

# ELR<sup>®</sup>

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## THE ENVIRONMENTAL LAW REPORTER<sup>®</sup>

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- Congress disapproves 2020 methane rule rollback
- EPA reverses changes to Environmental Appeals Board



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# ENVIRONMENTAL LAW AND POLICY ANNUAL REVIEW

2021-2022

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# ELR

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## About ELR® . . .

*ELR*®—*The Environmental Law Reporter*® is an essential online research tool edited by attorneys that provides the most-often cited analysis of environmental, sustainability, natural resources, energy, toxic tort, and land use law and policy. *ELR* has three components:

- Our highly respected monthly journal, *ELR*®—*The Environmental Law Reporter*®, provides insightful features relevant to both legal practice and policy on today's most pressing environmental topics. The journal is available in print as well as online.

- *ELR UPDATE* provides expert summaries three times a month of the most important federal and state judicial and administrative developments as well as federal legislative and international news. Highlights from *ELR UPDATE* may also appear in our monthly journal, but all of the material can be found on our website.

- *ELR Online*, available at [www.eli.info](http://www.eli.info), is a one-stop environmental law and policy research site with access to 50 years of *ELR* articles and analysis; extensive links to statutes, regulations, and treaties; a comprehensive subject matter index to cases and articles; and many other tools.

## Submissions . . .

*ELR* invites readers to submit articles and comments, which are shorter features, for publication. Manuscripts may be on any subject of environmental, sustainability, natural resources, energy, toxic tort, or land use law or policy. Citations should conform to *A Uniform System of Citation* (the "Bluebook") and should include *ELR* citations for materials that we have published. Manuscripts should be submitted by e-mail attachment to [austin@eli.org](mailto:austin@eli.org). We prefer that the file be in Microsoft Word® format.

Opinions are those of the authors and not necessarily those of the Environmental Law Institute or of funding organizations.

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# ENVIRONMENTAL LAW AND POLICY ANNUAL REVIEW

Dear Readers:

The *Environmental Law and Policy Annual Review* (ELPAR) is published by the Environmental Law Institute's (ELI's) *Environmental Law Reporter* (ELR) in partnership with Vanderbilt University Law School. For more than a decade, ELPAR has provided a forum for presentation and discussion of the best environmental law and policy-relevant ideas from the legal academic literature. Published as an annual special issue of *ELR*, ELPAR is designed to fill the same important niche by helping to bridge the gap between academic scholarship and environmental policymaking.

ELI and Vanderbilt formed ELPAR to accomplish three principal goals. The first is to provide a vehicle for moving ideas from the academy to the policymaking realm. Academicians in the environmental law and policy arena generate hundreds of articles each year, many of which are written in a dense, footnote-heavy style that is inaccessible to policymakers with time constraints. ELPAR selects the leading ideas from this large pool of articles and makes them digestible by reprinting them in a short, readable form accompanied by expert, balanced commentary.

The second goal is to improve the quality of legal scholarship. Professors have strong institutional incentives to write theoretical work that ignores policy implications. ELPAR seeks to shift these incentives by recognizing scholars who write articles that not only advance legal theory, but also reach policy-relevant conclusions. By doing so, ELPAR seeks to induce them to generate new policy ideas and to improve theoretical scholarship by asking them to account for the hard choices and constraints faced by policymakers. And the third and most important goal is to provide a first-rate educational experience to law students interested in environmental law and policy.

To select candidate articles for inclusion, the ELPAR Editorial Board and Staff conducted a key word search for "environment!" in an electronic database. The search was limited to articles published from August 1, 2019, through July 31, 2020, in the law reviews from the top 100 *U.S. News and World Report*-ranked law schools and the environmental law journals ranked by the Washington and Lee University School of Law. Journals that are solely published online were searched separately. Student scholarship and non-substantive content were excluded.

The Vanderbilt students then screened articles for consistency with the ELPAR selection criteria. They included only those articles that met the threshold criteria of addressing an issue of environmental quality and offering a law or policy-relevant solution. Next, they considered the articles' feasibility, impact, creativity, and persuasiveness.

Through discussion and consultation, the students ultimately chose 20 articles for review by ELPAR's Advisory Committee, who provided invaluable insights on article selection. Vanderbilt University Law School Prof. Michael Vandenberg, ELI Senior Attorney Linda Breggin, and *ELR* Editor-in-Chief Jay Austin also assisted in the final selection process. Four articles were selected, and two received honorable mentions. Commentary on the selected papers then was solicited from practicing experts in both the private and public sectors.

On April 9, 2021, ELI and Vanderbilt cosponsored a virtual conference where some of the authors of the articles and comments presented their ideas to an audience of business, government (federal, state, and local), think-tank, media, and nonprofit participants. The featured articles were "The Law and Science of Climate Change Attribution"; "Externalities and the Common Owner"; "A Game Changer in the Making? Lessons From States Advancing Environmental Justice Through Mapping and Cumulative Impact Strategies"; and "Zombie Energy Laws." The conference was structured to encourage dialogue among presenters and attendees.

The students worked with the authors to shorten the original articles and to highlight the policy issues presented, as well as to edit the comments received. These edited articles and comments are published here as ELPAR, which is also the August issue of *ELR*. Also included is an article on environmental legal scholarship, which is based on the data collected through the ELPAR review process. We are once again pleased to present the results of this year's efforts.

Linda K. Breggin, Senior Attorney, Environmental Law Institute;  
Lecturer in Law, Vanderbilt University Law School

Jay E. Austin, Editor-in-Chief, *Environmental Law Reporter*

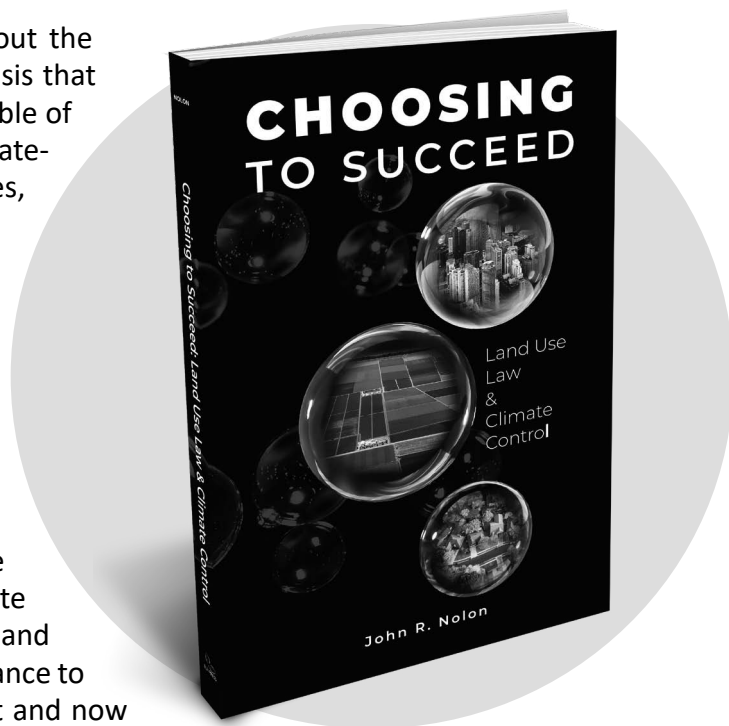
Michael P. Vandenberg, David Daniels Allen Distinguished Chair of  
Law, Vanderbilt University Law School

# Choosing to Succeed: Land Use Law & Climate Control

by John R. Nolon

Land use climate bubbles are popping up throughout the nation at an alarming rate, creating an economic crisis that will be more damaging than that of the housing bubble of 2008. The costs to ecosystems and low- and moderate-income households are equally severe. These bubbles, where land and building values are declining, provide extensive, objective evidence that climate change is real and must be dealt with on the ground. And it sidelines the ideological battles over the political response and instead requires us to focus on the practical question: what can we do to respond?

Climate action seeks to avoid the harm we can't manage and to manage the harm we can't avoid. Local leaders understand the urgency of the crisis and are highly motivated to learn how to prevent and mitigate its consequences. This book describes how the local land use legal system can leverage state and federal assistance to reduce per capita carbon emissions as an important and now recognized component of global efforts to manage climate change. The tools and techniques presented in the book are available to the nation's 40,000 local governments, if led by courageous leaders choosing to succeed in this epic battle.



*“Professor Nolon has pioneered many advances in local environmental law and practically invented the field. Since the 1990s, he has identified the ways local governments influence environmental protection, how they have obtained the power to do it, and followed that with theories of how local players can coordinate with one another and collaborate with large scales of power. Integrating those ideas into a book focused on the climate crisis is a crowning achievement.”*

—Robert Verchick, Gauthier-St. Martin Eminent Scholar and  
Chair in Environmental Law, Loyola University New Orleans College of Law



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C O M M E N T

# ANALYSIS OF ENVIRONMENTAL LAW SCHOLARSHIP 2019-2020

by Linda K. Breggin, Stefan J. Berthelsen, Bryan Davidson,  
and Michael P. Vandenberg

*Linda K. Breggin is a Senior Attorney with the Environmental Law Institute and a Lecturer in Law, Vanderbilt University Law School. Stefan Berthelsen and Bryan Davidson are recent graduates of Vanderbilt University Law School. Michael P. Vandenberg is the David Daniels Allen Distinguished Chair of Law and Co-Director of the Energy, Environment, and Land Use Program, Vanderbilt University Law School.*

The *Environmental Law and Policy Annual Review* (ELPAR) is published by the Environmental Law Institute's (ELI's) *Environmental Law Reporter* in partnership with Vanderbilt University Law School. ELPAR provides a forum for the presentation and discussion of some of the most creative and feasible environmental law and policy proposals from the legal academic literature each year. The pool of articles that are considered includes all environmental law articles published during the previous academic year that match our methodological criteria. The law journal articles that are re-published and discussed are selected by Vanderbilt University Law School students with input from the course instructors as well as an outside advisory committee of environmental law experts.

The goal of this Comment is to highlight the results of the ELPAR article selection process and to report on the environmental legal scholarship for the 2019-2020 academic year, including the number of environmental law articles published in general law reviews versus environmental law journals, and the topics covered in the articles. We also present the Top 20 articles that met ELPAR's criteria of persuasiveness, impact, feasibility, and creativity, from which four articles were selected to re-publish in condensed form with commentaries from leading practitioners and policymakers. Two additional articles received an honorable mention. Thus, this Comment provides an empirical snapshot of the environmental legal literature during the past academic year and information on the top articles chosen by ELPAR.

## I. Methodology

A detailed description of the methodology is posted on the Vanderbilt University Law School and Environmental Law

Institute ELPAR websites.<sup>1</sup> In brief, the initial search for articles that qualify for ELPAR review is limited to articles published from August 1 of the prior year to July 31 of the current year, roughly corresponding to the academic year. The search is conducted in law reviews from the top 100 law schools, as ranked by *U.S. News and World Report* in its most recent report, counting only articles from the first 100 schools ranked for data purposes (i.e., if there is a tie and over 100 schools are considered top 100, those that fall in the first 100 alphabetically are counted). Additionally, journals listed in the "Environment, Natural Resources and Land Use" subject area of the most recent rankings compiled by Washington & Lee University School of Law are searched,<sup>2</sup> with certain modifications.

The ELPAR Editorial Board and Staff start with a keyword search for "environment!" in an electronic legal scholarship database.<sup>3</sup> Articles without a connection to the

1. *Environmental Law and Policy Annual Review*, ENVTL. L. INST., [https://www.eli.org/sites/default/files/docs/elpar/elpar\\_methodology\\_2020-2021.pdf](https://www.eli.org/sites/default/files/docs/elpar/elpar_methodology_2020-2021.pdf) (last visited May 3, 2021) [<https://perma.cc/A29L-GLP5>]; *Environmental Law & Policy Annual Review Online Supplements*, VAND. L. SCH., <http://law.vanderbilt.edu/academics/academic-programs/environmental-law/environmental-law-policy-annual-review/online-supplements.php> (last visited May 3, 2021) [<https://perma.cc/9XP3-PJ6H>].
2. *W&L Law Journal Rankings: Ranking Methodology*, WASH. & LEE SCH. OF L., <https://managementtools4.wlu.edu/LawJournals/Default3.aspx> (last visited May 3, 2021) [<https://perma.cc/FHB8-4GYN>].
3. ELPAR members conduct a search in the spring semester of articles published between August 1 and December 31 of the previous year. In the fall semester, members search each journal for articles published earlier that year, between the days of January 1 and July 31. The exact date of access for each journal varies according to when each individual ELPAR member performed the searches on their assigned journals, but the spring searches were performed in the 4th week of January 2021, and the fall searches were performed in the 5th week of August 2020. In order to collect articles from "embargoed" journals, which are only available on Westlaw after a delay, as well as articles from journals that are published after their official publication date, we set up a Westlaw Alert system to notify us when an article meeting our search criteria was uploaded to Westlaw after ELPAR members conducted their initial searches. A Westlaw Alert was set up for the spring search on January 25, 2020, and ran until August 14, 2020. An alert was set up for the fall search on August 15, 2020, and ran until September 13,

natural environment (e.g., “work environment” or “political environment”) are removed, as are book reviews, eulogies, non-substantive symposia introductions, case studies, presentation transcripts, and editors’ notes. Student scholarship is excluded if the piece is published as a note or comment by a student who is a member of the staff of the publishing journal. We recognize that all ranking systems have shortcomings and that only examining top journals imposes limitations on the value of our results. Nevertheless, this approach provides a useful glimpse of leading scholarship in the field.

For purposes of tracking trends in environmental scholarship, the next step is to cull the list generated from the initial search to ensure that the list contains only those articles that qualify as “environmental law articles.” Determining whether an article qualifies as an environmental law article is more art than science, and our conclusions should be interpreted in that light. We have attempted, however, to use a rigorous, transparent process. Specifically, an article is considered an “environmental law article” if environmental law and policy are a substantial focus of the article. The article need not focus exclusively on environmental law, but environmental topics should be given more than incidental treatment and should be integral to the main thrust of the article. Many articles in the initial pool, for example, address subjects that influence environmental law, including administrative law topics (e.g., Office of Management and Budget processes), or tort law topics (e.g., nuisance claims). Although these articles may be considered for inclusion in ELPAR and appear in our selection of top articles, they are not included for purposes of tracking environmental law scholarship, since environmental law is not the main thrust of these articles.

Each article in the data set is categorized by environmental topic to allow for tracking of scholarship by topic area. The 10 topic categories are adopted from the *Environmental Law Reporter* subject matter index and are: air, climate change, energy, governance, land use, natural resources, toxic substances, waste, water, and wildlife.<sup>4</sup> ELPAR students assign each article a primary topic category and, if appropriate, a secondary category. ELPAR board members assigned each article a sub-category as well.<sup>5</sup> Figure 3 shows

the breakdown of governance articles by sub-category. No other category had sufficient data to provide a meaningful sub-category analysis.

The ELPAR Editorial Board and Staff work in consultation with the course instructors, Prof. Michael P. Vandenberg, and ELI Senior Attorney Linda K. Breggin, to determine whether articles should be considered environmental law articles and how to categorize the article by environmental topic for purposes of tracking scholarship. The articles included in the total for each year are identified on lists posted on the Vanderbilt University Law School website.<sup>6</sup>

## II. Data Analysis on Environmental Legal Scholarship

For the 2019-2020 ELPAR review period (August 1, 2019, to July 31, 2020), we identified 224 environmental articles published in top law reviews and environmental law journals. The 224 environmental articles published in 2019-2020 is a substantial reduction from the 332 published in 2018-2019.<sup>7</sup> Ninety-nine of the 2019-2020 articles were published in journals that focus on environmental law, and 125 were published in general law reviews.

The primary topics of the 224 environmental articles published in 2019-2020 were as follows (see Figure 1): 76 governance articles (33.93%), 33 climate change articles (14.73%), 25 water articles (11.16%), 25 land use articles (11.16%), 24 energy articles (10.71%), 16 natural resource articles (7.14%), 16 wildlife articles (7.14%), 5 air articles (2.23%), 2 toxic substance articles (0.89%), and 2 waste articles (0.89%). Eighty-eight articles were also identified as including a secondary topic, categorized as follows (see Figure 2): 58 governance articles, 23 climate change articles, 3 land use articles, and 3 energy articles. No other topic category was categorized as a secondary topic. Accordingly, the most common topic category was governance, followed by climate change, and then water and land use.

## III. Top 20 Articles Analysis

The Top 20 articles chosen from the pool of eligible environmental law and policy-related articles published during the 2019-2020 academic year can be found in Table 1. Of

2020. Articles caught by the Westlaw Alert system were subsequently considered for selection by ELPAR and added to our data analysis. Law reviews of schools added to the *U.S. News and World Report* Top 100 are searched for the entire year in the fall and spring, but schools removed from the top 100 are not considered moving forward.

4. *Subject Matter Index*, ELR, <http://www.elr.info/subject-matter-index> (last visited May 3, 2021) [<https://perma.cc/Q8PL-82BZ>].

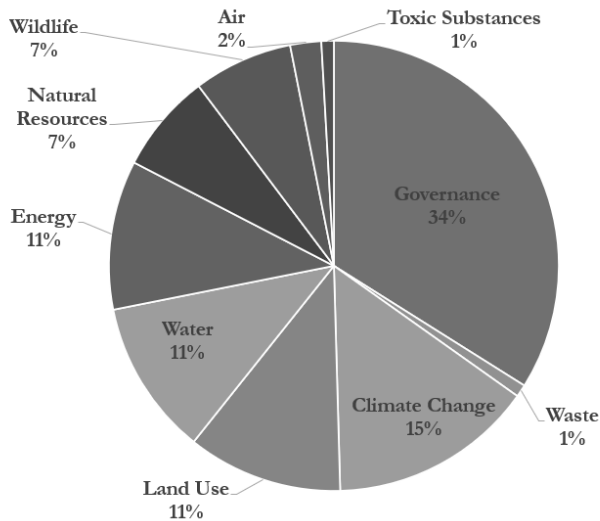
5. *ELR* subject matter index includes subtopics for each topic. For example, subtopics for the governance topic include: administrative law, Administrative Procedure Act, agencies, bankruptcy, civil procedure, comparative law, constitutional law, contracts, corporate law, courts, criminal law, enforcement and compliance, environmental justice, environmental law and policy, Equal Access to Justice Act, False Claims Act, Federal Advisory Committee Act, federal facilities, federal jurisdiction, Freedom of Information Act, human rights, indigenous people, infrastructure, institutional controls, insurance, international, public health, public participation, risk assessment, states, tax, tort law, trade, tribes, and U.S. government. For a list of all the subtopics in each topic, please see the following *ELR* link. *Subject Matter Index*, ELR, <http://www.elr.info/subject-matter-index> (last visited May 3, 2021) [<https://perma.cc/Q8PL-82BZ>].

6. *Environmental Law & Policy Annual Review Online Supplements*, VAND. L. SCH., <http://law.vanderbilt.edu/academics/academic-programs/environmental-law/environmental-law-policy-annual-review/online-supplements.php> (last visited May 3, 2021) [<https://perma.cc/9XP3-PJ6H>].

7. The steep decline in articles this year may be the result of responses to COVID-19. Most of the articles included in this year’s cohort were from 2020 spring and summer publications, some of which appeared to publish less frequently during this period than in prior years. In addition, an increasing number of journals appeared to publish articles exclusively online, leading to less articles published through Westlaw, a trend possibly accelerated by the pandemic. Finally, Westlaw may have had a greater lag in incorporating publications into its database as a result of COVID-19 workplace disruptions, which could have resulted in fewer articles in the pool. Indeed, following the initial article logging process, fewer Westlaw Alerts were received than in the previous year. Additional research would be necessary to assess the extent to which the COVID-19 pandemic contributed to the decline in articles in this year’s pool.



**Figure 1. 2019-2020 Articles Categorized by Primary Topic**



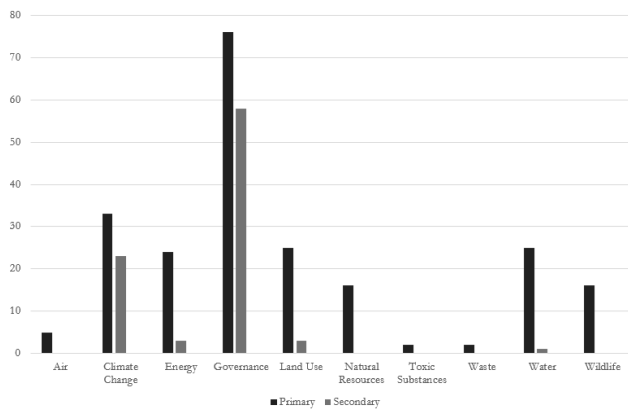
the Top 20 outlined below, six articles called for action by state and local governments as a part of their proposal; six called for action by either federal executive agencies or judicial actors; two articles called for updates to federal or international law; and six articles proposed private governance measures. Many article proposals incorporated federal, state and local, and private entity actions.

Primary topics identified in the Top 20 articles were as follows: seven governance articles, seven climate change articles, four energy articles, one land use article, and one wildlife article. Secondary topics were also identified for several articles: five climate change, four governance, and one land use.

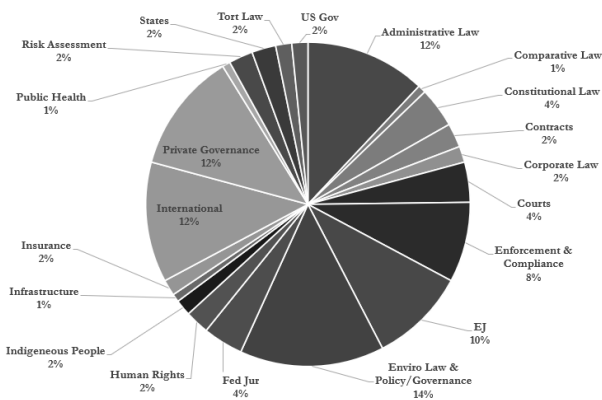
This year’s pool of top articles came from both general and environmental law journals. Ten of the Top 20 articles were published in environmental law journals; the other 10 Top 20 articles were published in general law reviews.

The chart below lists every article included in the Top 20, with a brief description of each article’s big idea. The descriptions of the big ideas were drafted by the student editors and reflect the key points the student editors thought made an important contribution to the environmental law and policy literature. Links are provided to the full articles and most of the links contain the author’s abstract.

**Figure 2. 2019-2020 Articles by Primary and Secondary Topic Where Relevant**



**Figure 3. 2019-2020 Governance Articles Categorized by Sub-Category**



**Environmental Law and Policy Annual Review Top 20 Article Selections  
2019-2020 Academic Year**

Author	Title	Citation and URL	Topic	The Big Idea
Burger, Michael et al.	<i>The Law and Science of Climate Change Attribution</i>	45 COLUM. J. ENV'T L. 57 <a href="https://journals.library.columbia.edu/index.php/cjel/article/view/4730/2118">https://journals.library.columbia.edu/index.php/cjel/article/view/4730/2118</a>	Climate Change	Based on a multidisciplinary team's thorough assessment of the state of climate attribution science, which links climate change and its impacts to anthropogenic sources of greenhouse gas emissions, policymakers and litigants should: (1) communicate climate research to a broader audience; (2) link individual studies to fully establish causal chains; (3) engage stakeholders in research efforts; (4) pursue further research to reduce uncertainties associated with key findings; and (5) use attribution research in litigation to establish standing and justifiability, demonstrate causation, and prove obligations and redressability.
Condon, Madison	<i>Externalities and the Common Owner</i>	95 WASH. L. REV. 1 <a href="https://digitalcommons.law.uw.edu/cgi/viewcontent.cgi?article=5103&amp;context=wlr">https://digitalcommons.law.uw.edu/cgi/viewcontent.cgi?article=5103&amp;context=wlr</a>	Governance/ Climate Change	A growing number of institutional investors, by virtue of holding a very large percentage of the shares in multiple industry competitors, have incentives to engage in firm-level climate change activism that reflects portfolio-level motivations to maximize profit by reducing the negative externalities (e.g., carbon emissions) of the firms in their portfolios rather than conforming to traditional expectations of profit-maximizing shareholders, and corporate law should acknowledge and engage with this implication of common ownership.
Gosman, Sara	<i>Planning for Failure: Pipelines, Risk, and the Energy Revolution</i>	81 OHIO ST. L.J. 349 <a href="https://kb.osu.edu/bitstream/handle/1811/91856/1/OSLJ_V81N3_0349.pdf">https://kb.osu.edu/bitstream/handle/1811/91856/1/OSLJ_V81N3_0349.pdf</a>	Energy	Pipeline safety and siting frameworks should be consolidated into one risk governance system administered by the Pipeline and Hazardous Materials Safety Administration to improve overall economic efficiency and to reduce the number of accidents and emergency response measures, as well as the risk management burden on communities and landowners.
Grannis, Jessica	<i>Community-Driven Climate Solutions: How Public-Private Partnerships With Land Trusts Can Advance Climate Action</i>	44 WM. & MARY ENV'T L. & POL'Y REV. 701 <a href="https://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=1763&amp;context=wmelpr">https://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=1763&amp;context=wmelpr</a>	Land Use/ Climate Change	State and local governments can bolster community and conservation land trusts, which are designed to protect and preserve community resources for the benefit of the environment and future generations, through greater public-private partnerships that provide: (1) use or low-cost sale of public lands; (2) start-up funding and financing; and (3) training and technical support.
Kakade, Seema	<i>Remedial Payments in Agency Enforcement</i>	44 HARV. ENV'T L. REV. 117 <a href="https://harvardelr.com/wpcontent/uploads/sites/12/2020/04/44.1-Kakade.pdf">https://harvardelr.com/wpcontent/uploads/sites/12/2020/04/44.1-Kakade.pdf</a>	Governance	To foster the use of beneficial environmental projects as part of enforcement actions, Congress should specifically authorize agencies to spend penalty monies received rather than require deposit into the U.S. Treasury; alternatively, federal agencies should strengthen the non-punitive, remedial purpose of projects by: (1) identifying the harms caused by violations more clearly through upfront investment in experts, research, and modeling; (2) explaining in settlement documents the connection between identified harms and proposed projects; and (3) establishing an inter-agency workgroup to discuss best practices.
Klass, Alexandra B.	<i>Eminent Domain Law as Climate Policy</i>	2020 WIS. L. REV. 49 <a href="http://repository.law.wisc.edu/suwlaw/media/303591">http://repository.law.wisc.edu/suwlaw/media/303591</a>	Climate Change	States that adopt aggressive clean energy laws should simultaneously reform their eminent domain laws—by reducing or eliminating eminent domain rights for fossil fuel projects and expanding eminent domain rights for clean energy projects—to disincentivize fossil fuel energy projects and promote clean energy projects.

Author	Title	Citation and URL	Topic	The Big Idea
Kousky, Carolyn, and Sarah Light	<i>Insuring Nature</i>	69 DUKE L.J. 323  <a href="https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=3996&amp;context=dlj">https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=3996&amp;context=dlj</a>	Governance/ Climate Change	Insurance can be a valuable instrument to promote ecosystem restoration and conservation in situations in which: (1) a party has an insurable interest, (2) parties are willing to pay the premium associated with insurance, (3) the ecosystem is threatened by random severe peril, (4) the ecosystem can be restored by action funded by an immediate infusion of post-disaster cash, and (5) insurance is cost-effective compared to other mechanisms.
Lee, Charles	<i>A Game Changer in the Making? Lessons From States Advancing Environmental Justice Through Mapping and Cumulative Impact Strategies</i>	50 ELR 10203 (Mar. 2020)  <a href="https://heinonline.org/hol/landingpage?handle=hein.journals/elrna50&amp;div=29&amp;id=&amp;page=">https://heinonline.org/hol/landingpage?handle=hein.journals/elrna50&amp;div=29&amp;id=&amp;page=</a>	Governance	CalEPA and EPA's successful environmental justice mapping tools, which use quantitative data sets to identify and characterize vulnerable communities disproportionately burdened by multiple pollution sources, provide an easily replicable road map for states and localities looking to incorporate environmental justice concerns into public policy by systematically devoting resources of scale to overburdened and vulnerable communities, an imperative now being championed by the new Biden Administration, and addressing land use planning, facility siting, and permitting issues.
Leonard III, Louis G.	<i>Under the Radar: A Coherent System of Climate Governance, Driven by Business</i>	50 ELR 10546 (July 2020)  <a href="https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3598219">https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3598219</a>	Governance/ Climate Change	Private efforts to address climate change constitute an effective governance system that can circumvent political polarization, while delivering results aligned with science-based emissions trajectories, if stakeholders: (a) advance a collective research agenda aligned with high-level and sector-based road maps; (b) explore how to ensure accountability; (c) foster sustainable funding and business models; and (d) design federal policies that accelerate private actions.
Macey, Joshua C.	<i>Zombie Energy Laws</i>	73 VAND. L. REV. 1077  <a href="https://bit.ly/3kM81XI">https://bit.ly/3kM81XI</a>	Energy/ Climate Change	Rules designed to protect consumers in the public utility era are being used to protect incumbents and hamstring decarbonization efforts in restructured energy markets and, therefore, regulators should prohibit vertically integrated utilities from using state ratemaking proceedings to recover losses their generators incur in wholesale electricity markets, ease restrictive certificate of public convenience and necessity laws to support additional energy infrastructure, and abandon the filed rate doctrine.
Miller, D. Lee, and Ryke Longest	<i>Reconciling Environmental Justice With Climate Change Mitigation: A Case Study of NC Swine CAFOs</i>	21 VT. J. ENV'T L. 523  <a href="http://vjel.vermontlaw.edu/files/2020/05/Miller_Final.pdf">http://vjel.vermontlaw.edu/files/2020/05/Miller_Final.pdf</a>	Governance/ Climate Change	North Carolina should use permitting, enforcement agreements, and/or legislation to require corporate CAFO operators—which have long resisted efforts to address harmful farming practices that disproportionately impact the health of neighboring communities of color—to use profits from new swine waste biogas production to install long-promised clean waste treatment technologies.
Pidot, Justin R.	<i>Contingent Delisting</i>	91 U. COLO. L. REV. 649  <a href="http://lawreview.colorado.edu/wp-content/uploads/2020/02/Pidot_Final.pdf">http://lawreview.colorado.edu/wp-content/uploads/2020/02/Pidot_Final.pdf</a>	Wildlife	To address both wildlife conservation and economic interests, the Fish and Wildlife Service should implement an Endangered Species Act contingent delisting option that would render certain listings dormant, return jurisdiction to the states, but allow federal intervention if species' conditions deteriorate.

Author	Title	Citation and URL	Topic	The Big Idea
Ruple, John C., and Kayla M. Race	<i>Measuring the NEPA Litigation Burden: A Review of 1,499 Federal Court Cases</i>	50 ENV'T L. 479 <a href="https://law.lclark.edu/live/files/30163-50-2-ruple">https://law.lclark.edu/live/files/30163-50-2-ruple</a>	Governance	Based on a quantitative study of 1,499 federal cases finding that the NEPA litigation burden is overstated, improvements to the NEPA process (1) should include standardized and more robust NEPA document collection across all agencies; and (2) should not include deadlines and page limits for EISs, as expedited analyses more frequently result in litigation and raise questions of whether the agency took a sufficiently "hard look."
Schanzenbach, Max M., and Robert H. Sitkoff	<i>Reconciling Fiduciary Duty and Social Conscience: The Law and Economics of ESG Investing by a Trustee</i>	72 STAN. L. REV. 381 <a href="https://stanford.io/3mNj7vQ">https://stanford.io/3mNj7vQ</a>	Governance	Under American trust fiduciary law, a trustee may engage in ESG investing if: (1) the trustee reasonably concludes that ESG investing will benefit the beneficiary by improving risk-adjusted returns and the trustee's exclusive motive for such investing is to obtain this direct benefit; or (2) for purposes other than improving risk-adjusted returns but only to a limited extent and if such purposes are authorized by the terms of the trust or by the beneficiaries.
Slobodian, Lydia	<i>Defending the Future: Intergenerational Equity in Climate Litigation</i>	32 GEO. ENV'T L. REV. 569 <a href="https://bit.ly/2JbEpF1">https://bit.ly/2JbEpF1</a>	Climate Change	Incorporating the concept of "intergenerational equity" into established legal doctrine about fundamental rights and the public trust can serve as a meaningful tool for rhetorically framing climate change litigation brought on behalf of current and future generations, thereby shifting international legal paradigms regarding obligations and remedies.
Sourgens, Frédéric G.	Geo-Markets	38 VA. ENV'T L.J. 58 <a href="http://www.velj.org/uploads/1/2/7/0/12706894/38.1_sourgens_final_formatted.pdf">http://www.velj.org/uploads/1/2/7/0/12706894/38.1_sourgens_final_formatted.pdf</a>	Climate Change	Geomarkets, in which government issuers pay a guaranteed price per ton of GHG "produced" and holders of freely transferable licenses agree to a GHG removal quota, would (1) address the total accumulation of atmospheric GHGs; (2) provide capital with which governments can finance additional market mitigation efforts; and (3) redistribute how the costs of net reductions in GHG emissions are borne to buyout and overcome reliance on fossil fuel infrastructures—these markets should also be integrated with a solar radiation management market as a stop gap measure against worst-case climate change scenarios.
Van Loo, Rory	<i>The New Gatekeepers: Private Firms as Public Enforcers</i>	106 VA. L. REV. 467 <a href="https://www.virginialawreview.org/sites/virginialawreview.org/files/Van-Loo_Book.pdf">https://www.virginialawreview.org/sites/virginialawreview.org/files/Van-Loo_Book.pdf</a>	Governance	The regulatory state has increasingly conscripted large companies to become "enforcer-firms" to fill regulatory gaps left by resource-limited regulatory agencies with less-sophisticated industry knowledge, but the role of enforcer-firms should be carefully designed—whether firms are drafted into a rulemaking or enforcement role—to ensure that the enforcer-firms are accountable to the public and provide adequate transparency.
Webb, Romany M.	<i>Climate Change, FERC, and Natural Gas Pipelines: The Legal Basis for Considering Greenhouse Gas Emissions Under Section 7 of the Natural Gas Act</i>	28 N.Y.U. ENV'T L.J. 179 <a href="https://bit.ly/34PE6IE">https://bit.ly/34PE6IE</a>	Energy/ Climate Change	In evaluating whether new pipelines serve public convenience and necessity, the Federal Energy Regulatory Commission (FERC) reports that it considers both environmental and economic factors; however, data analysis of approvals between 2014-2018 shows that FERC frequently justifies certification decisions solely on economic grounds, which is a violation of §7 of the Natural Gas Act—going forward, FERC must be satisfied that the economic benefits outweigh potential climate change and other environmental impacts in approving new pipelines.

Author	Title	Citation and URL	Topic	The Big Idea
Welton, Shelley	<i>Decarbonization in Democracy</i>	67 UCLA L. REV. 56 <a href="https://www.uclalawreview.org/wp-content/uploads/securepdfs/2020/07/Welton-67-1.pdf">https://www.uclalawreview.org/wp-content/uploads/securepdfs/2020/07/Welton-67-1.pdf</a>	Energy/ Climate Change	Scholars and policymakers have underestimated the ways in which more citizen engagement might strengthen, not weaken, climate change policies, through measures including: (1) requiring utilities to report on citizen preferences in their integrated resource plans, and (2) putting more control over energy sourcing decisions in the hands of local communities.
Wyman, Katrina M., and Danielle Spiegel-Feld	<i>The Urban Environmental Renaissance</i>	108 CAL. L. REV. 305 <a href="https://bit.ly/35LQUyM">https://bit.ly/35LQUyM</a>	Governance	Cities have emerged as leaders in the development of environmental policies, but face obstacles to achieving their goals, such as the pervasive threat of preemption and limits upon their taxation powers, that could be reduced if (1) cities frame environmental pricing regulations as fees, not taxes; (2) state constitutional amendments and legislation allocate greater taxation powers to local jurisdictions; and (3) federal courts take a more discerning approach to interpreting the preemptive force of federal environmental statute.

A R T I C L E

# THE LAW AND SCIENCE OF CLIMATE CHANGE ATTRIBUTION

by Michael Burger, Jessica Wentz, and Radley Horton

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## I. Introduction

There is overwhelming scientific agreement that human activities are changing the global climate system and that these changes are already affecting human and natural systems. Significant advances in climate change detection and attribution science—the branch of science that seeks to isolate the effect of human influence on the climate and related earth systems—have continued to clarify the extent to which anthropogenic climate change causes both slow onset changes and extreme events.<sup>1</sup> The spike in deaths and costs associated with extreme events and the prospect for slow onset changes with irreversible impacts has inspired a marked increase in the number of lawsuits seeking to hold different actors—particularly governments and fossil fuel companies—accountable for their contribution to or failure to take action on climate change.<sup>2</sup>

Attribution science is central to recent climate litigation, as it informs discussions of responsibility for climate change. Climate science also plays a central role in policymaking and planning, particularly where decisions need to be made about how to allocate the costs of mitigating and adapting to climate change. This Article describes the role that attribution science has played in recent litigation as well as policymaking and planning activities, and discusses future directions in the law and science of climate change attribution, addressing questions such as how attribution

science can better support policymaking and help resolve questions of liability and responsibility for climate change.

## II. Scientific Underpinnings

### A. Core Concepts and Terminology

Generally speaking, detection and attribution is a two-step process used to identify a causal relationship between one or more drivers and a responding system. The first step—detection of change—involves demonstrating that a particular variable has changed in a statistically significant way without assigning cause.<sup>3</sup> The second step—attribution—involves sifting through a range of possible causative factors to determine the role of one or more drivers with respect to the detected change.

#### 1. Scope of Detection and Attribution Research

Detection and attribution with regards to climate change can be broken down into several interrelated parts or research streams:

- **Linking climate change to anthropogenic drivers:** How are human activities affecting the global climate system?
- **Linking impacts to climate change:** How do changes in the global climate system affect other interconnected natural and human systems?
- **Identifying the relative contribution of various emission sources and land use changes:** To what extent have different sectors, activities, and entities contributed to anthropogenic climate change?

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1. U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT, FOURTH NATIONAL CLIMATE ASSESSMENT (2017).  
2. See MICHAEL BURGER & JUSTIN GUNDLACH, U.N. ENV'T PROGRAMME, THE STATUS OF CLIMATE CHANGE LITIGATION 10-26 (2017); Michael Burger & Jessica Wentz, *Holding Fossil Fuel Companies Accountable for Their Contribution to Climate Change: Where Does the Law Stand?*, 74 BULL. OF THE ATOMIC SCIENTISTS 397 (2018).

3. See, e.g., David R. Easterling et al., *Detection and Attribution of Climate Extremes in the Observed Record*, 11 WEATHER CLIMATE EXTREMES 17 (2016).

We refer to these three areas of research as *climate change attribution*, *impact attribution*, and *source attribution*. In addition to those areas of research, we discuss extreme event attribution as a separate category of attribution research.

## 2. Data Sources and Analytical Techniques

### a. Climate Change, Extreme Event, and Impact Attribution

There are several key sources of information and analytical techniques that are used in climate change, impact, and extreme event attribution studies: physical understanding, observational data, statistical analysis, and models.<sup>4</sup> Physical understanding refers to scientific understanding of physical properties and processes, such as the heat-trapping effects of greenhouse gases (GHGs). Observational data is data that can be observed and measured, such as in situ measurements of carbon dioxide concentrations and satellite measurements of sea surface temperature. For attribution, statistical analysis refers to mathematical formulas, models, and techniques that are used to quantify the probability of an observed change occurring with and without anthropogenic forcing on the climate. Models use quantitative methods, including predictive equations and statistical techniques, to simulate interactions within the climate system. Climate models use quantitative methods, including predictive equations and statistical techniques, to simulate interactions within the climate system and generally involve at least two sets of simulations, differing only in that one is meant to reflect the world that is, and the other is meant to reflect a “counterfactual” world without anthropogenic climate change (or without some component of anthropogenic climate change).

### b. Special Considerations for Extreme Event and Impact Attribution

Extreme event and impact attribution deal with more geographically and temporally distinct forms of change (e.g., how much has sea level risen in a particular city in the past 20 years). Natural variability, unrelated to changes in climate forcing, is larger at fine spatial and temporal scales, making it harder to identify signals associated with anthropogenic or other forcings. Further, impact attribution studies must also account for non-climate variables—that is, characteristics of human and natural systems that are not part of the climate system—and confounding variables—which influence both dependent and independent variables in a study and can lead to spurious associations between a driver and an event or impact. The number of non-climate and confounding variables increases as attribution research

moves toward an analysis of discrete impacts on humans, communities, and ecosystems.

### c. Source Attribution

While there is some overlap in terms of the data collection and analytical techniques used for source attribution, source attribution studies also rely on different types of evidence, particularly documentary evidence of GHG emissions and carbon sequestration impacts. Documentary evidence refers to information contained in documents and reports, such as national GHG emissions inventories or corporate GHG disclosures, detailing GHG emissions or carbon sequestration impacts from a particular activity or source.

## III. Legal and Policy Applications

This part addresses the salience of attribution science to policymaking at various scales of governance, its role in planning and environmental impact assessment, and the critical role it has played and will play in climate change litigation.

