009–2010, brown and black coal supplied
37.5 percent of Australia's energy consumption, while oil supplied 34.6 percent
and gas 23.1 percent. Renewable energy sources, including hydroelectric and
wind power, supplied the remaining 4.8 percent. Emissions from electricity
power generation thus form the lion's share (thirty-seven percent) of Australia's
overall GHG emissions profile. Other significant contributors to Australian
GHG emissions are the transport sector (fifteen percent) and agriculture (fifteen
percent). Unlike many other developed countries whose emissions profiles
decreased with the global financial downturn, Australia's annual emissions are
growing, largely due to increases in fugitive and other emissions associated with
booming fossil fuel production. Australia also has very high per capita
emissions: with the exception of Luxembourg, Australia produces more carbon
pollution per person than any other developed country in the world.

In global terms, Australia's annual GHG emissions represent less than 1.5
percent of total emissions, positioning the country as the world's fifteenth
largest emitter. It is important to appreciate, however, that this figure accounts
only for onshore emissions; emissions that result from combustion of the fossil
fuels Australia exports overseas are not counted in the national inventorying
process. When these emissions are factored in, Australia jumps up to around

88. WORLD ENERGY COUNCIL, SURVEY OF ENERGY RESOURCES 2010, at 5 (World Energy Council 22d ed.,
2010).
89. ANDREW SCHULTZ & REBECCA PETCHEY, ENERGY UPDATE 2011, at 4 (ABARES 2011).
90. COMMONWEALTH OF AUSTL., SECURING A CLEAN ENERGY FUTURE: THE AUSTRALIAN GOVERNMENT'S
CLIMATE CHANGE PLAN, at 13 (2011).
91. Indeed, the Australian federal Department of Climate Change and Energy Efficiency predicts "business
as usual" emissions growth of 22 percent between 2000 and 2020. See COMMONWEALTH OF AUSTL., SECURING A
CLEAN ENERGY FUTURE, supra note 90, at 15 (2011).
93. COMMONWEALTH OF AUSTL., SECURING A CLEAN ENERGY FUTURE, supra note 90, at 11 (2011). See also
DEP'T OF CLIMATE CHANGE AND ENERGY EFFICIENCY, COMMONWEALTH OF AUSTL., AUSTRALIA'S NATIONAL
94. Mark McCormick & Paul Scruton, World Carbon Dioxide Emissions Data by Country, supra note 50.
95. This inventorying process is conducted under the National Greenhouse and Energy Reporting Act 2007
(NGER Act), described infra.
POL. ECON., no. 61, 2008 at 201–19.
the tenth largest emitter, ahead of countries with larger populations, such as the United Kingdom. Moreover, if current plans for increasing fossil energy exports are realized, Australia’s carbon footprint may reach 2.2 billion tons per year by 2030, making it the world’s third or fourth largest contributor to global warming. In the absence of a robust international regime, targeted to achievement of sustainable emissions levels (such as the levels necessary to avoid warming of greater than two degrees Celsius), the policies of countries, such as Australia, that are large fossil fuel exporters assume greater significance.

1. Australia and the International Climate Change Regime

Reflecting its domestic political and economic priorities around fossil fuel production and export, Australia’s record of engagement with the international climate change regime has been mixed. Under the federal Labor government led by Bob Hawke and Paul Keating (1983–1996), there was significant political support for Australia’s participation in the international climate change regime and Australia was one of the first nation-states to ratify the UNFCCC. By the time of finalization of the Kyoto Protocol negotiations in 1997, however, the federal political context had altered dramatically with the election of the conservative Howard government in 1996. Australia’s new federal government participated in the Kyoto negotiations, securing key concessions in the Protocol’s text.

The Howard government subsequently signed the Kyoto Protocol in 1998. However, its close ties to the Bush administration in the United States led the Australian government to follow the Bush administration when the latter rejected the Protocol in 2001. On World Environment Day in 2002, Prime Minister John Howard announced that Australia would strive to meet its Kyoto Protocol target, but would not ratify the treaty due to its potential to damage the Australian economy.


98. Clive Hamilton, Scorcher: The Dirty Politics of Climate Change (Black Inc. 2007) at 74. These concessions included a generous first commitment period emissions reduction target for Australia of 108 percent of 1990 levels and inclusion of the so-called “Australia clause” in article 3.7: Clive Hamilton & Lins Vellen, Land-Use Change in Australia and the Kyoto Protocol, 2 ENVTL. SCI. & POL’Y 145 (1999). Article 3.7 of the Protocol is known as the “Australia clause” as it applies almost exclusively to Australia as the only developed country that had significant land-clearing emissions in 1990. Id at 145. In effect this provision allowed Australia to include net emissions from land clearing, which were very high during the 1980s, in the calculation of its 1990 emission levels that formed the baseline for emission cuts over the first commitment period. Because emissions from land clearing dropped sharply after 1990, the effect of the artificially high baseline was to reduce the emission reductions necessary in other sectors of the Australian economy to meet its first commitment period target. Australia’s Fifth National Communication on Climate Change, submitted to the UNFCCC Secretariat in March 2010, indicated that Australia was on track to meet its Kyoto target without relying on the Protocol’s flexibility mechanisms, with emissions projected to reach 106 percent of 1990 levels over the first commitment period. See Commonwealth of Aust., Australia: Australia’s Fifth National Communication on Climate Change (2010), at 6.
In view of Australia's small contribution to global GHG emissions (in absolute, rather than per capita, terms), the Howard federal government's refusal to join the Kyoto Protocol was not significant in delaying the entry into force of the Protocol (unlike that of the United States). It was only when the government of Prime Minister Kevin Rudd was elected in 2007 that Australia finally ratified the Kyoto Protocol, some two-and-a-half years after its entry into force on February 16, 2005.

In the ongoing negotiations concerning future international arrangements, Australia has proved to be a rather fickle friend of the Kyoto process, often taking positions closely aligned with that of the United States. At the Copenhagen conference in December 2009 Australia was one of a number of developed countries to advocate the disbanding of the Kyoto Protocol and its replacement with a new treaty that would impose binding emissions reduction cuts on both developed and developing countries. The failure of the Copenhagen conference to produce such a treaty, or anything approaching it, delivered a heavy blow to the Rudd Labor government, which had tied the fate of its domestic mitigation measures in the form of the "Carbon Pollution Reduction Scheme" to the emergence of a comprehensive (i.e., covering both developed countries and major developing country emitters) international agreement on cutting GHG emissions. Australia was, however, quick to associate itself with the non-binding Copenhagen Accord, submitting self-determined emission-reduction targets in January 2010: an unconditional pledge to reduce emissions by five percent of 2000 levels by 2020, with additional reductions of up to fifteen percent and twenty-five percent possible depending upon the level of action taken by other states. The 25 percent reduction will apply if there is "an ambitious global deal capable of stabilising levels of greenhouse gases in the atmosphere at 450 ppm CO₂-eq or lower." More recently, and perhaps in light of the introduction of new domestic carbon pricing measures, Australia changed tack once again in its international climate policy. In September 2011, in the lead-up to Durban COP17, Australia and Norway issued a joint proposal designed to sketch out a pathway for global climate negotiations to agree by 2015 on a "legal agreement with binding


103. See section III.B.2 infra.
mitigation commitments by both developed and developing countries, especially from major economies.\textsuperscript{104} The Durban COP was hailed as a success by the Australian government for delivering on what it claimed were Australia's key objectives going into the negotiations, namely, building on the emission-reduction pledges made at previous COPs, moving towards a legal framework to cover all major emitters, and promoting market mechanisms.\textsuperscript{105} The extension of the Kyoto Protocol to a second commitment period that commenced January 1, 2013, was also a favorable decision from Australia's perspective since it enabled the carbon market (and its supply of cheap international credits for the purposes of meeting domestic compliance obligations) to continue under the Clean Development Mechanism.\textsuperscript{106} Shortly before the Doha COP in December 2012, Australia announced that it would participate in the Protocol's second commitment period.\textsuperscript{107} However, the prospects for continuing robust Australian engagement with the UNFCCC look dim following the election of a new conservative government in September 2013. Prime Minister Tony Abbott has declared his government's "first order of business" will be to repeal the legislation for the national carbon pricing mechanism introduced by the previous government to implement Australia's international climate change commitment.\textsuperscript{108}

Like the United States, Australia has not been directly influenced by international-level litigation in its international negotiating positions. The main international-level petitions relevant to Australia have been requests to the World Heritage Committee for listing of Australian world heritage sites, including the Great Barrier Reef, as "in danger" due to climate change.\textsuperscript{109} However, like the Inuit Inter-American petition in the U.S. context, these petitions—which, with


others focused on sites in additional countries, resulted in further study by the World Heritage Committee but no danger listing—may have indirectly influenced Australian’s evolving approach to the UNFCCC regime.\textsuperscript{110}