### A. Policymaking

Attribution science helps build support for actions to address the causes and impacts of climate change by (i) demonstrating that anthropogenic climate change is already underway and resulting in adverse impacts and (ii) lending confidence to model projections of how the climate will change in response to GHG emissions and how these changes will affect people and the environment in the decades to come.<sup>5</sup>

Attribution science can also contribute to more effective mitigation and adaptation policies. For mitigation policy, attribution science can be used to determine which actors, activities, or sectors should be targeted for regulation or to determine the appropriate level of regulation for any given source category. Meanwhile, information about impact attribution can help policymakers identify the most significant climate change-related risks and make prudent decisions about how to allocate resources for adaptation.<sup>6</sup> Attribution science can also help decisionmakers better understand the cost of unabated climate change, thus informing and justifying decisions about the appropriate level of regulation (e.g., the right price of a carbon tax).

Finally, attribution science provides a framing mechanism for international negotiations by helping build political support for ambitious action on climate change, providing a basis for critiquing countries that do not go far enough with their emission reduction pledges,<sup>7</sup> improving

4. See, e.g., Sophie Marjanac & Lindene Patton, *Extreme Weather Event Attribution Science and Climate Change Litigation: An Essential Step in the Causal Chain?*, 36 J. ENERGY & NAT. RES. L. 265, 271-72 (2018).

5. See Easterling et al., *supra* note 3.

6. See *id.*; Sebastian Sippel et al., *Stakeholder Perspectives on the Attribution of Extreme Weather Events: An Explorative Enquiry*, 7 WEATHER, CLIMATE, SOC'Y 224, 229 (2015).

7. Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104, art. 14, ¶ 1 (establish-

decisionmaking about how to allocate funds for adaptation, and helping countries reach agreement on the highly contentious “loss and damage” framework.<sup>8</sup>

## B. Planning and Environmental Impact Assessment

Attribution science facilitates on-the-ground planning for the effects of climate change by providing more robust data about how climate change is already affecting landscapes, ecosystems, and human systems such as cities, infrastructure, and food production. This information can feed into scenario planning, informing the likely and possible ranges of outcomes under different GHG emission trajectories.<sup>9</sup> Attribution studies that focus on regional or localized impacts can be used to develop and refine downscaled projections of climate change impacts within a particular geographic region and to improve the accuracy and precision of the models that are used to develop those projections.<sup>10</sup>

## C. Litigation

Below, we present a breakdown of how attribution science is used in the context of several legal issues: (1) establishing standing to sue; (2) introducing expert scientific testimony and reports as evidence; (3) challenges to government failures to regulate GHG emissions; and (4) lawsuits seeking to hold emitters liable for damages from climate change impacts.

### 1. Establishing Standing to Sue Sources of GHG Emissions for Climate-Related Harms

Standing doctrines address the question of who should have access to courts to adjudicate a particular claim. The U.S. Supreme Court has held that plaintiffs must establish that (i) they have suffered an injury-in-fact—that is, “an invasion of a legally protected interest which is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical”<sup>11</sup>; (ii) the injury-in-fact is fairly traceable to the defendants’ allegedly unlawful actions<sup>12</sup>; and (iii) the injury could be redressed by a favorable court decision.<sup>13</sup> Attribution science is central to standing contests over each of these prongs.

While the requirement of particularized injury has been viewed as a potential barrier for plaintiffs seeking standing based on injuries caused by climate change, since such

injuries are often shared by the public, some plaintiffs have successfully used impact attribution research to persuade the courts that their injuries are sufficiently particularized for standing purposes.<sup>14</sup> With respect to causation, in cases brought against governments and private actors for failure to regulate or abate emissions, the Supreme Court has found sufficient causation where the emissions represent a “meaningful contribution” to global climate change.<sup>15</sup> Finally, the redressability prong requires that it is likely and not “merely speculative” that the injury would be redressed by a favorable decision.<sup>16</sup>

### 2. Evidentiary Standards for Scientific Testimony and Reports

A threshold consideration regarding the role of attribution science in the courtroom is whether expert testimony on attribution is admissible in court. The *Daubert* standard, first articulated by the Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals*,<sup>17</sup> is the contemporary standard for admissibility in federal courts and many states courts. That standard charges the judge with ensuring that the basis of the expert’s testimony is “scientific knowledge,”<sup>18</sup> and outlines the following factors for making this determination:

- Whether the scientific theory or technique can be (and has been) tested
- Whether it has been subjected to peer review and publication
- Whether it has a known error rate
- Whether it has a degree of “general acceptability” within a “relevant scientific community.”<sup>19</sup>

Most attribution studies accord with the *Daubert* standard insofar as they rely on scientific theories that can be tested using models, statistical analyses, and observations; they are typically published in peer-reviewed journals; they typically discuss known sources of bias and the potential for Type I and Type II errors; and they are based on generally accepted techniques. However, defendants in climate lawsuits may argue that some of the more novel impact and event attribution techniques do not meet all four requirements—and in particular, the requirement of “general acceptance” within the scientific community—or challenge testifying scientists who draw inferences from

ing a “global stockade” whereby the parties to the agreement “shall periodically take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals”).

8. For more on this topic, see Christian Huggel et al., *Reconciling Justice and Attribution Research to Advance Climate Policy*, 6 NATURE CLIMATE CHANGE 901 (2016).

9. See Easterling et al., *supra* note 3.

10. See, e.g., Mohammad Reza Najafi et al., *Attribution of the Observed Spring Snowpack Decline in British Columbia to Anthropogenic Climate Change*, 30 J. CLIMATE 4113 (2017).

11. *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560, 22 ELR 20913 (1992).

12. *Id.*

13. *Id.* at 561.

14. See, e.g., *Massachusetts v. EPA*, 549 U.S. 497, 525, 35 ELR 20148 (2007); *Connecticut v. Am. Elec. Power Co.*, 582 F.3d 309, 39 ELR 20215 (2d Cir. 2009), *rev’d*, 564 U.S. 410 (2011).

15. See *Massachusetts*, 549 U.S. at 525.

16. *Lujan*, 504 U.S. at 561.

17. 509 U.S. 579, 23 ELR 20979 (1993).

18. *Id.* at 592.

19. *Id.* at 592-95.



attribution studies with respect to impacts not explicitly covered in those studies.<sup>20</sup>

### 3. Lawsuits Challenging the Failure to Regulate GHG Emissions

Environmental and citizen groups in the United States and other jurisdictions have brought numerous challenges seeking to compel governments to take action to curtail GHG emissions. There are three types of lawsuits that fall within this category: (i) lawsuits challenging the government failure to implement statutory mandates with respect to air pollution control; (ii) lawsuits challenging the failure to protect public health pursuant to general legal mandates recognized in constitutions, public trust doctrines, human rights law, and other legal sources; and (iii) lawsuits involving administrative decisions undertaken within an existing regulatory scheme, typically decisions to grant or refuse an authorization for a particular activity. In all three types of cases, attribution science comes into play when plaintiffs need to establish a causal connection between the government's action or inaction and concrete harms caused by climate change to succeed on the merits.

### 4. Lawsuits to Hold Emitters Liable for Damages Caused by Climate Change Impacts

In addition to suing governments for failure to regulate GHG emissions, some plaintiffs have gone directly to the source, suing major emitters and fossil fuel companies, in an attempt to obtain an injunction against future emissions or monetary damages for adaptation costs. To date, these lawsuits have been predominately domestic, and based on tort or tort-like theories such as public nuisance, private nuisance, and negligence.<sup>21</sup> Attribution science is central to these climate tort cases, as it is necessary to establish a causal connection between the defendant's emissions or activities and plaintiffs' injuries, and that the injuries were a foreseeable result of the emissions. Below, we summarize the key elements of tort cases and briefly touch on how attribution science may help with establishing these elements.

#### a. Elements of Negligence and Nuisance

##### i. Duty

Where foreseeability of harm to the specific plaintiff is an element of tort duty,<sup>22</sup> the history and current and future states of attribution science will play a role in establishing and defending against it. However, even in a case where

foreseeability is not required to establish legal duty,<sup>23</sup> plaintiffs cannot evade the issue of foreseeability. It will come up in establishing proximate cause.

##### ii. Breach

Once a duty has been established, liability can only attach if there has been a breach, in some form, of that duty. In the negligence context, a breach occurs where the plaintiff has failed to exercise reasonable care to protect others from a foreseeable risk of harm.<sup>24</sup> In nuisance, the breach factors into an assessment of whether defendant's interference with plaintiff's person, property, or public goods was "unreasonable."<sup>25</sup> In both instances, the "reasonableness" inquiry involves something of a "social welfare cost-benefit test."<sup>26</sup> In climate tort cases, attribution science is the connective tissue tying particular impacts resulting in particular costs back to climate change and anthropogenic influence on climate change, and it can help improve calculations of the social cost and benefits of GHG emissions.<sup>27</sup> Courts will also consider foreseeability when assessing the reasonableness of conduct. Again, attribution science plays an obvious role in this inquiry, helping to establish that a reasonable person would anticipate that activities that generate GHG emissions or otherwise contribute to climate change will eventually result in specific types of harmful impacts.

##### iii. Causation

The plaintiff must show that the defendant's conduct was both the factual—which is further divided into general, or generic, causation and specific, or individualized, causation—and the proximate, or legal, cause of the injury.<sup>28</sup> In regards to general causation, one critical question is whether and under what circumstances courts will impose liability on an actor who is not the sole cause of the injury. In failure-to-regulate cases, some courts have granted standing based on a showing that the unregulated emissions made a "meaningful contribution" to climate change.<sup>29</sup> Or consider toxic tort cases—which are not dissimilar from tort actions undertaken against GHG emitters—where liability may be apportioned among potentially responsible parties through statistical, probabilistic, and epidemiological studies.<sup>30</sup> Where the probability that a particular defendant's substance caused a substantial portion of the harm reaches

20. For more on this topic, see Kirsten Engel & Jonathan Overpeck, *Adaptation and the Courtroom: Judging Climate Science*, 3 MICH. J. ENV'T & ADMIN. L. 1 (2013).

21. Burger & Wentz, *supra* note 2.

22. See, e.g., *Norris v. Corr. Corp. of Am.*, 521 F. Supp. 2d 586, 589 (W.D. Ky. 2007).

23. See, e.g., *Rodriguez v. Del Sol Shopping Ctr. Assocs.*, L.P., 326 P.3d 465, 467 (N.M. 2014); *Thompson v. Kaczinski*, 774 N.W.2d 829, 835 (Iowa 2009).

24. RESTATEMENT (SECOND) OF TORTS §283 (Am. L. Inst. 1965).

25. *Id.* §826.

26. Douglas A. Kysar, *What Can Climate Change Do About Tort Law*, 41 ENV'T L. 1, 21 (2011).

27. *Id.* at 22-23 (discussing application of the federal Social Cost of Carbon to American Electric Power).

28. Michael Byers et al., *The Internationalization of Climate Damages Litigation*, 7 WASH. J. ENV'T L. & POL'Y 264, 279 (2017).

29. See, e.g., *Massachusetts*, 549 U.S. at 525 (emissions from all U.S. motor vehicles made a "meaningful contribution" to global climate change).

30. Byers et al., *supra* note 28.

a certain threshold, then courts may be willing to impose liability for the harm.

In regards to specific causation, the critical question is “whether defendant’s actions or behavior were ‘a necessary element’ in bringing about the injury.”<sup>31</sup> Assuming one can show that climate change is responsible for a particular local climate-related phenomenon or event that produced an injury, and before one gets to issues of contributory negligence, the problem for proving climate harms here is clear: emissions of any one actor, or even any small set of actors, will be difficult to pin down as a “but-for” cause of impacts arising from anthropogenic climate change.<sup>32</sup>

In contrast to the factual causation inquiry, which focuses on scientific relationships, proximate cause is intended to address whether the injury is sufficiently closely related to the allegedly wrongful conduct, such that it makes sense to impose liability on the defendant. To answer this question, courts may consider factors such as the geographic and temporal proximity between the conduct and the injury (and more generally, the directness of the relationship between conduct and injury), and whether the injury was a foreseeable result of the conduct.<sup>33</sup>

#### iv. Harm or Injury

Regardless of the tort, actual harm must be shown. Here, again, attribution science would be used in the ways described above—both as a means of characterizing the injury (interference) to the plaintiff, and as a means of explaining why the interference is unreasonable and a threat.

#### b. Role of Attribution Science

Attribution science can be used to establish three key elements in tort litigation: foreseeability, causation, and injury. A court’s determination as to whether an impact is a foreseeable consequence of activities that increase GHG emissions would likely depend on: (i) the degree of confidence with which the impact has been attributed to climate change or projected to occur as a result of climate change; (ii) the amount of scientific research linking the impact to climate change (and level of consensus among scientists); and (iii) the time frame in which that research was performed. If there are only a handful of studies on a particular impact or if the studies were all published after the allegedly tortious conduct, then courts might conclude that the impacts are not foreseeable. Further, the actual injuries associated with climate change are often secondary or tertiary impacts that are influenced by a multitude of confounding factors in addition to anthropogenic influence on climate. The greater the number of confounding

factors, the more difficult it may be to establish that a particular injury was foreseeable.

In most tort cases invoking climate change, it may be significantly more challenging for plaintiffs to establish causation—and in particular, specific causation—than it is to establish foreseeability. To succeed in such a case, a plaintiff would need to establish several lines of causation:

- The plaintiff must link a specific change or event to anthropogenic climate change (e.g., sea-level rise or a flooding event)—i.e., climate change and extreme event attribution.
- The plaintiff must link a specific loss to that change or event (e.g., the cost of adaptation measures or residual losses that were not or could not be avoided through adaptation)—i.e., impact attribution.
- The plaintiff must link the defendant’s conduct (i.e., release of GHG emissions) to anthropogenic climate change and identify the defendant’s relative contribution to the harm incurred by the plaintiff—i.e., source attribution.

Regarding the first line of causation: proving that a specific change or event is caused by climate change will be easier for long-term changes such as mean temperature increases and sea-level rise. Linking a specific extreme weather event to climate change poses another test. The probabilistic approach to event attribution, whereby scientists quantify the extent to which anthropogenic climate change affected the probability of the event occurring, would likely be the best vehicle for establishing causation for the purposes of tort litigation.<sup>34</sup>

Even if the plaintiff is able to establish that a physical change or extreme event was caused by climate change, he or she must also establish the second and third lines of causation. The second causation challenge—establishing and quantifying the specific loss caused by the change or event—involves determining the extent to which the loss was caused by anthropogenic climate change as compared with other confounding factors. A probabilistic approach can also be used in impact attribution to generate this sort of information. However, to date, most impact attribution studies do not produce findings that are as quantitatively robust as studies conducted on extreme events due to the number of confounding factors that influence impacts such as public health outcomes. The third causation challenge—defining the defendant’s relative contribution to the damage—is a matter of source attribution.

31. *Id.* at 280.

32. See, e.g., Kysar, *supra* note 26, at 31; Michael Duffy, *Climate Change Causation: Harmonizing Tort Law and Scientific Probability*, 28 TEMP. J. SCI. TECH. & ENV’T L. 185 (2009).

33. KENNETH S. ABRAHAM, THE FORMS AND FUNCTIONS OF TORT LAW 124 (3d ed. 2007).

34. Myles Allen et al., *Scientific Challenges in the Attribution of Harm to Human Influence on Climate*, 155 U. PA. L. REV. 1385 (2007) (citing Myles Allen, *Liability for Climate Change*, 421 NATURE 891, 891-92 (2003)); Dáithí A. Stone & Myles R. Allen, *The End-to-End Attribution Problem: From Emissions to Impacts*, 71 CLIMATIC CHANGE 303, 303-04 (2005).

## IV. Future Directions in the Law and Science of Climate Attribution

Here, we discuss future directions in the law and science of climate change attribution, addressing questions such as how attribution science might better support policymaking, planning, and litigation.

### A. How Can Attribution Science Better Support Climate Law, Policy, and Planning?

There are a variety of ways in which the scientific community could work toward supporting applications of attribution research: (i) continuing to lead the development of scientific knowledge and understanding by advancing detection and attribution research across the board; (ii) generating attribution findings at different confidence levels to better communicate uncertainty about the “upper bound” and “lower bound” of plausible anthropogenic influence on an observed change; (iii) communicating findings clearly and in an accessible format; (iv) engaging stakeholders; and (v) linking individual studies to other advancing research areas that help to flesh out the causal chain from emissions to impact.

#### 1. Continue to Conduct Attribution Research on the Full Range of Climate Change Impacts With an Eye Toward Improving Confidence Levels and Certainty in Findings

The body of attribution research has grown considerably in recent years, increasing levels of confidence and certainty regarding a wide range of climate impacts at multiple political and geographical scales. So, in an important sense, the single most important thing the scientific community can do to support applications of attribution research is *more of the same*. Nevertheless, the scientific community could work with affected stakeholders to address the incomplete coverage of attribution science and identify priority areas for research. Granted, working with affected people to determine what variables to focus on in attribution studies could contribute to concerns about selection bias. As such, scientists may need to be cautious about any overarching statements made with respect to the body of attribution research.

#### 2. Generate Findings at Different Confidence Levels

Attribution findings are often expressed in terms of probabilities and confidence levels. For example, a probabilistic event attribution study might find with > 90% confidence that anthropogenic climate change quadrupled the risk of a particular storm occurring. Depending on the application, it may be helpful for researchers to also discuss lower-bound, higher confidence estimates (e.g., > 95% confidence that anthropogenic climate change at least doubled the risk

of that same storm occurring) or higher-bound, lower confidence estimates (e.g., > 80% confidence that anthropogenic climate change made the storm at least six times more likely). Lower-bound estimates with higher confidence levels would be more useful for applications where certainty in findings is needed, such as litigation. Upperbound estimates with lower confidence levels would be more useful in policy and planning applications where decisionmakers would benefit from understanding the potential extent of anthropogenic influence on an observed change.

#### 3. Clearly Communicate Findings

It is helpful for the scientists conducting attribution research to present their findings in a clear and accessible fashion, to the extent practicable. Careful communication involves providing context for statements about uncertainty, bias, and limitations to help a non-scientific audience understand: (i) whether the level of uncertainty, bias, etc. is standard or unusual as compared with similar studies; and (ii) the effect of uncertainty and bias on the reliability and accuracy of the results. Scientists should also be careful not to overstate the novelty of this field—while attribution science is undergoing constant evolution, the vast majority of studies published in this field are based on well-established scientific techniques, carefully tested models, and detailed observational sets.

#### 4. Engage With Stakeholders

Engagement is critical to successful communication, and to growing the impact of attribution research. Given the expertise about impacts that resides with stakeholders, deeper stakeholder engagement can also be expected to lead to scientific advances not only in attribution science for decisionmaking, but also for attribution science itself. For example, a stakeholder engagement process with water managers encouraged attribution scientists to focus on a broader set of event metric definitions, including the duration of rain events, in order to make their research more relevant for decisionmakers and sector experts.<sup>35</sup>

#### 5. Link Individual Studies to Related Research to Help Flesh Out the Causal Chain From Emissions to Impact

Most attribution studies only focus on one part of the causal chain linking emissions and land use changes to impacts. To the extent that the scientists working on these studies are aware of related research, it would be helpful for them to explicitly discuss this research and explain how it ties into their own findings. Researchers and scientific organizations could also publish more synthesis reports

35. Julie A. Vano et al., *Hydroclimatic Extremes as Challenges for the Water Management Community: Lessons From Oroville Dam and Hurricane Harvey*, in *Explaining Extreme Events of 2017 From a Climate Perspective*, 100 BULL. AM. METEOROLOGICAL SOC'Y (SPECIAL SUPPLEMENT) S1 (2019).

linking individual studies and explaining the extent to which these studies, in aggregate, can support claims of end-to-end attribution. Where possible, it would be helpful to harmonize the scope and scale of connected studies such that the quantitative analyses conducted in one study can flow through and inform the quantitative analysis in the subsequent study, with the goal being to develop robust, quantitative findings across a larger section of the causal chain. More fundamentally, further standardization of attribution research—ranging from the selection of topics to study, to the metrics used, and the data and models brought to bear—will support cross-comparison, evaluation, and scaling up of findings across studies.

## B. How Might Judges and Litigants Utilize Attribution Science in the Courtroom?

### 1. Standing and Justiciability

The single greatest obstacle to the effective utilization of attribution science in the courtroom is the fact that climate cases raising complex attribution issues may be dismissed or decided without a trial, meaning that their scientific bases may never be fully assessed and adjudicated. One of the main reasons for dismissal is lack of standing. Some courts have recognized that the questions implicated in the standing analysis are heavily fact-dependent and tend to overlap with the merits of the case.<sup>36</sup> But other courts have denied standing based on a cursory assessment of these scientific questions, finding without trial that the causal connection between emissions and injury is too attenuated.<sup>37</sup> Standing claims involving disputed facts should be addressed after discovery, when all issues are fully briefed and all evidence is submitted.<sup>38</sup>

Some scholars have also recommended specific analytical techniques that are uniquely well-suited for assessing standing claims in cases involving climate change-related claims. For example, scholars have recommended that courts recognize that the risk of harm is itself an injury that can provide the basis for standing.<sup>39</sup> Another approach could be to allow “fractional standing” for probabilistic injuries.<sup>40</sup> According to one commentator, a “fractional injury” is “one that, if manifest in one individual, would be insufficient to grant standing” but if “multiple individuals experience this injury and band together to demand relief . . . then their collective grievance would be sufficient to

merit standing.”<sup>41</sup> Fractional standing involves looking at the probability of the harm, the severity of the harm, and the number of people at risk and determining whether the aggregate harm is sufficient to grant standing.<sup>42</sup> The U.S. Court of Appeals for the District of Columbia (D.C.) Circuit implicitly endorsed this approach in *Natural Resources Defense Council v. EPA*.<sup>43</sup>

## 2. Factual and Proximate Causation

### a. Defining Parties’ Contributions to GHGs

The first step in determining whether a party is a legally relevant cause of damages associated with climate change is to define that party’s contribution to increases in atmospheric GHG concentrations. Some form of quantification is necessary to establish both factual cause and proximate cause. Yet, defining a party’s GHG contribution is not as straightforward as one might like. There may be data gaps that preclude accurate quantification. Even where adequate data exists, there are inevitably analytical questions that must be answered, such as which emissions accounting approach to use—territorial, consumption-based, or extraction-based—and how to account for historical as compared with present (and possibly even future) emissions. While there is no strict requirement that different courts addressing different types of legal claims, in different jurisdictions, use the same accounting methods to impose responsibility on entities, these discrepancies can raise concerns about fairness, justice, and the efficiency of the judicial system.

Further, other types of information are relevant to the analysis of proximate cause and supplement attribution data. Some of the normative considerations relevant to the proximate cause inquiry include the extent to which the company profited from the production and eventual use of fossil fuels, whether the company knew that it was producing and selling a harmful product, and whether the company engaged in unethical activities such as the obstruction of climate change science.

### b. Establishing Causal Connections to Impacts

Litigants and courts should be aware of both the strengths and limitations of attribution science when framing and analyzing causal arguments. Plaintiffs may prove most successful where they base their claims on impacts which can be attributed to anthropogenic climate change with high confidence—such as sea-level rise, melting snowpack, increases in average temperatures and extreme heat, and ocean acidification—or where they rely on expert reports and peer-reviewed attribution studies and avoid making causal inferences even for those impacts for which there is

36. *Juliana v. United States*, 217 F. Supp. 3d 1224, 1242–48, 46 ELR 20175 (D. Or. 2016).

37. *See, e.g., Native Vill. of Kivalina v. Exxon Mobil Corp.*, 663 F. Supp. 2d 863, 880, 39 ELR 20236 (N.D. Cal. 2009).

38. Note, *Causation in Environmental Law: Lessons From Toxic Torts*, 128 HARV. L. REV. 2256, 2270–71 (2015); Luke Meier, *Using Tort Law to Understand the Causation Prong of Standing*, 80 FORDHAM L. REV. 1241, 1265 (2011).

39. *See, e.g., F. Andrew Hessick, Probabilistic Standing*, 106 NW. U. L. REV. 55, 67–68 (2012); Albert Lin, *The Unifying Role of Harm in Environmental Law*, 3 WIS. L. REV. 897, 911 (2006); Cass Sunstein, *Standing Injuries*, 1993 SUP. CT. REV. 37 (1993).

40. Daniel E. Rauch, *Fractional Standing*, 33 YALE J. ON REG. 281 (2016).

41. *Id.* at 282.

42. *Id.* at 290–91.

43. 464 F.3d 1 (D.C. Cir. 2006).

a very robust connection to anthropogenic climate change. Judges, meanwhile, should be mindful of the fact that there are different levels of confidence for different impacts, pay close attention to the evidence submitted, and should not dismiss claims based on generalized conclusions about the uncertainty of the science. Judges should also be aware that, when translating global or regional impacts to specific injuries, it may be necessary to accept causal inferences.

### 3. Proving and Defending Against Obligations and Redressability

While there is some precedent affirming national obligations in other jurisdictions,<sup>44</sup> no U.S. court has yet found that the federal government is bound to any particular level of climate ambition. Even still, source attribution data is constantly improving and estimates of carbon budgets are constantly being revised in light of new emissions data, so it will be important for litigants and courts to rely on the most recent data in framing carbon budgets. Attribution science could be used to define more specific obligations for national governments. For example, rather than mandating a government achieve a specific target on a specific date, a court could require the government to establish and periodically update its target based on the best available science.

In establishing obligations for private actors, one critical question will be how to allocate liability and damages among multiple companies. Arguably, imposing several liability based on the party's proportionate contribution to GHG increases is the approach that best reflects the party's "true" contribution to climate change impacts. A market-share approach—apportioning liability among fossil fuel companies based on their share of fossil fuel sales—would also accomplish this if the "market share" were defined as the share of GHG emissions. In contrast, imposing joint and several liability may result in overestimation of a party's contributions to the injury. However, there may be compelling reasons to impose joint and several liability in certain contexts.

## V. Conclusion

The recent waves of cases brought against national and sub-national governments, seeking increased mitigation ambition, and against fossil fuel and energy companies, seeking compensation or abatement funds for the costs of adaptation, have made the relationship between the science and law of climate change attribution all the more salient. But there are significant scientific issues that remain to be clarified, for law and policy purposes, and it may well be that litigation provides the forum for achieving that clarity.

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44. See *Urgenda Foundation v. Kingdom of the Netherlands*, Hoge Raad, ECLI:NL:HR:2019:2007 (Dec. 20, 2019) (English translation available at [http://blogs2.law.columbia.edu/climate-change-litigation/wpcontent/uploads/sites/16/non-us-case-documents/2020/20200113\\_2015-HAZA-C09004566\\_89\\_judgment.pdf](http://blogs2.law.columbia.edu/climate-change-litigation/wpcontent/uploads/sites/16/non-us-case-documents/2020/20200113_2015-HAZA-C09004566_89_judgment.pdf)).

## C O M M E N T

# THE USES OF CLIMATE CHANGE ATTRIBUTION SCIENCE: THE NGO PRACTITIONER'S VIEW

by Joanne Spalding and Daniel Hales

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Climate advocates are fortunate to have the benefit of the thorough assessment of climate change attribution science and its application to climate policy and litigation that Michael Burger, Jessica Wentz, and Radley Horton have undertaken in their article. Attribution science has expanded dramatically during the past two decades, becoming increasingly nuanced and complex. Burger, Wentz, and Horton have helped unlock this resource by providing an explanation of the types of attribution research, a survey of the research, an analysis of its legal and policy applications, and suggestions for future developments. Their work will help policymakers and courts understand the challenges that climate change presents and develop strategies and remedies to address those challenges.

## I. Establishing Priorities Based on Source Attribution Research

For environmental organizations, climate change attribution science has formed the foundation of climate advocacy since the issue first gained traction. Source attribution research has been essential in prioritizing which sources to target for emission reductions. Sierra Club focused on fuel economy standards for light-duty vehicles throughout the 1990s based on source attribution research showing that the most effective way to reduce greenhouse gases (GHGs) in the United States would be to make our cars go farther on a gallon of gas.<sup>1</sup> In 1999, that same vein of attribution research led the International Center for Technology Assessment to petition the U.S. Environmental Protection Agency (EPA) to regulate GHG emissions from motor vehicles,<sup>2</sup> which ultimately led to the U.S. Supreme Court's decision in *Massachusetts v. EPA* confirming that GHGs

can be regulated as air pollutants under the federal Clean Air Act (CAA).<sup>3</sup> In the early 2000s, Sierra Club began targeting fossil fuel-fired power plants, the other largest source of U.S. GHG pollution.

Those targets made sense because motor vehicles and fossil fuel-fired power plants each emit more GHGs than the next largest source category by an order of magnitude.<sup>4</sup> After EPA finally began working on vehicle and power plant standards, a coalition of states and environmental and public health groups set their sights on GHGs from that next category—oil and gas-sector methane emissions. The general wisdom is that the lower the emissions are from a given category, the more difficult it is to justify regulating those emissions. Yet, in a world in which the science demands that we rapidly reduce climate pollution and reach net zero by 2050, reducing emissions from smaller source categories is imperative.

In the waning days of the Donald Trump Administration, EPA adopted a rule designed to preclude regulation under §111 of the CAA of GHG emissions from any stationary source category other than power plants.<sup>5</sup> Section 111 requires EPA to list categories of sources that “cause[ ], or contribute[ ] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare,” and then to set standards of performance for air pollutants emitted from new sources in those categories.<sup>6</sup> The language of the statute directs the Agency to make a finding of significant contribution as a prerequisite to its decision to list a source category as an initial matter, not as

New Motor Vehicles Under §202 of the Clean Air Act (Oct. 20, 1999), [http://ciel.org/Publications/greenhouse\\_petition\\_EPA.pdf](http://ciel.org/Publications/greenhouse_petition_EPA.pdf).

1. See, e.g., Dan Becker, *Sierra Club vs. Global Warming: Film at 11*, PLANET (Sierra Club, San Francisco, Cal.), May 1996, available at <https://vault.sierraclub.org/planet/199605/globalwrm.asp>.  
2. See Int'l Ctr. for Tech. Assessment et al., Petition for Rulemaking and Collateral Relief Seeking the Regulation of Greenhouse Gas Emissions From

3. 549 U.S. 497, 518, 37 ELR 20075 (2007); 42 U.S.C. §§7401-7671q, ELR STAT. CAA §§101-618.

4. *Sources of Greenhouse Gas Emissions*, U.S. EPA, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> (last updated Dec. 4, 2020).

5. See Pollutant-Specific Significant Contribution Finding for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources, 86 Fed. Reg. 2542 (Jan. 13, 2021) (to be codified at 40 C.F.R. pt. 60).

6. 42 U.S.C. §7411(b)(1).

a prerequisite to set a standard for any particular pollutant it emits. Nevertheless, in Administrator Andrew Wheeler’s midnight rule, he concluded that EPA must make a significant contribution finding for each pollutant before setting a standard. While it reaffirmed that GHG emissions from electric generating units were subject to §111, the final rule sought to bar EPA from issuing performance standards for any other source category “by articulating a framework under which source categories are considered to contribute significantly to dangerous air pollution due to their GHG emissions if the amount of those emissions exceeds 3 percent of total U.S. GHG emissions.”<sup>7</sup> EPA determined that “source categories that are less than [3 percent] are necessarily insignificant without consideration of any other factors.”<sup>8</sup>

The Trump EPA finalized this decision despite never having raised it in the rule proposal, a textbook example of legally inadequate notice. Shortly after taking office, the Joseph Biden Administration conceded in a federal lawsuit brought in the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit that the rule had been unlawfully promulgated and sought vacatur,<sup>9</sup> which the court promptly granted.<sup>10</sup> While this rule was short-lived, its rationale demonstrates the crucial role of source attribution research. The Trump EPA first acknowledged that the most important consideration is the *quantity* of emissions from a source category:

Under this framework, the EPA is determining that the quantity of GHG emissions from a source category is the primary criterion in determining significance for purposes of regulation of GHGs from a source category under CAA section 111(b). Gross GHG emissions are important for this set of pollutants because GHGs are global long-lived pollutants . . . . GHGs’ impact (i.e., climate change) is based on a cumulative global loading . . . .<sup>11</sup>

EPA then illogically concluded that significance should be based not on absolute *quantity* of emissions, but on the *percentage* of total U.S. GHGs that a source category emits.<sup>12</sup> While that relative value may serve as a useful guide to prioritize limited resources, source attribution data reveals that a relatively small source category by U.S. standards exceeds the GHG emissions of numerous whole nations.

For example, according to EPA’s Greenhouse Gas Reporting Program, petroleum refineries emitted approximately 177 million metric tons of carbon dioxide equiva-

lent (CO<sub>2</sub>-eq) in 2019.<sup>13</sup> While this reflects just 2.7% of total 2019 U.S. GHG emissions reported in EPA’s most recent *Inventory of Greenhouse Gas Emissions and Sinks*,<sup>14</sup> it is nonetheless greater than the total national emissions of nearly four-fifths of the world’s countries.<sup>15</sup> Similarly, EPA’s *Inventory* reports that methane emissions from livestock-related enteric fermentation were nearly the same, totaling 179 million metric tons CO<sub>2</sub>-eq in 2019.<sup>16</sup> Despite these startling figures, EPA has thus far taken no steps to regulate any form of GHG emissions from either petroleum refineries or enteric fermentation from livestock, and the Trump EPA’s late-breaking regulatory action would have actually *barred* the Agency from doing so had it not been struck down in court.

Given the massive historical and current GHG pollution attributable to the United States and the urgent need for dramatic reductions, a broad definition of significance is vital. As Burger, Wentz, and Horton point out, detection and attribution research can help define a “significant contribution,” but legal and policy judgments are also embedded in that determination.<sup>17</sup> In advocating for a broad definition, it is helpful to point to studies that explain that every feasible pathway to achieve the necessary GHG emissions reductions requires cutting pollution from even relatively modest sources. Source attribution studies form a critical component of that analysis.

## II. Demanding and Defending Climate Regulation Through Litigation

Environmental groups have used litigation to attempt to force government agencies to take action to reduce climate pollution and have intervened in federal lawsuits to defend the resulting actions. As Burger, Wentz, and Horton suggest, one of the biggest impediments to filing lawsuits demanding government action on climate is the need to establish Article III standing.<sup>18</sup> Climate impact attribution studies can provide evidence critical to establishing all elements of standing: that the plaintiff has suffered an injury or heightened risk of an injury linked to climate change; that the conduct of the defendant constitutes a “meaning-

7. 86 Fed. Reg. at 2542-43.

8. *Id.* at 2552-53.

9. Resp. EPA’s Unopp. Mot. for Voluntary Vacatur and Remand, *California v. EPA*, D.C. Cir. No. 21-1035, Doc. No. 1890321, 1-2 (Mar. 17, 2021); see also Rachel Frazin, *EPA Asks Court to Toss Trump Rule That Could Prevent Emissions Limits on Polluting Industries*, THE HILL (Mar. 17, 2021), <https://thehill.com/policy/energy-environment/543731-epa-asks-court-to-toss-trump-rule-that-could-prevent-emissions>.

10. Per Curiam Order, *California v. EPA*, D.C. Cir. No. 21-1035, Doc. No. 1893155 (Apr. 5, 2021).

11. 86 Fed. Reg. at 2551.

12. *Id.*

13. *Greenhouse Gas Reporting Program, GHGRP Refineries*, U.S. EPA, <https://www.epa.gov/ghgreporting/ghgrp-refineries> (last updated Nov. 9, 2020).

14. See U.S. EPA, *INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2019*, at ES-7, Table ES-2 (2021) (listing total U.S. GHG emissions in 2019 as 6,558.3 million metric tons CO<sub>2</sub>-eq, not accounting for land use, land use change, and forestry).

15. This figure reflects country-by-country emissions data from 2017 derived from the WRI/CAIT data set. See *Historical GHG Emissions, CLIMATE WATCH*, [https://www.climatewatchdata.org/ghg-emissions?end\\_year=2017&sectors=total-excluding-lucf&source=CAIT&start\\_year=1850](https://www.climatewatchdata.org/ghg-emissions?end_year=2017&sectors=total-excluding-lucf&source=CAIT&start_year=1850) (last visited Mar. 31, 2021).

16. U.S. EPA, *supra* note 14, at Table ES-2. This figure reflects EPA’s longtime use of a 100-year global warming potential for methane of 25. A 20-year global warming potential of 87—which would reflect the need for deep and immediate emission cuts to avoid the worst impacts of climate change—corresponds to enteric fermentation methane emissions of approximately 622 million metric tons CO<sub>2</sub>-eq, which would reflect approximately 7.6% of total U.S. emissions in 2019.

17. Michael Burger et al., *The Law and Science of Climate Change Attribution*, 45 COLUM. J. ENV’T L. 57, 162 (2020).

18. *Id.* at 225-26.

ful contribution” to global climate change; and that the requested relief is within the court’s ability to grant and would help remedy the alleged injury.

Burger, Wentz, and Horton’s comprehensive review of attribution science leaves little doubt that a compelling (and growing) body of research can support litigation for climate harms. Generally, these lawsuits do not fail for lack of scientific evidence, but for failure of that evidence to fit neatly into the necessary legal elements. The more detailed, accessible, and *localized* source and impact attribution research becomes, the more direct its bearing on judicial inquiry. But clearing legal hurdles by weight of scientific evidence alone is unlikely. Additional strategies include alleging a procedural injury along with the primary environmental- or health-related injury; litigating a case alongside one or more state government plaintiffs (who have additional avenues for establishing standing not available to private parties); and alleging localized health injuries or environmental degradation resulting from conventional pollutants emitted (and potentially abated) alongside GHGs. These steps can be as dispositive in proving standing in climate litigation as attribution science.

Satisfying the closely related prongs of causation and redressability is complicated by the number of anthropomorphic activities that contribute to climate change. Both causation and redressability hinge on whether a plaintiff’s injury is “fairly traceable” to the challenged action.<sup>19</sup> That is, a plaintiff must show a sufficient connection to convince the court the requested relief is substantially likely to reduce the pollution causing the alleged injuries.<sup>20</sup> The Supreme Court in *Massachusetts* established that to be “fairly traceable” in the climate change context, emissions must represent a “meaningful contribution” to global climate change.<sup>21</sup> As yet, no court has articulated a clear rule for what constitutes a “meaningful contribution,” and courts taking up this question have issued a patchwork of inconsistent rulings, relying on qualitative comparisons of emissions rather than applying a clear standard. A lack of statistical certainty, or at least the judicial perception of one, leads to a less-than-empirical assessment of whether particular emission quantities reflect “meaningful contributions,” making climate attribution claims vulnerable to the individual biases of the judge parsing the data.

Fortunately, the *Massachusetts* decision provides a road map to lower the burden on climate plaintiffs. States are given a special status in the standing inquiry as a product of their semi-sovereign status, direct interests in state property and natural resources, and role as trustees of their residents’ interests.<sup>22</sup> Further, when a plaintiff alleges a procedural injury, the imminence and redressability requirements of standing are relaxed for all plaintiffs, state and nonstate actors alike.<sup>23</sup> In *Massachusetts*, the state estab-

lished standing on both of these grounds. *Massachusetts* asserted a sovereign interest in protecting its coastal territory—threatened by rising sea levels caused by climate change—as well as its procedural right to challenge EPA’s rejection of a rulemaking petition as arbitrary and capricious.<sup>24</sup> With regard to causation, the Court held that the GHG emissions at issue, over 6% of global carbon emissions, were “by any standard” a significant contribution to climate change.<sup>25</sup> While this holding allowed *Massachusetts* to prevail on the question of standing, it left open the question of what standard should apply going forward, particularly with regard to nonstate litigants.

Environmental groups learned a difficult lesson in *Washington Environmental Council v. Bellon*,<sup>26</sup> which illustrates the obstacles to proving standing without a procedural injury or state plaintiff. Environmental nongovernmental organizations (NGOs) sued Washington State regulators for failure to limit GHG emissions from five oil refineries, attempting to establish harm based on the refineries’ climate impacts alone.<sup>27</sup> The NGOs provided numerous declarations from members alleging property damage, negative health impacts, and aesthetic injuries resulting from climate change—none of which were challenged by the defendants, nor questioned by the court.<sup>28</sup> Yet, the court dismissed the case for failure to establish causation and redressability, holding that even were the relaxed standard from *Massachusetts* applied, plaintiffs did not present evidence that the GHG emissions at issue (5.9% of *Washington State’s* total emissions compared to 6% of *global* emissions in *Massachusetts*) amounted to a meaningful contribution to climate change, or that the alleged climate-related harms could be attributed to those emissions.<sup>29</sup> *Bellon* demonstrates the role attribution research could play in establishing causation, though other standing deficiencies in the case make it difficult to know if it would have been dispositive.

The up-or-down assessment of “meaningful contribution” applied in climate cases following *Massachusetts* provides little guidance for the application of attribution science in standing inquiries. In *WildEarth Guardians v. Jewell*, however, the D.C. Circuit sanctioned an alternative approach, holding that litigants had standing to challenge an agency’s climate analysis issued under the National Environmental Policy Act (NEPA) by alleging injuries from co-pollutants and related impacts.<sup>30</sup> In that case, environmental groups alleged a procedural injury from the Bureau of Land Management’s (BLM’s) failure to adequately address climate impacts resulting from coal

19. See *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560, 22 ELR 20913 (1992).

20. See Burger et al., *supra* note 17, at 150.

21. 549 U.S. 497, 525, 37 ELR 20075 (2007).

22. *Id.*

23. See *Lujan*, 504 U.S. at 572.

24. See *Massachusetts*, 549 U.S. at 520; see also 42 U.S.C. §7607(b)(1).

25. See *Massachusetts*, 549 U.S. at 524-25.

26. 732 F.3d 1131, 43 ELR 20231 (9th Cir. 2013).

27. *Id.* at 1135.

28. *Id.* at 1140-41.

29. *Id.* at 1145-46; see also *Amigos Bravos v. U.S. Bureau of Land Mgmt.*, 816 F. Supp. 2d 1118, 1136, 41 ELR 20261 (D.N.M. 2011) (finding that the oil and gas leases approved by BLM would produce “just 0.0009% of global GHG emissions” and were not a “meaningful contribution” in light of *Massachusetts*).

30. 738 F.3d 298, 306, 44 ELR 20001 (D.C. Cir. 2013); 42 U.S.C. §§4321-4370(h), ELR STAT. NEPA §§2-209.



leases permitted on public lands in the environmental impact statement (EIS) for the project.<sup>31</sup> *WildEarth Guardians* did not involve a state plaintiff, but alleged injuries to environmental groups' members due to BLM's failure to adequately consider both the local impacts from climate change *and* from local ozone emissions.<sup>32</sup> While the court held the alleged climate change injury could not support standing, it nonetheless granted standing based on the project's anticipated increase in localized ozone precursors.<sup>33</sup> Moreover, redressability was satisfied because a decision vacating the agency's action would address the procedural injury—the deficient EIS—regardless of whether the deficiency related to the global impacts of climate change or the local impacts of co-pollutants.<sup>34</sup> The holding in *WildEarth Guardians* allows NEPA plaintiffs an opportunity to challenge an agency's climate analysis based on non-climate injuries that arise directly from the project at issue.

More recently, and in contrast to *Bellon* and *WildEarth Guardians*, the D.C. Circuit had little trouble in finding that an environmental group had standing based on climate injuries in *Natural Resources Defense Council v. Wheeler*.<sup>35</sup> In that case, the court held that the Natural Resources Defense Council (NRDC) had standing to challenge an EPA rule that would increase hydrofluorocarbons (HFCs)—a climate super-pollutant—based on “a declaration from a member averring that he owns coastal property in New Jersey that is especially vulnerable to weather events caused or worsened by climate change . . . .”<sup>36</sup> The declaration at issue had been carefully crafted to incorporate downscaled impact attribution research. As for source attribution, the court did not discuss whether the increase in HFCs would constitute a “meaningful contribution” to climate change. Rather, it relied on a straightforward and concise explanation of its ruling: “Petitioners then have adequately linked the 2018 Rule to an injury-in-fact: the 2018 Rule will lead to an increase in HFC emissions, which will in turn lead to an increase in climate change, which will threaten petitioners' coastal property.”<sup>37</sup> The court held that partial reinstatement of the prior rule would redress that injury.<sup>38</sup> The petitioners in the case included state governments, and while the court separately found that New York had standing, it did not rely on state standing to conclude that NRDC had its own climate-based standing.

Practitioners who represent environmental groups in challenges to climate regulations have grown accustomed to submitting voluminous member and expert declarations to establish climate-based standing, often relying on impact and source attribution research. Demonstrating injury is most likely to be successful with detailed attribution research showing localized impacts. Showing a “meaningful contribution” to establish causation and redressability

depends on the quantity of GHG emissions at issue and the judges' individual assessment. Given the litigation risk, however, and the differing case outcomes, it is prudent to allege co-pollutant harms or procedural injury where possible, or to invite a state to be co-litigant. None of these approaches are a substitute for detailed climate attribution, but they are practical strategies to maximize the effectiveness of climate litigation.

In future climate change litigation, attribution science will be the “connective tissue tying particular impacts resulting in particular costs and anthropogenic influence on climate change.”<sup>39</sup> Increasingly, it will be a necessary tool for developing a factual record to apply to the concepts of foreseeability, causation, and the judiciary's role in government, legal concepts that evolved in response to factual scenarios that are an order of magnitude less complex than the reality of climate change. To that end, we endorse the authors' exhortation to researchers to craft climate attribution studies that are accessible to a lay audience and to take care when communicating the levels of scientific uncertainty, while also highlighting another crucial consideration: by speaking the language of the judiciary and attempting to frame a scientific concept of “meaningful contribution,” attribution science can enhance its already substantial benefit to climate litigation.

### III. Using Climate Impact Attribution Studies to Direct Resources

While most climate litigation brought by environmental groups to date has focused on mitigation efforts, the goals of our legislative advocacy include climate adaptation as well. Given the scale of the solutions required to mitigate and adapt to climate change, substantial public investments to decarbonize our economy and upgrade our infrastructure are essential. The Biden Administration is proposing “a generational investment in infrastructure” of three to four trillion dollars, a primary goal of which is to address climate change.<sup>40</sup>

Climate change impact attribution research can help guide these infrastructure investments. Burger, Wentz, and Horton point out that, in the international context, attribution science can improve decisionmaking about how to allocate funds for adaptation.<sup>41</sup> The same is true for domestic investments. Downscaled studies showing which regions and local areas will be most affected by hurricanes, flooding, wildfires, and other climate impacts can serve as a starting point.

Historically, infrastructure investments have favored the affluent. This bias even affects federal funding to help communities recover from climate disasters. An NPR investigation found that “across the country, white Americans and those with more wealth often receive more federal dol-

31. *Id.* at 305.

32. *Id.*

33. *Id.* at 307.

34. *Id.* at 307-08.

35. 955 F.3d 68 (D.C. Cir. 2020).

36. *Id.* at 77.

37. *Id.*

38. *Id.*

39. Burger et al., *supra* note 17, at 198.

40. Emily Cochrane & Pranshu Verma, *Buttigieg Asks Congress for “Generational Investment” in Infrastructure*, N.Y. TIMES (Mar. 25, 2021), <https://www.nytimes.com/2021/03/25/us/politics/buttigieg-infrastructure.html>.

41. Burger et al., *supra* note 17, at 144.

lars after a disaster than do minorities and those with less wealth.”<sup>42</sup> The results of a recent academic study demonstrated that “as local hazard damages increase, so too does wealth inequality, especially along lines of race, education, and homeownership,” and that natural hazard damages continue to have a growing role in the United States’ widening wealth gap.<sup>43</sup> In his Executive Order on Tackling the Climate Crisis at Home and Abroad, President Biden established “a goal that 40 percent of overall benefits flow to disadvantaged communities.”<sup>44</sup> While many factors are relevant to ascertaining which communities are disadvantaged, low-income and minority communities that are particularly vulnerable to climate impacts should be included in programs that fund climate recovery and adaptation efforts. Climate scientists engaged in impact attribution research should consider performing downscaled studies to help identify such communities and characterize the risks they face.

#### IV. Conclusion

Environmental groups engaged in climate litigation and administrative and legislative advocacy depend on climate scientists to provide detailed research delineating climate change impacts and characterizing the contributions of GHG sources. As Burger, Wentz, and Horton suggest, that research has many uses and should be available in a form that is accessible to nonscientists—and, in particular, to judges. By doing so, climate researchers can enable advocates and proactive state governments to wield the available legal tools with greater efficacy in the fight to avoid the worst impacts of climate change. Just as importantly, broad accessibility will ensure that climate attribution research serves not only as a description of the unfolding climate catastrophe, but as a catalyst for crucial mitigation and adaptation measures.

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42. Rebecca Hersher & Robert Benincasa, *How Federal Disaster Money Favors the Rich*, HOUS. PUB. MEDIA (Mar. 5, 2019), <https://www.houstonpublicmedia.org/articles/news/2019/03/05/324087/how-federal-disaster-money-favors-the-rich/>.

43. Junia Howell & James R. Elliott, *Damages Done: The Longitudinal Impacts of Natural Hazards on Wealth Inequality in the United States*, 66 SOC. PROBS. 448, 450 (2019).

44. Exec. Order No. 14008, 86 Fed. Reg. 7619 (Jan. 27, 2021).

## ARTICLE

# EXTERNALITIES AND THE COMMON OWNER

by Madison Condon

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This Article expands the consideration of the effects of common ownership from the industry level to the market-portfolio level and argues that diversified investors should rationally be motivated to internalize intra-portfolio negative externalities. This portfolio perspective can explain the increasing climate change-related activism of institutional investors, who have applied coordinated shareholder power to pressure fossil fuel producers into substantially reducing greenhouse gas emissions.

## I. Introduction

The climate activism of investors of large companies presents two paradoxes for scholars of corporate governance. First, the theory behind the law of corporate governance rests on the assumption that shareholders' rational self-interest drives them to exercise their governance rights with the singular goal of maximizing corporate value.<sup>1</sup> Second, broadly diversified investors are typically described as poor monitors of corporate behavior.<sup>2</sup>

This Article argues that this paradoxical behavior can be explained by revising traditional corporate governance theory to account for institutional investors' motivations at a *portfolio* rather than a *firm* level. It argues that institutional investors' climate activism is motivated by their desire to mitigate climate change risks and damages to their economy-mirroring portfolios. Unchecked emissions contribute to an increase in global average temperature that is predicted to have a devastating effect on the world

economy. The institutional investors most active on corporate climate engagement have portfolios diversified across the entire economy. It is in their self-interest to reduce global emissions.

This Article contributes to the ongoing debate over common ownership by identifying the causal mechanisms by which institutional investors influence corporate directors into deviating from profit-maximizing objectives,<sup>3</sup> adding to the growing understanding of the net welfare effects of common ownership.<sup>4</sup> Diversified shareholder interests can diverge from the interests of concentrated shareholders and the objective of maximizing share price. This divergence undermines the efficiency-based rationale for shareholder primacy's ultimate service to social welfare maximization.<sup>5</sup> While most scholars have argued that managers should prioritize diversified shareholder interests because they are better-aligned with the goal of increasing social welfare,<sup>6</sup> this perspective has ignored diversified investor incentives to reduce inter-firm costs, and failed to consider the net welfare effects of common ownership.

This Article contemplates initial implications of diversified investor economy-wide control, including ambiguous net welfare effects and the concern that the market power to self-regulate operates as a form of unaccountable private governance.

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*Editors' Note: This Article is excerpted from Madison Condon, Externalities and the Common Owner, 95 WASH. L. REV. 1 (2019), and is reprinted with permission.*

1. See, e.g., Roberta Romano, *Metapolitics and Corporate Law Reform*, 36 STAN. L. REV. 923, 961 (1984); Henry Hansmann & Reinier Kraakman, *End of History for Corporate Law*, 89 GEO. L.J. 439, 441 (2001); FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 69-70 (1991).
2. See, e.g., Lucian Bebchuk et al., *The Agency Problems of Institutional Investors*, 31 J. ECON. PERSP. 89, 103 (2017); Edward B. Rock, *Institutional Investors in Corporate Governance* 12 (U. Penn., Working Paper No. 1458, July 21, 2015); Edward B. Rock, *The Logic and (Uncertain) Significance of Institutional Shareholder Activism*, 79 GEO. L.J. 445, 472 (1991).

3. See Daniel P. O'Brien & Keith Waehrer, *The Competitive Effects of Common Ownership: We Know Less Than We Think*, 81 ANTITRUST L.J. 729, 761-64 (2017).
4. See Scott Hemphill & Marcel Kahan, *The Strategies of Anticompetitive Common Ownership* 7 (NYU Law and Economics Research Paper No. 18-29, Nov. 2019), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3210373](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3210373).
5. See Hansmann & Kraakman, *supra* note 1, at 441; cf. Milton Friedman, *The Social Responsibility of Business Is to Increase Profits*, N.Y. TIMES MAG. (Sept. 13, 1970).
6. Richard A. Booth, *Stockholders, Stakeholders, and Bagholders (or How Investor Diversification Affects Fiduciary Duty)*, 53 BUS. LAW. 429, 434 (1998) (citing EASTERBROOK & FISCHEL, *supra* note 1, at 25-30, 339-40); RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW*, 370-71, 380 (3d ed. 1986); Henry T.C. Hu, *Risk, Time, and Fiduciary Principles in Corporate Investment*, 38 UCLA L. REV. 277, 350 (1990); cf. Iman Anabtawi, *Some Skepticism About Increasing Shareholder Power*, 53 UCLA L. REV. 561, 583-85 (2006).

## II. Institutional Investors' Externality Internalization

This Article proposes that institutional investors are pursuing profit-maximizing objectives unrelated to any personal moral agenda by addressing negative externalities at their source, minimizing harms to their broader portfolio.

### A. Portfolio-Maximizing Objective of Common Owners

Institutional investor equity ownership has reached unprecedented proportions. Due to the embrace of modern portfolio theory,<sup>7</sup> most institutions diversify their public equity assets broadly across the stock market. Empirical studies on the market effects of concentrated ownership show that diversified investors maximize their portfolio returns by influencing choices made at the firm level.

A portfolio-wide investment strategy should look across industries. An owner whose portfolio success tracks the entire market should be motivated to curtail the negative externalities generated by individual portfolio firms if the owner's share of the cost of internalizing the externality are lower than its share of the benefits to the entire portfolio from the elimination of the externality.

### B. Reduction of Systemic Climate Risks

Modern portfolio theory identifies two types of financial risk: economy-wide, systematic risk, and firm-specific, unsystematic risk.<sup>8</sup> Systemic risk cannot be eliminated through diversification because its effects are felt economy-wide.<sup>9</sup> Three types of climate change-related risks—transition risk, physical risk, and liability risk—so broadly affect the economy, they are considered systemic risks.<sup>10</sup> Climate risk is a systemic risk that institutional investors can control.

### C. Shareholder Activism for Climate Change Mitigation

For outcomes to be characterized as internalizing negative climate externalities, they must result in emissions reductions beyond regulatory and market forces. Diversified shareholders must be forcing firms to forgo profit at the expense of share value maximization. Shareholders might characterize these interventions as for the benefit of individual firms.

## 1. Outcomes Sought From Portfolio Companies

Investor climate activism targeting fossil fuel companies can be grouped into three categories of outcomes sought.

### a. Emissions Reduction Targets

In 2017, a group of institutional investors joined the Climate Action 100+ initiative, asking peers to sign a pledge committing their shareholder power to pressuring companies to adopt long-term emissions reduction targets.<sup>11</sup> By the 2019 proxy season, 360 institutional investors had signed the pledge, controlling a combined \$34 trillion in assets.<sup>12</sup> Shareholder resolutions requesting emissions reductions targets have been increasing in frequency and gaining support.<sup>13</sup> In 2018, 29 such proposals were filed.<sup>14</sup>

Institutional investors have also increasingly engaged in public-facing advocacy. In advance of the 2018 proxy season, investors managing a combined \$10.4 trillion in assets issued an open letter in the *Financial Times* urging oil and gas companies to make “concrete commitments to substantially reduce carbon emissions” and explain “how the investments they make are compatible with a pathway towards the Paris goal” of less than 2°C of warming.<sup>15</sup>

### b. Suspension of Anti-Regulation Lobbying

Institutional investors pay increasing attention to the resources companies devote to lobbying efforts aimed at thwarting carbon regulation. In the 2018 proxy season, a coalition of 74 investors filed shareholder proposals at 14 emissions-intensive companies seeking disclosure of expenditures for lobbying.<sup>16</sup> The proposals specifically targeted companies for membership in groups devoted to fighting climate regulation.<sup>17</sup>

### c. Climate Risk Disclosure

Investors have pressed for disclosure of climate change-related risks. In the 2017 proxy season, 18 shareholder proposals requested that fossil fuel and utility companies undergo and disclose two-degree scenario analysis.<sup>18</sup> The

7. See Harry Markowitz, *Portfolio Selection*, 7 J. FIN. 77, 79 (1952).

8. See RICHARD A. BREALEY ET AL., *PRINCIPLES OF CORPORATE FINANCE* 168-70 (10th ed. 2011).

9. Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 200 (2008).

10. See UNIV. OF CAMBRIDGE INST. FOR SUSTAINABILITY LEADERSHIP, *UNHEDGEABLE RISK: HOW CLIMATE CHANGE SENTIMENT IMPACTS INVESTMENTS* 28 (2015), <https://www.cisl.cam.ac.uk/resources/publication-pdfs/unhedgeable-risk.pdf>.

11. *About Us*, CLIMATE ACTION 100+, <https://climateaction100.wordpress.com/about-us/>.

12. *Investors*, CLIMATE ACTION 100+, <https://climateaction100.wordpress.com/investors/>.

13. Maximilian Horster & Kosmas Papadopoulos, *Climate Change and Proxy Voting in the U.S. and Europe*, HARV. L. SCH. FORUM ON CORP. GOVERNANCE & FIN. REG. (Jan. 7, 2019), <https://corpgov.law.harvard.edu/2019/01/07/climate-change-and-proxy-voting-in-the-u-s-and-europe/>.

14. *Id.*

15. Aberdeen Standard Investments et al., *Oil and Gas Groups Must Do More to Support Climate Accord*, FIN. TIMES (May 17, 2018), <https://www.ft.com/content/fda63c26-5906-11e8-b8b2-d6ceb45fa9d0>.

16. Press Release, Walden Asset Management, Institutional Investors Continue to Press Companies for Disclosure of Lobbying in 2018 (Mar. 9, 2018), <https://waldenassetmgmt.com/wp-content/uploads/2018/03/Announcement-of-2018-Lobbying-Disclosure-Resolutions-correct-Walden-Logo.pdf>.

17. See CERES, Engagement Tracker, available at <https://engagements.ceres.org/> [hereinafter CERES, Engagement Tracker].

18. Cristina Banahan, *Doubling Down on Two-Degrees: The Rise in Support for Climate Risk Proposals*, HARV. L. SCH. FORUM ON CORP. GOVERNANCE &

proposals received an average of 41% support, with three passing with majority approval.<sup>19</sup> In the 2018 season, 12 of the 20 shareholder proposals related to two-degree scenario analysis were withdrawn prior to voting due to board acquiescence.<sup>20</sup>

## 2. Legitimacy of Firm-Specific Business Purpose

This investor activism targets the managers of individual companies to change corporate objectives at the firm level. These objectives serve the purpose of maximizing long-term portfolio returns, to the detriment of firm-specific returns.

### a. Assessing Outcomes

The outcomes identified above may not serve profit maximization at the targeted firm. The extent to which a firm-specific rationale is lacking serves as further evidence that investor motivations are guided by net portfolio returns.

*Emissions Reduction Goals:* Investors argue that the company is failing to adequately prepare for government regulation and the growth of renewable alternatives.<sup>21</sup> Institutional investors argue that they have a better understanding of the growth needed to meet expected demand than the executives within the energy industry. The business rationale for meeting emissions targets remains unclear.

*Disclosure of Lobbying:* In one set of shareholder proposals requesting disclosure of lobbying expenditures, institutional investors argued that “investors are concerned lobbying can pose reputational risks if it contradicts a company’s publicly stated positions.”<sup>22</sup> If disclosure is necessary because information on spending is not already publicly available, it is unclear where this reputational risk would originate. Disclosure would open the companies up to broader public sanction.<sup>23</sup>

*Disclosure of Climate Risk:* Demand for disclosure of energy companies’ exposure to climate risk is typically justified by the argument that they are inadequately prepared for the carbon-regulated future. This “transition risk” comes from a failure to adapt in time to a less carbon-intensive economy.<sup>24</sup> If climate risks are indeed mispriced,

investor statements regarding climate risk disclosure remain puzzling. A better explanation might be that retaining control in the company provides benefits to the wider portfolio. Index funds, who cannot sell their shares, have been some of the most vocal investors in demanding disclosure of climate risk.<sup>25</sup> Index funds are not supposed to be particularly concerned about firm-specific valuations or disclosure. Increased firm-level disclosure may ensure that the firm’s stock is more accurately priced, but this accuracy reduces only idiosyncratic risk.<sup>26</sup>

### b. Portfolio Purpose and Retail Opposition

Internalization of harmful climate externalities benefits the portfolio at the expense of the externality-generating firms. If these climate outcomes are in the best interest of the company, one would expect concentrated shareholders to lend their support. It appears, however, that they give less support to climate-related resolutions than their institutional co-owners.

## 3. Impact on Emissions Reductions

Under this theory of externality-internalization, economists are beginning to explore whether diversified investor ownership leads to emissions reductions in portfolio companies.<sup>27</sup>

*Emissions Goals:* Of the outcomes sought by shareholders, explicit emissions reductions goals have the clearest causal relationship to actual emissions reductions.

*Corporate Lobbying:* Investors are asking companies not only to disclose their spending on lobbying efforts to oppose carbon regulation, but also to refrain from such spending or proactively support emissions-limiting laws.

*Disclosure of Climate Risk:* Forcing companies to assess their carbon budget exceedances exposes the potential social undesirability of their business models. Transparent acknowledgement of plans at odds with combatting global warming enables regulators to better target their interventions.

Socially undesirable corporate practices can be reduced through disclosure alone.<sup>28</sup> Disclosure can also lead to decreased future emissions through limiting the capital that is allocated to the exploration and development of fossil fuel reserves. Disclosure of two-degree scenario analyses can correct both market-wide misassessment of risk or

FIN. REG. (Jan. 23, 2018), <https://corpgov.law.harvard.edu/2018/01/23/doubling-down-on-two-degrees-the-rise-in-support-for-climate-risk-proposals/>.

19. *Id.*

20. Andrew Logan, *The Hidden Story of Climate Proposals in the 2018 Proxy Season*, CERES (May 29, 2018), <https://www.ceres.org/news-center/blog/hidden-story-climate-proposals-2018-proxy-season>.

21. See, e.g., EXXON MOBIL, EXXON EMISSIONS TARGETS PROPOSAL 2019, <https://www.osc.state.ny.us/press/docs/xom-resolved.pdf>.

22. *Investor Coalition Files Proposals at 50-Plus Companies on Lobbying Activities*, PENSIONS & INV. (Mar. 9, 2018, 12:00 AM), <https://www.pionline.com/article/20180309/ONLINE/180309806/investor-coalition-files-proposals-at-50-plus-companies-on-lobbying-activities>.

23. See, e.g., Cynthia A. Williams, *The Securities and Exchange Commission and Corporate Social Transparency*, 112 HARV. L. REV. 1197, 1212, 1294-95 (1999).

24. See RISKY BUSINESS, THE ECONOMIC RISKS OF CLIMATE CHANGE IN THE UNITED STATES (2014), [https://riskybusiness.org/site/assets/uploads/2015/09/RiskyBusiness\\_Report\\_WEB\\_09\\_08\\_14.pdf](https://riskybusiness.org/site/assets/uploads/2015/09/RiskyBusiness_Report_WEB_09_08_14.pdf).

25. See, e.g., Gabriel T. Rubin, *Show Us Your Climate Risks, Investors Tell Companies*, WALL ST. J. (Feb. 28, 2019, 5:30 AM), <https://www.wsj.com/articles/show-us-your-climate-risks-investors-tell-companies-11551349800>.

26. See Merritt B. Fox, *Civil Liability and Mandatory Disclosure*, 109 COLUM. L. REV. 237, 253 (2009).

27. See José Azar et al., *The Big Three and Corporate Carbon Emissions Around the World* (working paper, on file with author); Sophie Shive & Margaret Forster, *Corporate Governance and Pollution Externalities of Public and Private Firms*, (Feb. 21, 2019), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3339517](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3339517).

28. Andrew Schatz, Note, *Regulating Greenhouse Gases by Mandatory Information Disclosure*, 26 VA. ENV’T L.J. 335, 336 (2008).

intentional misstatements leading to mispricing, which can have a regulating effect.<sup>29</sup>

This opens managers to liability for fraudulent misstatements and decreases the incentives for managers to conceal risk exposure. Disclosure in the form of two-degree scenario analysis requires the company to show how it would respond to regulation, and allows investors to assess the likelihood of such comprehensive regulation.

#### D. Internalization of Climate Externalities: Cost-Benefit Analysis of Climate Intervention

Predicting economy-wide costs of climate change is extremely challenging. What matters is how institutional investors themselves perceive the risks. For an investor diversified across the economy, climate damages' impact will result in proportional impacts to cash flows.<sup>30</sup>

Consider a hypothetical analysis BlackRock makes when weighing whether to take a measure to curtail production at Chevron and Exxon. Assume it forces each company to reduce its emissions by 40%, resulting in that company's share price falling by 20%. If it loses 20% of the value of each of these assets, it will lose \$6.3 billion total.

Emissions reduction was modeled using William Nordhaus' Dynamic Integrated Climate Economy Model (DICE). The business-as-usual pathway was modeled, first as a baseline, and then again, removing 1% of industrial emissions each year through 2100. The difference in the value of damages between these two model runs was compared, aggregated over 100 years, and discounted 7%. DICE predicts that by intervening, BlackRock could avoid damages to its portfolio of \$9.7 billion. It would be in BlackRock's economic interest to pursue this intervention.

This is an oversimplification of the trade offs an investor must analyze. A full understanding of the supply and demand effects of firm-specific targeting requires economic modeling beyond the scope of this Article.

### III. Ability and Incentives of Common Owners

While investors deny their ability to influence inter-firm competition, they advertise their power to pressure firms into reducing emissions. In addition, the internalization of portfolio externalities provides institutional investors with an *incentive* to intervene.

#### A. Mechanisms for Influencing Managers

Scholars have identified several ways investors could influence managers to undertake portfolio-maximizing behavior.<sup>31</sup>

*Board Elections:* BlackRock's Larry Fink has said that the ability to vote against management serves as an "implicit sanction" and that this power has led to "serious" corporate changes.<sup>32</sup>

*Compensation:* Several studies have found that managerial compensation is less likely to be tied to relative firm performance when the firm shares more common owners with industry competitors.<sup>33</sup>

*Direct Communications:* Institutional investors regularly communicate with corporate management on climate-related issues. BlackRock has argued that "meetings behind closed doors can go further than votes against management."<sup>34</sup> Climate Action 100+ announced its intent to seek "private, not public proposals."<sup>35</sup>

*Shareholder Proposals:* The success of institutional investors' climate activism can be seen in the number of shareholder proposals that were withdrawn prior to being brought to a vote in recent years: 38 in 2017 and 39 in 2019.<sup>36</sup> Because withdrawn proposals signify that the investor has been appeased, they are "one of the best indicators of activists' success."<sup>37</sup>

#### B. Liability for Violation of Fiduciary Duty

While shareholders are under no legal obligation to vote their shares in the best interest of the corporation, asset managers have a duty to individual retail investors.<sup>38</sup> Further, managers and directors have a fiduciary duty to undertake actions in the best interest of their company.<sup>39</sup>

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31. Einer Elhauge, *How Horizontal Shareholding Harms Our Economy—and Why Antitrust Law Can Fix It* 33-42 (Working Paper, Aug. 2019), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3293822](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3293822).
  32. Tim Wallace, *Index Funds Must Use Their Huge Power Over Companies, Says BlackRock Chief Larry Fink*, TELEGRAPH (Apr. 29, 2018, 8:43 PM), <https://www.telegraph.co.uk/business/2018/04/29/index-funds-must-use-huge-power-companies-says-blackrock-chief/> (last visited Jan. 28, 2020).
  33. Miguel Antón et al., *Common Ownership, Competition, and Top Management Incentives* 2-3 (Ctr. for Econ. Stud. & Info Inst., Working Paper No. 6178, 2018), <http://ssrn.com/abstract=2802332> (last visited Jan. 28, 2020).
  34. Sarah Krouse et al., *Meet the New Corporate Power Brokers: Passive Investors*, WALL ST. J. (Oct. 24, 2016), <https://www.wsj.com/articles/the-new-corporate-power-brokers-passive-investors-1477320101> (last visited Jan. 28, 2020).
  35. Lewis Braham, *Climate Change: Big Investors Bring Big Clout to the Debate*, BARRON'S (Apr. 27, 2018), <https://www.barrons.com/articles/big-investors-bring-big-clout-to-climate-battle-1524838935>.
  36. See CERES, Engagement Tracker, *supra* note 17.
  37. Virginia Harper Ho, *Risk-Related Activism: The Business Case for Monitoring Nonfinancial Risk*, 41 J. CORP. L. 647, 689 (2016).
  38. See, e.g., Ann M. Lipton, *Family Loyalty: Mutual Fund Voting and Fiduciary Obligation*, 19 TENN. J. BUS. L. 175 (2017).
  39. Thomas A. Lambert & Michael E. Sykuta, *Calm Down About Common Ownership*, 41 REG. 28, 31 (2018); O'Brien & Wachrer, *supra* note 3, at 765-66.

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29. Fox, *supra* note 26.

30. UNEP FINANCE INITIATIVE & PRINCIPLES FOR RESPONSIBLE INVESTMENT, UNIVERSAL OWNERSHIP: WHY ENVIRONMENTAL EXTERNALITIES MATTER TO INSTITUTIONAL INVESTORS (2011).

## 1. Investor Duty to Underlying Beneficiaries

A voting strategy that minimizes portfolio-wide negative externalities is likely not in the best interests of an individual investor whose assets are concentrated in the industry generating the externality. The practice of voting all funds in the same way is customary. If institutional investors are able to provide plausible business-purpose cover for the voting strategy, their true intentions may go undetected and unpunished.

Many institutional investors do not face this intra-beneficiary conflict. Pension funds pay out to all plan participants from one fund, so each beneficiary's diversification is the same. For these investors, it is arguable that their fiduciary duties *require* them to internalize firm-generating externalities to maximize portfolio returns. That only certain types of institutional investors face this conflict of fiduciary duties may explain their varying levels of climate engagement.

## 2. Fiduciary Duties of Managers

Firm managers have a fiduciary duty to manage in the best interests of “the corporation and its shareholders.”<sup>40</sup> The business judgment rule (BJR) protects managers from liability for decisions made under “any rational business purpose.”<sup>41</sup> A court “begins with the presumption that . . . the directors of a corporation acted on an informed basis, in good faith and in the honest belief that the action taken was in the best interests of the company.”<sup>42</sup> The increasing acquiescence to shareholder demand for climate risk disclosure easily satisfies this standard.

## C. Incentive to Intervene: Amending Model of Rational Reticence

As institutional investors grew in size, scholars predicted that they might develop a solution to the separation of ownership from control.<sup>43</sup> Dispersed stakes concentrated under the oversight of fund managers might justify spending resources on firm monitoring to seek higher returns.<sup>44</sup> More recently, scholars agree that these predictions have not been borne out; institutional investors lack the capacity and the incentive to intervene.<sup>45</sup>

40. N. Am. Cath. Educ. Programming Found., Inc. v. Gheewalla, 930 A.2d 92, 99 (Del. 2007); Mills Acquisition Co. v. Macmillan, Inc., 559 A.2d 1261, 1280 (Del. 1989).

41. Unocal Corp. v. Mesa Petroleum Co., 493 A.2d 946, 954 (Del. 1985).

42. eBay Domestic Holdings, Inc. v. Newmark, 16 A.3d 1, 36 (Del. Ch. 2010).

43. Adolf Berle, *Implications of the Corporate Revolution in Economic Theory*, in ADOLF BERLE & GARDINER MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* 81 (Harcourt, Brace and World rev. ed. 1968).

44. See, e.g., Bernard Black, *The Value of Institutional Investor Monitoring: The Empirical Evidence*, 39 UCLA L. REV. 895 (1992); Alfred Conard, *Beyond Managerialism: Investor Capitalism?*, 22 U. MICH. J.L. REFORM 117 (1988).

45. Lucian A. Bebchuk & Scott Hirst, *Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy* 12 (EUROPEAN CORP. GOVERNANCE INST., Working Paper Series in Law No. 433, 2018).

Institutional investors face their own collective action problems. They rarely own more than 10% of any company.<sup>46</sup> This leads to the “free-rider dilemma”<sup>47</sup> and the “rational apathy” problem.<sup>48</sup> However, any accurate model of the agency costs of institutional investors must account for the investors' motivations at the *portfolio level*.

In certain cases, the cost of firm-specific intervention may be overcome by benefits accruing to the wider portfolio. Because institutional investors increasingly hold portfolios that mirror one another's asset diversification,<sup>49</sup> they share similar portfolio-wide incentives. This is especially true of interventions that require a coordinated effort across firms, like limiting fossil fuel production. Here, reduction in supply only results in lower emissions if it is undertaken over a large enough portion of the industry, which incentivizes investors to coordinate through coalitions like Climate Action 100+.<sup>50</sup>

## IV. Implications of Diversified Shareholder Objectives

Most scholars have argued that the goals of diversified shareholders are more closely aligned with that of society and should be prioritized. There are reasons to be cautious about embracing this phenomenon as socially desirable: (1) the net welfare effects of common ownership are yet to be fully considered and (2) the ability of asset managers to “self-regulate” suggests this concentration of power can function as a form of private governance, raising questions regarding democratic accountability and the potential to displace the role of “traditional” government.

### A. Welfare Effects

This Article outlines one positive welfare effect that can occur: the internalization of negative externalities. An additional “bright side” of common ownership has also been greater investment in innovation.<sup>51</sup>

While the world's largest investors may have an economic incentive to mitigate the harms climate change impose on their portfolios, this incentive is not aligned with the *socially* optimal level of emissions.

46. Ronald J. Gilson & Jeffrey N. Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COLUM. L. REV. 863, 868-69 (2013).

47. Roberta Romano, *Institutional Shareholders and Corporate Governance in the U.S.*, in CORPORATE GOVERNANCE IN THE U.S. AND EUROPE: WHERE ARE WE NOW? 52, 55 (Geoffrey Owen et al. eds., 2006); Robert C. Pozen, *The Role of Institutional Investors in Curbing Corporate Short-Termism*, FIN. ANALYSTS J. 10 (Sept./Oct. 2015).

48. Lisa M. Fairfax, *The Future of Shareholder Democracy*, 84 IND. L. REV. 1259, 1268-69 (2009); Rock, *Significance of Institutional Shareholder Activism*, *supra* note 2.

49. See Matthew Backus et al., *Common Ownership in America: 1980-2017*, at 22-23 (NBER Working Paper 25454, 2019).

50. See, e.g., Press Release, CERES, Nearly 400 Investors With \$32 Trillion in Assets Step Up Action on Climate Change (Sept. 14, 2018), <https://www.ceres.org/news-center/press-releases/nearly-400-investors-32-trillion-assets-step-action-climate-change>.

51. Miguel Antón et al., *Innovation: The Bright Side of Common Ownership?* (Working Paper June 21, 2018), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3099578](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3099578).

Asset owners care about some externalities more than others depending on the aggregate impact on their portfolio. That is why common ownership can result in both the socially desirable internalization of climate externalities and the socially undesirable collusion to raise prices, resulting in deadweight welfare loss.

Institutional investors face many barriers to implementing their own interests in externality internalization. Optimal performance would require a general equilibrium model, which can simultaneously solve for all outcomes in the market, but does not exist in a perfect form.<sup>52</sup>

### B. Market Concentration and Investor as Regulator

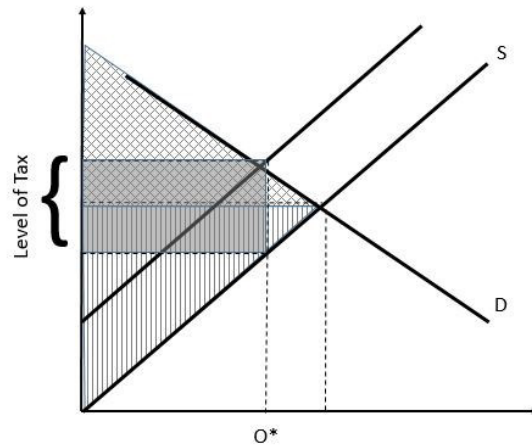
By facilitating a coordinated decline in the supply of fossil fuel company products, institutional investors are encouraging a rise in the price of those products. From this view, institutional investors' imposition of emissions goals at the producer level can be analogized to a carbon tax, except the increased costs paid by consumers are collected as corporate profits rather than revenue for the government. Producers incur their own losses in both scenarios. Under the coordinated decrease in supply, suppliers sell fewer products, but at a higher price. The net effect on profits depends on the elasticity of the demand curve. Overall, the same desired outcome may be achieved, by organizing a supply-side restriction without having to lose revenue to taxes.

The insight that self-regulation of externalities through market power can cost *less*, from a portfolio perspective, than implementation of a Pigouvian tax, suggests that investors may have an incentive to preempt government action.

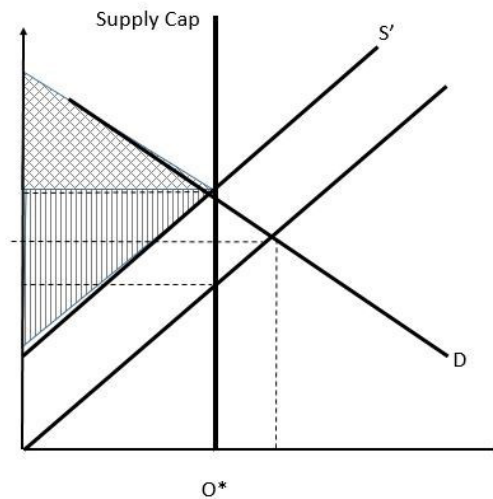
This Article makes a new contribution to the literature on voluntary corporate reduction of environmental harm. Several explanations have been advanced for the existence of private governance schemes. First, many of these initiatives exist in complement to public law.<sup>53</sup> Or they are an appeal to consumers or a reaction to environmental activist campaigns and motivated by the desire to avoid bad publicity. Commentators have neglected the influence of diversified investor self-interest. Under this explanation, private investors respond to the *absence* of government regulation. This explanation is consistent with traditional theories of utility-maximizing market actors.

Externalities have typically been seen as classic examples of market failure, requiring government intervention.<sup>54</sup> However, in the current political climate, the

**Figure 1. Government-Imposed Pigouvian Tax**



**Figure 2. Investor-Imposed Supply-Side Restriction**



world's largest asset managers have begun to serve as "surrogate regulators."<sup>55</sup>

While we may celebrate the ability of institutional investors to combat climate change,<sup>56</sup> we should question the desirability of a democratically unaccountable financial behemoth making centralized resource allocation decisions.

It may be possible to design a legal regime that encourages the positive effects of common ownership, like the diminution of systemic risks, while preventing harmful anti-competitive behavior.

52. See, e.g., Letter from the Science Advisory Board (SAB), to E. Scott Pruitt, Admin., U.S. Env't Prot. Agency 1 (Sept. 29, 2017), [https://yosemite.epa.gov/sab/sabproduct.nsf/0/4B3BAF6C9EA6F503852581AA0057D565/\\$File/EPA-SAB-17-012.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/0/4B3BAF6C9EA6F503852581AA0057D565/$File/EPA-SAB-17-012.pdf).

53. Michael P. Vandenbergh, *The Private Life of Public Law*, 105 COLUM. L. REV. 2029, 2030 (2005).

54. RICHARD N.L. ANDREWS, *MANAGING THE ENVIRONMENT, MANAGING OURSELVES: A HISTORY OF AMERICAN ENVIRONMENTAL POLICY* 2 (1999).

55. Cf. Davis Hess, *Public Pensions and the Promise of Shareholder Activism for the Next Frontier of Corporate Governance: Sustainable Economic Development*, 2 VA. L. & BUS. R. 221, 235 (2007).

56. See, e.g., Nathan Atkinson, *If Not the Index Funds, Then Who?*, BERKELEY BUS. L.J. (forthcoming), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3341620&download=yes/](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3341620&download=yes/) (last visited Jan. 28, 2020).



### C. Shareholder Primacy and Efficiency-Framing

Much of the theory behind corporate law norms rests on the assumption that shareholders' rational self-interest drives them to exercise their governance rights with the goal of maximizing corporate value.<sup>57</sup> Consideration of common owner incentives challenges these core assumptions by showing that diversified shareholder interests can diverge from both the interests of concentrated shareholders and the objective of maximizing share price.<sup>58</sup>

The interests of diversified and concentrated shareholders diverge in their preferences for how much risk a corporate manager should take on. Most scholars advocate that firm managers should serve the objectives of the diversified over the concentrated holder because this goal more closely conforms to the socially desired optimum.<sup>59</sup>

Because idiosyncratic risk does not (theoretically) affect share price, this deference to diversified shareholders over concentrated ones does not implicate a deviation from the mandate of share price maximization.<sup>60</sup> While "most scholars" advocate that "management should manage with the interests of diversified stockholders in mind,"<sup>61</sup> these arguments generally ignore the perverse inter-firm production effects this would bring about.