2. Federal Climate Change Legislation

Under the Australian Constitution, the federal government has primary legislative responsibility for the enactment of legislation implementing international treaty obligations such as those under the UNFCCC and the Kyoto Protocol.\textsuperscript{111}

Prior to 2007, however, federal climate change legislation was sparse, reflecting the Howard government’s policy position that “[t]aking precipitate or costly action to reduce emissions if not placed within a sensible international and domestic framework, would erode Australian industry’s ability to compete internationally and would impose serious and damaging costs on the Australian economy.”\textsuperscript{112}

As a consequence, most of the climate change measures introduced during the tenure of the Howard government were voluntary in nature and focused primarily on “no regrets” interventions such as promoting energy efficiency.\textsuperscript{113} The only mandatory legislative scheme introduced by the Howard government was the Mandatory Renewable Energy Target (that continues as the Renewable Energy Target today), which sought to increase the share of electricity produced using renewable sources by a very modest two percent by 2010.\textsuperscript{114} This scheme was substantially overhauled by the incoming Rudd Labor government, which increased the target to a twenty percent renewables share by 2020.\textsuperscript{115} The other key

\begin{itemize}
  \item \textsuperscript{111} AUSTRALIAN CONSTITUTION § 51(29).
  \item \textsuperscript{113} See, \textit{e.g.} Energy Efficiency Opportunities Act 2006 (Cth) (Austl.).
  \item \textsuperscript{114} Renewable Energy (Electricity) Act 2000 (Cth) (Austl.).
  \item \textsuperscript{115} \textit{Id.}\
\end{itemize}
piece of legislation enacted by the Howard government was the National Greenhouse and Energy Reporting Act, 2007 (NGER Act). This legislation introduced a national scheme for the reporting of information about corporate greenhouse emissions, energy production, and energy consumption. In and of itself, the NGER Act does not institute any requirement for reporting corporations to decrease their GHG emissions as it is purely a procedural and informative mechanism. The broader significance of the NGER Act stems from its capacity to supply the necessary reporting infrastructure for emissions trading: the function it serves under the Australian carbon pricing mechanism.

After a tortuous political process, which saw the fall of leaders of both major parties and the jettisoning of a proposed "Carbon Pollution Reduction Scheme" (CPRS) in November 2011, the Australian government, led by Prime Minister Julia Gillard, subsequently passed a legislative package introducing a "carbon pricing mechanism," as well as foreshadowing a range of complementary regulatory measures. Unlike the previous CPRS proposal, framed in expectation of the emergence of an international agreement at Copenhagen, the new carbon pricing scheme was introduced despite acknowledgement of the uncertainty over future multilateral action.

As a country whose economic health is closely tied to emissions-intensive forms of energy generation and exports of coal and other fossil fuels, one might expect that any national emissions trading scheme (ETS) adopted in Australia would be modest and heavily circumscribed in its scope and coverage. However, a strange confluence of domestic political factors, which positioned the Australian Greens party as a key player in the federal parliament, saw a more far-reaching and ambitious approach taken. The national carbon pricing mechanism that took effect on July 1, 2012, applies to a range of major carbon polluters in the stationary energy, waste, rail, domestic aviation and shipping, mining, and industrial processes sectors. The carbon pricing mechanism commenced with a fixed price period of three years (with a starting carbon price of $23 per ton), and is scheduled to transition to a fully flexible ETS from July 1, 2015. While the default emissions reduction target for the scheme is extremely modest—five percent below 2000 levels by 2020—there is capacity for the emissions cap to be set during the fully flexible period in light of international developments, including more ambitious action on climate change mitigation at the global level or in other countries and regions. An important element of the legislative

117. Carbon Pollution Reduction Scheme Bill 2009 (Austl.).
119. COMMONWEALTH OF AUSTL., SECURING A CLEAN ENERGY FUTURE, supra note 90.
120. RODNEY TIFFEN & ROSS GITTINS, HOW AUSTRALIA COMPARES, (Cambridge Univ. Press 2d ed. 2009).
121. Clean Energy Act 2011 § 14 (Cth) (Austl.).
package is the establishment of an independent Climate Change Authority—modeled on the Committee on Climate Change established under the United Kingdom’s Climate Change Act 2008—to advise the government on appropriate settings for the scheme’s pollution caps.  

Despite these innovative features of the Australian carbon pricing mechanism, many potential problems remain. The most pressing of these is the likely repeal of the Clean Energy Act and dismantling of associated institutions by the Abbott government. Another important limitation of the scheme is that it applies only to the “scope 1” (direct) emissions of liable entities. Consequently, the carbon pricing mechanism is predicted not to have a substantial effect on the Australian coal industry since offshore emissions (that is, when exported coal is burnt for power generation in other countries) fall outside the regime. In the absence of any workable technological fix (carbon capture and storage, although heavily promoted and subsidized by Australian governments, is not yet technically or commercially viable), high levels of GHG emissions from the combustion of Australian coal are set to continue, largely unregulated by the centerpiece of Australia’s domestic regulatory climate change response. In this context, climate change litigation that seeks to ensure offshore emissions are factored into local decision-making processes may be an important complement to carbon pricing, mediating between the domestically-focused operation of the mechanism’s emissions reduction requirements and the broader global context of GHG emissions’ production and climate change effects.

3. State-Based Climate Change Regulation

As in the United States, Australia’s federal governance system has facilitated the emergence of a diverse array of climate change policies and regulatory measures at the state level. Australia’s six states enjoy substantial autonomy to enact their own laws in the areas of climate change, land-use planning, and environmental protection, subject to the constitutional requirement that such laws do not conflict with federal laws that are designed to cover the field. A number of the climate change measures enacted by Australian states have been fairly progressive. The most populous Australian state, New South Wales (NSW), for example, was the first jurisdiction in the world to introduce an ETS targeting

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122. Climate Change Authority Act 2011 (Cth) (Austl.).
123. Clean Energy Act 2011 (Cth) (Austl.).
124. Sarah Clarke and Andrew Greene, Environmental Policy: Where the Parties Stand, ABC News, http://www.abc.net.au/news/federal-election-2013/policy/climate-change. The Abbott government has shown no wavering in its determination to repeal the “carbon tax” although the new make-up the Senate that will take effect on July 1, 2014 when new senators take their positions may delay the repeal legislation.
125. Clean Energy Act 2011 § 30 (Cth) (Austl.).
126. AUSTRALIAN CONSTITUTION § 109.
GHG emissions in the energy generation sector. In 2005, NSW set an aspirational target to reduce its emissions by sixty percent from 2000 levels by 2050. Other states have developed their own emissions reduction targets: South Australia has a target of forty percent below 1990 levels by 2050; whereas over the same period Tasmania is seeking a reduction of sixty percent on 1990 levels. In support of these targets, states have introduced a variety of energy regulation measures in the form of renewable (or low emissions) energy targets, energy efficiency measures, and regulatory schemes to promote renewable energy uptake, such as feed-in tariffs. Overall, the pattern evident in Australian state-based climate regulation is of a mosaic of different policies and legislation, which while not directly contradictory, generally evince no common approach. Instead regulations have been designed by each jurisdiction in accordance with its own circumstances and policy priorities.

The only attempt to devise a coordinated state response to climate change came in the early 2000s when state governments, frustrated with the Howard federal government’s reluctance to adopt a national ETS, put forward their own proposal for an inter-jurisdictional ETS, similar to regional schemes operating in the United States such as the Regional Greenhouse Gas Initiative (RGGI). However, this proposal was put aside due to the commitment by the incoming Rudd government to introduce a national scheme in the form of the CPRS. Although the CPRS legislation failed to secure Senate support and was shelved in 2010, legislation for the introduction of a national carbon pricing mechanism was successfully passed in 2011. Since that time (and with changes of government in favor of more conservative parties in a number of states), the pattern of state engagement with the issue of climate change has been more characteristic of a “race to the bottom” than a “race to the top.” Energy regulations such as feed-in tariffs have been rolled back in a number of states. In the State of Victoria, which introduced a specific Climate Change Act in 2010, including powers for the state Environment Protection Authority to regulate GHG emissions from industry and power generators, amendments passed by the new state government in 2012 repealed these powers, as well as the Act’s binding 2020 emissions reduction target. The amendments implemented the recommendations of a review of the

128. NEW SOUTH WALES GOVERNMENT, NSW STATE PLAN—INVESTING IN A BETTER FUTURE, at 37 (2010).
129. Climate Change and Greenhouse Emissions Reduction Act 2007 § 3 (SA).
130. Climate Change (State Action) Act 2008 § 5 (Tas).
133. Climate Change and Environment Protection Amendment Act 2012 §§ 4 and 18.
legislative scheme, which sought “streamlining” of the Act’s provisions on the basis that introduction of the national carbon pricing mechanism “changes the policy role of the State Government in mitigating greenhouse gas (GHG) emissions to a complementary one.”134