Economy-wide diversification means that investors become common owners of firms that compete and impose costs on one another. Proponents of shareholder primacy argue that requiring managerial devotion to shareholder interests is the best way to maximize aggregate social welfare.<sup>62</sup> This argument assumes that individual firms lack market power to internalize externalities directly without ceding market share to competitors willing to externalize their costs.<sup>63</sup> This Article provides evidence that diversified

investors can implement externality internalization and deviation from share price maximization can improve portfolio efficiency. However, diversified institutional investor market power to internalize externalities comes along with the power to influence other inter-firm behaviors.

The portfolio-maximizing objective of common owners suggests that the advocates of managerial duty to diversified shareholders have not fully considered its perverse effects.<sup>64</sup> Beyond the market distortions that such a duty might enable, it is unclear how a manager could meet it. Shareholder value maximization as a theory of corporate purpose rests, in part, on the simplicity of measuring managerial success through a single metric.<sup>65</sup>

### V. Conclusion

Institutional investors have the economic incentive to function as "surrogate regulators," sacrificing individual firm profits for the benefit of the broader portfolio. This explanation of *why* institutional investors pressure firms to voluntarily reduce emissions has challenged the assumption that shareholders uniformly seek to maximize share value. Further, investors have the ability to carry out their portfolio-maximizing agenda through their power over both the market and managers. This explanation of *how* institutional investors are able to pressure firms into deviating from a profit-maximizing objective challenges the traditional view of diversified investor passivity.

Discussion of the appropriate legal response to common ownership has focused on the law of antitrust. This Article shows that corporate law must also respond given its failure to account for the behavior and influence of diversified investors.

57. See, e.g., Romano, *supra* note 1.

58. See Elhauge, *supra* note 31; cf. Oliver Hart & Luigi Zingales, *Companies Should Maximize Shareholder Welfare Not Market Value*, 2 J.L. FIN. ACCOUNT. 247, 266-67 (2017).

59. *Id.*

60. STEPHEN ROSS ET AL., CORPORATE FINANCE 363-67 (10th ed. 2013).

61. Booth, *supra* note 6.

62. Hansmann & Kraakman, *supra* note 1.

63. See, e.g., Michael C. Jensen, *Value Maximization, Stakeholder Theory, and the Corporate Objective Function*, 14 J. APP. CORP. FIN. 8, 16 (2001).

64. See, e.g., Henry T.C. Hu, *New Financial Products, the Modern Process of Financial Innovation, and the Puzzle of Shareholder Welfare*, 69 TEX. L. REV. 1273, 1282 (1991).

65. See, e.g., Robert J. Rhee, *A Legal Theory of Shareholder Primacy*, 102 MINN. L. REV. 1951, 2008 n.249 (2018).

C O M M E N T

# A WELFARE FUNCTION FOR SHAREHOLDER ENGAGEMENT: RECOGNIZING PROFIT FOR WHAT IT IS

by Frederick Alexander

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Madison Condon's *Externalities and the Common Owner* (ECO) plays an important role in the growing literature around shareholder activism aimed at increasing portfolio returns, regardless of individual firm effects. The article raises important questions of political economy, power distribution, and anticompetitive activity. In this Comment, I introduce key terminology for discussing these issues, and then reframe several issues raised by the article.

## I. Proposed Definitions

Defining terms can go a long way toward establishing common ground for discussion and helping to properly frame critical questions.

*Alpha.* The relative financial return of a residual security (typically common stock) or a portfolio of residual securities compared to the average return of a security or portfolio with similar volatility over a fixed period.

*ESG integration.* The shareholder practice of exercising corporate governance rights and otherwise engaging with a portfolio company in order to improve the company's internal governance and social and environmental impacts, all with a goal of increasing the company's shareholder value.

*Beta activism.* In contrast to ESG integration, the shareholder practice of exercising corporate governance rights and otherwise engaging with portfolio companies with the goal of improving their impacts on society and the environment and, consequently, on the absolute return of diversified portfolios. Effective beta activism may result in reduced alpha for some companies.

*Beneficiaries.* The human beings who benefit from shares held by shareholders, including the owners of mutual funds, workers in retirement plans, citizens in sovereign wealth funds, foundations and endowments, insureds in insurance company assets, and retail shareholders themselves.

## II. Framing the Issues

### A. What Are the Costs of Shareholder Primacy?

As ECO points out, there is an efficiency-based rationale for shareholder primacy, or the idea that companies should maximize shareholder value: the use of profits is a good heuristic for value creation. This idea of the "invisible hand" is deeply embedded in folk economics, but profits do not equal value creation when negative externalities exist or markets are otherwise imperfect.<sup>1</sup>

Any discussion of the cost of abandoning shareholder primacy must reckon with costs as well as benefits by examining the threats to the long-term health of the economy that come from unrestrained profit-seeking. A recent study estimated that in 2018, listed companies produced \$4.1T in profits globally and more than \$2.2T in social costs, suggesting that the heuristic is off by at least a factor of two.<sup>2</sup> The cost may be even greater because profits can come at a cost to the climate, biodiversity, ocean health, clean water, diversity, equality and other valuable systemic factors not captured in the study. The annual value we receive from the endangered global ecosystem is greater than global GDP.<sup>3</sup> As Duncan Austin says:

1. See, e.g., KAUSHIK BASU, *BEYOND THE INVISIBLE HAND: GROUNDWORK FOR A NEW ECONOMICS* 10 (2011) (explaining the First Fundamental Theorem of Welfare Economics as the strict conditions under which the invisible hand conjecture holds).
2. Andrew Howard et al., *SustainEx: Quantifying the Hidden Costs of Companies' Social Impacts*, SCHRODERS (Apr. 11, 2019), <https://www.schroders.com/en/sysglobalassets/digital/insights/2019/pdfs/sustainability/sustainex/sustainex-short.pdf>.
3. Duncan Austin, *Greenwish: The Wishful Thinking Undermining the Ambition of Sustainable Business*, PREVENTABLE SURPRISES (July 22, 2019), <https://preventablesurprises.com/wp-content/uploads/2019/07/2019-07-19-Greenwish-Essay.pdf>.

more of the environmental and social exchanges that shape our wellbeing may be unpriced than priced, yet we increasingly steer by the priced exchanges only.<sup>4</sup>

While research has measured the potential cost of climate change,<sup>5</sup> antimicrobial resistance,<sup>6</sup> racial injustice,<sup>7</sup> growing inequality,<sup>8</sup> and other costs that companies externalize in pursuit of profit, greater understanding of the relationship between shareholder value and externalized costs is necessary for policymakers, investors, labor leaders, and other economic power holders to make better decisions. Even with clarity that it is socially beneficial for shareholders to engage in beta activism, there is work to be done in defining the most effective interventions.

## B. Countervailing Managerial Power

It may be argued that externalities are best regulated by government, not shareholders, because, as ECO notes, (1) shareholders do not share identical interests with the full polity and (2) the concentration of power in large asset managers may be risky.

One important question is the extent to which shareholder governance can reduce externalities where government fails, such as those failures discussed above. One obvious difference is jurisdictional; companies can arbitrage laws by moving operations and tax situs, resulting in a governmental race to the bottom, whereas capital markets cross borders, potentially preventing such arbitrage. Legislation and regulation are also subject to political pressures from corporate managers that shareholders may not feel as strongly.

It is also important in the power analysis to consider the alternative. If corporate power is not held by shareholders, where is it? I would argue that it resides in corporate C-suites, where managers' investments are concentrated in the equity of a single company and thus much less-aligned with the economy overall. Power is also concentrated in hedge, venture, and private equity funds, where

managers are rewarded in a manner that sacrifices beta for alpha.

Finally, the idea that power concentrates at the largest money managers, like BlackRock, State Street, and Vanguard, must be closely examined. These are, after all, service providers. Larry Fink's famous letter is as much a marketing document as a directive to portfolio companies. These asset managers are competing for clients, and any ESG mandates they attempt to impose on companies are part of their attempts to satisfy the institutional and retail investors they are trying to attract and maintain. In this sense, large asset managers may reflect a semi-democratic process.

In sum, the question is not whether shareholders are an ideal proxy for the public interest, but whether they are better than, or an important countervailing to, the power that resides in corporate managers and financial system intermediaries, as well as a complement to the power that resides in political bodies.

## C. Can Purported ESG Integration Effectively Meet Systemic Threats and Systematic Risk?

ECO notes that shareholders might characterize beta activism as ESG integration and that corporate managers might disguise beta-focused strategies as alpha-producing under the business judgment rule. This blurring of lines is intended to eliminate the tension between the desire of shareholders to maximize portfolio values and the desire of corporate managers to maximize firm values.

It is important to ask whether this attempt to find common ground impedes necessary progress. It seems highly unlikely that companies with (1) significant sunk costs in business models that do not account for planetary and social boundaries or (2) profit opportunities involving extensive cost externalization will always be able to "do best by only doing good." Some examples provided in ECO illustrate the gap. For instance, the article points to long-term emission target reductions based on historical emissions, but these may fall short of what must be done to reach Paris alignment, which is more likely to require immediate milestones to allocate fair shares of our limited carbon budget.

The same issue is illustrated by the increasing focus on the use of disclosure standards created by the Sustainability Accounting Standards Board. While these have been celebrated by some of the world's largest shareholders and are being increasingly employed by companies, they are only designed to measure environmental and social impacts affecting shareholder value at the reporting company.<sup>9</sup>

4. *Id.*

5. See, e.g., Matthew E. Kahn et al., *Long-Term Macroeconomic Effects of Climate Change: A Cross-Country Analysis* 5 (Int'l Monetary Fund, Working Paper No. 19/215, 2019), <https://www.imf.org/-/media/Files/Publications/WP/2019/wpica2019215-print-pdf.ashx>:

Our counterfactual analysis suggests that a persistent increase in average global temperature by 0.04°C per year . . . reduces world real GDP per capita by more than 7 percent by 2100 . . . [A]biding by the Paris Agreement, thereby limiting the temperature increase to 0.01°C per annum, reduces the loss substantially to about 1 percent.

6. See, e.g., Olga B. Jones et al., *Drug-Resistant Infections: A Threat to Our Economic Future* 56 (The World Bank, Working Paper No. 114679, 2017), <http://documents1.worldbank.org/curated/en/323311493396993758/pdf/final-report.pdf> ("In the high antimicrobial resistance-impact scenario, the world will lose 3.8 percent of its annual GDP by 2050, with an annual shortfall of \$3.4 trillion by 2030.").

7. See, e.g., Dana M. Peterson & Catherine L. Mann, *Closing the Racial Inequality Gaps: The Economic Cost of Black Inequality in the U.S.*, CITI GLOB. PERSPECTIVES & SOL. (Sept. 2020), <https://www.citivelocity.com/citigps/closing-the-racial-inequality-gaps/>.

8. See, e.g., HEATHER BOUSHEY, UNBOUND: HOW INEQUALITY CONSTRICTS OUR ECONOMY AND WHAT WE CAN DO ABOUT IT (2019).

9. *Exploring Diversity & Inclusion in the SASB Standards*, SUSTAINABILITY ACCOUNTING STANDARDS BD. (Sept. 28, 2020), <https://www.sasb.org/blog/exploring-diversity-inclusion-in-the-sasb-standards/> (treating data on race and gender as material in only 13 or the 77 industries for which the SASB establishes disclosure standards, even though racial and gender injustice in

Consequently, this disclosure regime does not assist shareholders attempting to fill in any gap between ESG integration and beta activism.

#### D. *The Distinction Between Beneficiaries, Shareholders, and the Trustees Between Them*

ECO points out that a shareholder with concentrated ownership at a company or in an industry may have an economic motive consistent with externalizing costs, just as a manager at a company would. While this is true, the analysis should be done from the perspective of the beneficiaries, not the shareholders. Given the benefit that investors obtain from diversifying to eliminate idiosyncratic and industry risk—the central insight of Modern Portfolio Theory—it seems likely that most investors with fiduciary obligations would be quite diversified, even if some money is assigned to concentrated positions at hedge funds or similar vehicles.

In determining the calculus from the perspective of beneficiaries, it is also important to recognize that, in addition to interests in portfolios, they have both individual interests and community interests. Indeed, for many, if not most, people who have interests in a retirement or mutual fund, or who benefit from foundations or endowments, the most important financial asset is a job; companies' effects on access to good jobs, training, and education is more important to many beneficiaries than financial return. And feelings of obligation toward members of communities large and small is important as well. There is no doubt that, if asked, many beneficiaries who profited from the conditions that led to the loss of life at Rana Plaza or the *Deepwater Horizon* environmental disaster would gladly return the profit attributable to those losses in order to change outcomes.

The fact different beneficiaries have different interests in these issues cannot justify ignoring them, because ignoring the trade offs is itself a choice. If a company or portfolio manager maximizes company or portfolio value by externalizing costs, and if the ultimate beneficiaries of that company or portfolio have other financial interests, careers, people, and issues they care about affected by those costs, then the manager is trading off their interests for the interest of the hypothetical beneficiary whose interests are fully aligned with those of the company or portfolio.

#### E. *The Possibilities of Guardrails*

Even accepting that beneficiaries and overall economic efficiency could be better-served if shareholders took better account of externalities, ECO notes that it is unclear

how managers could put the idea into practice without losing the value of profit maximization as a corporate purpose tool.

How can we ask managers of individual companies to balance profit, pollution, inequality, job quality, and other social issues? They are deeply incommensurate. Moreover, decisions to forgo a practice at one company may be futile if others can exploit the opportunity, and this possibility may lead to a prisoner's dilemma equilibrium of everyone making the choice that provides the worst outcome.

The solution may be guardrails—rules that shareholders can apply equally to all companies—to reduce externalities by imposing baseline rules around emissions, worker treatment, racial injustice, and other issues. With these rules in place to limit cost externalization, managers can return to value maximization within these parameters, a modified shareholder primacy that (1) addresses the agency concerns and (2) fulfills the pricing and allocation function that competition plays in a free market.

#### F. *Distinction Between Price Collusion and Beta Activism*

ECO raises the concern that if shareholders work to improve beta by reducing externalized costs, they might also work together to improve the return of competitors through price collusion. More theoretical work needs to be done to ask if this is a false equivalency.

The fundamental insight of beta activism is that some companies must be asked to sacrifice financial return that comes from externalizing costs, thereby harming other companies in diversified portfolios. In a universe of three companies, for example, Company A might be required to sacrifice \$100 in profit it makes by polluting the environment if each of Companies A, B, and C would suffer a \$50 reduction in value from that pollution. This would mean shareholders as a group would enjoy a \$50 increase, which perfectly diversified shareholders would enjoy proportionately, while a shareholder concentrated in Company A would lose. Note that even though concentrated holders receive, on average, the same increase in expected returns, they also experience increased volatility. That is why beta activism relies on the diversification of portfolios.

The calculus for price collusion is different. For three airlines, A, B, and C, price collusion will raise the value of all three companies, so diversified and concentrated shareholders have the same motives.<sup>10</sup> If shareholders vote and engage with a goal of maximizing profits, then the earnings and projections of a company engaging in collusion are more likely to lead to votes that support management. It is true that a concentrated owner may feel the prisoner's dilemma pressure to be the first to defect from a collusion

any industry can harm the social fabric); *SASB Conceptual Framework*, SUSTAINABILITY ACCOUNTING STANDARDS BD. (Feb. 2017), [https://www.sasb.org/wp-content/uploads/2020/02/SASB\\_Conceptual-Framework\\_WATERMARK.pdf](https://www.sasb.org/wp-content/uploads/2020/02/SASB_Conceptual-Framework_WATERMARK.pdf) (“SASB standards address the sustainability topics that are reasonably likely to have material impacts on the financial condition or operating performance of companies in an industry.”).

10. While it is true that there will be less volatility for a shareholder with equal interests in all three during a collusion scheme that does not appear to be different from the reduced volatility experienced by a diversified holder in an initially competitive situation; indeed, that is the point of diversification—receiving the same expected return with less volatility.

scheme in order to capture market share as a first mover, but that is simply a question of finding a mechanism to ensure compliance, in which all three firms perform better on a risk-adjusted basis. This is very different from the beta activism question, which requires actual sacrifice of return from some firms.

The mechanism that common ownership provides for beta activism—the active direction of companies to sacrifice returns that rely on cost externalization—is clear. It is less clear what mechanism in support of price collusion is made available by common ownership. It would be something like managers of each company being comfortable that if the cartel fails because rival firms break the consortium, shareholders will not punish the non-defecting firms for losing market share. This feels much more attenu-

ated than enforcement of beta activism. Moreover, because diversified shareholders rely on an expanding economy and the success of a broad array of businesses, they would seem less likely than concentrated owners to favor collusion in an industry if it raises business costs and reduces economic productivity.

\* \* \* \*

With increasingly indexing markets, concentration, and externalized social and environmental costs rising, distinguishing common owners' promotion of responsible practices from welfare-shrinking price collusion is critical for economics, law, and finance. ECO is an important contribution to the field.

C O M M E N T

# CAN'T WE ALL JUST GET ALONG?: HOW DIVERSIFIED INVESTORS AND COMPANIES CAN MAINTAIN THEIR FIDUCIARY DUTY IN A CLIMATE CRISIS

by Natasha Lamb

*Natasha Lamb is the Co-founder of and Managing Partner at sustainable wealth management firm Arjuna Capital.*

Madison Condon's *Externalities and the Common Owner*<sup>1</sup> warrants serious attention and consideration by a broad variety of stakeholders—investors, public policymakers, academics, and citizens concerned about the systemic risks climate change pose to our economy, wealth, and sustainability. I am honored to have the opportunity to comment on her work from the perspective of an active investor and portfolio manager integrating Environmental, Social, and Governance (ESG) risks and opportunities into Arjuna Capital's client investment portfolios. Therefore, I will comment from the perspective of a practitioner engaging in many of the practices observed by Condon.

Arjuna Capital is a sustainable investment manager with a long history engaging with oil and gas companies on issues of climate risk—including carbon asset risk. That is, the risk that up to two-thirds of all fossil-fuel reserves could be stranded, unburnable, and devalued in the low-carbon future necessary to avoid catastrophic climate change. And while we have substantially divested our clients' assets from fossil fuels because of this serious and accelerating risk, we believe continuing oil company engagements as "universal" diversified investors is critical. Active/diversified investors can challenge conventional thinking within the companies and press companies to transition to a world where global temperatures rise less than 1.5 degrees Celsius—the threshold that scientists estimate triggers catastrophic climate change. It is critical to do so because no company operates in a silo—and the externalities of a few companies will have an outsized impact on most companies, and our economy broadly.

As diversified investors and fiduciaries, Arjuna recognizes the short-, medium-, and long-term impacts of

climate change and addresses them in three ways, by: (1) substantially **Divesting** from fossil-fuel investments; (2) **Engaging** with companies to improve efficiency and adaptability; and (3) **Investing** in solutions to our climate challenges.

The choice to divest from fossil fuels reflects the potentially insurmountable risks facing the fossil-based energy market. These risks include increasing regulation, competition from renewable sources, and a corresponding decrease in long-term fossil fuel demand. As investors, we also recognize the discouraging trends in corporate responses, ranging from climate denial and lobbying to a lack of comprehensive transition planning and net-zero emission goals. As diversified investors, we are concerned about the outsized impact these companies' externalities will have on the climate crisis, GDP, and therefore our clients' diversified investment portfolios.

As divestment does not mitigate systemic climate risk, for the last seven years, we have exercised our clients' share ownership to press for corporate change at the country's largest oil companies, Exxon and Chevron, as well as collaborated with European investors and companies to address this existential crisis. Our 2014 landmark negotiation with ExxonMobil led to the company's first report on carbon asset risk, and subsequent shareholder proposals have challenged the company's capital investments in high-cost, high-carbon reserves, their readiness to transition to a carbon-constrained future, and the preparedness of their boards to address the transition. This spring, hedge fund Engine No. 1, echoing our concerns, won two board seats at Exxon's annual meeting and gained support from Blackrock in its bid for better climate governance.

Condon's paper documents evidence showing we are not alone, and that "diversified investors seek to maximize profits at the portfolio, rather than firm, level and explains how this portfolio perspective can be extended to explain

1. Madison Condon, *Externalities and the Common Owner*, 95 WASH. L. REV. 1, 9 (2020).

why institutional investors seek to internalize harmful climate-change externalities.”<sup>2</sup> As institutional investors working in the fiduciary duty of our clients to minimize risk (beta) and maximize return (alpha), Arjuna Capital views investment portfolios in the same way—as a chess board, where performance is measured by the whole, not necessarily the sum of its parts. And when a few bad apples spoil the bunch, it needs to be addressed, which requires active ownership. In fact, as Condon contends: “If a subset of firms in a portfolio impose costs on the broader portfolio through the generation of negative externalities, a portfolio-wide owner should be motivated to curtail those externalities at the source.”<sup>3</sup> “Rational owner[s]” with “economy-mirroring portfolios” are therefore motivated to eliminate those externalities and can work to do so through active engagement.<sup>4</sup>

In that vein, our clients filed a proposal at Chevron this year asking the company to amend its certificate of incorporation to become a Public Benefit Corporation. The rationale being: the majority of Chevron’s shareholders are beneficial owners with broadly diversified portfolios, who are unalterably harmed when the company follows the “shareholder primacy” model, operates outside of a 1.5-degree Celsius climate model, and imposes serious environmental costs that lower economic productivity. Therefore, it is in investors’ interest to press for a governance model and business plan that can “maximize returns” within a 1.5-degree Celsius global-temperature-rise threshold, but not beyond it.

Our view that Chevron needs to operate within the bounds necessary to prevent catastrophic climate change may be different than the view held by shareholders concentrated in Chevron stock or the stock of any single company. But there are very few of those investors out there. As Condon points out, in the age of modern portfolio theory, today’s investors are highly diversified. Therefore: “diversified shareholder interests can diverge from both the interests of concentrated shareholders and the objective of maximizing share price.”<sup>5</sup> Diversified shareholders and “institutional investors seek to internalize harmful climate-change externalities” because “not only does investor climate action diminish future climate damages, it also reduces the systemic climate risks that cannot be diversified away.”<sup>6</sup>

And those systemic climate risks are for real. According to the United States’ Commodity Futures Trading Commission, “Climate change poses a major risk to the stability of the U.S. financial system and to its ability to sustain the American economy.”<sup>7</sup> The National Bureau of Economic Research warns if greenhouse gases are not cut

in line with the Paris Accord, United States’ GDP could be cut 10.5 percent by 2100.<sup>8</sup> This climate hit to the economy will ultimately show up in company earnings and investor portfolio returns. The United Nations Environment Programme Finance Initiative (UNEP FI) and Principles for Responsible Investment (PRI) reports in the paper “Universal Ownership” that over 50 percent of companies’ earnings are at risk from climate costs, creating systemic risk for diversified investors.<sup>9</sup> “Universal investors”—those with highly-diversified portfolios representative of the broad economy—are exposed to growing and widespread climate costs generated by some companies and ultimately incurred by other companies.

Condon’s cost-benefit analysis, like those sighted by the groups above, seeks to demonstrate the costs of these climate damages, asserting it is “enough so that the devaluation of the fossil fuel stock is outweighed by portfolio benefits.”<sup>10</sup>

As fiduciaries managing diversified portfolios, the onus is on institutional investors to maximize profit at the portfolio level, not necessarily the company level. Condon cites research asserting “voluntary emissions reduction is at odds with the aim of profit maximization,”<sup>11</sup> and while this may be true in the short-term, it depends on the time line. One can easily argue there are ways to both reduce emissions and maximize profitability and returns to investors while not growing fossil assets, but investors and company executives may have different views.

Condon notes a difference between the perceived fiduciary duty of company managers and directors and the fiduciary duty of institutional investors acting on behalf of their diversified investors/beneficiaries. Company executives may believe that growing fossil fuel assets is in their fiduciary duty, while emissions reductions are not.

To that point, incorporating as a Public Benefit Corporation could relieve this perceived conflict for companies, allowing them to operate for the benefit of all stakeholders, not just shareholders. That is, companies can maximize profits within the constraints of a 1.5-degree Celsius global temperature rise, but not beyond it. For investment managers, pressing for a 1.5-degree Celsius temperature threshold falls squarely in line with their fiduciary duty. And inaction on climate may be in conflict with investors’ fiduciary duty. Condon rightly notes that the “intentional passivity” of pension funds and passive investors like the “Big Three” asset managers—BlackRock, Vanguard, State Street—by not pressing for climate action, may actually

2. *Id.* at 9.

3. *Id.* at 6.

4. *Id.*

5. *Id.* at 76.

6. *Id.* at 9.

7. Commodity Future Trading Commission, *Managing Climate Risk in the U.S. Financial System* (September 2020) available at <https://www.cftc.gov/sites/default/files/2020-09/9-9-20%20Report%20of%20the%20Subcommittee%20on%20Climate-Related%20Market%20Risk%20-%20Manag->

[ing%20Climate%20Risk%20in%20the%20U.S.%20Financial%20System%20for%20posting.pdf](https://www.cftc.gov/sites/default/files/2020-09/9-9-20%20Report%20of%20the%20Subcommittee%20on%20Climate-Related%20Market%20Risk%20-%20Manag-ing%20Climate%20Risk%20in%20the%20U.S.%20Financial%20System%20for%20posting.pdf).

8. National Bureau of Economic Research, *Long-Term Macroeconomic Effects of Climate Change: A Cross-Country Analysis* (August 2019), available at [https://www.nber.org/system/files/working\\_papers/w26167/w26167.pdf](https://www.nber.org/system/files/working_papers/w26167/w26167.pdf).

9. UNEP Finance Initiative and Principles for Responsible Investment, *Universal Ownership* (2011), available at [https://www.unepfi.org/fileadmin/documents/universal\\_ownership\\_full.pdf](https://www.unepfi.org/fileadmin/documents/universal_ownership_full.pdf).

10. Condon, *supra* note 1, at 10.

11. *Id.* at 3.

breach “their duties to those clients that invest broadly in a market-mirroring portfolio.”<sup>12</sup>

As fiduciaries, we have a history of expressing concerns about returns at both the company level and broad portfolio level. But given the record of inflexibility for companies like Exxon and Chevron to adapt, the latter portfolio-level concern now looms large. For example, at Exxon’s annual meeting in 2016, we presented a proposal asking the company to prioritize profitability and value over growth by returning more capital to shareholders, citing a -68 percent drop in profitability the prior decade and a downgrade to Exxon’s credit rating. We were squarely in the camp of pressing the company to adapt to protect returns *and* address the climate crisis. But at that meeting, then-CEO and Chairman, Rex Tillerson, noted that if global temperatures increased 4 or even 6 degrees Celsius, that the company would simply adapt. There was no sign of

the company adapting to *prevent* such a rise—or accepting culpability in that potential outcome. And that is why investors are so concerned—because a 4- to 6-degree rise is untenable. Perhaps not for Exxon (as they see it), but for diversified “universal” investors invested in an economy that will have to battle catastrophic climate change. As fiduciaries, catastrophic climate outcomes must be the central concern—and a Public Benefit Corporation model could very well assuage both investors’ and companies’ fiduciary concerns.

Condon’s exploration of the evolving nature of fiduciary duty is critical as the climate crisis escalates, and whether it is investors or regulators that press for change, that change is necessary to maintain a healthy, functioning economy that will serve to protect institutional investors’ “economy-mirroring” portfolios.

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12. *Id.* at 59.



C O M M E N T

# EXTERNALITIES AND THE COMMON OWNER: VIEW FROM A SHAREOWNER

by James Andrus and Anne Simpson

*James Andrus is an Investment Manager and Financial Markets Lead and Anne Simpson is the Managing Investment Director, both at the Board Governance and Sustainability Program for the California Public Employees' Retirement System.*

California Public Employees' Retirement System (CalPERS) is the largest-defined benefit public pension fund in the United States, with about \$450 billion in global assets under management. CalPERS actively protects its rights as an investor and the Board Governance and Sustainability program sits at the center of this effort. Collectively, we have more than 40 years-experience in corporate governance and have been very close to CalPERS' work on engagement, advocacy and integration of climate change risk and opportunity, as well as the conduct of this work through partnerships. We appreciate Madison Condon's focus on the great work of Climate Action 100+ in her article *Externalities and the Common Owner* (the Article).<sup>1</sup> As the convener and co-founder of Climate Action 100+, we are delighted to provide background on CalPERS' focus on climate change, our work with Climate Action 100+, and some of our thoughts on the Article given our knowledge of the common ownership debate.

In 2020, CalPERS completed a Taskforce on Climate-Related Financial Disclosure (TCFD) report titled, "CalPERS' Investment Strategy on Climate Change."<sup>2</sup> In that report, we highlighted our work with various entities to address climate change. Such groups include the Principles for Responsible Investment (PRI), Ceres, the United Nations Global Investors for Sustainable Development, and the Vatican Dialogue on the Energy Transition and Care for Our Common Home. Likewise, we touched on our approach to leverage positions on the advisory boards of regulators to advocate for mandatory climate risk reporting. Such boards include the Investor Advisory Committee to the Securities and Exchange Commission, the Investor

Advisory Group to the Public Company Accounting Oversight Board (PCAOB), the Financial Accounting Standards Advisory Committee (FASAC), the Commodities and Futures Trading Commission (CFTC) special committee on climate change, and the International Financial Reporting Standards (IFRS) Advisory Council, on which we represent the Council of Institutional Investors (CII). Partnering with organizations allows CalPERS to share insights and pool resources with fellow investors with shared objectives.

The origins of Climate Action 100+ lie in CalPERS' commitment to mapping its carbon footprint. In 2014, CalPERS became the first U.S. signatory to the PRI Montréal Pledge, thereby agreeing to measure and publicly disclose the carbon footprint of our global equity investment portfolio. After analyzing more than 10,000 companies within our portfolio, we found approximately 80 companies were responsible for 50% of the portfolio's scope 1 and 2 greenhouse gas emissions. The emissions trajectory of these systemically important carbon emitters is critical in determining whether the global economy will meet the goal of the Paris Agreement to keep global warming to 1.5 degrees Celsius. CalPERS recognized that other global investors were likely to have similar holdings in their portfolios, so we convened a series of meetings hosted by the French mission to the United Nations. The result was a new partnership among regional and global investor networks (North America, Europe, Australia, and Asia) to launch Climate Action 100+. The list of companies in Climate Action 100+ cover a wide range of sectors including oil and gas, utilities, transportation, metals and mining, construction materials, industrials, chemicals, and food, beverages, and forestry. Climate Action 100+ was officially launched at the One Planet Summit in December 2018.

The initiative has since been recognized by the United Nations as one that will drive progress toward meeting the ambition of holding global warming to 1.5 degrees Celsius. CalPERS plays a leading role in Climate Action 100+ as

1. Madison Condon, *Externalities and the Common Owner*, 95 WASH. L. REV. 1 (2020), <https://digitalcommons.law.uw.edu/wlr/vol95/iss1/4>.  
2. CalPERS' Investment Strategy on Climate Change, CALPERS (June 2020), [https://www.calpers.ca.gov/docs/board-agendas/202006/invest/item08c-01\\_a.pdf](https://www.calpers.ca.gov/docs/board-agendas/202006/invest/item08c-01_a.pdf).

the inaugural chair and a member of the Steering Committee, which sets the strategy for the initiative. Our Corporate Governance team assumed the lead role for 22 of the companies identified for engagement. The responsibilities include meeting in-person with the company's leadership, senior management, and board members to communicate and engage on the Climate Action 100+ goals of governance, targets, and transparency. Those goals are:

- **Governance:** Implement a strong governance framework for each company that clearly articulates the board's accountability for oversight of climate change risk and opportunities. This includes ensuring that corporate lobbying and executive compensation are aligned with the Paris Agreement to facilitate a low-carbon transition.
- **Targets:** Act to reduce greenhouse gas emissions across the company's value chain, consistent with the goal of limiting global average temperature increase to 1.5 degrees Celsius above pre-industrial levels.
- **Transparency:** Provide enhanced corporate disclosure in line with the TCFD recommendations to enable investors to assess the robustness of a company's strategy against a range of climate change scenarios.

CalPERS will continue to be a leader on climate change. For example, we recently committed to the United Nations' Net-Zero Asset Owner Alliance that reaffirms the same goal we are setting for the largest emitters in our portfolio. We will continue to innovate through research and integration by building climate resilience into our portfolio and seeking investment opportunities in the low-carbon economy. In all this work, our partnership with fellow investors, policymakers, the business sector, and civil society will continue to be of vital importance. Tackling the climate crisis is urgent work that requires a cohesive effort to meet the goals of limiting global warming to 1.5 degrees Celsius.

Four years ago, we reviewed common ownership research and concluded that such research did not support the conjecture that common owners controlled the pricing of products or services. On the contrary, research rejected such an argument.<sup>3</sup> Professor Condon's Article provides high-value insights, such as the economic arguments for (1) internalizing carbon emission externalities because of their impact on a broader portfolio, and (2) why universal owners are appropriately interested in the larger social issues given that they invest in the entire market.

The Article highlights extensively the successes of Climate Action 100+, the world's largest investment engage-

ment initiative that engages with the world's largest greenhouse gas emitters, to argue that the coordinated efforts to produce those successes are similar to coordinating efforts to control product pricing. This comparison is both unfortunate and inaccurate.

Part I of the Article argues that diversified investors seek to maximize profits at the portfolio, rather than firm, level and further argues that investors seek to internalize harmful climate-change externalities. Part II then extends the argument to the common owner debate and contends that there is clear evidence of shareowner power to influence managerial motives at the product level. Part III then contends that diversified investors inappropriately step into the shoes of regulators and act as if they understand the underlying businesses better than the industry experts.

Upon scrutiny, we found the argument to be lacking. Professor Condon's argument that internalization of externalities explains institutional investors' incentives to encourage carbon emitters to reduce emissions is novel. It is even a great after-the-fact explanation; however, she does not discuss any of institutional investors' actual motivations for reducing carbon emissions, such as their belief that a company can improve performance by improving its ability to adapt to the current transition to a lower-carbon-intensive economy. Professor Condon does not appear to believe that policy and market forces are causing a carbon transition. For instance, she contends that "it would be reasonable for a well-informed industry manager to conclude that the risks of imminent federal climate policy are low, even after Donald Trump leaves office."<sup>4</sup> That assumption appears to have been ill-informed and ill-advised as the Joseph Biden Administration is pursuing an aggressive agenda to reduce carbon emissions, and the U.S. Congress is following suit with its legislative proposals.

Professor Condon also does not adequately acknowledge that addressing climate change risk is a global issue and the companies engaged by Climate Action 100+ are global companies. Therefore, institutional investors in global companies need to examine what is happening with worldwide carbon emissions policy to determine the proper strategies for most large companies.

We are most concerned by the arguments laid out in Part III. Part III is problematic because it casts the common ownership debate as one-sided, failing to acknowledge substantial disagreement among researchers. For example, Edward Rock and Daniel Rubinfeld convincingly refute the foundations of Einer Elhauge's work<sup>5</sup> by showing that common owners do not commonly own the same percentage of each company. Therefore, shifting incentives for corporate profits in favor of the weighted average of holdings in an industry<sup>6</sup> does not reasonably hold when the investors would have differing mid-points. Rock and Rubinfeld also undermine arguments that common owners have the incentive and ability to control product price. According to

3. See, e.g., Menesh S. Patel, *Common Ownership, Institutional Investors, and Antitrust*, 82 ANTITRUST L.J. 279 (2018) <http://dx.doi.org/10.2139/ssrn.2941031>; Edward B. Rock & Daniel L. Rubinfeld, *Defusing the Antitrust Threat to Institutional Investor Involvement in Corporate Governance*, NYU Law and Economics Research Paper No. 17-05, (Mar. 1, 2017) <http://dx.doi.org/10.2139/ssrn.2925855>.

4. Condon, *supra* note 1, at 28.

5. See Einer R. Elhauge, *Horizontal Shareholding*, 109 HARV. L. REV. 1267 (2016) <http://dx.doi.org/10.2139/ssrn.2632024>.

6. Rock & Rubinfeld, *supra* note 3, at 4-6.

their work, there is “no evidence that shareholders vote on competitive strategy and no evidence that directors run on a platform that is directed toward a competitive strategy.”<sup>7</sup> Rock and Rubinfeld argue that none of the tools available to institutional investors provide “for the degree of micro-management necessary to implement the kind of alignment with the portfolio interests of actual shareholders.”<sup>8</sup> Seeing no general case, Rock and Rubinfeld examined the airline industry and found the whole idea to be “implausible theoretically.”<sup>9</sup> In examining airport-to-airport routes, they found that proponents of the common ownership theory did not adequately consider city-to-city competition posed by Southwest, and changes at Southwest may have been the actual reason why prices increased.<sup>10</sup>

The Article argues that because Climate Action100+ is successful, common owners can also place anti-competitive pressure on companies at the product level. Professor Condon, however, provides no examples that have not already been soundly debunked. Further, it is important to highlight that page 59 of the Article states that “Blackrock, Vanguard and State Street are not members of Climate Action 100+.”<sup>11</sup> Interestingly, the largest asset owners were the targets in the initial common ownership debates, but it is clear that they played a significantly lesser role in Cli-

mate Action 100+, yet there is no analysis of this change in composition or its impact on the debate.

Finally, Professor Condon argues that passive investment requires no equity analysis at all,<sup>12</sup> which is incorrect. Index-based investors have an adequate interest in engaging companies on climate risk and related topics because such investors actually own larger economic stakes, even if the percentage ownership appears small because companies are much larger now. Thus, it is economically feasible and even necessary to engage. Additionally, she argues in one place that engagement is too costly given small investment,<sup>13</sup> but later argues that investors have “enormous stakes” in companies targeted.<sup>14</sup> In 2021, investors have adequate monetary stakes in companies to show concern about carbon emissions. Moreover, pension funds like CalPERS have a fiduciary obligation to act if the government fails to act after being made aware of the economic risks posed by carbon emissions, so the Article’s contentions do not align with these fiduciary duties.

Although flawed, the Article provides interesting food for thought. It underscores that market observers need more input from asset owners and asset managers to improve their understanding of the incentives and motivations driving coordinated corporate governance actions.

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7. *Id.* at 9.

8. *Id.* at 10.

9. *Id.* at 11.

10. *Id.* at 13.

11. Condon, *supra* note 1, at 59.

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12. *Id.* at 33.

13. *Id.* at 3.

14. *Id.* at 5.

ARTICLE

# ANOTHER GAME CHANGER IN THE MAKING? LESSONS FROM STATES ADVANCING ENVIRONMENTAL JUSTICE THROUGH MAPPING AND CUMULATIVE IMPACT STRATEGIES

by Charles Lee

*Charles Lee was the principal author of the landmark report Toxic Wastes and Race in the United States.*

## I. Introduction

During the past several years, I have devoted considerable energy to laying the groundwork for advancing environmental justice (EJ) at the state level.<sup>1</sup> State agencies make most of the decisions under both federal and state environmental laws, and activists and pundits alike have argued for a stronger focus on state EJ efforts.<sup>2</sup> States can be robust laboratories<sup>3</sup> for experimenting with ways to advance EJ,

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*Editor's Note: This Article is excerpted from 50 ELR10203 (Mar. 2020). A true pioneer in the arena of environmental justice, Charles Lee was principal author of the landmark report Toxic Wastes and Race in the United States, the first national study on the demographics associated with the location of hazardous waste sites, and organized the First National People of Color Environmental Leadership Summit. The author wishes to thank the many individuals who spearheaded the work described in this Article, as well as those who provided helpful comments. The ideas put forth in this Article are the author's own. They do not represent the views of the U.S. Environmental Protection Agency or any agency in the federal government, and no such representation should be inferred.*

1. "Advancing EJ" means realizing principles of EJ (such as fair treatment, meaningful involvement, and the achievement of healthy, equitable, resilient, and sustainable communities) in the ways government programs are carried out, and in the results these programs deliver.
2. Ever since the 1990s, EJ activists, scholars, and policy analysts have advocated for more attention to advancing EJ at the state level. For example, the U.S. Government Accountability Office's (GAO's) 2011 report made systematic state engagement one of its five strategic recommendations. See U.S. GOV'T ACCOUNTABILITY OFF., GAO-12-77, ENVIRONMENTAL JUSTICE: EPA NEEDS TO TAKE ADDITIONAL ACTIONS TO HELP ENSURE EFFECTIVE IMPLEMENTATION 32 (2011).
3. U.S. Supreme Court Justice Louis Brandeis popularized the concept of the "50 laboratories of democracy" in describing how a "state may, if its citizens

and some transformative advances have taken place.<sup>4</sup> It is critical that those of us working to advance EJ systematically expand the discourse within all levels of government. Under the federalist system of governance in the United States, lessons from one level can cross-fertilize and inform work at other levels. Critical attention to the role of non-governmental players in driving transformative change in government is also necessary.

This Article will focus on lessons learned from state practice in EJ mapping and screening, and their relationship to addressing the central issue of cumulative impacts. Identifying appropriate geographic areas of concern has emerged as a recurring issue because it is a practice essential to federal and state environmental programs. A rich history of approaches and applications in this area is beginning to emerge, and I hope to offer useful lessons for EJ practitioners—including advocates, researchers, policymakers, funders—and staff from community and advocacy organizations, academia, and government, seeking to advance work in their own states.

These lessons are based on work in California and the development, use, and impact of the California Environmental Protection Agency's (CalEPA's) CalEnviroScreen tool. In addition, I discuss the U.S. Environmental Pro-

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choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country." See *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932).

4. Beside developing CalEnviroScreen, California has passed legislation on the human right to water and on incorporating EJ in general plans, created the Community Air Protection Program, and directed resources to disadvantaged communities through its Greenhouse Gas Reduction Fund, Transformative Climate Communities, and green energy programs. These represent an unprecedented body of work to advance EJ. See generally Charles Lee et al., *California Environmental Justice Resources* (Aug. 2019), <http://graham.umich.edu/media/files/California-Environmental-Justice-Resources-Aug2019.pdf>.

tection Agency’s (EPA’s) EJSCREEN because of the ways that federal policies, tools, and data influence activities across all states. A formal definition of “cumulative impacts” is provided later in the Article, but briefly speaking, this concept refers to the reality that communities burdened by EJ issues typically suffer from a concentration of pollution sources and negative land uses as well as health and social vulnerabilities.

Five key lessons are discussed here:

- (1) Addressing cumulative impacts is a core strategy for advancing environmental justice, and this is embodied in EJ mapping tool development.
- (2) Guiding principles for successfully developing an EJ mapping tool can be articulated.
- (3) EJ mapping tools can help to facilitate resource investment to promote health and sustainability in environmentally overburdened and disadvantaged communities.
- (4) Emerging EJ mapping efforts provide a useful, straightforward, and replicable model that future EJ mapping development at the state and local government levels can emulate.
- (5) Progress in advancing EJ at the state level, including EJ mapping tool development, has come from the combined efforts of communities, academia, and government.

Before I discuss each lesson in detail, I will first provide an overarching perspective on why I believe the current discourse on EJ mapping is so important, followed by a summary of CalEnviroScreen and EJSCREEN. In addition, the lessons discussed in this Article inform my suggestion in the conclusion that we may in fact be witnessing the emergence of yet another “true game changer” for advancing EJ in the United States.<sup>5</sup>

## II. Importance of the Current EJ Mapping Discourse

The current discourse on EJ mapping tools is extremely critical for three reasons. First, identifying and prioritizing environmentally burdened and vulnerable communities is a fundamental first step to integrate EJ in government decisionmaking. While locating areas of high exposure and vulnerability is a critical and necessary first step, merely identifying them is insufficient. Our imperative is to have this information drive decisionmaking. Prioritizing vulnerable communities for attention, engagement, and resources is a good first use of this information and can

5. See Brooks Berndt, *An Interview With Charles Lee*, POLLINATOR: UNITED CHURCH CHRIST ENV’T JUST. BLOG (Sept. 8, 2017), [https://www.ucc.org/pollinator\\_an\\_interview\\_with\\_charles\\_lee/](https://www.ucc.org/pollinator_an_interview_with_charles_lee/).

yield significant benefits. It is also a gateway to exploring other substantive actions.

Second, the EJ mapping discourse holds the potential to more precisely characterize and operationalize the concept of disproportionate impacts. However, EJ mapping tools can now combine data on environmental burdens, demographic, and other vulnerability factors in ways that enable us to directly confront disproportionate impacts in the course of governmental decisionmaking. Once an agency can map cumulative impacts, it is better equipped to characterize, visualize, and operationalize an understanding of disproportionate impacts.

Third, the EJ mapping topic is extremely timely. Many states and others across the country are seeking to apply EJSCREEN and CalEnviroScreen methodologies. We are now beginning to see efforts in states that are proactively building on the CalEnviroScreen and EJSCREEN methodologies and data, as represented by Washington’s Environmental Health Disparities (EHD) Map, Illinois’ methodology for identifying environmental justice communities under the Future Energy Jobs Act (FEJA), and others yet to be developed.<sup>6</sup>

## III. Summary of CalEnviroScreen and EJSCREEN

Developed by CalEPA’s Office of Environmental Health Hazard Assessment (OEHHA) and released in 2013, CalEnviroScreen is a mapping tool that identifies California communities that are most affected by multiple sources of pollution and are most vulnerable due to their health and socioeconomic status. CalEnviroScreen combines 20 indicator data sets categorized into four broad groups—exposures, environmental effects, sensitive populations, and socioeconomic status. These indicators are analyzed at a census tract level to produce a combined score that enables relative ranking at all census tract levels across the state.

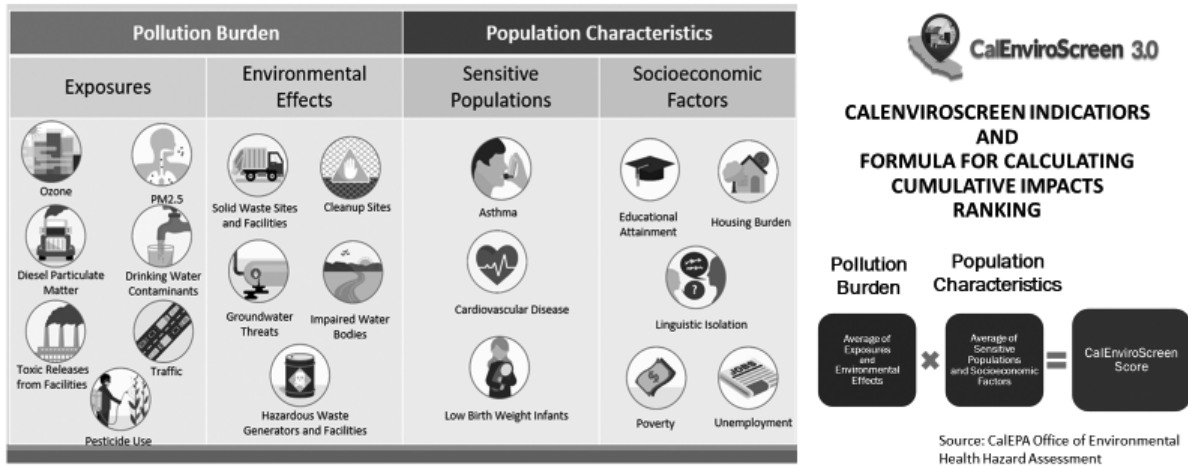
EJSCREEN, released publicly as a draft in 2015 by EPA and in final form in 2016, is EPA’s nationally consistent EJ mapping and screening tool.<sup>7</sup> EPA uses EJSCREEN to identify areas that may be candidates for additional consideration, analysis, or outreach as EPA develops programs, policies, and activities that may affect communities. The core elements of EJSCREEN are 11 environmental indicators and six demographic indicators, as indicated by Figure 2.<sup>8</sup> EJSCREEN provides information at an extremely high resolution (i.e., the census block group level).

6. See *Washington Environmental Health Disparities Map*, WASH. STATE DEP’T OF HEALTH, <https://www.doh.wa.gov/DataandStatisticalReports/EnvironmentalHealth/WashingtonTrackingNetworkWTN/InformationbyLocation/WashingtonEnvironmentalHealthDisparitiesMap> (last visited Jan. 12, 2020); see also *Environmental Justice Communities*, ILL. SOLAR FOR ALL, <https://www.illinoisfa.com/environmental-justice-communities/> (last visited Jan. 12, 2020).

7. See *EJSCREEN: Environmental Justice Screening and Mapping Tool*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/ejscreen/> (last updated Jan. 12, 2021).

8. See *Environmental Justice Indexes in EJSCREEN*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/ejscreen/environmental-justice-indexes-ejscreen> (last

**Figure 1. CalEnviroScreen Indicators and Methodology**



**Figure 2. EJSCREEN Indicators**

EJSCREEN INDICATORS	
Environmental Indicators	Demographic Indicators
<ul style="list-style-type: none"> <li><input type="checkbox"/> PM 2.5</li> <li><input type="checkbox"/> Ozone</li> <li><input type="checkbox"/> NATA Diesel PM</li> <li><input type="checkbox"/> NATA Air Toxics Cancer Risk</li> <li><input type="checkbox"/> NATA Respiratory Hazard Index</li> <li><input type="checkbox"/> Lead Paint (pre-1960s Housing)</li> <li><input type="checkbox"/> Traffic Proximity</li> <li><input type="checkbox"/> Proximity-NPL Sites</li> <li><input type="checkbox"/> Proximity-RMP Facilities</li> <li><input type="checkbox"/> Proximity-TSD Facilities</li> <li><input type="checkbox"/> Proximity-Waste Water Dischargers</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Low-Income</li> <li><input type="checkbox"/> Minority</li> <li><input type="checkbox"/> Less than High School Education</li> <li><input type="checkbox"/> Linguistic Isolation</li> <li><input type="checkbox"/> Individuals under Age 5</li> <li><input type="checkbox"/> Individuals over Age 64</li> </ul> <p><b>Index:</b> Calculated as (Low income + minority) / 2</p> <p style="text-align: right; font-size: small;">Source: U.S. Environmental Protection Agency</p>

EJSCREEN is a web-based tool accessible to all, offering a powerful range of interactive functions. Users can define an area of interest, such as a point, line, buffer, or polygon, and access a wide array of environmental and demographic data as well as the location of sensitive populations like schools, day care centers, hospitals, and public housing projects. The availability of user-defined areas is an extremely powerful function. For example, adding this feature to CalEnviroScreen would be the most important step in the future to support its use in local- or regional-level decisionmaking, including facility siting, zoning, and permitting.

I will conclude this section by outlining three big-picture observations about CalEnviroScreen and EJSCREEN that can get lost in more detailed analyses of these two tools. First, both CalEnviroScreen and EJSCREEN use a combination of environmental and demographic factors. Second, data in EJSCREEN is available for all states; hence, EJSCREEN offers a solid set of indicators for use by

states that do not have the capacity to develop their own cumulative impacts tool. This creates options for states to approach the need for second-generation EJ mapping. Third, somewhat different conceptual frameworks guided the development of CalEnviroScreen and EJSCREEN. CalEnviroScreen provides a single (cumulative) ranking score, while EJSCREEN provides a ranking score for each of its 11 individual environmental indicators. However, it should not be overlooked that the concept of cumulative impacts is embedded in EJSCREEN’s core design by virtue of its combining environmental and demographic factors. This enables the user to apply the tool in a cumulative manner as well as to adapt it for analyzing cumulative impacts.

#### IV. Lessons for EJ Practitioners

##### *Lesson 1: Addressing cumulative impacts is a core strategy for advancing environmental justice, and this is embodied in EJ mapping tools development*

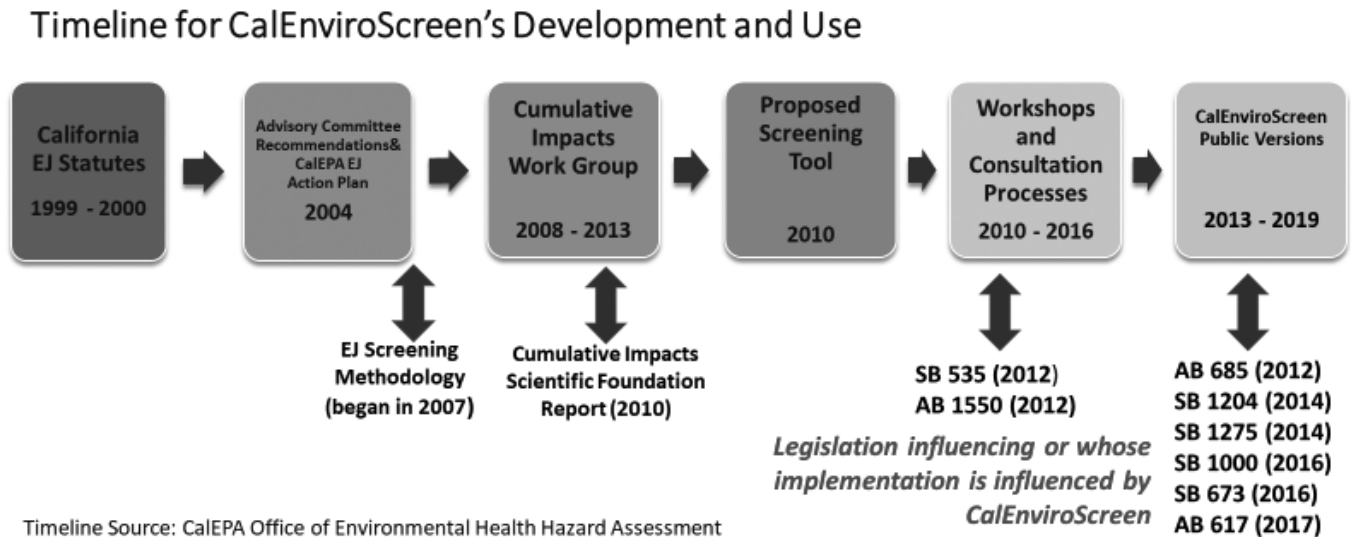
First and foremost, CalEnviroScreen is the direct result of a bottom-up strategy from EJ community organizations to define cumulative impacts and move public policy to address the issue. Ultimately, it involved actors from academia, the legislature, and government agencies.

The rationale for this strategy is summed up elegantly by Arsenio Mataka, former Assistant Secretary for Environmental Justice and Tribal Affairs at CalEPA when CalEnviroScreen was first released and significantly incorporated into California policies: “We were somehow driven by the belief that if we could somehow figure out how to quantify the cumulative pollution burden and vulnerabilities in poor communities and communities of color, it would change the course and future of those communities forever.”<sup>9</sup> Mataka’s statement sums up a central tenet of the EJ movement in California, which has spanned several

updated Dec. 2, 2019) (providing the formula for calculating EJSCREEN’s EJ indexes).

9. Arsenio Mataka, California Attorney General’s Office, EJ Town Hall Address at the American Public Health Association’s Annual Meeting (Nov. 10, 2018) (video available at *EJ and Public Health Leaders Describe Struggle and Progress*, GRAHAM SUSTAINABILITY INST., <http://graham.umich.edu/ca-env-justice/leaders> (last visited Jan. 12, 2020)).

**Figure 3. Timeline for CalEnviroScreen’s Development and Use**



decades of phased development. Community-level actions built power and models. These led to efforts to influence the political process and secure unprecedented legislation, followed by the implementation of cutting-edge programs. Progress has not been easy. Many challenges were overcome in the face of consistent political opposition. Progress has been the result of leadership from many communities, sometimes in collaboration with public agencies and sometimes in conflict. We will treat these developmental phases together so the reader can see them as a continuum and how they interface and reinforce each other as part of a holistic strategy to address cumulative impacts.

EJ community leaders on CalEPA’s EJ Advisory Committee such as Diane Takvorian, along with strong support from local government representatives such as Barbara Lee and Barry Wallerstein, provided the following definition of cumulative impacts, adopted formally by CalEPA in 2005:

Cumulative impacts means exposures, public health or environmental effects from the combined emissions and discharges, in a geographic area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released. Impacts will take into account sensitive populations and socio-economic factors, where applicable and to the extent data are available.<sup>10</sup>

It is also important to note the critical role of academia in developing cumulative impacts assessment methodology. The prototype for CalEnviroScreen was in fact developed outside of government. Renowned EJ scholars and researchers Manuel Pastor, Rachel Morello-Frosch, and James Sadd developed the Environmental Justice Screening Method (EJSM) in conjunction with community organizations through a community-based participatory research process. The EJSM generates cumulative impact scores that combine hazard proximity, health risks and exposure, social vulnerability, and climate change vulnerability.<sup>11</sup> Academia will be an abiding and critical player in the development and refinement of EJ and cumulative impact mapping tools in virtually all states. We cannot overlook the important contributions of persons who work in government to advance cumulative impacts assessment and EJ mapping tool development. Shankar Prasad and the late George Alexeeff were two government officials who played key roles in supporting the development of CalEnviroScreen.

Figure 3 provides a time line for CalEnviroScreen’s development, as developed by OEHHA and augmented with other milestones related to the items described above. Many of these milestones highlight the critical role of the legislative process in providing impetus for advancing the concept of cumulative impacts and use of CalEnviroScreen, which I will discuss in detail in Lesson 3.

10. See *California Environmental Justice Policies*, ENV’T HEALTH COAL., <https://www.environmentalhealth.org/index.php/en/where-we-work/state-of-california/california-environmental-justice> (last visited Jan. 12, 2020).

11. See generally James Sadd et al., *Playing It Safe: Assessing Cumulative Impact and Social Vulnerability Through an Environmental Justice Screening Method in the South Coast Air Basin, California*, 8 INT’L J. ENV’T RSCH. & PUB. HEALTH 1441 (2011).

**Lesson 2: Guiding principles for successfully developing an EJ mapping tool can be articulated**

Mataka provided six guiding principles for successfully developing an EJ mapping tool.

- (1) science-based
- (2) informed by community experience
- (3) government to endorse and utilize it
- (4) available statewide to everybody
- (5) thorough public participation
- (6) serve as a third-party validator

**Lesson 3: EJ mapping tools can help to facilitate resource investment to promote health and sustainability in environmentally overburdened and disadvantaged communities**

In 2012, Gov. Jerry Brown signed S.B. 535 into law. This mandated dedicating 25% of the proceeds from the Greenhouse Gas Reduction Fund (GGRF) established under the Global Warming Solutions Act of 2006 to benefit disadvantaged communities. It provided the statutory basis for codifying cumulative impacts and directed CalEPA to develop a methodology for designating these communities. When CalEPA decided to employ CalEnviroScreen to identify these communities, a new arena for considering cumulative impacts in environmental decisionmaking was created.

As mentioned earlier, Prasad left CalEPA in 2008 to pursue his vision of securing legislation that would tie the allocation of resources to the use of a cumulative impacts mapping and screening tool. He believed that resource allocation on a large scale is necessary to bring about change in frontline communities, and that an early stake in the allocation of GGRF proceeds was essential to achieve this goal. It took almost five years of coalition-building and policy debate before state Sen. Kevin de León’s bill S.B. 535 was signed into law. Although many are unaware of the behind-the-scenes work done, Prasad is generally known as the “Father of SB 535.”<sup>12</sup>

With S.B. 535 signed into law and CalEPA-designated CalEnviroScreen as the method to identify disadvantaged communities, an important shift in the discourse regarding EJ and CalEnviroScreen took place. Whereas previously the tool was viewed with suspicion in many quarters, such as business and local government, it is now embraced as a way of securing more resources for redressing past environmental and social inequities. Instead of the debate focusing around how to ensure restrictions on the use of CalEnviroScreen to nonregulatory purposes and clarifying that it was not to be used for risk assessment purposes, the debate shifted to why certain disadvantaged areas were not

being identified through the tool. This linkage of CalEnviroScreen and cumulative impacts to procuring resources for areas of greatest need has much to do with the current generally positive public acceptance of the tool.<sup>13</sup>

GGRF proceeds total approximately \$12.14 billion to date, at least 25% of which is dedicated to disadvantaged communities. Table 1 summarizes where these resources are being devoted by program.<sup>14</sup>

Program	Total Appropriations to Date (\$M)
Sustainable Communities and Clean Transportation	\$9,757
Energy Efficiency and Clean Energy	\$506
Supporting Investments	\$138
Natural Resources and Waste Diversion	\$1,738

In addition to targeting investment from GGRF proceeds to disadvantaged communities, the CalEnviroScreen tool has become embedded into the operation of a number of state programs. These include program planning, incorporation of EJ in California municipalities’ development of general plans, CalEPA’s EJ Enforcement Task Force, the California Air Resources Board’s Community Air Protection Program, and identifying areas of vulnerability for tracking progress in implementing the human right to water. At the end of the day, the measure of success must be a positive impact in communities. One example is the Paradise Creek Apartments in National City, a 201-unit affordable housing complex built on a remediated brownfield that received \$9 million from the GGRF to ensure its completion.<sup>15</sup>

With respect to the all-important issue of cumulative impacts in the permitting process, there are two examples of serious public policy advances. First, in 2008, the state of Minnesota amended the Minnesota Pollution Control Agency’s air permitting authority to include

13. One should note that S.B. 535 came about in the throes of controversy. It was meant to fill the gap created by A.B. 32’s overlooking EJ concerns. Additionally, the issue of emissions trading, otherwise known as cap and trade, was and continues to be a sore point for EJ advocates in climate policy.

14. See *Appropriations From the Greenhouse Gas Reduction Fund*, CAL. CLIMATE INVS. (2019), [https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/summary-appropriationtable\\_10-15-19.pdf?\\_ga=2.25355529.115422816.1578323144-864493257.1444232167](https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/summary-appropriationtable_10-15-19.pdf?_ga=2.25355529.115422816.1578323144-864493257.1444232167) (last visited Jan. 12, 2020); see also *About California Climate Investments*, CAL. CLIMATE INVS. <http://www.caclimateinvestments.ca.gov/about-cci> (last visited Jan. 12, 2020).

15. Diane Takvorian, Environmental Health Coalition, EJ Town Hall Address at the American Public Health Association’s Annual Meeting (Nov. 10, 2018) (video available at *EJ and Public Health Leaders Describe Struggle and Progress*, GRAHAM SUSTAINABILITY INST., <http://graham.umich.edu/ca-env-justice/leaders> (last visited Jan. 12, 2020)).

12. See Charles Lee, *Asian American Pacific Islander Environmental Leadership for 2040*, 14 UCLA ASIAN AM. & PACIFIC ISLANDERS NEXUS J. 130, 137 (2016).



the analysis and consideration of “cumulative levels and effects of past and current environmental pollution from all sources on the environment and residents of the geographic area within which the facility’s emissions are likely to be deposited.”<sup>16</sup> The statute pertains to air permits for a portion of South Minneapolis within Hennepin County that has historic and current EJ issues. Methodologies for assessing cumulative risks and levels have been developed and are being implemented.<sup>17</sup>

The second is S.B. 673 in California. Currently, the California Department of Toxic Substances Control is developing rulemaking and related protocols for considering cumulative impacts in permitting decisions, as outlined in the *Draft SB 673 Cumulative Impacts and Community Vulnerability Draft Regulatory Framework Concepts* document, issued in October 2018.<sup>18</sup> It will be instructive to evaluate the results of both efforts.

**Lesson 4: Emerging EJ mapping efforts provide a useful, straightforward, and replicable model that future EJ mapping development efforts at the state and local government levels can emulate**

Efforts in multiple states are working on second-generation EJ mapping tools. As we distill the key elements of this progress, we will find that there is a set of distinctly common approaches that will prove instructive for future efforts in other states. Two efforts that have made significant progress on a policy level have taken place in Washington and Illinois. While each took place under very different circumstances, they followed a similar trajectory with respect to the core methodological approaches and data. Moreover, efforts in Michigan and Maryland are following the same template.<sup>19</sup> This section will provide

important features about these developments and discuss this common methodological thread.

In January 2019, a collaboration consisting of Front and Centered, a coalition of community and advocacy organizations from communities of color, University of Washington, Puget Sound Clean Air Agency, and the Washington Departments of Health and Ecology released a Washington EHD Map and an accompanying interactive web-based mapping tool.<sup>20</sup> The effort was triggered by the desire of Front and Centered to build out climate policies that focus on equitable reinvestment. They learned about CalEnviroScreen from groups such as the California-based Asian Pacific Environmental Network and through consultations with CalEPA’s OEHHA. Morello-Frosch mentioned to Front and Centered that a University of Washington professor had worked on CalEnviroScreen.<sup>21</sup>

The resulting two-year effort involved an extensive public engagement process, with 11 listening sessions across the state, Front and Centered leading the work group and community engagement, graduate student Esther Min doing the methodological and data work as part of her Ph.D. project, and institutional support from state agencies. The core methodology employed the CalEnviroScreen’s scoring formula and EJSCREEN data.

In 2016, Illinois passed the FEJA to increase solar energy jobs and renewable development projects across the state. The law included \$750 million in low-income programs for solar, solar work force, and energy efficiency.<sup>22</sup> The FEJA also created the Solar for All program and mandated that 25% of its resources be allocated for use in environmental justice communities. The program initiated a public participation process, during which community organizations such as the Little Village Environmental Justice Organization (LVEJO) provided leadership on thinking behind the methodologies and data for identifying disadvantaged areas. Again, the methodology adopted was use of CalEnviroScreen scoring formula and EJSCREEN data. Notably, a mechanism for self-identification as EJ communities was also added.<sup>23</sup>

Cumulative impacts has been a long-standing issue for communities and academics in Michigan, as symbolized by advocacy around the heavily polluted 48217 zip code in Southwest Detroit.<sup>24</sup> Paul Mohai, the pioneering EJ academic who organized the first-ever academic symposium on race and environmental hazards at the University of Michigan, has helped to advance EJ mapping and cumulative impact assessment efforts at both EPA and CalEPA. Mohai’s recent University of Michigan graduate students

16. Telephone Interview with Karen Clark, Minnesota State Representative (Apr. 27, 2017). A three-year community organizing campaign in the East Phillips neighborhood of Minneapolis led Rep. Karen Clark to introduce H.F. 2393. See H.F. 2393, 85th Leg. (Minn. 2007), available at [https://www.revisor.mn.gov/bills/text.php?number=HF3293&version=2&session=ls85&session\\_year=2008&session\\_number=0](https://www.revisor.mn.gov/bills/text.php?number=HF3293&version=2&session=ls85&session_year=2008&session_number=0). The community organizing included a collection of maps showing environmental and demographic data layers and manually laying them on top of one another. See the maps collected for legislative debate at <https://www.gis.leg.mn/pdf/bills/hf3293.pdf> (last visited Jan. 12, 2020).
17. See generally Kristie M. Ellickson et al., *Cumulative Risk Assessment and Environmental Equity in Air Permitting: Interpretation, Methods, Community Participation, and Implementation of a Unique Statute*, 8 INT’L J. ENV’T RSCH. & PUB. HEALTH 4140 (2011), available at [https://pdfs.semanticscholar.org/64ea/a77f689802f6e81db0e11da3cb9fee39a5b4.pdf?\\_ga=2.111720900.1957124788.1578585786-1391638390.1551285865](https://pdfs.semanticscholar.org/64ea/a77f689802f6e81db0e11da3cb9fee39a5b4.pdf?_ga=2.111720900.1957124788.1578585786-1391638390.1551285865).
18. See *SB 673 Permit Criteria—Community Protection*, CAL. DEP’T OF TOXIC SUBSTANCES CONTROL, <https://dtsc.ca.gov/sb-673-permit-criteria-for-community-protection/> (last visited Jan. 12, 2020); *Draft: SB 673 Cumulative Impacts and Community Vulnerability Draft Regulatory Framework Concepts*, CAL. DEP’T OF TOXIC SUBSTANCES CONTROL & CAL. ENV’T PROT. AGENCY (Oct. 2018), <https://dtsc.ca.gov/wp-content/uploads/sites/31/2015/09/DRAFT-CI-Regulatory-Frameworks-Concepts-10-15-2018.pdf>.
19. The North Carolina Department of Environmental Quality (NCDEQ) is currently developing the new Community Mapping System With Environmental Justice Tool. Public input was an important part of the mapping tool’s development, with NCDEQ conducting listening sessions throughout the state. A beta version is available at <https://deq.nc.gov/outreach-education/environmental-justice/deq-north-carolina-community-mapping-system> (last visited Jan. 12, 2020), and NCDEQ envisions an iterative development process. The tool provides access to both demographic and environmental data but does not combine them.

20. Esther Min et al., *The Washington State Environmental Health Disparities Map: Development of a Community-Responsive Cumulative Impacts Assessment Tool*, 16 INT’L J. ENV’T RSCH. & PUB. HEALTH 4470 (2019), available at <https://www.mdpi.com/1660-4601/16/22/4470>.
21. Interview with Deric Gruen, Program Director, Front and Centered (Nov. 7, 2019).
22. See *Future Energy Jobs Act*, ILL. CITIZENS UTIL. BD., <https://www.citizensutilityboard.org/future-energy-jobs-act/> (last visited Jan. 12, 2020).
23. See ILL. SOLAR FOR ALL, *supra* note 6.
24. See Bill Kubota & Detroit Journalism Cooperative, *Toxic Town: Michigan’s Most Polluted Zip Code*, MICH. RADIO, June 19, 2017, <https://www.michiganradio.org/post/toxic-town-michigan-most-polluted-zip-code>.

project in support of the Michigan Environmental Justice Coalition produced a report, *Assessing the State of Environmental Justice in Michigan*. University of Maryland students, with support from Profs. Sacoby Wilson and Devon Payne-Sturges, developed the Maryland Environmental Justice Screen Tool (MD EJSCREEN) in partnership with the National Center for Smart Growth and the Maryland Environmental Health Network.<sup>25</sup> The tool's envisioned long-term purpose is twofold. First, it is to highlight areas with EJ issues, areas that need additional investments. Second, it is to be used in permitting, regulatory, zoning, and development decisions. Once again, the core methodology used was based on the CalEnviroScreen scoring formula and EJSCREEN and local data.

The central lesson from these emerging EJ mapping efforts is that there now exists a useful, straightforward, and replicable model that future EJ mapping development at the state and local government levels can emulate. Simply stated and illustrated in Figure 4 (see next page), it involves the use of the California definition of cumulative impacts, CalEnviroScreen methodology, and EJSCREEN data in combination with additional available state or local data. The approach is highly elegant and easy to understand. Communities, universities, and/or state agencies in virtually all 50 states can initiate such efforts. In fact, they can provide opportunities for students and young professionals who yearn to make a difference with their lives by making important real-world contributions.

Notably, the use of a cumulative impacts mapping methodology need not be limited to the state level, as evidenced by the project cited earlier that includes the Natural Resources Defense Council (NRDC) and community partners (LVEJO, Southeast Environmental Task Force, Southeast Side Coalition to Ban Petcoke, and the Ironbound Community Corporation). In addition to Chicago, the same methodology was applied in Newark and several other locations. For all these efforts, NRDC had community partners on the ground who verified that the results resonated with their understandings and lived experience.<sup>26</sup> Additionally, it is noteworthy that statutes for addressing cumulative impacts now exist on the local level. For example, the city of Newark passed the first-ever in the nation Environmental Justice and Cumulative Impacts Ordinance in 2016.<sup>27</sup>

25. See generally Aubree Driver et al., *Utilization of the Maryland Environmental Justice Screening Tool: A Blandensburg, Maryland Case Study*, 16 INT'L J. ENV'T RSCH. & PUB. HEALTH 348, 348 (2019).

26. Communications with Yukyan Lam, Staff Scientist, NRDC (Dec. 12, 2019).

27. See City of Newark, N.J., Environmental Justice and Cumulative Impact Ordinance (July 7, 2016), available at <https://newark.legistar.com/LegislationDetail.aspx?ID=2770971&GUID=D0C566D0-463A-482D-A4AC-78884351DA79&FullText=1> (last visited Jan. 12, 2020).

### **Lesson 5: Progress in advancing EJ at the state level, including EJ mapping tool development, has come from the combined efforts of communities, academia, and government**

By this point, this final lesson is fairly evident. Many examples illustrate how a combined effort from communities, academia, and government has been essential to the progress made to date. Continued collaboration is absolutely necessary not only for meaningful advances in EJ mapping tools, but in how those tools are applied to address environmental injustice. Much of the experiential knowledge and technical expertise that informs second-generation EJ mapping comes from sources outside government agencies. This is true in all the cases of successful EJ mapping tool development that has fully incorporated a cumulative impacts policy base.

On the other hand, having government endorsement and utilization is critical to the viability and impact of such tools. In some ways, the groundwork laid and the data and GIS tools now available make such EJ mapping efforts easily within reach of a well-constructed partnership of communities and universities pretty much anywhere in the nation. However, such efforts will likely languish on the shelves without putting in the hard work of obtaining government buy-in, endorsement, and utilization.

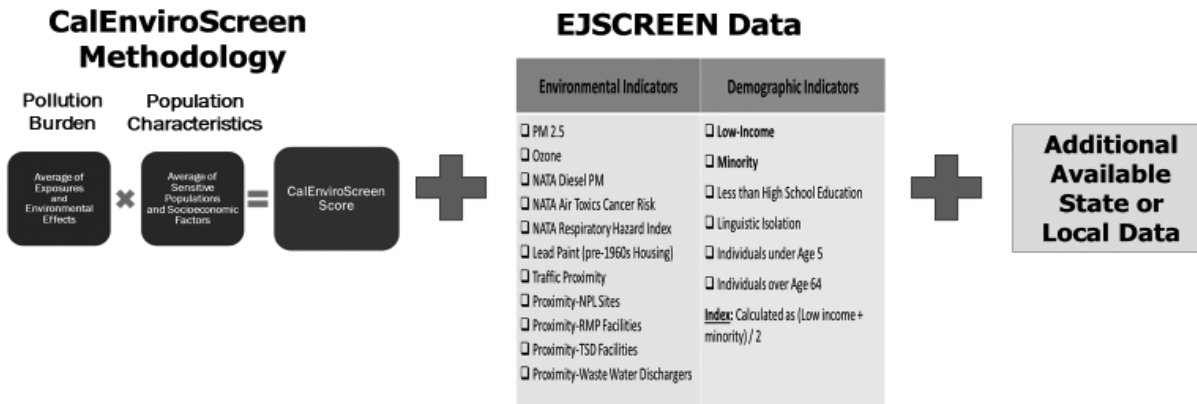
Government left to itself does not typically undertake or initiate actions to make meaningful advances of a transformative nature. This is true on all levels of government. In California, the concept of cumulative impacts was initially advanced from external nongovernmental sources. It was met with some executive-level support in CalEPA as well as skepticism and resistance to change in other quarters. The unique combination of effective advocacy from outside of government, unswerving dedication to the passage of S.B. 535, and a new generation of leaders inside government who brought their lived experience to the challenge resulted in the progress to date.

## **V. Conclusion**

In the same way that I described *Toxic Wastes and Race* on its 30th anniversary, I believe that we may in fact be witnessing the emergence of yet another “true game changer” on the national level.<sup>28</sup> I cannot overemphasize how significant it is that the emerging paradigm for EJ mapping and cumulative impacts is relatively straightforward to replicate from a technical perspective. Given the availability of a scientifically sound model from CalEnviroScreen and easily accessible data from EJSCREEN, groups in virtually all states and localities have the means to develop their own cumulative impacts map. Just as when hundreds of studies on the demographics of communities associated with environmental hazards have sprouted up after the publication of *Toxic Wastes and Race*, I can see a “thousand flowers blooming” in the area of EJ mapping and cumulative impacts. Of course, such an upsurge will take concerted

28. Berndt, *supra* note 5.

**Figure 4. Emerging Paradigm Common to EJ Mapping Efforts at State and Local Levels**



effort, and I urge all people concerned about environmental justice to help make it happen.

However, we are only beginning to level the playing field. Much work still needs to be done. There are major chapters of the story on EJ mapping and cumulative impacts yet to be written. Two of them are (1) use of EJ mapping tools to address cumulative impacts in land use planning, zoning, and facility siting and permitting; and (2) use by local government and business. Moreover, state and local lessons can be transferred to the federal levels of government. Hence, it will be interesting to see whether the paradigm adopted by state and local government practitioners will inform future iterations of EPA’s EJSCREEN. Finally, the cumulative impacts paradigm described in this Article makes it possible to begin filling in the gaps for environmental decisionmaking created by the limitations of traditional risk assessment.

Ultimately, this Article is a call to action. The reader should realize that nothing described here just fell into place. The highlighted accomplishments resulted from concerted action by committed individuals who persevered to overcome tremendous obstacles. Therefore, the Article is also a celebration of committed people whose actions have resulted in transformative change. In my opinion, they offer immense hope because a process growing out of many decades of work by people from all quarters in many parts of the nation has begun to coalesce into a potentially workable strategy to tackle what is arguably one of the most vexing EJ challenges confronting the nation. Given the urgent challenges of our times for building truly healthy, equitable, resilient, and sustainable communities, all people concerned about EJ should take notice.

C O M M E N T

# CALIFORNIA'S ENVIRONMENTAL JUSTICE MAPPING TOOL: LESSONS AND INSIGHTS FROM CALENVIROSCREEN

by John Faust, Laura August, Andrew Slocombe, Shankar Prasad, Walker Wieland, Vincent Cogliano, and Carol Monahan Cummings

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## I. Introduction

CalEnviroScreen, California's mapping tool that quantifies cumulative impacts in communities, has played a pivotal role in advancing environmental justice in the state. The tool continues to evolve with each version by incorporating new data sources, the latest data, and community involvement and feedback. The tool can be tailored to fit unique applications because the underlying data sets are publicly available. This Comment expands on the points raised in Dr. Charles Lee's article<sup>1</sup> by sharing lessons learned during the development of the tool and providing insights to other states and jurisdictions as they consider developing mapping tools.

## II. Legal Background

Dr. Lee's article highlighted the statutory sources that provided the impetus for the Environmental Justice program in California and the development of the CalEnviroScreen tool by the California Office of Environmental

Health Hazard Assessment (OEHHA) within the California Environmental Protection Agency (CalEPA). The tool was first widely used as a mechanism for identifying communities to receive funding through the California Cap-and-Trade Program (AB 32, 2006).<sup>2</sup> The idea behind the Cap-and-Trade Program as it relates to CalEnviroScreen was to use some of the auction proceeds for investments to reduce the overall pollution burden in the communities most impacted by and susceptible to pollution and climate change. Legislation amending AB 32 (SB 535, 2012)<sup>3</sup> required 25% of proceeds from the Cap-and-Trade Program to go to projects benefiting disadvantaged communities. CalEnviroScreen was the tool used to identify such disadvantaged communities. Although the legislation often does not specifically name CalEnviroScreen, however, there is sufficient trust in the tool that its use is expected and the results are accepted. The tool is used to identify and support disadvantaged communities for various related purposes. Recent legislation targeting disadvantaged communities includes:

- AB 1550 (2016)<sup>4</sup> requires 25% of funds from the Cap-and-Trade program to support projects in the impacted area, not just to benefit disadvantaged communities as originally required.

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*Editors' Note: The matters discussed in this Comment are the opinion of the authors and not necessarily the opinion of the California Office of Environmental Health Hazard Assessment, the California Environmental Protection Agency (CalEPA), or the governor of the state of California.*

1. Charles Lee, *A Game Changer in the Making? Lessons From States Advancing Environmental Justice Through Mapping and Cumulative Impact Strategies*, 50 ELR 10203 (Mar. 2020).

2. California Global Warming Solutions Act of 2006, ch. 488 (A.B. 32) (codified at CAL. HEALTH & SAFETY CODE §§38500 et seq. (West 2021)).

3. CAL. HEALTH & SAFETY CODE §§39711 et seq. (West 2021).

4. CAL. HEALTH & SAFETY CODE §39713 (West 2021).

- AB 617 (2017) builds community capacity by ensuring community members are active partners with the government to help identify, evaluate, and ultimately reduce air pollution and exposure to harmful emissions in highly impacted communities. The California Air Resources Board administers the Community Air Grants Program, which supports these activities in select communities. Legislation continues to be proposed that contemplates use of CalEnviroScreen. For example, proposed AB 976 (Feb. 2021) would create “The Resilient Economies and Community Health Pilot Program,” which would expressly require the California Strategic Growth Council to use CalEnviroScreen to identify disadvantaged communities for the pilot program. The pilot program is designed to provide economic savings, reduce greenhouse gas emissions, and air pollution, and improve resiliency to the impacts of climate change in disadvantaged communities. CalEnviroScreen continues to be used to assist in identifying the communities most vulnerable to environmental and health stressors. Such use has increased since the tool was first identified for use in allocating auction proceeds from the Cap-and-Trade Program nine years ago. Legislators, state and local government leaders, NGOs, and community groups have all become comfortable with using the tool as part of a holistic approach to improving services, support, participation, and quality of life for communities disproportionately affected by economic disadvantage, environmental pollution, and other hazards. CalEnviroScreen is also used by state agencies for prioritizing such communities for the allocation of their resources to address environmental justice issues, such as in targeted enforcement.

### III. Public Engagement Processes

In Lesson Five, Dr. Lee discusses the significant role that the community-government partnership has played in advancing environmental justice at the state level and reflects the nongovernmental origins of CalEPA’s work on cumulative impacts. CalEPA and OEHHA have used multiple approaches to foster a sense of partnership and cultivate buy-in across the state’s highly varied communities and stakeholders. Early work was guided by a group of external stakeholders, the California Environmental Justice Advisory Committee, who provided a definition for cumulative impacts that guided the development of the CalEnviroScreen framework. The Cumulative Impacts and Precautionary Approaches Work Group was later convened specifically to advance OEHHA’s work in characterizing impacts. Both groups include representatives from community and environmental organizations, agricultural interests, industry groups, and local/regional and federal government.

Beginning with the first version of CalEnviroScreen, OEHHA has had particular success with a public engagement model adapted from the established World Café pro-

cess. Using this model, the office conducted workshops across the state, to “ground truth” and receive input on the tool. Workshops were held in communities known or perceived to be disadvantaged. This approach places an emphasis on creating a space for conversation in which many voices and perspectives can be heard, interaction is encouraged, and collective input is shared broadly across participants. While adequately representing the interests of all of California’s nearly 40 million residents can be daunting, the approach has generated thousands of comments and has led to improvements to the tool.