4. Planning Disputes over Coal Mines, Coal-Fired Power and Adaptation

Frustration with the slow progress of national climate change regulation under the Howard government, gaps in the coverage of the federal carbon pricing scheme (coupled with its likely repeal),135 and the lack of a consistent, comprehensive approach to climate change regulation at the state-level have led many in the environmental community to look to the courts as a way of fostering regulatory momentum for a "clean energy”136 transformation in Australia.137 The vast majority of such cases have been brought under land-use planning and environmental assessment laws, which generally involve decision-making on development applications at the state or local level. Major projects with impacts on “matters of national environmental significance,”138 such as the world heritage-listed Great Barrier Reef, may also attract federal environmental assessment requirements under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).139

Unlike in the United States, there has been no Australian case to date seeking to hold corporate emitters liable for damage caused by GHG emissions.140 Instead, cases have generally involved public (administrative) law actions seeking judicial or merits review141 of government decision-making under applicable

135. Motor vehicle emissions and agriculture are also major omissions from the coverage of the scheme, alongside offshore emissions from Australian fossil fuels.
136. “Clean energy” is used in different ways by different authors. Here we use it to mean energy sources with zero carbon emissions. However, the term can also encompass low emissions sources, such as natural gas. See, e.g., the definition used by the Australian Government: “clean energy” is “sources of energy, technologies or processes that produce lower or zero greenhouse gas emissions relative to conventional counterparts and that meet appropriate social, environmental, health and safety standards.” AUSTRALIAN GOVERNMENT, DEPARTMENT OF RESOURCES, ENERGY AND TOURISM, DRAFT ENERGY WHITE PAPER: STRENGTHENING THE FOUNDATIONS FOR AUSTRALIA’S ENERGY FUTURE, at 198 (2011).
140. The case of Gray v. Macquarie Generation (2010/2011) came close, with the claimants seeking to hold Bayswater power station liable for its carbon dioxide emissions under NSW pollution control legislation. However, despite partially succeeding before the NSW Land and Environment court, the case was struck out by the NSW Court of Appeal on the basis that the power station’s environmental license provided a complete defense to the argument that Macquarie Generation were willfully or negligently disposing of waste through emissions of carbon dioxide. It is not clear, though whether this decision would be followed by other Australian state courts.
141. In a “merits review” hearing the court re-exercises the powers of the original decision-maker, i.e., the
planning and environmental assessment laws. These cases include challenges to coal-fired power plants (both new facilities and the extension of existing plants), coal mines, and development proposals that take insufficient account of future climate change impacts (for example, as a result of sea level rise). There is also a growing body of planning legal challenges to renewable energy projects, such as wind farms, on the basis of their local environmental and amenity effects. These projects have been defended by reference to the broader-scale benefits of renewable energy as a climate change mitigation measure.

While Australian climate change litigation is less prevalent than in the United States, at around fifty decisions to date, these cases represent a significant body of jurisprudence. The number of decided climate change cases in Australia outnumbers those in the United Kingdom, Canada, New Zealand, Germany, and even the European Union (where cases have been mostly concerned with enforcement of the EU’s emissions trading scheme). Underpinning the growth of climate change litigation in Australia is concern among the public and environmental groups over the environmental effects of a booming coal mining industry, coupled with opportunities for decision-making review and broad standing provisions under many planning and environmental laws that have facilitated challenges to development proposals.

C. COMMONALITIES AND DIVERGENCES

The description in the preceding sections of the United States’ and Australian regulatory approaches, and the role of litigation within them, reveals core commonalities and divergences. This section compares the two regulatory approaches in order to ground the rest of the article’s analysis of the role of litigation in multi-dimensional climate change governance. It focuses in particular on the countries’ emissions profiles and major corporate emitters; the approach to developing climate change regulation and to litigation within their legal systems; and the particular patterns of litigation that have emerged.

First, both countries are major developed country emitters, who have substantial total emissions and per capita emissions. While the United States has substantially more total emissions and a more prominent geopolitical position on climate change, Australia is a higher per capita emitter. Among OECD countries, the United States has the greatest total emissions and Australia the second...
greatest per capita emissions.\textsuperscript{146} In both instances, the high level of emissions results in large part from a heavy dependence on fossil fuels. The United States and Australia produce and consume fossil fuels—particularly coal, gas, and oil—at very high rates and litigation in those countries largely centers around those sources of emissions. As a result, many lawsuits, even when focused on government regulation, have included representatives of the fossil fuel industry, and the nonprofit organizations they create, on the side of the case opposing regulation. In the United States, the leading Supreme Court case, \textit{Massachusetts v. EPA}, represents just one instance among many of this phenomenon.\textsuperscript{147} Even early state court cases in the United States, such as one in the 1990s in Minnesota over a law that included carbon dioxide in an environmental cost valuation scheme, tend to include these dynamics.\textsuperscript{148} The many cases in both countries over coal-fired power plants further illustrate this phenomenon.\textsuperscript{149}

However, these similarities in overall patterns of litigation in the two countries mask some nuanced differences within the fossil fuel industry that are reflected in the details of the litigation dynamics. In both countries, the coal industry has been particularly monolithic in its opposition to action on global warming. Its relatively low profit margins, compared to other fossil fuels such as oil, and lack of diversification mean that the coal industry has little to gain from regulation. In Australia, the country’s economic dependence on coal exports, coupled with the view that the mining industry carried Australia safely through the global financial crisis, has given the coal mining lobby significant influence with government regulators.\textsuperscript{150} In contrast, the oil industry, which is much larger in the United States than in Australia, has a more diverse interaction with climate change regulation, which can be seen in the split in oil companies involved with anti-regulatory lawsuits. Some major oil companies, rather than opposing regulation, have decided to try to influence the regulatory process so that their concerns are taken into account and participate actively in collaborative efforts to address climate change such as the United States Climate Action Partnership.\textsuperscript{151} Overall, though, many fossil fuel industry representatives in both countries oppose

\textsuperscript{146} Mark McCormick & Paul Scruton, \textit{World Carbon Dioxide Emissions Data by Country}, supra note 50.

\textsuperscript{147} Massachusetts \textit{v. EPA}, 549 U.S. 497, 535 (2007).


\textsuperscript{149} For a discussion of these cases, see supra Sections II.A.3 & II.B.4.

\textsuperscript{150} Guy Pearse, \textit{High and Dry}, supra note 99.

action on climate change and participate actively on the anti-regulatory side in litigation.

Second, both countries have democratic, federalist, common law legal systems in which litigation plays an important role in shaping regulatory trajectories and both initially opposed the Kyoto Protocol. This combination has allowed for many different types of opportunities to use litigation as a mechanism for public activism and opposition to government and business decision-making. As the volume of litigation in both countries reflects, concerned nongovernmental organizations and governmental officials have used litigation as a tool to push for regulatory action that was failing to emerge from legislative and planning processes.152

However, the more recent divergence in the two countries' regulatory paths may have implications for the ongoing role of litigation in the two jurisdictions. Australia joined the Kyoto Protocol in 2007 and passed comprehensive climate change legislation setting a price for carbon in compliance with those obligations (although this legislation may be short-lived). The United States has not wavered in its refusal to join the Kyoto Protocol, appears unlikely to pass comprehensive federal legislation, and currently only regulates GHG emissions under long-standing environmental law based on a decision by its highest federal court. This difference, combined with a more litigious culture in the United States, has translated, and likely will continue to translate, into litigation playing much more of a role in establishing the foundational United States regulatory approach than it will in Australia. It also helps to explain the greater presence of anti-regulatory suits in the United States as Australia turns to more climate change adaptation-oriented lawsuits. Even so, the Australian regulatory approach is likely to change; the Abbott government has vowed to repeal the national carbon pricing legislation, and replace it with a widely-criticized "direct action plan that will pay companies to reduce their emissions to below 'business as usual' levels.")153

Litigation is likely to reemerge as a way of pressuring the government and businesses to take action on climate change.

Finally, although the lawsuits reaching the United States Supreme Court continue to be higher profile and play a significant regulatory role, it is important to acknowledge a pattern in the litigation in both countries. Namely, by volume, the vast majority of climate change litigation in both countries focuses on individual coal mining or power projects. Because each case individually is relatively small scale and narrow in scope, there is a danger of missing their cumulative regulatory impact. But their frequency in both countries indicates the potential for opposition to coal power, expressed through litigation, to play a significant regulatory role over time.

152. ADJUDICATING CLIMATE CHANGE, supra note 9.
III. REGULATORY PATHWAYS THROUGH LITIGATION

The global proliferation of climate change litigation, particularly in the United States and Australia, is an interesting phenomenon in and of itself. Yet at a practical level, critical questions remain as to what role litigation can play in moving towards a sustainable, clean energy future and whether such cases offer a "potentially game-changing phenomenon" in the regulatory effort to tackle climate change. Unless the effort is made to connect "the dots between climate change litigation and responses by [regulatory] agencies and the legislature," there is arguably little way of knowing whether climate change litigation is effective as a strategy for reducing emissions and adapting to climate change.

However, tracing regulatory pathways generated through litigation is a complex analytical task as there is no widely agreed method for assessing the link between regulatory development and a particular case. This part proposes a framework for such an assessment, which will provide the basis for future qualitative empirical work building upon this article. The part details our conceptual mapping of possible regulatory pathways for litigation that are consistent with the overall goal of instituting an economy-wide transition to clean energy sources and facilitating climate change adaptation. We draw on United States and Australian case law examples to illustrate those possibilities. In line with the socio-legal tradition framed above and in this part, we regard regulatory outcomes as "not [only] limited to targeted rules that are enforced and monitored, nor . . . to state intervention in the economy and/or civil society," but also as encompassing situations where climate change litigation "influenc[es] the flow of events," by producing formal or direct legal change, or more indirectly through changing the behavior of governmental, corporate and non-governmental actors. We elucidate this concept of direct and indirect pathways against the broader backdrop of the multi-dimensional climate change regulatory system before turning to specific examples of forms of direct and indirect regulation that might result from climate change litigation and the implications of our model for regulating complex problems in the administrative state.

155. Markell & Ruhl, An Empirical Assessment of Climate Change in the Courts, supra note 36, at 83.
156. In the broader project we are undertaking, in which this article serves as a critical conceptual framing, we are tackling this issue by employing a mixed method approach comprising: (1) detailed case study analysis; and (2) qualitative evaluation of the extent to which climate change cases influence subsequent regulatory outcomes. A critical component of evaluating the outcomes of cases is semi-structured interviews conducted in the United States and Australia with environmental litigants, regulators, court officials, and business entities (e.g., developers, emitters, and insurers) with the aim of eliciting detailed information about how climate change cases in each jurisdiction have influenced behavior at an individual and institutional level.
A. VALUE OF PLURALIST AND POLYCENTRIC APPROACHES TO GOVERNANCE

The complex interrelationship between litigation and the actions taken by key actors in the United States and Australia illustrate the cross-cutting nature of climate change governance. Litigation serves as one piece among many in a broader regulatory puzzle in both countries, and an explanation of regulation in either would be incomplete without including litigation in the narrative. However, acknowledging the important role of litigation and these many relationships does not resolve what one’s model of governance would be.\textsuperscript{158} One could view these cases as helping to comprise a country’s regulatory approach in a top-down, treaty-focused governance model.\textsuperscript{159} Or, alternatively, one could adopt a more pluralist/polycentric approach in which various formal and informal activities at multiple levels of government are all viewed as part of climate change governance.\textsuperscript{160}

Under either approach, the regulatory pathways that we are mapping still help to provide an explanation of what happens internally in nation-states.\textsuperscript{161} The value of a pluralist and polycentric approach is that it allows for fuller exploration of a regulatory role for litigation beyond how it contributes to a nation-state’s approach. Such an exploration allows for the possibility that litigation might not simply help to comprise national approaches, but also might complement them. This view potentially expands litigation’s gap-filling role and imbues it with a broader value. Thus litigation could serve not only to fill gaps in national policy that allow for better participation in the international treaty regime, but also to fill gaps that the treaty regime—even if more successful—might still leave. In addition, litigation across jurisdictions may, like agreements among sub-national governments that have no international legal regulatory significance, help to produce important changes in norms and behavior regardless of the existence of gaps.\textsuperscript{162}

This part focuses on the nexus between litigation and regulation in order to construct such a fuller governance model. Exploring the many direct and indirect ways in which litigation interacts with regulation assists a more systematic understanding of its influence in establishing and altering approaches to mitigation and adaptation. Both pro-regulatory and anti-regulatory cases, through their successes and failures, can help to reshape the regulatory landscape.\textsuperscript{163}

\textsuperscript{158} In prior work, for example, Hari Osofsky has suggested a grouping of international legal theory into strict Westphalian, modified Westphalian, pluralist, and critical. Strict Westphalians have a fully state-centric view of the international law. Modified Westphalians still treat the nation-state as central, but view other actors and interactions as important. Pluralists decenter the nation-state, and critical scholars question its legitimacy. See Hari M. Osofsky, The Geography of Climate Change Litigation Part II, supra note 26, at 573–620.

\textsuperscript{159} A modified Westphalian would likely take this kind of approach. See id.

\textsuperscript{160} See sources cited supra note 17.

\textsuperscript{161} See Osofsky, The Geography of Climate Change Litigation Part II, supra note 26.

\textsuperscript{162} Hari M. Osofsky, The Continuing Importance of Climate Change Litigation, supra note 26, at 3–29.

\textsuperscript{163} Preston, Climate Change Litigation (Part 1), supra note 8; Preston, Climate Change Litigation (Part 2), supra note 8.
As noted above, we take a broad view of regulation and governance that considers both the direct and indirect regulatory contribution of litigation. Many cases in both countries attempt to force or limit government regulation or ask courts to regulate corporate behavior. The resolution of these cases, whichever side prevails, directly shapes regulation at federal or state levels. However, we also treat the ways in which these cases impact public opinion or put pressure on key actors as an important part of their regulatory influence.

In so doing, we are further developing prior models of climate change litigation as direct and indirect regulation by dissecting both sets of pathways. Below we explore the diversity of direct and indirect regulatory impacts in order to provide a needed assessment of litigation's role in climate change governance. The section that follows introduces this schema.

B. DIRECT AND INDIRECT REGULATORY PATHWAYS FOR CLIMATE CHANGE LITIGATION

A close analysis of the existing case law and literature on climate change litigation suggests a variety of possible regulatory pathways, illustrated in Figure 1. We have divided pathways into direct and indirect categories, although we recognize that a firm dividing line does not always exist between the categories. Some of the pathways identified are already well-trodden in the case law; some are emerging; and yet others are indications of where future case law may arise. In the following sections, we provide a brief description of each pathway and relevant case examples drawn from the U.S. and Australian litigation experience. These cases include both ones pushing for greater regulation and those opposing regulatory steps.

1. Direct Regulation

In legal systems that maintain adherence to the notion of separation of powers, pathways for courts to act as direct regulators through the mechanism of climate change litigation are, unsurprisingly, rather limited. Nonetheless, even within the framework of a limited judicial power there are possibilities for litigation to give rise to direct pathways for climate change regulation.

Constitutional interpretation: One such avenue relies on constitutional rights to life or to a healthy environment. Such rights could serve as a basis for affected citizens to challenge government action responsible for contributing to climate change and its effects. However, to date, neither jurisdiction has had constitu-

164. For an analysis of the direct and indirect regulatory roles of litigation, see Hari M. Osofsky, The Continuing Importance of Climate Change Litigation, supra note 26, at 3–29.
165. See id.
166. Preston, Climate Change Litigation (Part 2), supra note 8. Human rights claims have already been taken at the international level. E.g., Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States
tionally-based climate change cases. The respective federal Constitutions of Australia and the United States—while conferring judicial review authority on the High Court and Supreme Court respectively to invalidate legislation or executive actions that are judged unconstitutional—do not contain broadly-framed right to life or environment provisions (as exist in some other national constitutions). The U.S. Constitution's Fifth Amendment regulatory takings jurisprudence conceivably could apply to regulation relating to climate change, but there has not been such a case to date.167 More scope for constitutional rights' claims may lie at the State constitutional level in the United States, given the existence of formally entrenched provisions providing protection to environmental and natural resources in some State constitutions.168 As Markell and Ruhl

Figure 1: Conceptual mapping of regulatory pathways for climate change litigation


168. E.g. MONT. CONST. art. XI, § 1.
note, if constitutional/civil rights cases were to emerge they might offer courts the opportunity "to forge a special jurisprudence for climate change."\textsuperscript{169}

Statutory interpretation: A promising avenue for courts to create direct regulatory pathways as a result of climate change litigation arises from cases that target issues of statutory interpretation. In both Australia and the United States, the focus of such cases has been on re-interpretation of long-standing pollution control and environmental statutes in order to encompass newer climate change concerns. These cases have addressed both substantive and procedural provisions.

Substantive Statutory Interpretation: A significant number of statutory interpretation climate cases in the United States pursue what Markell and Ruhl term a "substantive mitigation regulation" claim.\textsuperscript{170} These actions seek to "require a legislature or agency to promulgate a statute, rule, or policy establishing new or more stringent limits on GHG emissions by regulating direct or indirect sources."\textsuperscript{171} Where successful, the result of such cases is to establish a mandate for the legislature or executive branch agencies to undertake climate change regulation.\textsuperscript{172} The most prominent example of this kind of regulatory pathway for climate change litigation is the mandate established via the Supreme Court's interpretation of the federal Clean Air Act in \textit{Massachusetts v. EPA}\textsuperscript{173} for the EPA to introduce regulations limiting GHG emissions from new motor vehicles. The EPA has since engaged in a number of rulemaking exercises in response to this decision, including the issue of an "endangerment finding" in respect of the public health impacts of motor vehicle GHG emissions, establishment of GHG emissions standards for light and heavy-duty vehicles, and creation of limits on emissions from stationary sources.\textsuperscript{174} As discussed above,\textsuperscript{175} these regulations make up the bulk of climate change law at the federal level in the United States and have put the nation firmly on a path of administrative regulation of emissions levels, rather than adopting a market-based approach as was originally favored by the Obama administration.