### IV. Impact of Public Comment

During the evolution of CalEnviroScreen across the now four different versions, OEHHA has seen public participation inform much of the direction of the tool’s development. Resolution moved from ZIP code-scale to census tract-scale because of early public comments. Additional indicators have been incorporated into the tool as data and methodologies have become available. For example, an indicator of drinking water quality was developed as part of version 2.0. The drinking water indicator relies on geographic data for accurate water system service area boundaries. Much of these data were not initially readily available, and methods for approximating which communities were served by which water systems had to be introduced. Since then, OEHHA and partners, led by Tracking California,<sup>5</sup> have undertaken efforts to capture service area boundaries accurately, leading to dramatic increases in the number of water systems with available boundary information.

The public process for earlier versions also led to the inclusion of indicators for diesel particulate matter emissions and linguistic isolation. Further, communities along the California-Mexico border expressed dissatisfaction with the lack of accounting for pollution sources originating in Mexico that impact California communities. AB 1059 (2015)<sup>6</sup> explicitly required OEHHA to evaluate and address some of these data gaps. This work included analyzing Mexico’s Pollutant Release and Transfer Register (RETC) and collaborating with the U.S. Environmental Protection Agency and Abt Associates on their Risk Screening Environmental Indicators (RSEI) analysis to provide toxic release estimates for California that incorporated releases from the Mexican side of the border. Further work has been done in the lead-up to draft 4.0 to address these issues and other pollution indicators in CalEnviroScreen (see table on next page).

5. Tracking California is a program of the Public Health Institute, in partnership with the California Department of Public Health and the Centers for Disease Control and Prevention’s (CDC’s) National Environmental Public Health Tracking Program. *Project Partners*, TRACKING CAL. (2020), <https://trackingcalifornia.org/about/project-partners>.

6. CAL. PUB. RES. CODE §71090 (West 2021); *CalEnviroScreen 3.0*, CAL. OFF. ENV’T HEALTH HAZARD ASSESSMENT (June 25, 2018), <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>.

Version	Year	Scale	Major Changes
1.0 1.1	2012 2013	ZIP code	1.1 removed race as an indicator; added diesel emissions indicator.
2.0	2014	Census tract	Added drinking water quality and unemployment indicators; added environmental data from California-Mexico border region.
3.0	2017	Census tract	Added cardiovascular disease and housing burden indicators; removed age indicator.
Draft 4.0	2021	Census tract	Proposed adding indicator of children's lead risk from older housing.

## V. Tension Between CalEnviroScreen Stability and Keeping Current

CalEnviroScreen represents a snapshot of conditions in communities using the most recent available data, which can provide a broad sense of their environmental, health, and socioeconomic conditions. The tool needs to have a level of stability for a variety of reasons, including those related to funding opportunities. Due to the nature of the data and uses of the tool, CalEnviroScreen does not represent short-term fluctuations in conditions. For example, the tool cannot tell the user what today's air quality is, or how many people are currently employed in a community. However, the tool is updated to reflect longer-term changing conditions and newer demographic data. Updates include newly available information on new industrial operations, pollution mitigation strategies, land use planning, transportation and population growth patterns, changes in community health, and socioeconomic opportunity. The tool is updated regularly to account for these changes, as well as advances in research that allow for better characterization of cumulative impacts in communities.

## VI. Discussion

The need to access statewide, location-based data or fine-scale data that can be analyzed at a census tract level for CalEnviroScreen has driven both data collection and data analysis practices. Much of the indicator data from the environmental effects component of CalEnviroScreen is downloaded from databases managed by the other CalEPA departments and California state agencies. As technology has improved, the data sets have improved in accuracy, which benefits both CalEnviroScreen and the users of the databases.

Another example of improvements to the data in CalEnviroScreen and the future directions of the data are the air quality indicators. CalEnviroScreen's reliance on the state's air monitoring network to provide modeled estimates of air contaminants at a census tract scale has its limitations. The further away from the monitoring sites a community is located, the more uncertain those measurements are at characterizing conditions in that community. In earlier versions of CalEnviroScreen, census tracts greater than 50 kilometers from a monitoring site were not scored for ozone or fine particulate matter (PM<sub>2.5</sub>). Improvements in technology and advancements in data analysis techniques

and use of satellite imagery by the California Air Resources Board has enabled CalEnviroScreen to incorporate more complete coverage and finer-scale estimates of PM<sub>2.5</sub> data, rather than relying solely on geospatial modeling techniques. Academic researchers have utilized individual indicator data from CalEnviroScreen, such as the PM<sub>2.5</sub> layer, to study a wide range of outcomes. The comprehensiveness, transparency of methodology, and ease of use has made CalEnviroScreen data important to other government agencies, environmental justice advocates, and the scientific community.

CalEnviroScreen, more than a decade into its development and implementation, is continuing to grow, evolve, and improve. At its core, CalEnviroScreen has been shaped by community and stakeholder input, which continues to guide the evolution of the tool as we move into its fourth iteration. As technologies improve to provide online interfaces to display and manipulate data, the many layers of information in CalEnviroScreen have become more accessible to a wide range of stakeholders. To date, CalEnviroScreen has been a statewide assessment tool, but there is a growing desire to use it to characterize other scales such as regions, legislative districts, or cities. Developing guidance and best practices on the use of CalEnviroScreen, with an understanding of local and regional specific data and needs, is critical to the program moving forward.

Until now, CalEnviroScreen has been used primarily for identifying impacted communities, targeting resources, or undertaking enforcement actions. There has been interest from communities to apply the tool in the context of permitting decisions related to siting or expansion of pollution sources such as facilities, roadways, or new developments. The current form of the tool limits this application since it neither establishes thresholds of cumulative impact nor evaluates the incremental impact of individual projects.

Most permitting decisions also happen at the city, county, or regional level. The tool could be tailored to meet a local need by developing software applications that would enable a small jurisdiction to apply boundaries of interest, reanalyze the data within those boundaries, and generate maps and scores using the new boundaries. This would require a coordinated effort from a multidisciplinary team of academia, community, government, and other stakeholders. For example, data sets available only for a smaller jurisdiction could be eligible for inclusion in a tailored application, whether they are collected by local government or community groups. Also, the tool's scor-

ing algorithm could be adapted to address this specialized application, based on the number of census tracts and the range of data values within the small geography.

The underlying indicator data layers of CalEnviroScreen or other publicly available data sets can serve as basic foundational data for these specialized applications. Depending on the type of decision in question, it is also possible that all indicator data sets may not be required. For example, in a small area where air quality does not vary greatly, these indicators may not contribute to differences, and their contribution could be minimized or eliminated.

Another major question that continues to arise with each updated version is how to evaluate changing conditions over time. Internal and external stakeholders would like to understand whether environmental conditions are improving or worsening. The data embedded in the multiple versions of CalEnviroScreen may lend itself to beginning to address these questions. CalEnviroScreen uses a relative ranking basis for scoring cumulative burden, which limits the ability to identify absolute levels of improvement or degradation over time; a complementary scoring system to track change could be developed. Improvements and changes to the data used to develop the CalEnviroScreen indicators also affect observations between versions of the tool.

CalEnviroScreen has been criticized for not fully capturing the unique experiences of some Californians, particularly for rural Californians and California Native American Tribes. CalEnviroScreen does not identify many tribal lands in California as high-scoring. As sovereign nations, tribes have their own authority over the collection and dissemination of their data, which has led to gaps in statewide data. In addition, CalEnviroScreen does not capture the concerns of some rural Californians that may not experience the same air quality and industrial pollution issues of more urban areas. With each update to the tool, OEHHA strives to better understand the concerns of all Californians and to reduce some of these data gaps that affect rural and tribal lands. We also recognize the unique experiences and historic wrongs against California Native peoples

and acknowledge that the subset of indicators selected in CalEnviroScreen do not fully reflect the cultural, environmental, and socioeconomic burdens on tribes.

## VII. Lessons Learned

Dr. Lee's article ends with a call to action but notes that it took concerted action by many individuals to overcome obstacles and ultimately lead to the development of environmental justice mapping tools. A key lesson from the California process was to propose an approach and submit it for public discussion and comment, with an understanding that it may not be perfect initially. There are many examples where a data gap in CalEnviroScreen led to the development of the needed publicly available data. The evolution of the drinking water and diesel PM indicators are good examples of this.

Ongoing feedback received across versions of CalEnviroScreen informs advances in research. The public workshop and comment periods on each iteration serves as an opportunity to hear the direct observations of the lived experiences of community members as they relate to pollution burdens and population characteristics. Mapping conditions in the diverse communities of 40 million Californians is a monumental task that is best accomplished in a transparent manner, with openness to criticism as well as support. It is neither feasible nor practical for a governmental entity to develop such a tool in isolation. Each iteration of CalEnviroScreen represents ongoing work with stakeholders in communities, local governments, the legislature, academia, and business. Our agency receives and processes information, researches methods and data, performs analysis, and presents results, with the knowledge that we will receive further feedback. This process unlocks opportunities for open science, increased buy-in, and robust public participation. If the CalEnviroScreen program continues to be responsive to people who live in impacted California communities, long-term sustainability and ongoing improvements to the tool are ensured.

C O M M E N T

# MAPPING THE MOVEMENT: THE FUTURE OF IDENTIFYING AND ADDRESSING CUMULATIVE IMPACTS

by Hilary T. Jacobs and Benjamin Wilson

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Charles Lee, long-standing activist, advisor, and policymaker, is in a unique position to assess developments within the environmental justice (EJ) movement by virtue of his nearly 40-year career dedicated to advancing EJ. Currently serving as the Senior Policy Advisor for Environmental Justice at the United States Environmental Protection Agency (EPA), he leads the development and implementation of EPA's agencywide environmental justice strategic plans. In 1987, when the EJ movement was in its infancy, Mr. Lee served as the principal author of the seminal report *Toxic Wastes and Race in the United States*,<sup>1</sup> the first national study to examine the relationship between the geography and demographics of hazardous waste sites, and one of the first studies to provide data supporting what had long been suspected by many: a pattern of disproportionate environmental burdens in low-income and minority areas.<sup>2</sup> The *Toxic Wastes and Race* report spurred “an entire generation of social science researchers investigating the interplay between race, class and the environment[.]” generating academic research and scholarship on the relationship between race, class, and the environment that had not previously existed.<sup>3</sup>

Since the 1987 publication of *Toxic Wastes and Race*, the environmental justice movement has garnered recognition nationally and internationally, with Mr. Lee leading the charge. In 1991, he helped organize the First National People of Color Environmental Leadership Summit, a four-day convening of hundreds of grassroots and environmental leaders from around the world,<sup>4</sup> which resulted in the publication of the *Principles of Environmental Justice*.<sup>5</sup> He served as a charter member of the National Environmental Justice Advisory Council and has directed EPA's Office of Environmental Justice. It is not an exaggeration to suggest that Mr. Lee's work has inspired generations of scholars, activists, and attorneys invested in advancing EJ and ensuring that *everyone* has a healthy environment.

Mr. Lee has a deep and unique understanding and appreciation of the history of the EJ movement, and a recognition of the pivotal roles diverse actors play in advancing EJ, together—including lawyers, researchers, academics, community residents and leaders, and emerging EJ advocates.<sup>6</sup> This understanding makes Lee exceptionally able to identify the next generation of EJ leaders. So, when Charles Lee says that something—in this case EJ mapping and screening tools—is and will be a “game changer” to the EJ movement, we listen.<sup>7</sup>

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1. See generally COMMISSION FOR RACIAL JUSTICE, UNITED CHURCH OF CHRIST, *Toxic Wastes and Race in the United States: A National Report on Racial and Socio-Economic Characteristics of Communities With Hazardous Waste Sites* (1987) (hereinafter *Toxic Wastes and Race* report or *Toxic Wastes and Race*).

2. See Diane Morrison, *Rallying Point: Charles Lee's Long-Standing Career in Environmental Justice*, 99 (Suppl. 3) AM. J. PUB. HEALTH S508 (2009) (“‘Toxic Wastes and Race’ was the first report to use rigorous analysis and methods to show how pollution and environmental hazards were disproportionately affecting minority and low-income communities.”); see also Robert D. Bullard et al., *TOXIC WASTES AND RACE AT TWENTY: 1987-2007* 2 (Mar. 2007) (generally discussing the impact of the *Toxic Wastes and Race* report).

3. See Bullard et al., *supra* note 2.

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4. See *id.* at 3.

5. Delegates to the First National People of Color Environmental Leadership Summit, *The Principles of Environmental Justice (EJ)* (Oct. 24-27, 1991), available at <https://www.nrdc.org/sites/default/files/ej-principles.pdf>.

6. Charles Lee, *A Game Changer in the Making? Lessons From States Advancing Environmental Justice Through Mapping and Cumulative Impact Strategies*, 50 ELR 10203, 10214 (Mar. 2020).

7. See Aaron Wade, *An Interview With Charles Lee*, POLLINATOR: UNITED CHURCH CHRIST ENV'T JUST. BLOG (Sept. 8, 2017) available at [https://www.ucc.org/pollinator\\_an\\_interview\\_with\\_charles\\_lee/](https://www.ucc.org/pollinator_an_interview_with_charles_lee/).



## I. EJ Mapping as a “Game Changer”

Because environmental justice is inherently a conversation about geography (i.e., *where* in our states, cities, and towns are environmental burdens most concentrated), maps represent a natural tool for articulating and addressing EJ issues. In many ways, using mapping as a way to identify cumulative impacts is the natural outgrowth of what Lee and his colleagues started in 1987 with *Toxic Wastes and Race in the United States*, one of the first publications to put data behind the pattern of disparate impacts that many in this country had witnessed for years.

By distilling lessons learned from two of the most developed mapping tools in the country—California Environmental Protection Agency’s (CalEPA’s) CalEnviroScreen and the EPA’s EJ Screen—Charles Lee’s article paves the way for future mapping efforts. Indeed, the first takeaway he highlights is that addressing cumulative impacts is a “core strategy for advancing environmental justice, and this is embodied in EJ mapping.”<sup>8</sup> As he notes, identifying cumulative and disproportionate impacts—which can be achieved through mapping—is often a “fundamental first step” in advancing EJ goals.<sup>9</sup> Identification of cumulative impacts can help integrate EJ considerations into government decisionmaking regarding facility siting and permitting and can help arm EJ advocates with data. The article also describes the keys to developing a successful mapping tool, including that the tool be science-based, endorsed and used by government, informed by community experience, and widely available.<sup>10</sup>

Mr. Lee concludes his article with a call to action—that mapping tools should be replicable and reproducible across jurisdictions—and a message of hope—that mapping tools, like other EJ efforts, have been successful due to the combined efforts of communities, academia, and government. Lee is adamant that everyone involved in this movement can, with commitment and determination, make a difference.<sup>11</sup>

## II. The Future of EJ Mapping

The growing numbers of states with EJ mapping tools<sup>12</sup> supports Mr. Lee’s conclusion that existing EJ mapping

efforts provide a replicable model for the development of future EJ mapping tools.<sup>13</sup> The future of EJ mapping lies not only in its expansion across new state, local, and possibly even international jurisdictions, but also in the way we use these tools to further EJ goals. Mr. Lee emphasizes the importance of identifying disparate impacts, which can be achieved via mapping, as a key first step in “integrat[ing] EJ in government decisionmaking.”<sup>14</sup> As Mr. Lee discusses, mapping tools can also be used to take EJ a step further, beyond the “procedural strategies” used by environmental management agencies<sup>15</sup> to facilitate the actual investment of beneficial environmental resources such as targeted funding for EJ projects, enhanced enforcement efforts, and renewable energy infrastructure and jobs in overburdened and disadvantaged communities.<sup>16</sup>

However, the use of EJ maps has even more potential than is currently being realized. Mr. Lee notes that mapping tools such as CalEnviroScreen and EJScreen are not only tools to be used by regulators and EJ advocates, but can also be useful tools for the private sector.<sup>17</sup> To be sure, municipalities, private developers, utilities, oil and gas, mining, and other industries can do a better job of avoiding, or, at a minimum, mitigating the adverse impact of their proposed projects on EJ communities if they take advantage of these and other tools being developed by states and municipalities across the country. Savvy companies should want to pay heed to information provided in these tools in order to avoid unnecessary adverse impacts on, and undue conflict with, an EJ community, as well as any reputational harm and costs that accompany those impacts. In fact, being a “good neighbor” who brings a desired service that benefits the broader community as well as the community immediately impacted by the development, is in companies’ best interests. EJ mapping tools provide an opportunity to existing corporate neighbors to improve their community relationships, and allows incoming companies to more proactively become good neighbors before they even arrive.

EJ mapping tools can help prepare companies for long-overdue conversations with the EJ communities they enter or in which they operate regarding: (1) the need for a given project, (2) the project’s cumulative impacts on a given EJ community, (3) alternative project locations, (4) how to minimize a project’s environmental harm, and (5) how, if at all possible, a project can be altered to accommodate an

8. Lee, *supra* note 6, at 10208.

9. *Id.* at 10204-05, 10210.

10. *Id.* at 10209-10.

11. *Id.* at 10211-15.

12. In addition to California, the following states have agencies with dedicated EJ mapping tools: Illinois, Massachusetts, Minnesota, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, and Washington. Illinois EPA EJ Start, <https://www.arcgis.com/apps/webappviewer/index.html?id=f154845da68a4a3f837cd3b880b0233c>; MADEP EJ Viewer, [http://maps.massgis.state.ma.us/map\\_ol/ej.php](http://maps.massgis.state.ma.us/map_ol/ej.php); Understanding EJ in Minnesota, <https://www.arcgis.com/apps/MapSeries/index.html?appid=f5bf57c8dac24404b7f8ef1717f57d00>; NJ EJ Mapping Tool, <https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=34e507ead25b4aa5a5051dbb85e55055>; Maps & Geospatial Tools for EJ, <https://www.dec.ny.gov/public/911.html>; NDEQ NC Community Mapping System, <https://deq.nc.gov/outreach-education/environmental-justice/deq-north-carolina-community-mapping-system>; PADEP EJ Areas Viewer, <https://www.arcgis.com/apps/webappviewer/index.html?id=f31a188de>

122467691cae93c3339469c; RIDEM, EJ Map, <http://www.arcgis.com/home/webmap/viewer.html?webmap=b24d6c60ff3a4947a14fb15a66390c6&extent=-72.3519,41.0712,-70.6655,42.0922>; WA Environmental Health Disparities Map, <https://www.doh.wa.gov/DataandStatisticalReports/WashingtonTrackingNetworkWTN/InformationbyLocation/WashingtonEnvironmentalHealthDisparitiesMap>.

13. Lee, *supra* note 6, at 10213-14.

14. *Id.* at 10204.

15. Ana Isabel Baptista, *Just Policies? A Multiple Case Study of State Environmental Justice Policies* (May 2008) (unpublished Ph.D. dissertation, Rutgers University) (on file with the Rutgers University Library) available at <https://rucore.libraries.rutgers.edu/rutgers-lib/24087/PDF/1/play/>.

16. Lee, *supra* note 6, at 10204, 10210-11 (discussing CalEPA’s use of CalEnviroScreen to identify EJ communities for targeted funding initiatives).

17. *Id.* at 10214.

EJ community's concerns. In short, private-sector parties can use these tools to develop (or operate) their project in a way that allows them to simultaneously create a long-standing, collaborative relationship with their neighbors. The enlightened, responsible corporate citizen can and should use these tools to foster positive future interactions with the communities they propose to enter.

As Mr. Lee's article underscores, EJ mapping tools foster a new and different way of addressing environmental issues

to ensure that EJ communities are protected, consulted, and given a real seat at the table with respect to projects affecting their communities. These tools provide power to those communities and enable governmental agencies to make better-informed decisions and equip companies and developers to chart a more enlightened and equitable course to development.

## ARTICLE

## ZOMBIE ENERGY LAWS

by Joshua C. Macey

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This Article traces the development of three legal rules—cost recovery for vertically integrated utilities, the requirement that regulators assess the financial viability of energy projects before issuing a certificate of public convenience and necessity, and the filed rate doctrine—that emerged out of the view that electric power companies should be shielded from market forces. The Article argues that these legal rules have become “zombie energy laws.” Zombie energy laws are statutes, regulations, and judicial precedents that continue to apply after their underlying economic and legal bases dissipate. Such laws were originally designed to protect consumers by, among other things, preventing utilities from exploiting their market power. Today, however, zombie energy laws protect incumbent fossil fuel generators and have provided the legal basis for invalidating billions of dollars of wind and solar projects. The Article concludes by arguing that the Federal Power Act, which instructs the Federal Energy Regulatory Commission to maintain “just and reasonable” wholesale rates, can plausibly be read to mitigate—and, in some cases, eliminate—the market distortions caused by zombie energy laws.

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**I. Introduction**

The “zombie energy laws” discussed in this Article—namely, rate regulation, the certificate of public convenience and necessity, and the filed rate doctrine—are vestigial remnants of the public utility era.<sup>1</sup> They originated when most Americans purchased electricity from rate-regulated, vertically integrated utilities.<sup>2</sup> In exchange for exclusive franchises, utilities agreed to provide non-discriminatory electricity at regulated rates.<sup>3</sup> These laws were all intended to protect consumers against market power abuses.

Beginning in the 1970s, the electricity industry began to shift away from cost-of-service regulation as policymakers broke down barriers to entry.<sup>4</sup> But courts and regulators have not abandoned the legal rules that emerged in the era of utility rate regulation, even though the original justification for these rules ceased to exist once regulators decided that electricity generation should be subject to market forces.

These zombie energy laws are now seriously degrading energy markets. They allow incumbents to raise prices and prevent clean energy companies from competing with incumbent fossil fuel generators.

This Article argues that the Federal Power Act (FPA) can plausibly be interpreted to make it illegal for regulators to apply some zombie energy laws in competitive markets

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1. The description of zombie energy laws is a doctrinal contribution that builds on the extensive theoretical literature about the challenges that arise when statutes persist beyond their useful life by identifying the original justification for energy laws that are now operating at cross-purposes with environmental goals.
  2. See Jeffrey D. Watkiss & Douglas W. Smith, *The Energy Policy Act of 1992—A Watershed for Competition in the Wholesale Power Market*, 10 YALE J. ON REG. 447, 451 (1993) (“During this period, most significant electric utilities were vertically integrated—they generated power, transmitted power within their service territory, and distributed power to their retail customers.”).
  3. See *New York v. Fed. Energy Regulatory Comm’n*, 535 U.S. 1, 5-7 (2002); *Jersey Cent. Power & Light Co. v. Fed. Energy Regulatory Comm’n*, 810 F.2d 1168, 1189 (D.C. Cir. 1987) (Starr, J., concurring) (“The utility business represents a compact of sorts; a monopoly on service in a particular geographical area (coupled with state-conferred rights of eminent domain or condemnation) is granted to the utility in exchange for a regime of intensive regulation, including price regulation.”); SIDNEY A. SHAPIRO & JOSEPH P. TOMAIN, *REGULATORY LAW AND POLICY: CASES AND MATERIALS* 109 (3d ed. 2003).
  4. See David B. Spence, *Can Law Manage Competitive Electricity Markets?*, 93 CORNELL L. REV. 765, 770 (2008).

when those laws serve no useful purpose and allow incumbents to abuse their market power. The FPA instructs the Federal Energy Regulatory Commission (FERC) to make sure that wholesale electricity rates are “just and reasonable” and not “unduly discriminatory.”<sup>5</sup> This Article argues that the transition to competitive power markets renders “unjust and unreasonable” many of the very laws and regulations that had supported “just and reasonable” wholesale rates when energy markets were rate-regulated.

## II. Utility Regulation

This part summarizes several views on why regulators exempted a significant percentage of the American economy from market pressures between 1880 and 1920 and presents evidence that the rise in public utility regulation was likely due to a combination of all three views.

### A. Utilities as Natural Monopolies

A natural monopoly exists when it is efficient for a single firm to control an entire market.<sup>6</sup>

Historically, many segments of the energy industry possessed significant economies of scale. Although it was costly to build the transmission lines that transport electricity, once a company built a transmission line, it was often able to provide electricity to an entire community at rates lower than those of its competitors.<sup>7</sup> Many policymakers therefore felt that electricity in a region could be provided and transported most efficiently by a single firm and viewed the industry as a natural monopoly.<sup>8</sup>

The decision to protect utilities from market forces was in large part based on this view. To prevent market power abuses, utilities were required to serve all customers on a nondiscriminatory basis and at regulated rates.<sup>9</sup>

### B. Regulatory Capture

Scholars have also suggested that public utility regulation reflected regulators’ attempts to support the industries that had managed to curry favor with energy regulators.<sup>10</sup>

Utility regulation was immensely profitable for the energy companies that managed to use it to shield them-

selves from competition, and prominent public service commissioners worked for the industries they regulated before and after becoming commissioners.<sup>11</sup>

The capture theory is not inconsistent with the natural monopoly theory. Even if one believes that regulatory capture accounts entirely for the sudden rise in utility regulation, policymakers nonetheless justified utility rate regulation on the theory that public utilities were natural monopolies—even if that justification was pretextual.<sup>12</sup>

### C. *Lochner* Evasion

The *Lochner* era is remembered for the U.S. Supreme Court’s willingness to strike down regulations that interfered with private contract.<sup>13</sup>

The regulatory structure that came to dominate the energy industry, in which companies with exclusive franchises agreed to cap rates and provide nondiscriminatory service to all customers in their service areas, allowed state legislatures to regulate energy contracts without falling afoul of the *Lochner* era Supreme Court’s substantive due process jurisprudence. In *Munn v. Illinois*, a decision that predated *Lochner*, the Supreme Court held that the legislature could cap rates and regulate services of companies when their property ceased to be “purely and exclusively private”<sup>14</sup> and was “affected with a public interest.”<sup>15</sup>

The *Lochner* Court did not reject *Munn*’s holding.<sup>16</sup> By granting public utilities legally protected monopoly franchises and conditioning their right to operate in a given market on companies’ willingness to hold themselves out to the public, state regulators managed to ensure that public utilities were “clothed with the public interest” and therefore subject to regulatory control.

## III. Restructuring

In most of the country today<sup>17</sup>, electric power generators no longer enjoy exclusive franchises.<sup>18</sup> In the 1970s, policymakers abandoned the economic theory that utilities needed to be protected from competition and began a lengthy process to introduce competitive pressures.<sup>19</sup>

5. 16 U.S.C. §824e(a).

6. See Richard A. Posner, *Natural Monopoly and Its Regulation*, 21 STAN. L. REV. 548, 548 (1969) (“If the entire demand within a relevant market can be satisfied at lowest cost by one firm rather than by two or more, the market is a natural monopoly . . .”).

7. See PAUL L. JOSKOW & RICHARD SCHMALENSEE, *MARKETS FOR POWER: AN ANALYSIS OF ELECTRIC UTILITY DEREGULATION* 59 (1983).

8. Technological advances increased the efficiency of small gas wellheads and electricity generators and, in doing so, eroded the economic justification for natural monopoly regulation. See Richard J. Pierce, *Reconsidering the Roles of Regulation and Competition in the Natural Gas Industry*, 97 HARV. L. REV. 345, 357-63 (1983).

9. See SAMUEL INSULL, *CENTRAL-STATION ELECTRIC SERVICE* 45 (William E. Keily ed., 1915); Spence, *supra* note 4, at 767-68 (“[G]overnments licensed private firms as monopoly suppliers, closely regulating their rates and conditions of service.”).

10. See George L. Priest, *The Origins of Public Utility Regulation and the “Theories of Regulation” Debate*, 36 J.L. & ECON. 289, 291-94 (1993).

11. See *id.* at 299-305 (“[F]indings that profits were higher under regulation suggested that regulatory commissions were created as a result of industry demand rather than to pursue the public interest.”).

12. See *id.* (“Demsetz intimated that the natural monopoly defense for regulation may well be a pretext disguising a regulatory regime that benefited and, therefore, might be demanded by the regulated monopolists themselves.”).

13. See Cass R. Sunstein, *Lochner’s Legacy*, 87 COLUM. L. REV. 873, 874 (1987); see also *Lochner v. New York*, 198 U.S. 45, 53 (1905).

14. 94 U.S. 113, 125 (1876).

15. *Id.* at 126.

16. See, e.g., *New State Ice Co. v. Liebmann*, 285 U.S. 262, 304 (1932).

17. About one-third of the country continues to receive power from vertically integrated utilities that are subject to rate regulation. See *Map of Deregulated Energy States and Markets*, ELEC. CHOICE, <https://www.electricchoice.com/map-deregulated-energy-markets/> (last updated 2018) [<https://perma.cc/LVE9-USQF>].

18. See Jim Rossi, *The Electric Deregulation Fiasco: Looking to Regulatory Federalism to Promote a Balance Between Markets and the Provision of Public Goods*, 100 MICH. L. REV. 1768, 1772-78 (2002).

19. See generally Joseph D. Kearney & Thomas W. Merrill, *The Great Transformation of Regulated Industries Law*, 98 COLUM. L. REV. 1323 (1998).

Restructuring the electric power industry began with the Public Utility Regulatory Policies Act (PURPA).<sup>20</sup>

A core insight that led to deregulation of the sale of electric power was that power generation—the process of producing and selling electricity—could be unbundled from the transmission services that deliver electricity to end-users. PURPA required vertically integrated utilities to purchase power from merchant power plants, known as qualifying facilities, and allow those facilities to connect to the grid.<sup>21</sup>

FERC then ordered utilities to “functionally unbundle” generation from transmission,<sup>22</sup> to provide independent power producers with real-time pricing information,<sup>23</sup> and to encourage the formation of independent system operators (ISOs) to manage day-to-day grid operations.<sup>24</sup> Today, ISOs manage a bidding process that selects the least expensive generators that are available to provide the electricity the grid needs at a given moment. In these markets, load-serving entities, which distribute electricity to end-users, are required to purchase electricity in auctions overseen by grid operators.<sup>25</sup> Energy market auctions are supposed to ensure that market forces replace competition as the mechanism for determining which generators operate in a given moment.

#### IV. Laws for Rate-Regulated Utilities

This part traces the origins of the laws that persist from the public utility era and describes the original justifications for three doctrines—rate regulation for vertically integrated utilities, the certificate of public convenience and necessity, and the filed rate doctrine—developed by regulators to preserve utilities’ exclusive franchises and ensure that they were able to honor their service obligations.

##### A. Origins of Rate Regulation

Once policymakers decided to treat energy companies as public utilities and grant them exclusive franchises, they had to figure out how to mitigate market power

abuses of the utility companies that enjoyed a legal right to a monopoly.<sup>26</sup>

Rate regulation emerged as the solution. In an industry that was subject to rate regulation, the government—rather than market forces—became responsible for disciplining corporate behavior. The utilities that were entitled to operate in a given market were required to charge rates that were established by an administrator during a ratemaking proceeding.

##### B. Origins of the Certificate of Public Convenience and Necessity

A certificate of public convenience and necessity is a license issued by a regulatory body that allows the holder of the permit to operate in a particular area.<sup>27</sup>

Regulators have offered at least five related justifications for laws requiring such certificates in the energy industry: (1) avoiding “wasteful duplication” of physical facilities; (2) preventing “ruinous” or “destructive” competition between energy providers<sup>28</sup>; (3) cross-subsidizing customers who otherwise would not receive service or who would otherwise have had to pay higher prices for service; (4) protecting investments in assets that have large upfront capital costs; and (5) protecting the community against externalities such as environmental harms and eminent domain.

The certificate of public convenience and necessity emerged largely as the solution to these perceived problems. By preventing competitors from stealing utilities’ most lucrative customers, certificates allowed utilities to use the profits generated from profitable customers to sell electricity at below-cost rates to less financially remunerative electricity consumers. Thus, the certificate of public convenience and necessity ensured that utilities were in a financial position to provide nondiscriminatory rates and services to all of their customers.

##### C. Origins of the Filed Rate Doctrine

The filed rate doctrine was designed to prevent judicial enforcement of state and federal laws from forcing rate-regulated utilities to modify rates that they had already filed with state and federal regulators.

The Supreme Court formally established this doctrine in *Keogh v. Chicago & Northwestern Railway Co.*, after a group of merchants sued railroads for colluding to establish rates.<sup>29</sup> The railroads argued that regulators—not

20. Public Utility Regulatory Policies Act of 1978, 16 U.S.C. §2601.

21. 16 U.S.C. §824a-3.

22. See Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, Order No. 888, 61 Fed. Reg. 21540, 21577 (May 10, 1996).

23. See Open Access Same-Time Information System (Formerly Real-Time Information Networks) and Standards of Conduct, Order No. 889, 61 Fed. Reg. 21737, 21740 (May 10, 1996) (“This final rule contains three basic provisions that, taken together, will ensure that transmission customers have access to transmission information enabling them to obtain open access transmission service on a non-discriminatory basis.”).

24. See Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, Order No. 888, 61 Fed. Reg. 21540, 21552 (May 10, 1996).

25. See *Reliability Assurance Agreement Among Load Serving Entities in the PJM Region*, PJM INTERCONNECTION 41 (Sept. 17, 2010), <https://www.pjm.com/directory/merged-tariffs/raa.pdf> [<https://perma.cc/PPU6-E5D8>]; *Understanding the Differences Between PJM’s Markets*, PJM INTERCONNECTION 1 (Mar. 6, 2019), <https://learn.pjm.com/-/media/about-pjm/newsroom/fact-sheets/understanding-the-difference-between-pjms-markets-fact-sheet.aspx?> [<https://perma.cc/2HNC-PDMS>].

26. Absent regulatory interference, a monopolist will produce lower quality goods at a higher price than it would in competitive markets. See HAL R. VARIAN, *INTERMEDIATE MICROECONOMICS: A MODERN APPROACH* 11-17 (7th ed. 2006).

27. See, e.g., 49 U.S.C. §10901(c) (“The Board shall issue a certificate authorizing activities for which such authority is requested in an application filed under subsection (b) unless the Board finds that such activities are inconsistent with the public convenience and necessity.”).

28. See *Northhampton Elec. Lighting Co., Petitioner*, 7 ANNUAL REPORT OF THE BOARD OF GAS AND ELECTRIC COMMISSIONERS OF THE COMMONWEALTH OF MASSACHUSETTS 14, 21 (Jan. 1892).

29. 260 U.S. 156, 163 (1922).

courts—were responsible for determining the validity of rates and that, once they did so, railroads were shielded from judicial enforcement of private antitrust suits.<sup>30</sup> The Supreme Court agreed<sup>31</sup> and was especially concerned that judicial enforcement of antitrust laws could prevent regulators from effectively controlling utility rates and services. The Supreme Court recognized that antitrust actions that resulted in lower rates in one area might disrupt a region's rate framework by making it difficult for utilities to provide adequate and profitable service across their entire service areas.

## V. Zombie Energy Laws

This part explains how the legal rules—described in the previous part—that were designed to mitigate the market power abuses of utilities subject to cost-of-service regulation have the opposite effect in restructured markets. Today, these doctrines distort electric power markets and impede the development of renewable energy sources.

### A. Zombie Rate Regulation

FERC's failure to require utilities to fully divest themselves of their generation assets has allowed utilities to manipulate generation bids in a manner that ensures that generators owned by vertically integrated utilities continue to operate despite being unable to compete with alternative electricity providers.

In restructured markets, grid operators oversee a bidding process that determines which generators will provide electricity to meet demand in a given period of time. The grid operator determines how much electricity is needed to meet all demand for electricity and identifies which generators are able to provide power to the region at the lowest cost.<sup>32</sup> Generators that submit successful bids are said to “clear” the market.<sup>33</sup> The least expensive bids clear the market first, followed by the next cheapest options, until the grid operator is able to provide enough electricity to match the region's demand for electricity.<sup>34</sup> Every supplier is paid the price offered by the last generator to clear.<sup>35</sup>

Merit order dispatch is supposed to ensure that consumers receive electricity at the lowest cost.<sup>36</sup> In practice, however, generators can send electricity to the grid even when market conditions render it uneconomic for them to do so. Specifically, generators can self-schedule, or submit bids that are below their costs of production.

When a generator self-schedules, it identifies the hours in which it operates and commits to providing a certain amount of electricity during those times regardless of the market clearing price.<sup>37</sup> Like all generators that clear, it receives the market clearing price.<sup>38</sup> Grid operators count generators that self-schedule in the merit order as zero-cost bids.<sup>39</sup>

Alternatively, generators may submit a bid that is below their cost of production. If the bid is low enough, this will ensure that the generator clears the market but is still paid the last-offered price.

While generators may occasionally have legitimate reasons to operate even when it is unprofitable for them to do so, coal-fired power plants owned by vertically integrated utilities seem to be recouping losses they incur in energy markets from their captive ratepayers. Many state regulators continue to allow vertically integrated utilities to recover their costs even when those utilities participate in restructured markets.<sup>40</sup> Self-scheduled, zero-cost bids allow generation facilities owned by vertically integrated utilities to manipulate competitive energy markets, which seriously distorts energy market prices and reduces revenues enjoyed by generators that could offer electricity more competitively, including solar and wind generators.

### B. Zombie Certificate of Public Convenience and Necessity Rules

Once regulators embraced competitive energy markets in the 1970s, there were no longer economic reasons for regulators to assess the demand for a product before authorizing a company to enter a market.

States have not, however, eliminated laws requiring companies to receive a certificate of public convenience and necessity in order to build new energy infrastructure.<sup>41</sup> These requirements protect incumbents, raise electricity prices, and obstruct green energy projects. For example, Clean Line Energy abandoned a \$3.5 billion wind development project after failing to receive such a certificate from the Arkansas Public Service Commission.<sup>42</sup> Entergy, an Arkansas utility, filed an objection in which it pointed out

30. *Id.* at 160.

31. *Id.* at 163.

32. See FRANCISCO FLORES-ESPINO ET AL., NAT'L RENEWABLE ENERGY LAB., COMPETITIVE ELECTRICITY MARKET REGULATION IN THE UNITED STATES: A PRIMER 12-13 (2016), <https://www.nrel.gov/docs/fy17osti/67106.pdf> [<https://perma.cc/B78F-7NH8>].

33. *See id.*

34. *Id.*

35. *Id.*

36. See *How Resources Are Selected and Prices Are Set in the Wholesale Energy Markets*, ISO NEW ENG., <https://www.iso-ne.com/about/what-we-do/in-depth/how-resources-are-selected-and-prices-are-set> (last visited May 7, 2020) [<https://perma.cc/T9CG-AH9J>].

37. See, e.g., *Authorization to Self-Schedule Capacity*, PJM, <https://www.pjm.com/-/media/etools/erpm/20070302-rpm-authorization-self-sched.ashx> (last visited May 7, 2020) [<https://perma.cc/T3QH-2DFT>] (“Because PJM will self-schedule the Unit, Owner recognizes that the Unit's offer will always clear an auction. . .”).

38. *See id.* (“[The] Owner must accept the applicable clearing price.”).

39. See SOUTHWEST POWER POOL, MKT. MONITORING UNIT, SELF-COMMITTING IN SPP MARKETS: OVERVIEW, IMPACTS, AND RECOMMENDATIONS 6 (Dec. 2019), <https://assets.documentcloud.org/documents/6573451/Spp-Mmu-Self-Commitment-Whitepaper.pdf> [<https://perma.cc/5NZA-BSJ2>].

40. See *Calpine Corp. v. PJM Interconnection, LLC*, 163 FERC ¶ 61236, at 8 (Glick, C., dissenting) (2018).

41. See NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, 1975 ANNUAL REPORT ON UTILITY AND CARRIER REGULATION 507-20, 560-65, 575-78, 601-04 (1976).

42. Order, *The Application of Plains and Eastern Clean Line LLC for a Certificate of Public Convenience and Necessity to Construct, Own, and Operate as an Electric Transmission Public Utility in the State of Arkansas*, No. 10-041-U, at 11 (Ark. Pub. Serv. Comm'n, Jan. 11, 2011), [http://www.apscservices.info/pdf/10/10-041-u\\_41\\_1.pdf](http://www.apscservices.info/pdf/10/10-041-u_41_1.pdf) [<https://perma.cc/A839-29CL>].

that because Clean Line did not own or operate any transmission lines in Arkansas, it was not a public utility and was not authorized to build transmission lines.

Restrictive transmission siting laws pose significant impediments to renewable developments partly because renewable-rich regions tend to be located outside of cities. Wind and solar developments thus need to build transmission lines to population-dense areas that will consume the electricity they produce.<sup>43</sup>

The permitting requirements for these certificates are problematic because regulators—not price signals—determine when it is “appropriate and necessary” to construct new transmission lines and certificate requirements stifle competition by explicitly protecting incumbent transmission line owners.

These requests for siting proposals should not be limited to incumbents, and a merchant power producer that is willing to pay to construct transmission lines that will connect its generation facilities to the grid should be able to do so regardless of whether a regulatory body agrees with the developer’s financial assessment of a region’s future demand for electricity.