Less ostensibly successful but arguably still influential have been a series of cases in the United States testing whether GHG emissions are a pollutant "subject

\textsuperscript{169} Markell & Ruhl, \textit{An Empirical Assessment of Climate Change in the Courts}, supra note 36, at 85.
\textsuperscript{170} Id. at 15–86.
\textsuperscript{171} Id. at 33.
\textsuperscript{172} In Australia there is not the same tradition as in the United States, of independent executive agencies operating under legislative mandates since, by and large, laws are administered by government departments that are beholden to government Ministers (members of the executive) and through them to the legislature. Where independent executive agencies have been established in the climate change field, as in the case of the Climate Change Authority, their role is generally limited to one of advising responsible Ministers (although from a political standpoint such advice may be difficult to ignore).
\textsuperscript{173} \textit{Massachusetts v. EPA}, 549 U.S. 497 (2007).
\textsuperscript{175} See section III.A supra.
to regulation” under programs of the Clean Air Act requiring implementation of “Best Available Control Technology” (BACT) requirements. While these claims were not upheld by the courts, they prompted the EPA to clarify the question of the correct interpretation of “subject to regulation,” an issue the agency’s Environmental Appeals Board had identified as being of “national scope.”

When statutory authority and accompanying rules already exist, this litigation pathway also includes agencies using their legislatively-based mandates in courts. For example, the Australian carbon pricing legislation seemed to be leading to the emergence of a new kind of litigation there concerned with maintenance of the statutory regime. The Chair of the Clean Energy Regulator (the agency which administers the scheme) indicated her intention to pursue rigorous enforcement action against liable entities that failed to discharge requirements under the legislation to buy emissions permits to cover their greenhouse pollution.

In addition, the federal competition regulator, the Australian Competition and Consumer Commission, was swift to take action pursuant to its statutory mandate against companies making false claims about increases in the prices of goods and services due to the carbon tax. The ACCC released a fact sheet about “carbon price claims” and its role in preventing misleading and deceptive conduct in this area. In August 2012, the ACCC issued its first fine to a business found to have made a false claim about the impact of the carbon tax. Of course, if the Clean Energy Act is repealed then these avenues will no longer continue to be pursued.

Although the bulk of cases in both countries focus on reducing emissions, an emerging set of cases focus on adaptation concerns. These cases may assist in

176. Clean Air Act, 42 U.S.C. § 7401 (1990). For a list of these requirements, see Markell & Ruhl, An Empirical Assessment of Climate Change in the Courts, supra note 36, at 42, n.60.


178. David Wroe, Carbon Cop to Pull out All Stops, THE AGE (Melbourne), July 2, 2012, http://www.theage.com.au/opinion/political-news/carbon-cop-to-pull-out-all-stops-20120701-21b58.html (quoting the Chair of the Clean Energy Regulator as saying that “If it really appears that [liable entities] are not reporting accurately, then we have information-gathering powers like any other regulator and we will exercise those. If necessary we would go to court.”)

179. See ACCC, Carbon Price Claims, http://www.theage.com.au/opinion/political-news/carbon-cop-to-pull-out-all-stops-20120701-21b58.html; Judith Ireland, Gym fined for pumping up carbon claims, The Age (Melbourne), August 1 2012, online at http://www.theage.com.au/opinion/political-news/gym-fined-for-pumping-up-carbon-tax-claims-20120801-23eb7.html. The actions by the ACCC add to other competition law-related litigation the agency has brought in the past against companies falsely advertising the green/carbon benefits of their products. A prominent example is the case of ACCC v GM Holden Ltd [2008] FCA 1428. The ACCC alleged misleading and deceptive conduct in respect of Saab’s “Grrrrreen” advertising campaign, which claimed: “Every Saab is green. With carbon emissions neutral across the entire Saab range. Saab will plant 17 native trees on your behalf in the first year as a carbon offset.” As a result of the legal action, GM Holden—the owner of Saab in Australia—accepted a court-enforceable undertaking not to republish its original advertisements in the future, and to train its marketing staff in relation to misleading and deceptive green marketing claims. In addition, GM Holden advised ACCC that it would plant 12,500 native trees to offset the carbon emissions for the life of all Saab cars sold during the advertising campaign.
creating linkages in regulation and the public consciousness between mitigation and adaptation. In this category are a series of cases in the United States under the federal Endangered Species Act seeking the listing of particular species on the basis of the species being threatened by the effects of climate change. As Markell and Ruhl note, the same logic could be applied to other conservation statutes in an effort to impose duties on agencies to identify various climate change-threatened natural resources, with significant benefits for overall climate change adaptation. However, arguably these cases are not solely about adaptation. The Endangered Species Act’s stringent requirements around listed species may also trigger mitigation obligations to limit the impacts on those species.

Beyond this more-developed Endangered Species Act and climate change jurisprudence, the United States appears to be moving in the direction of more direct adaptation suits in the aftermath of Hurricane Sandy. A recent petition to the New York Public Service Commission asked it to require all the utilities it regulates to develop and implement plans to adapt to anticipated climate change, with a specific focus on hazard mitigation and disaster response.

A more stringent adaptation approach with implications for mitigation policy may also be the outcome of some Australian climate change cases such as ongoing litigation in Victoria against energy companies in respect of damage caused in the devastating “Black Saturday” bushfires. Several power companies and a company responsible for checking electricity lines were joined as tortfeasors in a class action with the State of Victoria. This joinder highlights the potential liability of companies that provide electricity infrastructure in situations of accelerating bushfire risk under climate change, and could lay the foundations for more comprehensive adaptation measures in the future while also highlighting the need for emissions limitations as a preventative response.

In the Australian coastal adaptation-planning sphere, the case of Walker v. Minister for Planning decided by the New South Wales (NSW) Land and

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181. E.g., Ctr. for Biological Diversity v. Dep’t of Interior, 563 F.3d 466 (D.C. Cir. 2009).
182. Markell & Ruhl, An Empirical Assessment of Climate Change in the Courts, supra note 36, at 15–86.
183. ADJUDICATING CLIMATE CHANGE, supra note 9.
Environment Court serves as another example of the statutory interpretation pathway. In this case the Court determined that a legislative requirement under the state environmental planning and assessment statute relating to consideration of the "public interest" allowed reference to "principles of ecologically sustainable development" included in the Act's objects, and, via those principles, to future climate change impacts.\footnote{Id. at 189, 191–192. The Walker case was overturned on appeal but the judgment of the NSW Court of Appeal nonetheless stressed that it would be an exceptional case where the public interest did not require reference to principles of ecologically sustainable development and that such matters would need to be included at approval stage: see \textit{Minister for Planning v Walker} [2008] 161 LGERA 423 (Austl.) at 454.} Subsequent to the Walker case, the NSW government amended the Standard Instrument Local Environmental Plan to insert a new clause regarding development within the coastal zone and the need to accommodate climate change. This was followed in 2009 by the issue of a NSW government sea level rise policy instituting new benchmarks for sea-level rise planning.\footnote{A change in government in NSW has seen the repeal of this policy leaving decisions about sea level rise planning to local government authorities. \textit{Coastal Management and Adapting to Sea Level Rise (N.S.W. Planning and Infrastructure) http://www.planning.nsw.gov.au/adapting-to-sea-level-rise (Austl.).}}

\textbf{Procedural Statutory Interpretation:} The bulk of climate change cases that have been brought or are being litigated in United States' and Australian courts do not seek a direct reduction in GHG emissions or the implementation of specific adaptation measures. Rather, their goal is to ensure that GHG emissions and climate change impacts are routinely taken into account and adequately evaluated in planning and environmental assessment processes under long-standing state and federal environmental laws. In the United States, a suite of such cases have been launched under the national environmental impact assessment legislation—the National Environmental Policy Act (NEPA)\footnote{National Environmental Policy Act, 42 U.S.C. § 4321 (1969); \textit{e.g.} \textit{Border Power Plant Working Grp. v. Dep't of Energy}, 260 F. Supp. 2d 997 (S.D. Cal. 2003).}—along with State equivalents such as the California Environmental Quality Act (CEQA).\footnote{California Environmental Quality Act, Cal. Pub. Res. Code § 21000 (1970); \textit{e.g.} \textit{Communities for a Better Env't v. Richmond}, 108 Cal. Rptr. 3d 478 (Cal. Ct. App. 2010).} In Australia, seminal cases in this tradition include the case of \textit{Australian Conservation Foundation v. Latrobe City Council} (Hazelwood case)\footnote{\textit{Australian Conservation Found. v. Latrobe City Council} [2004] 140 LGERA 100 (Austl.).}—holding that a planning amendment necessary to enable expansion of one of Victoria's largest coal-fired power stations should consider the "indirect" effects of the amendment in terms of its climate change consequences, and the decision in \textit{Gray v. Minister for Planning} (Anvil Hill case)\footnote{\textit{Gray v. Minister for Planning} [2006] 152 LGERA 258 (Austl.).}—finding that indirect greenhouse gas emissions resulting from the burning of extracted coal were a relevant factor in the environmental assessment of a NSW coal mine. Cumulatively, these cases have firmly established the relevance of GHG emissions/climate change issues to environmental assessment exercises conducted for a range of development
projects.

Some cases have also had specific regulatory flow-on effects. For example, following the Anvil Hill case, the NSW government released a new State Environmental Planning Policy for mining activities requiring the inclusion of indirect emissions in environmental assessments. Similarly, as a result of the Hazelwood decision, the Victorian government concluded a Greenhouse Gas Reduction Deed with the owner of the Hazelwood power station requiring an offset of a portion of the power station's emissions. More broadly, cases requiring assessment of GHG emissions/climate change impacts as part of new development proposals may generate changes in business risk management practices whereby the disclosure of such information becomes routine and/or efforts are made to offset impacts in project design in order to minimize the likelihood of litigation. They also, as described above, may increase the cost of doing business for coal companies.

Common law reinterpretation: Substantial commentary on climate change litigation, particularly in the United States, has focused on this potential avenue of court-led regulatory change. However, none of the U.S. cases seeking to extend common law causes of action to climate change harms has yet to be adjudicated on the merits, and many have not proceeded that far. In Australia, all of the litigation to date has been statutorily-based despite the nation's common law tradition. But commentators have explored the possibility of common law suits on public nuisance and negligence grounds and so this pathway is worth analyzing in that context as well. For example, commentators have considered whether decisions or policies of Australian local governments and other corporate entities that take insufficient account of climate change impacts and thus lead to damage to private property and public infrastructure could give rise to future liability on these grounds.

In the United States, the Supreme Court's decision in AEP v. Connecticut precludes success on a common law federal nuisance theory so long as the U.S. EPA retains its regulatory authority. The Court's reluctance to resolve the issue of non-governmental standing regarding climate change, often relevant in nuisance actions, is currently resulting in splits among lower courts over the issue.

195. NICOLA DURRANT, *LEGAL RESPONSES TO CLIMATE CHANGE* 269–88 (2010); Brian Preston, *Climate Change Litigation (Part I)*, supra note 8, at 3.
198. Id.
If one of the still-pending cases—such as the case of *Kivalina v. Exxon Mobil Corp.*, currently before the San Francisco-based Ninth U.S. Circuit Court of Appeals—was to be successful, it could create significant regulatory momentum in the United States and internationally by exposing large emitters to liability for damages caused by climate change to which their emissions contributed. However, such cases face many hurdles regarding proof of causation and contribution even if they establish standing and successfully address the preemption question that *AEP v. Connecticut* left open for the state law nuisance claims.

In addition, Oregon-based non-profit organization Our Children’s Trust filed lawsuits against all fifty U.S. states and a number of federal government agencies under the public trust doctrine in May 2011. The public trust doctrine treats certain natural resources as owned by the government, which has trust obligations to the public to maintain them for public use and benefit. It varies from state to state, based on their common law traditions, and in some states is also viewed as part of their constitutional or statutory law. These lawsuits claimed that governmental entities were violating their public trust duties by failing to adequately protect the atmosphere through their approach to climate change. Although a number of these lawsuits have already been dismissed, state courts in both Texas and New Mexico held in 2012 that public trust protections could extend to the atmosphere. The ultimate resolution of these and other cases will become clearer as they continue through the court system.

2. Indirect Regulation

Achieving regulatory change as a result of climate change litigation often may come not through direct pathways, where cases generate clear legal reforms (and potential resistance through anti-regulatory climate change suits). Rather, litigation may have its most significant impacts through indirect pathways that harness the activities of non-state actors, such as not-for-profit environmental groups and other community actors, corporate actors, including insurers and financiers, and the legal profession. Pathways that mobilize such actors are also likely to be an important factor in producing the cultural and behavioral shift necessary for realization of a sustainable, clean energy future over the longer-term. Indeed, to the extent that climate change litigation can tie into the broader corporate social

200. For a listing of these cases, see GERRARD ET AL, U.S. CLIMATE CHANGE LITIGATION CHART, supra note 79.
responsibility movement, including sustainability indices and global reporting networks, this may prove a particularly effective route for achieving change. Below we survey several potential indirect regulatory pathways that are evident in the case law record to date.

Prod and plea: Reflecting the limitations of a separation of powers system, courts are often reluctant to rule on climate change issues where they see these as straying into the policy domain of the legislative and executive branches. This restraint is most clearly expressed in the United States through the political question doctrine, which prevents courts deciding non-justiciable political questions, although it appears that doctrine will play a relatively limited role in restraining climate change litigation directly. In the public nuisance context, after lower courts disputed the applicability of the doctrine, a plurality of the United States Supreme Court held in AEP v. Connecticut that no threshold barriers (including political question) prevented the dispute. This ruling will likely constrain political question as a significant argument in future U.S. cases. Arguably, however, the Supreme Court’s focus in that case on the way in which the EPA’s regulatory authority displaces the common law public nuisance pathway reflects a similar impulse to keep climate change regulation on a statutorily based track.202

Nonetheless, where courts feel they have reached the boundary of their official role in a given climate change case, their decisions may still serve as a direct regulatory pathway through the exercise of what Ewing and Kysar have dubbed a “prod and plea” function.203 Accordingly, “[e]ven when a social need exceeds the scope of capacity of a government actor’s role, she may still acknowledge the seriousness of that need and the desirability of action by more appropriate actors.”204 In the United States, Markell and Ruhl cite the case of Re Otter Tail Power Company205 as an example of a court exercising this function.206 In that case, the South Dakota Supreme Court refused to overturn a decision of the Public Utility Commission to issue a power plant permit but commented in its judgment on the “momentous and complex threat to our planet” presented by global warming, the difficulty of resolving such complex issues in judicial proceedings, and the need for policy decisions to be taken by the state executive and legislative branches on the question.207

204. Id. at 354.
205. 744 N.W.2d 594 (S.D. 2008).
In Australia, courts have been less reticent than their U.S. counterparts to “prod” lax governments into climate change regulatory action. A good example is the case of *Gippsland Coastal Board v. South Gippsland Shire Council*\(^{208}\) that determined that a precautionary approach was required with respect to approving coastal development in the State of Victoria in light of future climate change threats such as sea level rise. The *Gippsland Coastal Board* case, together with subsequent Victorian decisions such as the case of *Taip v. East Gippsland Shire Council*,\(^{209}\) advocating proactive adaptation measures notwithstanding the absence or evolving nature of state coastal planning policy frameworks, have been closely followed by Victorian government efforts to develop policy measures and decision-making guidelines for coastal climate change adaptation.\(^{210}\)

**Changing norms and values:** Climate change cases in this category are those where the cases result in changes in norms and values surrounding climate change. These changes may arise, for example, as a result of the desire of a corporate actor to avoid (further) reputational damage or because of the publicity for climate change impacts generated by a case. A good example of the former from the Australian context is the case of *Drake-Brockman v. Minister for Planning*,\(^{211}\) which involved a challenge to the approval for redevelopment of a large and prominent site in central Sydney. The developer won the case. However, in the course of the litigation expert evidence disclosed the significant carbon footprint of the proposed development as a proportion of the total GHG emissions from the City of Sydney local government area. Subsequently, the site was sold to a new developer who committed to address sustainability issues, including GHG emissions. A new concept plan for the development was submitted, including measures for GHG emissions’ reduction and a target of 100% carbon neutrality in the operational phase.\(^{212}\)

The case of *Wildlife Preservation Society of Queensland Proserpine v. Minister for the Environment and Heritage*\(^{213}\) was another “ostensibly unsuccessful” Australian case, which still had some subsequent regulatory impact.\(^{214}\) The case challenged the federal approval issued for two new coal mines on the basis that emissions from burning the coal harvested would contribute to global warming, endangering the World Heritage-listed Great Barrier Reef area. The complain-

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212. Preston, *The Influence of Climate Change Litigation on Governments and the Private Sector*, supra note 144.
ant's claim—although dismissed by the Federal Court—served to highlight the narrow scope of the federal environmental legislation to deal with climate change impacts.\textsuperscript{215} This concern was picked up in a subsequent independent review of the legislation that recommended reforms to the Act to address climate change issues.\textsuperscript{216} Although the recommendations were not implemented, the government subsequently enacted amendments to the legislation that require environmental assessment of “large coal mining developments with significant impacts on water resources.”\textsuperscript{217}

In the U.S. context, the petition by the Inuit to the Inter-American Commission explicitly attempted to serve an expressivist purpose. Then-chair of the Inuit Circumpolar Conference Sheila Watt-Cloutier acknowledged how unlikely formal success was and discussed the case as a basis for starting a human rights dialogue over climate change with the United States.\textsuperscript{218} The nuisance cases arguably serve a similar role. Even though they have yet to succeed formally, their characterization of climate change as a public nuisance potentially influences how GHG emissions are viewed.