### C. *The Zombie Filed Rate Doctrine*

The problem with the filed rate doctrine today is that many generators no longer actually file rates with public service commissioners.<sup>44</sup>

In the mid-1950s, the Supreme Court announced that it would assume that rates that had been negotiated at arm’s length were just and reasonable.<sup>45</sup> Thus, in most of the country, private ordering—not formal ratemaking proceedings—now determines the profits generators make when they sell electricity.<sup>46</sup>

There is therefore no need for regulators to worry that antitrust suits will prevent the public service commissions from realizing their mandate to prevent discriminatory rates, because regulators in these parts of the country no longer rely on ratemaking proceedings to ensure that rates are just and reasonable. Thus, FERC and state energy regulators do not have an opportunity to assess whether a contract has anticompetitive effects.

Yet, the application of the filed rate doctrine to competitive energy markets means that market participants are largely shielded from the laws that mitigate anticompetitive behavior in ordinary markets. In 1986, the Supreme Court affirmed the filed rate doctrine on *stare decisis* grounds despite recognizing that the doctrine no longer served its original purpose.<sup>47</sup> Without authority to enforce

antitrust laws, consumers have to trust that regulators will prevent collusive behavior and monopolistic pricing.

Regulators, however, have failed to prevent market power abuses in electricity markets. Consider the 2000/2001 California energy crisis. Companies such as Enron would purposefully export electricity that was needed in California to neighboring states in order to drive up California electricity prices.<sup>48</sup> Pacific Gas and Electric, one of two California companies that purchased electricity from generators to sell to consumers, was forced into bankruptcy when it found itself unable to afford electricity it was required to supply to Californians.<sup>49</sup>

Further, studies of energy prices have demonstrated that market manipulation is an ongoing problem and that the tools FERC uses to deter manipulation are ill-equipped to prevent the types of abuses that pervade energy markets.<sup>50</sup>

Restructured energy markets are intended to create the same incentives as ordinary markets. Exempting energy companies from judicial enforcement of ordinary tort, contract, and antitrust claims gives energy companies an exceptional privilege. In this way, a doctrine that was originally meant to protect consumers by ensuring utilities treat all customers fairly has become a weapon that generators yield to exploit their market power.

## VI. “Just and Reasonable” Rates in Competitive Energy Markets

While all three of the zombie energy laws described in the previous part should be abandoned, the abandonment would have to take different forms. As is discussed in detail below: (1) overturning the filed rate doctrine should be a straightforward affair; and (2) preventing vertically integrated utilities from using ratemaking proceedings to recoup the losses their generation assets incur in energy markets should also be fairly uncontroversial; but (3) the illegality of restrictive certificates of public convenience and necessity is more speculative.

### A. *Ratemaking Should Not Circumvent Competitive Wholesale Markets*

FERC could disincentivize the practice of using state ratemaking proceedings to circumvent competitive wholesale markets; though if FERC fails to act, the U.S. Congress, state legislatures, and state public service commissions should also step in to eliminate this practice.

The FPA gives FERC authority to regulate “the sale of electric energy at wholesale in interstate commerce.”<sup>51</sup>

43. See GRETCHEN BAKKE, *THE GRID: THE FRAYING WIRES BETWEEN AMERICANS AND OUR ENERGY FUTURE* xvii (2016).

44. See Fed. Energy Regulatory Comm’n v. Elec. Power Supply Ass’n, 136 S. Ct. 760, 768 (2016).

45. See *United Gas Pipe Line Co. v. Mobile Gas Serv. Corp.*, 350 U.S. 332, 381 (1956); *Fed. Power Comm’n v. Sierra Pac. Power Co.*, 350 U.S. 348, 355 (1956).

46. See Joshua Macey & Jackson Salovaara, *Rate Regulation Redux*, 168 U. PA. L. REV. (2020) (manuscript at 18), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3362920](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3362920) [<https://perma.cc/B38Q-58C5>].

47. See *Square D Co. v. Niagara Frontier Tariff Bureau, Inc.*, 476 U.S. 409, 423–24 (1986); see also *McCray v. Fid. Nat’l Title Ins. Co.*, 682 F.3d 229,

238 (3d Cir. 2012).

48. See CAISO, *ANALYSIS OF TRADING AND SCHEDULING STRATEGIES DESCRIBED IN ENRON MEMOS 5* (2002), [http://www.caiso.com/Documents/Analysis-TradingandSchedulingStrategiesDescribedinEnronMemosDMA1O\\_402\\_.pdf](http://www.caiso.com/Documents/Analysis-TradingandSchedulingStrategiesDescribedinEnronMemosDMA1O_402_.pdf) [<https://perma.cc/XJ6J-UU9H>].

49. Cf. PAUL W. MACAVOY, *THE UNSUSTAINABLE COSTS OF PARTIAL DEREGULATION 70* (2007). Market manipulation was only one reason California energy prices increased in this period. See *id.* at 69–93.

50. See David B. Spence & Robert Prentice, *The Transformation of Energy Markets and the Problem of Market Power*, 53 B.C. L. REV. 131, 132 (2012).

51. 16 U.S.C. §824(b)(1).

The FPA further mandates that FERC “shall” preempt “any rule, regulation, practice, or contract affecting” a rate within the Commission’s jurisdiction that “is unjust, unreasonable, unduly discriminatory or preferential.”<sup>52</sup> State programs are preempted when they have the effect of “adjusting an interstate wholesale rate.”<sup>53</sup> Thus, while states retain authority to regulate generation facilities and retail electric rates, they cannot alter or “set” wholesale rates.<sup>54</sup>

When state ratemaking proceedings increase generation revenues without furthering a legitimate state interest, they may guarantee an income to generation facilities that are owned by vertically integrated utilities. Those generators are thus protected from energy market prices because they can recover costs elsewhere. Such practices are arguably preempted when they “aim at” or functionally “set” FERC-jurisdictional rates.

That is not to say that states cannot subsidize generation facilities or provide additional revenue in ratemaking proceedings. States simply have to identify a valid regulatory objective that is subject to their jurisdiction.<sup>55</sup>

While the Commission cannot prevent states from subsidizing preferred resources, it might be able to prohibit generators that benefit from rate regulation from participating in wholesale auctions. In doing so, it would force states to bear the full costs of their decisions to retain inefficient generation assets.

### B. Certificates of Public Convenience and Necessity Should Not Undermine Competitive Wholesale Markets

While courts may be able to ameliorate some of the problems associated with certificates of public convenience and necessity, legislative solutions are likely necessary to facilitate transmission line siting because states retain jurisdiction over such siting.

In the absence of legislative action, however, FERC may be able to reduce some of the barriers to entry created by restrictive transmission siting laws by invoking its existing authority. FERC has exclusive jurisdiction over the “transmission of electric energy in interstate commerce,” over the “sale of electric energy at wholesale in interstate commerce,” and over “all facilities for such transmission or sale of electric energy.”<sup>56</sup> To the extent that excessively restrictive state transmission siting laws undermine these objectives, it would seem that FERC has authority to issue regulations that create an incentive for states to adopt more permissive laws and regulations to govern transmission line siting.

### C. The Filed Rate Doctrine Has Outlived Its Purpose

The judiciary could likely end the filed rate doctrine. *Stare decisis* provides the only justification for the filed rate doctrine in restructured energy markets.

Even the most militant adherents of *stare decisis* agree that courts should overturn past judicial decisions that have proven to be “unworkable.”<sup>57</sup> The Supreme Court has said, for example, that courts should not affirm prior judicial decisions that have been left behind by “the growth of judicial doctrine or further action taken by Congress” or that create “a direct obstacle to the realization of important objectives embodied in other laws.”<sup>58</sup>

The filed rate doctrine passes this high threshold for overturning judicial precedents. It creates a “direct obstacle to the realization” of FERC’s objective to encourage competitive energy markets, and congressional action that indicates a clear intent to further break down barriers to competition in energy markets, such as the Energy Policy Act, qualify as “further actions” that render the doctrine obsolete.

## VII. Conclusion

The energy sector in restructured markets looks very different than the electric power industry that emerged in the late 19th and early 20th centuries when most energy was provided by vertically integrated monopolies that enjoyed exclusive franchises and protection from competition. Their revenues came from rate-making proceedings that guaranteed recovery for costs that regulators deemed reasonable. That regulatory design led to a number of energy doctrines that courts and policymakers felt were necessary to protect the public utility model.

Today, these doctrines do not seem to serve any socially useful purpose. Instead, zombie energy laws provide a financial windfall for incumbent fossil fuel generators and often create significant barriers to entry for competitive renewable projects. The process of restructuring energy markets should go beyond market processes that procure the cheapest energy in a given moment. Fully restructured markets would also eliminate vestigial energy laws that protect incumbent fossil fuel generators from being subject to laws and regulations that would ensure markets remain competitive.

52. 16 U.S.C. §824e(a).

53. *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1297, 46 ELR 20078 (2016).

54. *See id.* at 1293.

55. *See Allco Fin. Ltd. v. Klee*, 805 F.3d 89, 92 (2d Cir. 2015).

56. 16 U.S.C. §824(b).

57. *See Patterson v. McLean Credit Union*, 491 U.S. 164, 173-74 (1989).

58. *Id.* at 173.



C O M M E N T

# CLIMATE STUMBLING BLOCKS: ZOMBIE ENERGY LAWS, STATES, AND THE PATH TO PARIS

by Jessica R. Bell and Hampden T. Macbeth

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With the dawn of the Joseph Biden Administration, there is renewed optimism<sup>1</sup> that the United States will take steps to fulfill its responsibilities under the Paris Agreement<sup>2</sup> and curb greenhouse gas (GHG) emissions. Electrification is a big step on this path,<sup>3</sup> and the nation needs a cleaner, more resilient grid to support this reduced emissions future.<sup>4</sup>

But as University of Chicago Law Prof. Joshua C. Macey details in his article, *Zombie Energy Laws*,<sup>5</sup> efforts to support mass electrification and decarbonization face a major stumbling block: zombies. In particular, zombie energy laws—“statutes, regulations, and judicial precedents that continue to apply after their underlying economic and legal bases dissipate”<sup>6</sup>—undermine incorporation of more clean energy resources into the electricity grid and harm consumers in the process.

Here, we highlight the progress states have made and are poised to continue making in reducing GHG emissions

from the power sector. We then discuss two of the zombie energy laws identified in Macey's article and identify other proposed fixes. Last, we explore two additional zombie laws that may impede clean energy progress.

## I. The Power Sector and States: Progress, Commitment, and Opportunity

Over the last nearly 30 years, states have played a large role in helping the country reduce power-sector GHG emissions by 4.1% by leading the shift to cleaner sources of generation.<sup>7</sup> Beginning in the 1990s, a majority of states adopted renewable performance standards (RPS) that require an identified percentage of electricity sales come from renewable sources.<sup>8</sup> Forty-five percent of renewable energy growth in the United States since 2000 can be attributed to state RPSs.<sup>9</sup>

Fifteen states have now adopted 100% zero carbon or carbon-neutral electricity targets.<sup>10</sup> As of 2019, the states in the U.S. Climate Alliance with RPSs and other climate programs were projected to reduce their GHG emissions by 20 to 27% from the 2005 emissions level by 2025, in line with the Paris Agreement's GHG emissions reduction targets.<sup>11</sup> But as Macey points out, threats to competition and entrenched preferences for incumbent fossil fuel

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*Authors' Note: This Comment does not necessarily reflect the views of NYU School of Law.*

1. Molly Christian & Esther Whieldon, *Biden to Use First 100 Days to Jump-Start Climate Change Agenda*, S&P GLOBAL (Jan. 19, 2021), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/biden-to-use-first-100-days-to-jump-start-climate-change-agenda-62101500>.
2. United Nations Framework Convention on Climate Change, *The Paris Agreement*, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement> (last visited Mar. 4, 2021).
3. See FERC, *FERC Announces Technical Conference to Discuss Electrification and the Grid of the Future* (Mar. 2, 2021), <https://ferc.gov/news-events/news/ferc-announces-technical-conference-discuss-electrification-and-grid-future> (announcing proceeding to discuss “the shift from non-electric to electric sources of energy at the point of final consumption (e.g., to fuel vehicles, heat and cool homes and businesses, and provide process heat at industrial facilities)”).
4. Talor Gruenwald & Mina Lee, *2020: Watt a Year for Building Electrification!*, GREENBIZ (Dec. 30, 2020), <https://www.greenbiz.com/article/2020-watt-year-building-electrification>.
5. Joshua C. Macey, *Zombie Energy Laws*, 73 VAND. L. REV. 1077 (2020).
6. *Id.* at 1077.

7. U.S. EPA, *Sources of Greenhouse Gas Emissions*, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> (“Electricity” tab) (last visited Mar. 4, 2021) [hereinafter *Sources of Greenhouse Gas Emissions*].
8. Laura Shields, *State Renewable Portfolio Standards and Goals*, NAT'L CONFERENCE OF STATE LEGISLATURES (Mar. 9, 2021), <https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx>.
9. GALEN BARBOSE, LAWRENCE BERKELEY NAT'L LAB., U.S. RENEWABLE PORTFOLIO STANDARDS: 2018 ANNUAL STATUS REPORT 13 (2018), [https://eta-publications.lbl.gov/sites/default/files/2018\\_annual\\_rps\\_summary\\_report.pdf](https://eta-publications.lbl.gov/sites/default/files/2018_annual_rps_summary_report.pdf).
10. U.S. CLIMATE ALL., LEADING THE CHARGE: WORKING TOGETHER TO BUILD AN EQUITABLE, CLEAN, AND PROSPEROUS FUTURE 30 (2020), [https://static1.squarespace.com/static/5a4cfbfe18b27d4da21c9361/t/5f6cacb1258a2d77dedbf60c/1600957656553/USCA\\_2020+Annual+Report\\_Leading+the+Charge.pdf](https://static1.squarespace.com/static/5a4cfbfe18b27d4da21c9361/t/5f6cacb1258a2d77dedbf60c/1600957656553/USCA_2020+Annual+Report_Leading+the+Charge.pdf).
11. U.S. CLIMATE ALL., STRENGTH IN NUMBERS: AMERICAN LEADERSHIP ON CLIMATE 5 (2019), <https://static1.squarespace.com/>

generators—in the form of zombie energy laws—threaten this progress.

## II. Undead or Just Sleeping?

Macey highlights three “zombie” laws or areas of law that are impeding clean energy competition and progress. These zombies are remnants of an electricity regulatory system that in some ways no longer resembles the modern system, and they now haunt, rather than serve, consumers and the public interest. Two of these zombie energy laws are particularly tied in to the role of states: (A) rate regulation; and (B) certificates of public convenience and necessity.

### A. Rate Regulation

As Macey describes, energy companies have been treated as natural monopolies. Rate regulation—the first zombie law he discusses<sup>12</sup>—was put in place to protect consumers and mitigate potential harms and abuses. State utility commissions are responsible for retail rates, and the Federal Energy Regulatory Commission (FERC) is responsible for rates for interstate sales at wholesale.

State utility commissions have a variety of ways to oversee the utilities they regulate. A utility will seek to recover its costs plus a reasonable rate of return. Of course, however, the devil is in the details of exactly what costs should be passed on to ratepayers, and what kind of return is reasonable.<sup>13</sup>

Under the Federal Power Act, FERC evaluates rates to ensure they are just and reasonable and not unduly discriminatory.<sup>14</sup> Rates were traditionally set based on a utility’s cost of providing service. Now, FERC will grant a utility market-based rate authority if that company can demonstrate it lacks or has adequately mitigated market power in the relevant area.<sup>15</sup>

FERC also regulates interstate transmission. In a series of orders, FERC implemented open access requirements, requiring transmission-owning utilities to provide transmission service on their systems on a nondiscriminatory

basis.<sup>16</sup> Also, FERC has encouraged the formation of regional transmission operators and independent system operators (RTOs/ISOs), independent grid operators that administer wholesale power markets and plan and run the transmission system. These actions by FERC, along with a push to separate generation and transmission, have moved toward a more competitive power system.

However, the market is far from perfect. For example, Macey discusses uneconomic self-scheduling, a practice by which the owners of coal-fired generation will submit a below-cost bid into the wholesale power market to ensure that the coal plants are selected to run.<sup>17</sup> This may be required from an engineering standpoint—a coal-fired generator cannot start up quickly—but it can also occur when the plant owner knows it will recover its costs from captive retail ratepayers and is therefore indifferent to the market price.

One solution Macey offers is for FERC to prohibit generators that benefit from retail rate regulation from participating in wholesale markets.<sup>18</sup> The reality is, though, that there are large parts of the country where traditional rate regulation remains standard, including in RTOs/ISOs where this kind of uncompetitive behavior is likely occurring—the Midcontinent Independent System Operator (MISO) and the Southwest Power Pool (SPP).<sup>19</sup> Disallowing the participation of these generators does not seem realistic. These uneconomic coal plants are the scariest zombies, not necessarily rate regulation.

State utility regulation can be awakened to curb these anticompetitive practices that hinder clean energy progress.<sup>20</sup> State utility commissions have numerous tools available to them to reevaluate how they oversee and regulate utility ratemaking.<sup>21</sup> There is a lot of work to be done at the state regulatory and legislative level.<sup>22</sup>

static/5a4cfbfe18b27d4da21e9361/t/5df78938e7c320168ad2e19a/1576503687285/USCA\_2019+Annual+Report\_final.pdf.

12. Macey, *supra* note 5, at 1106.

13. See Scott Hempling Att’y at Law LLC, *What “Regulatory Compact”?*, (Mar. 2015), <https://www.scotthemplinglaw.com/essays/what-regulatory-compact>. By way of example, North Carolina Attorney General Josh Stein and other parties recently settled with Duke Energy over the question of whether customers alone—or Duke as well—will bear the costs of environmental penalties and cleanup costs stemming from Duke’s toxic coal ash. Press Release, N.C. Att’y Gen., Attorney General Josh Stein: Duke Energy Customers to Save Over \$1.1 Billion Under New Coal Ash Settlement (Jan. 25, 2021), <https://ncdoj.gov/attorney-general-josh-stein-duke-energy-customers-to-save-over-1-1-billion-under-new-coal-ash-settlement/>. This comes after litigation where retail customers were initially saddled with the full cleanup costs. Intervenor-Appellant Attorney General’s Brief, North Carolina Utilities Commission v. Attorney General Stein 2, 4 (N.C. 2019) (No. 271A18 & 401A18), <https://www.law.nyu.edu/sites/default/files/NC-Coal-Ash.pdf>.

14. 16 U.S.C. §824d.

15. FERC, *Electric Market-Based Rates*, <https://www.ferc.gov/industries-data/electric/power-sales-and-markets/electric-market-based-rates> (last updated Mar. 9, 2021).

16. FERC, *History of OATT Reform*, <https://www.ferc.gov/industries-data/electric/industry-activities/open-access-transmission-tariff-oatt-reform/history-oatt-reform> (last updated Aug. 5, 2020).

17. Macey, *supra* note 5, at 1108-09.

18. *Id.* at 1124.

19. Joe Daniel, *The Billion-Dollar Coal Bailout No One Is Talking About: Self-Committing in Power Markets*, FORBES (May 28, 2019, 7:30 AM), <https://www.forbes.com/sites/energyinnovation/2019/05/28/the-billion-dollar-coal-bailout-nobody-is-talking-about-self-committing-in-power-markets/> (“Compared to SPP and MISO, PJM and ERCOT had fewer, but still, some bad actors who engaged in self-committing to the detriment of their customer’s wallets.”).

20. To the extent that state commissions try to implement protectionist, discriminatory rates, the filed rate doctrine provides an avenue for challenge. *Nantahala Power & Light Co. v. Thornburg*, 476 U.S. 953 (1986).

21. JOE DANIEL ET AL., UNION OF CONCERNED SCIENTISTS, USED, BUT HOW USEFUL? HOW ELECTRIC UTILITIES EXPLOIT LOOPHOLES, FORCING CUSTOMERS TO BAIL OUT UNECONOMIC COAL-FIRED POWER PLANTS 30-31 (May 2020) [hereinafter USED, BUT HOW USEFUL?], <https://www.ucsusa.org/sites/default/files/2020-05/Used%20but%20How%20Useful%20May%202020.pdf> (discussing investigations by regulators in Minnesota and Missouri).

22. For example, South Carolina, a traditionally regulated state, has pushed Dominion to retire coal generators earlier than previously planned. The Editorial Staff, *Like Dominion’s New Coal Phase-Out Plan? Thank SC Regulators*, THE POST AND COURIER (Mar. 6, 2021), [https://www.postandcourier.com/opinion/editorials/editorial-like-dominions-new-coal-phase-out-plan-thank-sc-regulators/article\\_497243ce-7b6a-11eb-b90a-2b9a40ff800d.html](https://www.postandcourier.com/opinion/editorials/editorial-like-dominions-new-coal-phase-out-plan-thank-sc-regulators/article_497243ce-7b6a-11eb-b90a-2b9a40ff800d.html) (noting importance of having “a utility law that doesn’t assume that what

We are also generally wary of FERC banning swaths of generators from participating in wholesale markets based on state activity. We have seen in recent years that this is a slippery slope for FERC, as it has categorized state clean energy programs and mandates as market distortions. FERC has engaged in mental gymnastics to create an offer floor to prevent these resources from lowering prices in wholesale capacity markets.<sup>23</sup> But by promoting renewable energy, state programs are taking the external costs of fossil fuel emissions into account and penalizing those resources frustrates state goals and raises costs for consumers.<sup>24</sup> We are reluctant to embrace an approach that encourages FERC to do more picking and choosing amongst generators and state policy goals.

That is not to say FERC does not have a role to play here. Wholesale market operators and their market monitors can provide information to support state investigations, as well as examine market design issues that will affect coal unit bidding.<sup>25</sup> FERC recently announced a series of market design technical conferences that may be good forums to have these conversations and consider needed reforms.<sup>26</sup>

## B. Certificates of Public Convenience and Necessity

Macey's next zombie is certificates of public convenience and necessity rules for building infrastructure—specifically, the doctrine that may impede the transmission buildout that is necessary to support increased clean energy deployment and electrification.<sup>27</sup> While interstate sales of transmission capacity are subject to FERC jurisdiction, the siting of the lines requires the approval of each state where the project will be constructed, typically in the form of a certificate of public convenience and necessity.

These projects often face opposition from landowners, as well as local governments. And because the project developer must usually seek approvals from multiple states, developers handle applications, appeals, and opposition on multiple fronts.<sup>28</sup> The lines have the potential to deliver cheaper, cleaner power while reducing transmission con-

gestion (leading to lower costs generally).<sup>29</sup> These projects also provide local tax revenue and jobs.<sup>30</sup>

Project developers may be able to mitigate risk of delay or denial by using existing rights-of-way and by appealing to the public interest.<sup>31</sup> But some aspects of state law can still be effective obstructions. As Macey points out, there are legal remnants that protect incumbent utilities, such as a requirement that the developer be a “public utility” under state law, that can strike at project viability.<sup>32</sup> In these cases, the state regulators may believe the projects are beneficial and in the public interest, but are bound by state law to deny them.<sup>33</sup>

Clearly, change is needed, and there are steps that can be pursued within current federal legislative authority.<sup>34</sup> However, we hesitate to go as far as agreeing with Macey that “[r]egulators should not be in the business of second-guessing energy developers’ expectations about the profitability of a business venture.”<sup>35</sup> The downside of employing an approach that relies solely on a developer’s analysis can be seen in what FERC has done in the context of natural gas pipelines.<sup>36</sup> FERC’s review of natural gas pipelines—a process that is still subject to certain state environmental review but is largely consolidated before FERC, unlike transmission siting—unfortunately does not employ a robust needs analysis, allowing need to be demonstrated by a contract to purchase the gas with an affiliate of the developer.<sup>37</sup> FERC approves the vast majority of these projects,<sup>38</sup> locking in a dependence on natural gas. This is a threat to the deployment of clean energy resources and progress toward state GHG emissions reduction goals.

the monopoly utility wants is always in the best interest of the state and utility regulators who care about something more than utilities’ bottom line”).

23. *Calpine Corp. v. PJM Interconnection, LLC*, 171 FERC ¶ 61,034 (2020) (Glick, Comm’r, dissenting).
24. SYLVIA BIALEK & BURCIN UNEL, INST. FOR POLICY INTEGRITY, CAPACITY MARKETS AND EXTERNALITIES: AVOIDING UNNECESSARY AND PROBLEMATIC REFORMS i (Apr. 2018), [https://policyintegrity.org/files/publications/Capacity\\_Markets\\_and\\_Externalities\\_Report.pdf](https://policyintegrity.org/files/publications/Capacity_Markets_and_Externalities_Report.pdf); Brian E. Frosh et al., *FERC’s Effort to Undermine State Clean Energy Policies Cannot Stand*, THE HILL (Feb. 21, 2020, 6:30 PM), <https://thehill.com/blogs/congress-blog/politics/484141-fercs-effort-to-undermine-state-clean-energy-policies-cannot>.
25. USED, BUT HOW USEFUL?, *supra* note 21, at 32-33.
26. FERC, Notice of Technical Conference on Resource Adequacy in the Evolving Electricity Sector, Docket No. AD21-10-000 (Feb. 18, 2021), <https://www.ferc.gov/media/ad21-10-000-tech-conf>.
27. Macey, *supra* note 5, at 1112-13.
28. See, e.g., Jeff St. John, *Grain Belt Express Transmission Line Wins Key Legal and Policy Battles in Missouri*, GREENTECH MEDIA (July 8, 2020), <https://www.greentechmedia.com/articles/read/grain-belt-express-transmission-line-wins-key-battles-in-missouri> (discussing Grain Belt Express project).

29. See, e.g., Pub. Serv. Comm’n of Missouri, In the Matter of the Application of Grain Belt Express Clean Line LLC, Report and Order on Remand, File No. EA-2016-0358 (Mar. 20, 2019) [hereinafter Grain Belt Order], ¶¶ 67-68, at 23, ¶ 77, at 25, ¶ 81, at 26, [https://efis.psc.mo.gov/mpsc/filing\\_submission/DocketSheet/docket\\_sheet.asp?caseno=EA-2016-0358&pagename=..electronicsubmission.asp&order\\_by=&asc\\_desc=&hdexhibit=&hdtestimony=&hdtranscript=&hdnotices=&page=2](https://efis.psc.mo.gov/mpsc/filing_submission/DocketSheet/docket_sheet.asp?caseno=EA-2016-0358&pagename=..electronicsubmission.asp&order_by=&asc_desc=&hdexhibit=&hdtestimony=&hdtranscript=&hdnotices=&page=2).
30. See, e.g., *id.* at ¶¶ 105-107, at 32.
31. See, e.g., Kaitlyn Schallhorn, *Grain Belt Line Will Include “First of Its Kind” Broadband Infrastructure, Impacting 1M Rural Missourians*, THE MO. TIMES (Feb. 6, 2020), <https://themissouritimes.com/grain-belt-line-will-include-first-of-its-kind-broadband-infrastructure-impacting-1m-rural-missourians/> (announcing rural broadband expansion initiative along with transmission project).
32. Macey, *supra* note 5, at 1099-100, 1102, 1113.
33. *Id.* at 1113 (discussing Clean Line Energy); Grain Belt Order, *supra* note 29, at 6 (discussing procedural history wherein four commissioners signed a concurrence that they would have approved application but were compelled to deny it based on lack of statutory authority).
34. See AVI ZEVIN ET AL., INST. FOR POLICY INTEGRITY, BUILDING A NEW GRID WITHOUT NEW LEGISLATION: A PATH TO REVITALIZING FEDERAL TRANSMISSION AUTHORITIES (Dec. 2020), [https://policyintegrity.org/files/publications/New\\_Grid\\_Without\\_Legislation\\_report.pdf](https://policyintegrity.org/files/publications/New_Grid_Without_Legislation_report.pdf).
35. Macey, *supra* note 5, at 1085.
36. *Id.* at 1085 n.28.
37. See Comments of the Attorneys General of Massachusetts, Illinois, Maryland, New Jersey, Rhode Island, Washington, and the District of Columbia, Certification of New Interstate Natural Gas Facilities, FERC Docket No. PL18-1-000 (July 25, 2018) at 5-8, <https://www.mass.gov/files/documents/2018/07/26/Multistate%20Comments-FERC%201999%20PL%20Policy%20Review.pdf>.
38. SUSAN F. TIERNEY, ANALYSIS GROUP, FERC’S CERTIFICATION OF NEW INTERSTATE NATURAL GAS FACILITIES: REVISING THE 1999 POLICY STATEMENT FOR 21ST CENTURY CONDITIONS 8 (Nov. 2019), <http://www.analysisgroup.com/FERCpipeline>.

Market forces may be particularly ill-equipped to produce the transmission grid needed to promote decarbonization and electrification. Markets do not appropriately value clean power, and thus may not send the right signals. There are some additional places for advocacy in the meantime. For example, the efficiency of the existing transmission grid can be enhanced.<sup>39</sup> FERC, RTOs/ISOs, and stakeholders can work to improve the interregional planning process. And incumbents that may not be planning and building (and charging ratepayers) for the right types of transmission projects can be subject to more scrutiny.<sup>40</sup>

### III. More Zombie Energy Laws

In addition to those listed by Macey, other zombie energy laws imperil the clean energy transition and the United States' attempts to hit the Paris Agreement climate goals. Two such other zombies are: (A) laws that promote the development and use of natural gas infrastructure; and (B) a statutory provision that blocks the building of electric vehicle charging stations on federally funded highways.

#### A. Natural Gas Infrastructure Laws

The conflict between new clean energy commitments and zombie energy laws is particularly fraught in the context of laws that promote the use of natural gas to heat residential buildings.<sup>41</sup> Many states that have committed to reduce GHG emissions still have on their books laws that subsidize or require the use of natural gas, which is a source of the short-lived, super pollutant GHG methane, to heat buildings.<sup>42</sup>

For example, the GHG emissions reduction target of 85% below 1990 emission levels by 2050<sup>43</sup> included in New York's Climate Leadership and Community Protection Act (CLCPA), adopted in 2019, indicates a "limited role, if any," for natural gas in New York's 2050 energy system.<sup>44</sup> But the preexisting Section 30 of the New York Public Service Law (NYPSL) states that providing natu-

ral gas to residential customers is in the public interest, restricting residential customers to fuels—including natural gas—they have used in the past and incumbent utilities that have provided that fuel.<sup>45</sup> With natural gas consumption by current residential customers representing more than one-half of New York's 2050 carbon budget, Section 30 of the NYPSL may undermine the state's ability to meet the CLCPA's goals.<sup>46</sup> Section 30 of the NYPSL is a zombie energy law that has outlived its original purpose. As states seek to achieve their climate goals, they will have to identify and address these lurking zombies that are a threat to their climate ambitions.<sup>47</sup>

#### B. Ban on Economic Activities at Highway Rest Stops

At the beginning of America's highway building boom in the middle of the 20th century, local businesses near highway rest stops succeeded in securing a ban on almost all economic activity at highway rest stops as a way of protecting them from new competition.<sup>48</sup> Specifically, agreements between the U.S. Department of Transportation (DOT) and state DOTs to construct highway projects are required to contain a clause that prohibits states from permitting "automotive service stations or other commercial establishments for serving motor vehicle users to be constructed or located on the rights-of-way of the interstate system."<sup>49</sup>

The prohibition on service stations and other commercial establishments at rest stops on the federal highway system is a threat to the development of an electric vehicle charging network needed to electrify and clean the transportation sector,<sup>50</sup> the largest sectoral source of GHG emissions.<sup>51</sup> Dependable location of electric vehicle charging stations at highway rest stops would ameliorate consumers' range concerns, one of the bigger impediments to greater electric vehicle use and market penetration.<sup>52</sup> But the ban on economic activity at rest stops complicates the buildout of an electric vehicle charging network because it encompasses commercially available charging stations for electric vehicles.<sup>53</sup>

39. Managing Transmission Line Ratings, 86 Fed. Reg. 6420 (Jan. 21, 2021) (to be codified at 18 C.F.R. pt. 35); Jeffrey Tomich, *Clogged Power Grid Is Blocking Renewables. Here's a Fix*, E&E NEWS (Feb. 25, 2021), <https://www.eenews.net/energywire/2021/02/25/stories/1063725979>.

40. Ari Peskoe, *To Catalyze Transmission Development, End the Utility Protection Racket*, UTILITY DIVE (Feb. 25, 2021), <https://www.utilitydive.com/news/to-catalyze-transmission-development-end-the-utility-protection-racket/595663/>.

41. THE COMMONWEALTH OF MASS. OFFICE OF THE ATT'Y GEN., PETITION OF THE OFFICE OF THE ATTORNEY GENERAL REQUESTING AN INVESTIGATION INTO THE IMPACT ON THE CONTINUING BUSINESS OPERATIONS OF LOCAL GAS DISTRIBUTION COMPANIES AS THE COMMONWEALTH ACHIEVES ITS 2050 CLIMATE LIMITS 2 n.2 (June 4, 2020), <https://www.mass.gov/doc/dpu-gas-petition/download>.

42. See Justin Gundlach & Elizabeth B. Stein, *Harmonizing States' Energy Utility Regulation Frameworks and Climate Laws: A Case Study of New York*, 41 ENERGY L.J. 211, 211 (2020); Jeff Turrentine, *The Natural Gas Industry Has a Methane Problem*, NAT. RES. DEF. COUNCIL (June 7, 2019), <https://www.nrdc.org/onearth/natural-gas-industry-has-methane-problem>.

43. *Reducing Greenhouse Gas Emissions: Limiting Future Impacts of Climate Change*, N.Y. DEP'T OF ENV'T CONSERVATION, <https://www.dec.ny.gov/energy/99223.html> (last visited Mar. 4, 2021).

44. Gundlach & Stein, *supra* note 42, at 224.

45. *Id.*

46. *Id.* at 225-26.

47. Although not clearly characterized as "zombies," state efforts to preempt local bans of new gas infrastructure and hookups are also emerging as threats to goals to move away from fossil fuels. See Jeff Brady & Dan Charles, *As Cities Grapple With Climate Change, Gas Utilities Fight to Stay in Business*, NAT'L PUB. RADIO (Mar. 10, 2021, 12:30 PM), <https://www.npr.org/2021/02/22/967439914/as-cities-grapple-with-climate-change-gas-utilities-fight-to-stay-in-business>.

48. David Ferris, *EV Chargers at Rest Stops? Not so Fast, Say the Feds*, E&E NEWS (Nov. 27, 2019), <https://www.eenews.net/stories/1061656653>.

49. 23 U.S.C. §111(a).

50. Of course, cleaning the transportation sector through electrification depends upon cleaning the underlying electricity system itself. David Roberts, *The Key to Tackling Climate Change: Electrify Everything*, VOX (Oct. 27, 2017, 8:48 AM), <https://www.vox.com/2016/9/19/12938086/electrify-everything>.

51. *Sources of Greenhouse Gas Emissions*, *supra* note 7, at "Transportation" tab.

52. Cameron Smith, *Federal Law Hurting Growth of Electric Vehicle Market*, THE HILL (June 24, 2016, 3:31 PM), <https://thehill.com/blogs/congress-blog/energy-environment/284722-federal-law-hurting-electric-vehicle-market>.

53. *Id.*

The ban on economic activity at federal rest stops is a zombie (energy) law. The good news is that the ban might be on the chopping block as the U.S. Congress and the Biden Administration consider how to build and maintain a 21st-century electricity grid and highway system. Last year, the U.S. House of Representatives Democratic surface transportation reauthorization legislation included a provision that would allow for the building of electric vehicle charging stations at federal highway rest stops. This type of provision will likely be included in similar legislation that is proposed in Congress this year as part of President Biden's climate and infrastructure plan.<sup>54</sup>

#### **IV. Conclusion**

Advocates, regulators, and policymakers must grapple with the laws that Macey discusses and others to determine if (and if so, how) they continue to be applicable to the modern electricity sector, as well as how they may hurt or hinder decarbonization and electrification. Clean energy is competitive. States continue to lead the push for strong clean energy standards and energy innovation. The protectionist remnants of our power system need to be examined and reformed to ensure that we can move forward with a cleaner, more resilient grid.

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54. Jim Stinson, *The Debate Over EV Charging at Interstate Rest Stops*, UTILITY DIVE (Mar. 1, 2021), <https://www.utilitydive.com/news/NATSO-commercialization-interstate-rest-stop-electric-charging/595838/>.

C O M M E N T

# YOU CAN'T TAKE THEM LIKE THAT, IT'S AGAINST REGULATION

by Margaret H. Claybour

*Ms. Claybour is one of the four founding partners of Rock Creek Energy Group, LLP. She has over 18 years of experience counseling and representing a broad swath of electric industry participants on a wide range of federal energy regulatory and administrative litigation matters.*

My comments are from the perspective of a practicing attorney who represents clients on the issues addressed in Prof. Joshua C. Macey's article.<sup>1</sup> I want to start by acknowledging Professor Macey's work in laying out the history of the legal rules he argues should be "abandoned,"<sup>2</sup> but his "zombie" analogy is akin to a "slash and burn" approach when a surgical response would be more appropriate to address his concerns.

As a practitioner who concentrates on federal energy regulation, I want to focus on the filed rate doctrine, which is one of the zombie energy laws Professor Macey identifies—a doctrine that is alive and kicking and still particularly relevant today. I understand Professor Macey's perspective as to how it may be applied within the judicial system but, in practice before the Federal Energy Regulatory Commission (FERC), it is a tool that certainly I and other practitioners utilize both for vertically integrated utilities, as well as the customers of those vertically integrated utilities. The renewable energy generators discussed in the article tend to be customers of these vertically integrated utilities as interconnection customers, and they are also transmission customers. When you consider that rates include not only the amount that will be charged, but also the terms and conditions of taking service, a tool like the filed rate doctrine can help a customer assert the rights to which it is entitled under a particular tariff and challenge a utility's deviation from providing the delineated services that have been accepted by FERC. It is an important and useful tool within the industry.

Accordingly, perhaps Professor Macey's approach should be more surgical. To the extent the proposal is to limit or gut the filed rate doctrine, there should be some other mechanism, tool, or approach that could allow a litigant within the judiciary system to achieve its goals but not completely eradicate the availability of the filed rate doctrine within the regulatory or the administrative law scheme.

Furthermore, the concept of a utility in the article appears to be almost exclusively the vertically integrated utility, but keep in mind that a utility today can include merchant transmission owners, cooperatives, or municipally owned transmission organizations that choose to participate in markets subject to FERC regulation. In these cases, again, it is important for the customer to be able to utilize the filed rate doctrine as one of several tools that allow it to ensure the entity operating the market delivers the anticipated rate terms and conditions based on what is on file at FERC. The filed rate doctrine can be particularly useful in navigating open access transmission tariffs or market tariffs (and the business practice manuals on file that are attendant to these rules), in an effort to ensure that customers' service expectations are met.

Turning to Professor Macey's arguments about cost recovery, while there are mechanisms that allow vertically integrated utilities to recover generator fuel costs that *may* give them some edge in the competitive markets, this is not such a prolific problem to require the recommended approach. There are more surgical approaches to regulating the participation of generators in competitive markets, for example, the controversial minimum offer price rule in the PJM Interconnection, L.L.C. market, than the death knell Professor Macey proposes. From a transmission rate perspective, transmission rates are generally cost-based and, again, not exclusive to vertically integrated utilities. Cost-based rate regulation is still alive and well at FERC. The Federal Power Act and rate mechanisms provide transmission customers, interested parties, and FERC the

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1. Margaret H. Claybour's Comment, the title of which references *Scene 2: Just Die Already*, Another Bleedin' Monty Python Website, [http://montypython.50webs.com/scripts/Holy\\_Grail/Scene2.htm](http://montypython.50webs.com/scripts/Holy_Grail/Scene2.htm) (quote modified from original), is based on an edited transcription of her remarks at the Environmental Law and Policy Annual Review conference. See 2020-2021 Environmental Law and Policy Annual Review Conference, available at <https://www.eli.org/environmental-law-policy-annual-review/2020-2021-ELPAR-conference>.

2. Joshua C. Macey, *Zombie Energy Laws*, 73. VAND.L.REV. 1077 (2020).

ability to scrutinize and challenge transmission rates on file with FERC.

Lastly, the article addresses market impacts with respect to the ability of a utility to recover its costs and raises concerns about efforts to manipulate the market—actions that would constitute blatant violations of law. There are systems within the competitive market as it stands today, however, to address these concerns—including regional transmission organization and inde-

pendent system operator market monitors, FERC market surveillance teams, and FERC enforcement staff. Thus, measures that would take away or remove the ability of utilities to recover costs based on this rationale should not be encouraged.

In sum, Professor Macey's article offers several interesting proposals from an academic perspective, some of which are worth further exploration, but ultimately not compelling in their current form from a practitioner's perspective.