Climate change litigation also can serve as a mechanism for empowering non-state actors beyond the corporate sector in ways that may enhance the potential for positive behavioral change. A result of litigation may be, for example, the opening up of pathways for citizens and other community actors to challenge the energy choices of major corporations by reducing conventional hurdles to public interest litigation such as standing, costs, or justiciability barriers. In NSW, the case of Kennedy v. NSW Minister for Planning\textsuperscript{219} presaged this kind of change by endorsing climate change litigation brought in the Walker case as “public interest” litigation, with implications for the application of costs rules.\textsuperscript{220}

Another, less obvious, agent for cultural change in the climate change regulatory space is the legal profession. This group, through the advice they provide to commercial clients, coupled with their generally risk averse attitude,
can also play an important role in shaping the behavioral response to climate change litigation by other actors. Client briefings sent out by major Australian law firms following the *Wildlife Whitsunday* case provide an example: these briefings generally urged adoption of a “prudent course” whereby clients disclose the GHG emissions of future projects and the steps taken to reduce emissions as a way of lessening the potential for litigation and preventing costly delays.\(^{221}\) Similarly, in the United States, corporate and public interest law firms and environmental NGOs increasingly include climate change in their counseling and litigation portfolios.\(^{222}\)

**Increasing costs:** Climate change cases can also give rise to indirect regulatory pathways by increasing the cost of emitting GHGs for large corporate emitters. In both countries, the large volume of cases over coal-fired power plants may make each project a little more expensive, with an aggregate economic influence. One way in which this can occur is through courts imposing conditions on permits or licenses for emitting activities. For example, in the Australian case of *Hunter Environmental Lobby Inc v. Minister for Planning*\(^{223}\) the NSW Land and Environment Court—for the first time in Australia—indicated that it would impose conditions on a mine expansion approval to require the mine to offset its scope 1 (i.e. its direct) emissions.\(^{224}\) More recently, in the State of Victoria, a challenge by non-governmental environmental organizations to a new “Dual Gas” coal-fired power station\(^{225}\) resulted in the Victorian Civil and Administrative Tribunal attaching a condition to the approval of the power station providing that the power station had to replace or displace existing brown coal capacity in the state thereby demonstrating a net reduction in overall GHG emissions from electricity generation in the state.\(^{226}\) In effect, this condition has made it harder for the project to secure financial backing, resulting in a decision by the federal Australian government to withdraw its own $100 million grant to the proposal and casting doubt over the continued viability of the new power station.

The threat of litigation over the climate change impacts of emitting activities

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221. *E.g.* PHILIP MURRAY & SIMON BATTEN, ALLENS ARTHUR, ROBINSON. *GREENHOUSE GAS CHALLENGE TO COAL MINES REJECTED BY FEDERAL COURT; FOCUS: ENVIRONMENT AND PLANNING* (2006).


224. In a judgment handed down on 13 March 2012, *Hunter Environment Lobby Inc v. Minister for Planning* (No 2) [2012] NSWLEC 40, the Court ultimately declined to impose the GHG condition because it found that the *Clean Energy Act 2011* and related legislation would cover most of the mine’s activities which result in scope 1 emissions and therefore the purpose of the condition would be met by the legislation. The Court also found that the extent to which the *Clean Energy Act 2011* would not cover all of the mine’s scope 1 emissions was negligible and therefore the proposed condition was unnecessary. Finally, the Court found that there is an unsatisfactory level of uncertainty in relation to the offsets market sought to be utilised under the condition.

225. The proposal involved integrated drying and gasification of brown coal, which is then used in conjunction with natural gas to fire combined cycle gas turbines for power generation. This process has a lower greenhouse gas intensity than conventional brown coal-fired power.

may also impose additional costs on such activities through the necessity to obtain liability insurance and the potential for rising insurance premiums. In a closely watched case in the United States—AES v. Steadfast227—the Virginia Supreme Court ruled on September 16, 2011 that Steadfast Insurance did not have a duty to defend AES Corp, a utility which is a defendant in the Kivalina case. While the implications of this case for the liability of the insurance industry in relation to climate change harms are not yet clear,228 it nonetheless demonstrates the dynamic relationship between climate change litigation, the obligations of major emitters, and the liability of insurers that have significant potential to shape the emerging regulatory landscape.

C. IMPLICATIONS FOR REGULATING COMPLEX PROBLEMS IN THE ADMINISTRATIVE STATE

The direct and indirect regulatory pathways of the previous section provide the basis for a better understanding of the nuances of climate change litigation’s regulatory role. They reveal varying patterns of influence in the two jurisdictions, which helps add texture to Part II’s comparison of climate change governance in the United States and Australia. This section focuses on these patterns and their implications for the regulation of complex problems in the administrative state.

First, a comparison of the approaches to litigation and their regulatory impacts in the two countries helps to clarify the interaction between legislation and litigation. Both governmental and nongovernmental actors use litigation to fill perceived gaps in the regulatory system by changing the way in which existing legislation is used. The gap-filling mostly takes place through the statutory mandate and interpretation pathways, but the particular usage has evolved as Australia’s legislative path has diverged.

In the early stages, the United States and Australia were quite similar in their overall regulatory posture. Neither had dedicated climate change legislation, resulting in litigation that was a reaction to that gap and which sought ways to fill it. The emphasis on statutory mandates and interpretation in both countries during that period, supplemented by prod and plea and indirect measures, reflects this role for litigation. In the United States, this pattern has persisted as the prospects for comprehensive climate change litigation remain dim; statutory mandates and interpretation have led to the federal regulatory system in place and are actively shaping its scope. Other regulatory pathways continue to complement these primary ones as proactive and anti-regulatory suits are filed in a variety of substantive areas.

In Australia, however, with the enactment of the Clean Energy legislation,

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228. On January 17, 2012, the Virginia Supreme Court took the unusual step of setting aside its original decision and granting a petition for rehearing of the case.
litigation concentrated on filling gaps outside of the new statutory regime and showed some signs of gravitating towards enforcement of the new legislation. As discussed above under the statutory mandates pathway, the independent agency administering the Clean Energy legislation announced its interest in using the enforcement mechanisms of the new statutory regime.\textsuperscript{229} Other lawsuits have targeted the offshore emissions of coal mining that fall outside the scope of the Australian carbon pricing mechanism (which only covers domestic emissions).\textsuperscript{230} If the Clean Energy legislation is repealed we would expect the U.S. and Australian litigation paths to converge once more.

These lawsuits are largely statutory interpretation cases, which try to apply general environmental laws to limit non-covered emissions, or procedurally-oriented ones, which seek to ensure environmental assessment requirements extend to offshore emissions. At the state level in Australia, claimants have also sought to test the utility of dedicated climate change legislation in resisting greenhouse intensive projects, such as new coal-fired power stations. In the \textit{Dual Gas} case, discussed above in the context of indirect economic impacts, the Victorian Civil and Administrative Tribunal agreed with the claimants that the emissions reduction target in place at that time under the Victorian Climate Change Act 2010\textsuperscript{231} was a relevant—albeit not decisive—measure to consider in assessing the compliance of the project with general environmental law requirements.\textsuperscript{232}

These evolving approaches to regulatory gap filling, with an emphasis on statutory mandates and interpretation, indicate a close, iterative relationship between climate change litigation and the existing and emergent regulatory system. The patterns suggest that any model for how the legislative and executive branches at multiple levels should coordinate to address complex problems in the administrative state needs to take into account how litigation might interact with these governance efforts. In particular, the experiences of both countries suggest that the mandating and interpretation pathways often result in changes to presumed statutory underpinnings and barriers.

Second, an application of these pathways to the two jurisdictions reveals important commonalities and differences in not only the substantive focus of the

\textsuperscript{229} See supra notes 158–159.

\textsuperscript{230} See, for example, the case of \textit{Xstrata Coal Queensland Pty Ltd \& Ors v Friends of the Earth—Brisbane Co-op \& Ors, and Department of Environment and Resource Management} [2012] QLC 013, heard and decided during a period when clean energy legislation was being debated in the federal parliament. A particular concern of the Friends of the Earth regarding the proposed Wandoan mine (the largest in the Southern hemisphere) was the extent of the mine’s “scope 3” (i.e., indirect, offshore) emissions.

\textsuperscript{231} \textit{Climate Change Act 2010} (Victoria). Following a review of the legislation, the Victorian government repealed the target set in the legislation, which had called for a twenty percent reduction in greenhouse gases below 2000 levels in Victoria by 2020.

\textsuperscript{232} \textit{Dual Gas Pty Ltd \& Ors v Environment Protection Authority} [2012] VCAT 308 (Austl) at paragraphs 228–240.
litigation, but also the regulatory role that it plays. Particular types of litigation emerge in one jurisdiction but not another, which influences the contours of a regulatory pathway. For example, in both the United States and Australia there is an increasing focus on the adaptation aspects of the climate change problem. However, the way in which litigation has interacted with these adaptation efforts varies significantly in the two jurisdictions. Australia has lawsuits and case law directly mentioning adaptation, whereas U.S. cases are just beginning to focus directly on adaptation beyond the Endangered Species Act context. Similarly, tort lawsuits have played a relatively limited direct role thus far in the United States because of the court opinions constraining them, but have served indirectly to put expressive, economic, and cultural pressure on major emitters. In Australia, lawsuits have focused entirely on statutes rather than drawing from its common law traditions, in part because tort suits are less used in general in that country, but also because such actions face considerable legal hurdles in the form of establishing standing and causation.

These differences raise important questions for the future regulatory role of litigation in both jurisdictions. On the one hand, one can argue that the course of climate change litigation is heavily influenced by the legal culture of the relevant jurisdiction and that a regulatory model that includes litigation simply needs to take that culture into account. Under that view, these pathways help show where litigation has and likely will have the most regulatory influence and the nature of that influence.

On the other hand, one might claim that litigation may not be so path-dependent. A comparative understanding of these pathways could change the future course of litigation by assisting cross-jurisdictional learning. For example, a U.S. NGO might examine whether relevant U.S. law might allow for more direct adaptation cases in the United States that would facilitate mitigation-adaptation linkages and urgent adaptation action. Cases that did not succeed in their direct goals may also serve as an opportunity for learning as well, even as they close direct pathways. An Australian NGO might consider (and many are already actively doing so) mounting a U.S. style tort claim if it thinks it can avoid some of the pitfalls that befell those cases in the United States. And Australian


235. For an example of such a petition, see Petition to the New York Public Service Commission on Natural Hazard Planning, (submitted Dec. 12, 2012).

236. DURRANT, LEGAL RESPONSES TO CLIMATE CHANGE, supra note 192, at 269–288; Brian Preston, Climate Change Litigation (Part I), supra note 8.
major emitters may try to learn from the recent failures of U.S. challenges to regulations as they consider challenging regulation or enforcement under the new climate change statute.

Finally, and perhaps most fundamentally, an examination of these pathways in the context of climate change litigation provides a case study of the benefits and limitations of courts as regulators. The multiplicity of pathways demonstrates the many ways in which courts can be flexible, deliberative, participatory sites for the creation of regulation. In both countries, particularly in the statutory mandate and interpretation contexts, their decisions have led to regulation of climate change that might not otherwise have existed under those statutes. Moreover, as the many indirect pathways reveal, litigants use courts in a wide variety of ways to change the regulatory environment for climate change. The numerous possible pathways have allowed a wide range of public and private stakeholders to support or oppose more extensive regulation of GHGs and the impacts of their accumulation in the atmosphere.

However, this model also reinforces the notion that efforts to use litigation as a regulatory tool can equally face problems of courts' information deficits, narrow interpretation of technical rules such as standing or causation, and complex positionality with respect to policy consequences. Judges themselves often articulate concerns about information, especially regarding climate science, in oral argument and opinions. For example, Justice Scalia expressed his hesitation to engage climate change science in the Massachusetts v. EPA oral argument and the U.S. Supreme Court opinion in AEP v. Connecticut indicated that agencies were more capable than courts to undertake the complex scientific assessments involved with climate change.\textsuperscript{237} The Australian case of Xstrata provides an even starker example of the potentially problematic practices of lay courts attempting to understand and apply climate science principles.\textsuperscript{238} In that case, the court involved questioned the accuracy of well-regarded scientific analyses of climate change such as those of the Intergovernmental Panel on Climate Change, even going so far as to conduct its own reanalysis of scientific conclusions regarding temperature increases over the last half century.\textsuperscript{239}

Skepticism as to the veracity of expert evidence regarding climate change impacts has also made its way—albeit more subtly—into courts' application of causation requirements in claims seeking to link particular projects, such as coal mines or coal-fired power stations, to broader, global climate change. In the

\textsuperscript{237} See sources cited supra note 25.

\textsuperscript{238} Re Xstrata Coal Queensland Pty Ltd [2007] QLRT 33 (Unreported, Koppenol P, 15 February 2007). This decision was subsequently appealed to and overturned by the Queensland Supreme Court: Queensland Conservation Council Inc v Xstrata Coal Queensland Pty Ltd (2007) 158 Local Government and Environmental Law Reports 322.

Australian case of *Wildlife Whitsunday*—involving an administrative law challenge to the decision-making process in respect of two new coal mines and the potential for emissions from the coal harvested to harm iconic ecosystems such as the Great Barrier Reef—Justice Dowsett of the Federal Court expressed his doubt as to the connection between impacts upon such ecosystems and "the burning of coal at some unidentified place in the world, the production of greenhouse gases from such combustion, its contribution towards global warming, and the impact of global warming upon a protected matter . . . ." 240

These pathways make clear the details of courts' efforts to keep appropriate distance from other branches' policymaking functions while recognizing that their decisions necessarily have policy consequences. The direct regulatory approaches in both jurisdictions reveal courts doing this difficult dance in a manner that causes interactions among the regulatory pathways. When courts interpret statutes and address mandates under them, they evince an awareness that these interpretive acts may have lawmakers doing consequences; this awareness is clear both in the decisions that impact regulation through how a court interacts with a statute and when it chooses to "prod and plea." The U.S Supreme Court's nuanced view of its regulatory role particularly came through in its *AEP v. Connecticut* opinion. The Court decided that political question was not a threshold barrier to a common law public nuisance case, but then deferred through the doctrine of displacement to functions of the legislative branch and executive agencies acting under statutory authority. It thus constrained common law avenues through which courts would act as more direct regulators and reinforced statutorily-based ones in which it interpreted statutes and executive branch action under them. 241 The indirect pathways further reinforce the complex regulatory position in which these lawsuits put courts. Even when the litigation does not directly change the regulatory landscape, its moral, economic, and cultural ripple effects connect judges' choices to policy consequences.

**CONCLUSION**

This article's survey of the climate change regulatory landscape, and the role of litigation in the United States and Australia in shaping that landscape, underlines the fundamental nature of climate change as a complex, multidimensional regulatory problem. For many, the first best response to such a problem is government regulation—at national and international levels by executive and legislative branches—established in order to institute coordinated, strong measures for mitigation and adaptation to climate change. Proactive climate change litigation has emerged, at least to some extent, as a response to the


inadequacies of governmental regulatory efforts and is attempting to bridge the
gap that exists between those efforts and the goal of a sustainable, clean energy
future.

However, characterizing litigation as merely gap-filling misses the full spec-
trum of its regulatory significance. Using a broad understanding of regulation, we
have sought to map the wide variety of ways in which climate change litigation
may generate pathways for proactive action to address climate change, as well as
opposition to that action. Harnessing these pathways effectively will require
skillful use of a range of legal mechanisms and theories drawn from diverse legal
areas, from torts law to constitutional law and corporate law. We hope that this
conceptual mapping will inspire specialists in these fields to consider the
contribution that litigation in their different legal fields may make to overall
climate change regulation and, potentially, to other areas of regulation addressing
complex problems. Our conceptual mapping exercise may also be of use to
international and comparative lawyers in seeking to understand the ways in
which climate change litigation might generate transnational and international
regulatory pathways, in addition to domestic ones.

In this article, we have told the story of climate change litigation as primarily
one of progressive lawyers using a range of different legal tools in an effort to
generate broad-based regulatory change towards realization of a sustainable
energy future. As such cases have begun to achieve some successes, such as the
federal regulatory program stimulated by the Massachusetts v. EPA decision, we
have seen a growing body of anti-regulatory cases emerging in the United States,
which the article also has traced. Given experience in the European Union, we
might also anticipate that implementation of the new Australian carbon pricing
mechanism will generate its own share of cases testing the “boundaries” of the
legislation. As climate change litigation moves ahead it will be important to
evaluate the extent to which progressive or anti-regulatory litigation is winning
out in its overall regulatory impact. What is certain, however, is that close and
detailed analysis of the litigation landscape that is emerging will yield important
insights for our understanding of the role of courts and litigants in climate change
policy-making processes and, more broadly, in addressing complex regulatory
problems.