H O N O R A B L E M E N T I O N

# EMINENT DOMAIN LAW AS CLIMATE POLICY

by Alexandra B. Klass

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In 2019 and 2020, several states adopted aggressive clean energy laws and other states are poised to do the same. These policies require electric utilities to secure all of the electricity they sell to customers from carbon-free energy resources by a specified date, and many also require the state to significantly reduce carbon emissions from the transportation sector, increase energy efficiency in buildings, and otherwise decarbonize their economies. In order to meet these mandates, states must transform the physical infrastructure used to create and transport energy. This will require building new power plants that run on carbon-free energy resources like wind, solar, hydropower, or nuclear energy; constructing the electric transmission lines and other infrastructure needed to deliver these energy resources to consumers; setting standards and mandates for new buildings, vehicles, and transportation infrastructure that will reduce carbon emissions; and providing direct funding, tax incentives, new permitting processes, and staff to support the public and private actors that will implement these changes. These needs are becoming well-documented. What remains unexplored, however, is the potential for state property law reform—most notably eminent domain law—to limit the development of fossil fuels and promote the growth of alternative energy to support these new clean energy policies.

This Article contends that states should consider limiting eminent domain rights for fossil fuel projects and extending eminent domain rights for certain clean energy projects as part of their state climate policies. If fossil fuel industries were already on the decline as a matter of eco-

nomics, then perhaps support for clean energy resources would be enough to meet state policy goals, and fossil fuel resources would fade quickly on their own. At the present time, however, that is not the case. The current abundance of low-cost shale oil and natural gas resources made available through hydraulic fracturing and directional drilling technologies means that these resources will remain a major part of the U.S. economy in the absence of countervailing state or federal policies. While tax incentives, streamlined permitting, and other support for renewable energy projects is extremely important, policymakers should not ignore the power of state property law to help meet climate goals. Thus, state legislatures should develop policies that ensure private actors that build clean energy projects will be supported not solely through financial incentives and the work of new state committees and councils, but also through property incentives like enhanced eminent domain rights. Policymakers can also simultaneously limit or eliminate the ability of fossil fuel developers to use existing rights of eminent domain under state law to build projects that are not consistent with the state's climate policies. Notably, each state's approach to eminent domain reform may differ based on the current energy mix in the state as well as the potential for technological development. These policy conversations regarding the use of eminent domain for energy projects are critical to developing robust state clean energy laws. They also can provide a useful template for the U.S. Congress if, in the future, it moves forward with comprehensive federal climate policy.

*Editors' Note: This abstract is adapted from Alexandra B. Klass, Eminent Domain Law as Climate Policy, 2020 Wis. L. REV. 49 (2020), and is used with permission.*



H O N O R A B L E M E N T I O N

# THE NEW GATEKEEPERS: PRIVATE FIRMS AS PUBLIC ENFORCERS

by Rory Van Loo

*Rory Van Loo is an Associate Professor of Law at Boston University and an Affiliated Fellow at the Yale Law School Information Society Project.*

The world's largest businesses must routinely police other businesses. By public mandate, Facebook monitors app developers' privacy safeguards, Citibank audits call centers for deceptive sales practices, and Exxon reviews offshore oil platforms' environmental standards. Scholars have devoted significant attention to how policymakers deploy other private-sector enforcers, such as certification bodies, accountants, lawyers, and other periphery "gatekeepers." However, the literature has paid insufficient attention to the emerging regulatory conscription of large firms at the center of the economy. This Article examines the rise of the enforcer-firm through case studies of the industries that are home to the most valuable companies in technology, banking, oil, and pharmaceuticals. Over the past two decades, administrative agencies have used legal rules, guidance documents, and court orders to mandate that private firms in these and other industries perform the duties of a public regulator. More specifically, firms must write rules in their contracts

that reserve the right to inspect third parties. When they find violations, they must pressure or punish the wrongdoer. For example, the U.S. Environmental Protection Agency—along with the U.S. Department of Justice—requires BP Oil and other energy companies to audit offshore oil platform operators for environmental compliance, and include certain provisions in any new contract with a drilling rig, including requiring the rig to join an industry safety group. This form of governance has important intellectual and policy implications. It imposes more of a public duty on the firm, alters corporate governance, and may even reshape business organizations. It also gives resource-strapped regulators promising tools and presents the possibility of greater efficiency, expertise, and responsiveness to consumers. If designed poorly, however, the enforcer-firm will create an expansive area of unaccountable authority. Any comprehensive account of the firm or regulation must give a prominent role to the administrative state's newest gatekeepers.

*Editors' Note: This abstract is adapted from Rory Van Loo, The New Gatekeepers: Private Firms as Public Enforcers, 106 VA. L. REV. 467 (2020), and is used with permission.*

# IN CASE YOU MISSED IT . . .

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## In the Courts

"In the Courts" contains full summaries of court cases reported in *ELR Update* during the month of June 2021. They are listed under the following categories: Air, Climate Change, Energy, Governance, Land Use, Natural Resources, Toxic Substances, Waste, Water, and Wildlife. The summaries are then arranged alphabetically by case name within each category. To access *ELR's* entire collection of court cases and summaries, visit <https://www.elr.info/judicial>.

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### AIR

*Clean Air Council v. United States Steel Corp.*, No. 20-2215, 51 ELR 20116 (3d Cir. June 21, 2021). The Third Circuit affirmed dismissal of a lawsuit concerning reporting requirements for emissions following fires at a steel facility near Pittsburgh. An environmental group argued the facility operator should have reported the emissions to the federal government pursuant to CERCLA in addition to reporting them to local officials as required by its CAA permits, arguing the emissions were not "federally permitted releases" under CERCLA and not "subject to" the CAA permits because they violated the permits. The district court held the emissions were federally permitted releases because they were governed by, and thus subject to, the CAA permits, so the company was not required to report them to the federal government. The appellate court agreed, finding that because the company's emissions were governed by CAA permits, they were also federally permitted under CERCLA and thus exempt from federal reporting. It therefore affirmed dismissal of the suit.

*Voigt v. Coyote Creek Mining Co., LLC*, No. 18-2705, 51 ELR 20096 (8th Cir. June 1, 2021). The Eighth Circuit affirmed, 2-1, summary judgment for a mining company in a lawsuit concerning the company's operation of a coal mine in North Dakota. Owners of an adjacent ranch argued the company violated the CAA by failing to obtain the proper construction permit for the mine and failing to implement the requisite dust control plan for the mine's coal processing plant. The district court granted summary judgment for the company, concluding that the federal regulations imposing permitting and dust control requirements did not apply to the mine's coal pile because the pile was not part of the coal processing plant. The ranch owners appealed, arguing the regulations clearly and unambiguously placed the coal pile squarely within the plant. The appellate court disagreed, concluding the most reasonable interpretation was that the pile was not "in" the company's processing plant and that the district court did not err in granting summary judgment to the company. It therefore affirmed summary judgment for the company.

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### CLIMATE CHANGE

*Connecticut v. Exxon Mobil Corp.*, No. 3:20-cv-1555 (JCH), 51 ELR 20098 (D. Conn. June 2, 2021). A district court remanded to state court a climate liability lawsuit brought by the state of Connecticut against an oil company. Connecticut sued the company in state court, asserting eight claims under the Connecticut Unfair Trade Practices Act. The company removed the suit to federal court based on federal common law, Grable doctrine, federal officer removal, Outer Continental Shelf Lands Act, federal enclave jurisdiction, and diversity jurisdiction grounds. The state moved to remand the suit back to state court. The court concluded that the company failed to show any of these grounds justified removal, and therefore granted Connecticut's motion to remand.

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### ENERGY

*HollyFrontier Cheyenne Refining, LLC v. Renewable Fuels Ass'n*, No. 20-472, 51 ELR 20122 (U.S. June 25, 2021). The U.S. Supreme Court held, 6-3, that a small refinery that previously received a hardship exemption from renewable fuel requirements may obtain an "extension" even if it saw a lapse in exemption coverage in a previous year. A group of renewable fuel producers had petitioned for review of EPA's grant of hardship exemptions for three small refineries that had previously received exemptions and seen them lapse for a period before petitioning for exemptions again. The appellate court had vacated EPA's decisions, concluding the refineries were not eligible for an "extension" of their exemptions because they had allowed their previous exemptions to lapse at some point in the past. The High Court found that it was "entirely natural—and consistent with ordinary usage—to seek an 'extension' of time even after some lapse," and that the text of the statute did not contain a continuity requirement because it allowed a small refinery to petition for an extension of an exemption "at any time." It therefore reversed the appellate court's vacatur of EPA's decisions. Gorsuch, J., delivered the opinion of the Court, in which Roberts, C.J., and Thomas, Breyer, Alito, and Kavanaugh, JJ., joined. Barrett,

J., filed a dissenting opinion, in which Sotomayor and Kagan, JJ., joined.

*Union of Concerned Scientists v. United States Department of Energy*, No. 20-1247, 51 ELR 20095 (D.C. Cir. May 28, 2021). The D.C. Circuit dismissed a nonprofit group's petition to review DOE's rule concerning the designation of critical electric infrastructure information. The group argued the rule exceeded DOE's authority under §215A of the Federal Power Act, was arbitrary and capricious, and was promulgated in violation of the APA's notice-and-comment requirements. The Department moved to dismiss for lack of standing. The court found that the group failed to show harm resulting from the rule, and dismissed the petition for lack of jurisdiction.

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## GOVERNANCE

*Center for Biological Diversity v. United States Environmental Protection Agency*, No. 20-cv-6572 (JSR), 51 ELR 20097 (S.D.N.Y. June 2, 2021). A district court denied nonprofit groups' motion for summary judgment in a challenge to EPA's failure to consult with FWS and NMFS before announcing a temporary nonenforcement policy in response to the COVID-19 pandemic. With the policy having since been terminated, the groups sought to compel EPA to engage in post-hoc consultation with the Services. The Services argued the groups offered no evidence from which a jury could reasonably infer that the policy caused real risk to a concrete interest held by their members, namely risk of excess discharge into sturgeon habitat. The court found that a reasonable fact finder could not simply presume, without evidence, that monitoring failures caused excess discharges. It therefore denied the groups' motion and granted summary judgment for FWS and NMFS.

*Indigenous Environmental Network v. President Donald J. Trump*, No. 4:19-cv-00028-BMM, 51 ELR 20094 (D. Mont. May 28, 2021). A district court overrode the Biden Administration's objections to a lawsuit challenging President Trump's issuance of a presidential permit in 2019 for construction of a cross-border segment of the Keystone XL pipeline. Environmental groups argued the former president violated the Property Clause, the Commerce Clause, and Executive Order No. 13337 when he issued the permit. The sitting president argued his revocation of the 2019 permit rendered the groups' challenge moot. The court found that the lawsuit presented a live controversy because the court could provide relief to the groups by ordering removal of the now-constructed border segment, and that although the president revoked the permit, the possibility remained that he or a future president could issue another permit unilaterally.

*Iowa Citizens for Community Improvement v. Iowa*, No. 19-1644, 51 ELR 20115 (Iowa June 18, 2021). The Iowa Supreme Court reversed, 4-3, a lower court order denying Iowa's motion to dismiss a lawsuit brought by nonprofit groups seeking

to reduce fertilizer and waste runoff from farms into the Racon River. The groups sought to force the state, its agencies, and a number of its officials to enact legislation that would compel farmers to take steps to significantly reduce nitrogen and phosphorus levels in the river. Defendants moved to dismiss for lack of standing, nonjusticiability, and failure to exhaust administrative remedies. The lower court denied the motion. The high court found the groups' attenuated causation theory was not enough to establish that their members had suffered a concrete injury at the hands of defendants that could likely be redressed by a court, and that the groups' reliance on public trust doctrine to solve a complex environmental problem presented a nonjusticiable political question. It reversed the lower court's order and remanded with instructions to dismiss the suit.

*Public Employees for Environmental Responsibility v. U.S. Environmental Protection Agency*, No. 18-cv-2219 (BAH), 51 ELR 20114 (D.D.C. June 18, 2021). A district court granted summary judgment for EPA in a FOIA lawsuit brought by a nonprofit group. The group requested a 2018 draft version of the Agency's Integrated Risk Information System (IRIS) formaldehyde assessment. EPA withheld the assessment under the deliberative process privilege, and the group objected to the Agency's application of the privilege. The court found that the administrative context in which the draft assessment was produced, the substance of the document, and the fact that it predated a still-nonexistent final IRIS formaldehyde assessment indicated the document reflected a "preliminary view" rather than a "final decision" about the effects of formaldehyde and thus was protected by the deliberative process privilege. It further found that the Agency adequately linked two harms the privilege was meant to prevent—chilling of agency deliberations and public confusion—to the disclosure of the particular information contained in the draft assessment. It therefore granted EPA's motion for summary judgment.

*Standing Rock Sioux Tribe v. U.S. Army Corps of Engineers*, No. 16-1534 (JEB), 51 ELR 20091 (D.D.C. May 21, 2021). A district court denied Native American tribes' motion for a permanent injunction in an ongoing dispute concerning the Dakota Access pipeline. The tribes argued they were entitled to injunctive relief because the pipeline's continued operation was likely to cause them immediate, irreparable harm via an oil spill at Lake Oahe. The court found that the tribes failed to point to any actual evidence suggesting a large, damaging, irreparable spill was likely to occur, and thus failed to make a successful showing of irreparable harm. It therefore denied the tribes' motion for permanent injunction.

*Yaw v. The Delaware River Basin Commission*, No. 21-119, 51 ELR 20107 (E.D. Pa. June 11, 2021). A district court dismissed two Pennsylvania state senators' challenge to the Delaware River Basin Commission's imposition of a moratorium on gas drilling and hydraulic fracturing in the Delaware Basin. The senators argued, among other things, that the moratorium exceeded the Commission's authority. The court found that the senators lacked standing because they

failed to show they were harmed by the moratorium, and that the dispute was primarily partisan and best resolved through the political process. It therefore dismissed the suit for lack of standing.

*Yawn v. Dorchester County*, No. 20-1584, 51 ELR 20108 (4th Cir. June 11, 2021). The Fourth Circuit affirmed summary judgment for a county in South Carolina in a lawsuit concerning the county's alleged taking of honey sellers' bees. The sellers argued their bees died after the county sprayed pesticide in an effort to kill mosquitoes, and thus constituted a Fifth Amendment taking of their private property for which just compensation was owed. A district court granted summary judgment for the county, holding there was no taking because the loss of the sellers' bees was only an incidental consequence of the county's action. The appellate court found that the death of the bees was neither intentional nor foreseeable, and therefore affirmed summary judgment for the county.

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## LAND USE

*Kalispel Tribe of Indians v. U.S. Department of the Interior*, No. 19-35808, 51 ELR 20099 (9th Cir. June 1, 2021). The Ninth Circuit affirmed summary judgment for DOI and a Native American tribe in a lawsuit brought by a nearby tribe challenging DOI's decision that the former tribe's proposed casino on newly acquired off-reservation land would not be detrimental to the surrounding community. The plaintiff tribe argued the Indian Gaming Regulatory Act (IGRA) precluded the Secretary of DOI from authorizing a new off-reservation gaming operation where additional gaming would cause any detriment to a nearby tribe, regardless of the net impact to the surrounding community. The court found the IGRA required the Secretary to weigh the various interests within the surrounding community when deciding whether additional off-reservation gaming would be detrimental to the community, but that a showing that such gaming would be detrimental to some community members, including an Indian tribe, did not dictate the outcome of the Secretary's two-step determination. The tribe also argued the Secretary's decision was ultra vires and arbitrary and capricious because it did not properly evaluate the detriment the nearby tribe would suffer if the other tribe was allowed to move forward with its casino. The court agreed with the plaintiff tribe that lost gaming revenue, discontinued or diminished per capita expense payments to its members, and a smaller tribal governmental budget were real and cognizable detriments, but found the administrative record did not support the tribe's contention that the Secretary failed to consider such impacts in making the two-step determination. It therefore affirmed summary judgment for DOI and the tribe proposing the new casino.

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## NATURAL RESOURCES

*In re the Application of Enbridge Energy, Limited Partnership, for a Certificate of Need and a Routing Permit for the Proposed Line 3 Replacement Project in Minnesota From the North Dakota Border to the Wisconsin Border*, Nos. A20-1071, A20-1072, A20-1074, A20-1075, and A20-1077, 51 ELR 20109 (Minn. App. Ct. June 14, 2021). A state appellate court upheld, 2-1, a certificate of need and routing permit granted by the Minnesota Public Utilities Commission for replacement of a portion of the Line 3 oil pipeline. Native American tribes and environmental groups challenged the Commission's decision to grant the certificate of need and its decisions to approve a revised final EIS and grant a routing permit. The court found that the Commission addressed an earlier concern regarding the failure to consider in its revised final EIS the impact of an oil spill on the Lake Superior Watershed, that substantial evidence supported the Commission's decision to issue a certificate of need, and that the Commission reasonably selected a route for the replacement pipeline based on respect for tribal sovereignty while minimizing environmental impacts. It therefore upheld the Commission's decisions.

*Center for Biological Diversity v. U.S. Forest Service*, No. 2:20-cv-00128-BLW, 51 ELR 20101 (D. Idaho June 4, 2021). A district court denied environmental groups' motion for summary judgment in a challenge to the Forest Service's approval of a road reopening project in grizzly bear habitat in the Idaho Panhandle National Forest. The groups argued the Service's approval of the project violated NEPA and the National Forest Management Act. The court found that the approval was consistent with the forest plan, and that the agency took the requisite "hard look" at the project's effects on grizzly bear movement and genetic diversity and the extent to which it would impact bear recovery under the ESA. It therefore denied summary judgment.

*Citizens for Clean Energy v. U.S. Department of the Interior*, Nos. 4:17-cv-00030-BMM and 4:17-cv-00042-BMM, 51 ELR 20100 (D. Mont. June 3, 2021). A district court denied BLM's motion to stay a challenge to a former Secretary of the Interior's order lifting a moratorium on coal leasing. States, environmental groups, and a Native American tribe had challenged the adequacy of BLM's final EA and FONSI in support of its decision to reinstate the leasing. BLM moved to stay proceedings based on the current Secretary's recent order revoking the previous administration's order. The court found that its previous order delaying the briefing schedule already accounted for the new administration and its policy review, and that an "orderly course of justice" did not require drawing out the dispute further. It therefore denied the motion to stay.

*Environmental Defense Fund v. Federal Energy Regulatory Commission*, No. 20-1016, 51 ELR 20120 (D.C. Cir. June 22, 2021). The D.C. Circuit vacated FERC's issuance of a certificate of public convenience and necessity for construction of a natural gas pipeline in the St. Louis area. An environmental

group argued FERC's decision to award the certificate uncritically and exclusively relied on a precedent agreement between two affiliated companies to find need, and that the Commission failed to sufficiently justify its conclusion that the pipeline's benefits outweighed its adverse effects. The court agreed with the group that FERC's refusal to seriously engage with arguments challenging the probative weight of the precedent agreement did not evince reasoned and principled decisionmaking. It further found the Commission ignored evidence of self-dealing and failed to adequately balance public benefits and adverse impacts as required by its own policy. It therefore vacated FERC's decision and remanded to the Commission for appropriate action.

*Food & Water Watch v. United States Department of Agriculture*, No. 20-5100, 51 ELR 20119 (D.C. Cir. June 22, 2021). The D.C. Circuit vacated a district court's grant of summary judgment to USDA's Farm Service Agency in a lawsuit concerning the agency's loan approval for a chicken farm in Maryland. An environmental group argued the EA made in connection with the loan approval violated NEPA, and that the EA should be vacated and the loan approval enjoined. The district court granted summary judgment to the agency, concluding the group demonstrated standing but that the agency reasonably determined an EIS was not necessary. The appellate court concluded the group lacked standing because it failed to establish that its claims were redressable. It therefore vacated the district court ruling, and remanded with instructions to dismiss the suit for lack of jurisdiction.

*Living Rivers v. Hoffman*, No. 4:19-cv-00057-DN, 51 ELR 20118 (D. Utah June 21, 2021). A district court dismissed a lawsuit concerning BLM's suspension of oil and gas leases sold in Utah in 2018. Environmental groups argued BLM violated NEPA by failing to prepare an EIS prior to suspending the leases. BLM moved to dismiss, arguing the groups lacked standing because the suspensions were not major federal actions and thus did not require NEPA compliance. The court found the suspensions were not major federal actions because they did not change the land, but rather prohibited any changes to the leased land, and thus did not "significantly affect the quality of the human environment." It therefore dismissed the suit.

*Louisiana v. Biden*, No. 2:21-CV-00778, 51 ELR 20110 (W.D. La. June 15, 2021). A district court granted states' motion to preliminarily enjoin the president's Executive Order pausing new oil and gas leases on public lands and in offshore waters. The states argued the "pause" violated the APA, the Outer Continental Shelf Lands Act (OCSLA), and the Mineral Leasing Act (MLA). The court found that by pausing leases, the president was in effect amending OCSLA and the MLA, which he did not have the authority to do, and that the pause was a substantive rule subject to APA notice-and-comment requirements. It therefore granted the states' motion for preliminary injunction.

*Western Watersheds Project v. Bernhardt*, No. 1:18-cv-00187-REB, 51 ELR 20106 (D. Idaho June 9, 2021). A district court

remanded without vacatur oil and gas lease sales approved by BLM in greater sage-grouse habitat in Montana and Wyoming. Conservation groups argued BLM violated NEPA by failing to consider their proposed alternative of deferring priority sage-grouse habitat and failing to take a "hard look" at the direct, indirect, and cumulative impacts of the sales on the species, and sought to have all of the sales vacated. The court found that BLM failed to provide an adequate explanation for why it did not consider the groups' proposed reasonable alternative, and failed to take the requisite "hard look" at site-specific and cumulative impacts of the sales on greater sage-grouse. It therefore remanded without vacatur, and enjoined BLM from issuing any new drilling permits for the leases or authorizing new surface disturbing activities on the leased parcels until such deficiencies are addressed.

*Wild Virginia v. Council on Environmental Quality*, No. 3:20CV00045, 51 ELR 20117 (W.D. Va. June 21, 2021). A district court dismissed a challenge to CEQ's adoption of revised regulations implementing NEPA following an allegedly defective notice-and-comment process. Conservation groups argued the revised regulations harmed them or will harm them by making it more difficult and likely more expensive for them to submit comments to other agencies during future NEPA reviews; by resulting in them receiving less information from future reviews and diverting resources to obtain from other sources information that previously would have come to light during the NEPA process; and by leading agencies to make uninformed decisions that harm the environment and go against the groups' missions and the recreational, aesthetic, and other interests of their members. CEQ moved for dismissal, arguing the groups' claims were unripe and that they lacked standing. The court found the groups' claims were unripe because the regulations did not directly regulate the groups and their potential applications and outcomes of the regulations were too attenuated and speculative to allow for a full understanding and consideration of how they might impact the groups. It further found the groups lacked standing because they failed to establish that the regulations caused or imminently would cause them any concrete injury. It therefore dismissed the suit without prejudice.

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## TOXIC SUBSTANCES

*Farmworkers Ass'n of Florida v. Environmental Protection Agency*, No. 21-1079, 51 ELR 20105 (D.C. Cir. June 7, 2021). The D.C. Circuit vacated EPA's authorization of the pesticide aldicarb for use on oranges and grapefruit in Florida. EPA had moved to remand without vacatur. The court found the Agency itself acknowledged it did not make an effects determination as required by §7(a)(2) of the ESA, and that it admitted it would not provide timely reconsideration if remanded without vacatur. Given such admittance, the seriousness of EPA's error, and the error's direct impacts on the merits of the Agency's registration decision in light of its own finding as to aldicarb's acute toxicity, the court vacated the decision.

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## WASTE

*Guam v. United States*, No. 20-382, 51 ELR 20092 (U.S. May 24, 2021). The U.S. Supreme Court unanimously held that a settlement of environmental liabilities must resolve a CERCLA-specific liability to give rise to a contribution action under §113(f)(3)(B), in a lawsuit concerning a landfill in Guam formerly owned by the U.S. Navy. After entering into a consent decree in 2004 to resolve litigation filed by EPA alleging CWA violations, Guam sued the United States under CERCLA, alleging that its use of the landfill exposed it to a cost-recovery action and a contribution action under §§107(a) and 113(f), respectively. The D.C. Circuit rejected both claims, determining that although Guam once possessed a CERCLA contribution claim based on the 2004 consent decree that sufficiently resolved its liability, that claim was time barred, and that a party eligible to pursue a contribution claim under §113(f) could not assert a cost-recovery claim under §107(a). On appeal, Guam argued the 2004 consent decree did not give rise to a viable contribution claim, leaving it free to pursue a cost-recovery action. The High Court interpreted §113(f) to mean that a party may seek contribution under CERCLA only after settling a CERCLA-specific liability, as opposed to resolving environmental liability under another statute, and reversed the D.C. Circuit and remanded for further proceedings. Thomas, J., delivered the opinion for a unanimous Court.

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## WATER

*Idaho Conservation League v. Poe*, No. 1:18-cv-353-REB, 51 ELR 20102 (D. Idaho June 4, 2021). A district court granted a conservation group's motion for summary judgment in a lawsuit concerning a California resident's recreational gold mining in a river in Idaho. The group argued the defendant violated the CWA by suction dredge mining during the 2014, 2015, and 2018 dredging seasons without obtaining an NPDES permit under §402 of the Act. The miner counterargued that his mining did not "add" pollutants to the river and thus did not require an NPDES permit, and that even if his mining did add pollutants, those pollutants were "dredged" or "fill" material regulated exclusively under §404 of the CWA and thus did not require an NPDES permit. The court found that suction dredge mining excavated rock, gravel, sand, and sediment from the riverbed and then "added" those materials back to the river in suspended form, and thus that the very nature of the defendant's mining added pollutants to the river. It further found that since 2013, EPA has required an NPDES permit for suction dredge mining, and deferred to EPA's and the Army Corps of Engineers' interpretation of applicable regulations that the processed material discharged from the resident's mining was a pollutant, not dredged or fill material.

The court therefore granted summary judgment for the conservation group.

*Okanogan Highlands Alliance v. Crown Resources Corp.*, No. 2:20-CV-147-RMP, 51 ELR 20112 (E.D. Wash. June 17, 2021). A district court granted partial summary judgment in a CWA citizen suit brought against the owner of a mine in Washington. The state of Washington and an environmental group argued the mine owner had violated various terms of its NPDES permit. The owner asserted the claims were barred because there had been no discharge of a pollutant from a point source to navigable waters nor an addition of a pollutant, as required to establish jurisdiction under the CWA. The court found plaintiffs did not need to demonstrate that there had been a discharge or addition of pollutants from a point source to navigable waters because citizens could bring CWA suits to enforce an NPDES permit condition, including planning, monitoring, and reporting requirements, as well as state standards incorporated into a permit. It therefore granted partial summary judgment for plaintiffs.

*Trout Unlimited v. Bristol Bay Economic Development Corp.*, No. 20-35504, 51 ELR 20111 (9th Cir. June 17, 2021). The Ninth Circuit, 2-1, affirmed in part and reversed in part dismissal of a challenge to EPA's withdrawal of a previously proposed determination restricting mining operations in part of southwest Alaska's Bristol Bay Watershed. A conservation group had argued the withdrawal violated the CWA and EPA's regulations, and that political considerations motivated the Agency to abandon, without adequate explanation, its earlier scientific judgments that mining in the watershed would have unacceptable effects. The district court had dismissed the suit, concluding the withdrawal was unreviewable because it was best characterized as a decision not to take an enforcement action, and because neither the CWA nor EPA's regulations provided a meaningful legal standard for the court to apply. The appellate court found that while the CWA did not contain a meaningful legal standard in its broad grant of discretion to EPA, the Agency's regulations did. It therefore affirmed in part and reversed in part the dismissal, and remanded for further proceedings.

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## WILDLIFE

*Center for Biological Diversity v. Bernhardt*, No. CV-20-00461-TUC-JGZ, 51 ELR 20113 (D. Ariz. June 17, 2021). A district court denied FWS' motion to dismiss a challenge to its authorization of 12 leopard import permits from hunts expected to occur in Tanzania, Zambia, and Zimbabwe. Environmental groups argued FWS' authorization violated the ESA by making a non-detriment finding without considering the factors set forth in the Act, using the best available information, or taking precautionary measures as required by the Act when insufficient information is available or the factors are not satisfactorily addressed. The Service moved to dismiss for lack of standing. The court found the groups sufficiently alleged the authorization caused injury to their cognizable

interests in observing leopards, and that their injury would likely be redressed by setting aside the permits. It therefore denied FWS' motion to dismiss.

*Center for Biological Diversity v. Haaland*, No. 20-5088, 51 ELR 20093 (D.C. Cir. May 25, 2021). In an unpublished opinion, the D.C. Circuit affirmed dismissal of a challenge to FWS' failure to provide notice and comment on its guidelines for creating species status assessments. An environmental group had argued that FWS violated the ESA by failing to put the guidelines through notice and comment. The district court dismissed, holding it lacked jurisdiction because the group had not suffered an injury-in-fact sufficient to establish standing. The appellate court found the group failed to demonstrate it had suffered any harm beyond the denial of notice and comment, which is a procedural injury that on its own does not establish standing. It therefore affirmed the district court's dismissal for lack of jurisdiction.

*Center for Biological Diversity v. Haaland*, No. 19-35981, 51 ELR 20103 (9th Cir. June 3, 2021). The Ninth Circuit reversed summary judgment for FWS in a challenge to the Service's 2017 decision reversing its 2011 decision that the Pacific walrus qualified for listing under the ESA. An environmental group had argued the Service violated the APA by failing to sufficiently explain its change in position from the 2011 decision, and the district court had granted summary judgment for FWS. The appellate court found that the Service's failure to offer more than a cursory explanation of why the findings underlying its 2011 decision no longer applied to its 2017 decision violated the APA. It reversed summary judgment with

directions to the district court to remand to FWS to provide a sufficient explanation of its new position.

*Phoenix Herpetological Society v. United States Fish and Wildlife Service*, No. 20-5161, 51 ELR 20104 (D.C. Cir. June 4, 2021). The D.C. Circuit affirmed summary judgment for FWS in a lawsuit concerning its denial of a nonprofit group's permit applications to export four blue iguanas to a Danish zoo and to continue a captive-bred wildlife program at its Arizona facility. A district court saw no problem with FWS' denials and granted summary judgment for the Service. On appeal, the group argued that FWS contradicted itself when it determined that the iguanas lacked sufficient genetic diversity, and that it improperly ignored an affidavit submitted in support of the registration permit. The appellate court found no merit to the group's contention and that FWS was well within the bounds of its discretion to decline the registration absent additional evidence, in light of the group's inconsistent assertions concerning its specimens' ancestors. It affirmed summary judgment for the Service.

*Save the Bull Trout v. Williams*, No. CV-19-184-M-KLD, 51 ELR 20121 (D. Mont. June 22, 2021). A district court granted summary judgment for FWS in a challenge to the adequacy of its recovery plan for the threatened bull trout. Environmental groups argued the plan failed to include objective and measurable criteria as required under §4(f) of the ESA. The court found that the ESA did not impose a non-discretionary duty on the Service to include the five statutory listing factors into a recovery plan, and thus that it lacked jurisdiction over the groups' challenges. It therefore granted summary judgment for FWS.

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## In the Federal Agencies

"In the Federal Agencies" contains summaries of notable agency activity during the month of June 2021. Citations are to the *Federal Register* (FR). Entries below are organized by Final Rules, Proposed Rules, and Notices. Within each section, entries are further subdivided by the subject matter area, with entries listed chronologically. To see *ELR*'s entire collection, visit <http://elr.info/daily-update/archives>.

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### FINAL RULES

#### GOVERNANCE

EPA removed the regulatory provisions associated with the final rule, "Strengthening Transparency in Pivotal Science

Underlying Significant Regulatory Actions and Influential Scientific Information." 86 FR 29515 (6/2/21).

In accordance with Exec. Order No. 13992, DOE withdrew its final rule on guidance implementing Exec. Order No. 13891. 86 FR 29932 (6/4/21).=

EPA reversed recent changes to the organization and function of the Environmental Appeals Board (EAB) that altered the

appeals process and procedures for Agency decisions that the EAB considers. 86 FR 31172 (6/11/21).

CEQ extended the deadline by two years for federal agencies to develop or revise proposed procedures for implementing the procedural provisions of NEPA. 86 FR 34154 (6/29/21).

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## **TOXIC SUBSTANCES**

EPA added three per- and polyfluoroalkyl substances to the list of chemicals subject to toxic chemical release reporting under EPCRA and the Pollution Prevention Act. 86 FR 29698 (6/3/21).

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## **WILDLIFE**

FWS removed the Kanab ambersnail from the federal list of endangered and threatened wildlife because it is not a valid subspecies and therefore cannot be listed as an endangered entity under the ESA. 86 FR 33137 (6/24/21).

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## **PROPOSED RULES**

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### **TOXIC SUBSTANCES**

EPA proposed reporting and recordkeeping requirements for per- and polyfluoroalkyl substances under TSCA. 86 FR 33926 (6/28/21).

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## **WATER**

DOI withdrew in its entirety the proposed rule published on December 9, 2020, entitled “Revisions to the Requirements for Exploratory Drilling on the Arctic Outer Continental Shelf.” 86 FR 34172 (6/29/21).

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## **NOTICES**

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### **AIR**

EPA seeks information that will aid in addressing the impacts of adding 1-bromopropane to the list of hazardous air pollutants under the CAA. 86 FR 31225 (6/11/21).

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### **WILDLIFE**

FWS listed the Carolina madtom as endangered and the Neuse River waterdog as threatened under the ESA, designated critical habitat for both species, and issued a rule under §4(d) of the Act for the Neuse River waterdog. 86 FR 30688 (6/9/21).

FWS proposed to reclassify the Fender’s blue butterfly from endangered to threatened under the ESA with a rule under §4(d) of the Act to provide for the conservation of the species. 86 FR 32859 (6/23/21).



# In the Congress

“In the Congress” covers notable environment-related activities reported in the *Congressional Record* during the month of June 2021. Entries are arranged by bill number, with Senate bills listed first. To see all environment-related bills that are introduced, reported out of committee, passed by either house, or signed by the president, including environmental treaties ratified by the Senate, visit *ELR*’s website at <https://elr.info/legislative/congressional-update>.

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## CHAMBER ACTION

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### ENERGY

**H.R. 1374 (Enhancing State Energy Security Planning and Emergency Preparedness Act of 2021)**, introduced by Rep. Bobby Rush (D-Ill.) on February 25, 2021, was passed by the House on June 22, 2021. The bill would amend the Energy Policy and Conservation Act to provide federal financial assistance to states to implement, review, and revise state energy security plans. 167 Cong. Rec. H2938 (daily ed. June 22, 2021).

**H.R. 3593 (Department of Energy Science for the Future Act)**, introduced by Rep. Eddie Bernice Johnson (D-Tex.) on May 28, 2021, was passed by the House on June 28, 2021. The bill would provide guidance for and investment in the research and development activities of DOE’s Office of Science. 167 Cong. Rec. H3206 (daily ed. June 28, 2021).

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### GOVERNANCE

**H.R. 1187 (Corporate Governance Improvement and Investor Protection Act)**, introduced by Rep. Juan Vargas (D-Cal.), was passed by the House on June 16, 2021. The bill would provide for disclosure of additional material information about public companies and establish a Sustainable Finance Advisory Committee. 167 Cong. Rec. H2830 (daily ed. June 16, 2021).

**H. Res. 508**, introduced by Rep. Mark DeSaulnier (D-Cal.) on June 29, 2021, was passed by the House on June 30, 2021. The resolution would provide for further consideration of H.R. 3684, which would authorize funds for DOT’s federal-aid highway, transit, highway safety, motor carrier, research, hazardous materials, and rail programs, and address the surface transportation system’s impacts on climate change. 167 Cong. Rec. H3316 (daily ed. June 30, 2021).

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### LAND USE

**S. 1251 (Growing Climate Solutions Act of 2021)**, introduced by Sen. Mike Braun (R-Ind.) on April 20, 2021, was passed by the Senate on June 24, 2021. The bill would au-

thorize the Secretary of Agriculture to develop a program to reduce barriers to entry for farmers, ranchers, and private forest landowners in certain voluntary markets. 167 Cong. Rec. S4736 (daily ed. June 24, 2021).

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### NATURAL RESOURCES

**S.J. Res. 14**, introduced by Sen. Martin Heinrich (D-N.M.) on March 25, 2021, was passed by the House on June 25, 2021. The resolution would provide for congressional disapproval under Chapter 8 of Title 5, U.S. Code, of the rule submitted by EPA relating to “Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review.” 167 Cong. Rec. H3147 (daily ed. June 25, 2021).

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## COMMITTEE ACTION

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### CLIMATE CHANGE

**H.J. Res. 34**, introduced by Rep. Diana DeGette (D-Colo.) on March 26, 2021, was reported by the Committee on Energy and Commerce on June 17, 2021. The bill would provide for congressional disapproval under Chapter 8 of Title 5, U.S. Code, of a rule submitted by EPA relating to “Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review.” H. Rep. No. 117-64, 167 Cong. Rec. H2925 (daily ed. June 17, 2021).

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## BILLS INTRODUCED

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### CLIMATE CHANGE

**S. 2085 (Save Our Future Act)** was introduced by Sen. Sheldon Whitehouse (D-R.I.) on June 16, 2021. The bill would amend the Internal Revenue Code to provide for carbon dioxide and other greenhouse gas and criteria air pollutant emission fees, provide rebates to low- and middle-income Americans, invest in fossil fuel communities and workers, and invest in environmental justice communities. It was referred to the Committee on Finance. 167 Cong. Rec. S4590 (daily ed. June 16, 2021).

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## ENERGY

**S. 2118 (Clean Energy for America Act)** was introduced by Sen. Ron Wyden (D-Or.) on June 17, 2021. The bill would amend the Internal Revenue Code to provide tax incentives for increased investment in clean energy. 167 Cong. Rec. S4623 (daily ed. June 17, 2021).

**S. 2306** was introduced by Sen. Maria Cantwell (D-Wash.) on June 24, 2021. The bill would amend the Internal Revenue Code to support upgrades at existing hydroelectric dams and the removal of obsolete river obstructions to improve the health of the nation's rivers and associated wildlife habitat and increase clean energy production and public safety. It was referred to the Committee on Finance. 167 Cong. Rec. S4775 (daily ed. June 24, 2021).

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## GOVERNANCE

**S. 2150** was introduced by Sen. Mitt Romney (R-Utah) on June 21, 2021. The bill would prevent catastrophic wildland fires by establishing a commission to study and recommend wildland fire prevention, mitigation, suppression, management, and rehabilitation policies for the federal government. It was referred to the Committee on Homeland Security and Governmental Affairs. 167 Cong. Rec. S4656 (daily ed. June 21, 2021).

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## LAND USE

**S. 1980 (Farm Subsidy Transparency Act of 2021)** was introduced by Sen. Cory Booker (D-N.J.) on June 8, 2021. The bill would direct the Secretary of Agriculture to track the distribution of all farm subsidies by race, gender, and size of the farm operation and make that information about farm subsidies available to the public. It was referred to the Committee on Agriculture, Nutrition, and Forestry. 167 Cong. Rec. S3986 (daily ed. June 8, 2021).

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## NATURAL RESOURCES

**S. 2170** was introduced by Michael Bennet (D-Colo.) on June 22, 2021. The bill would amend the Mineral Leasing

Act to provide for transparency and landowner protections in the conduct of lease sales under the Act. It was referred to the Committee on Energy and Natural Resources. 167 Cong. Rec. S4698 (daily ed. June 22, 2021).

**H.R. 3813** was introduced by Rep. Liz Cheney (R-Wyo.) on June 11, 2021. The bill would amend NEPA to provide for legal reform. It was referred to the Committee on Natural Resources and the Committee on the Judiciary. 167 Cong. Rec. H2706 (daily ed. June 11, 2021).

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## TOXIC SUBSTANCES

**S. 2047** was introduced by Sen. Susan Collins (R-Me.) on June 14, 2021. The bill would ban the use of intentionally added perfluoroalkyl or polyfluoroalkyl substances in cosmetics. It was referred to the Committee on Health, Education, Labor, and Pensions. 167 Cong. Rec. S4518 (daily ed. June 14, 2021).

**H.R. 4079** was introduced by Rep. Earl Blumenauer (D-Or.) on June 23, 2021. The bill would direct the Administrator of EPA to take certain actions related to pesticides that may affect pollinators. It was referred to the Committee on Agriculture. 167 Cong. Rec. H3080 (daily ed. June 23, 2021).

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## WASTE

**H.R. 3879** was introduced by Rep. Thomas Suozzi (D-N.Y.) on June 14, 2021. The bill would amend the Internal Revenue Code to modify the definition of municipal solid waste. It was referred to the Committee on Ways and Means. 167 Cong. Rec. H2745 (daily ed. June 14, 2021).

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## WATER

**H.R. 4253** was introduced by Rep. Al Green (D-Tex.) on June 30, 2021. The bill would require the Administrator of EPA to promulgate a national primary drinking water regulation for chromium-6. It was referred to the Committee on Energy and Commerce. 167 Cong. Rec. H3578 (daily ed. June 30, 2021).

# In the State Agencies

"In the State Agencies" contains summaries of notable state regulatory developments reported during the month of June 2021. The entries are arranged by state, and within each section, entries are further subdivided by subject matter. To access ELR's entire collection of state regulatory developments, visit <https://elr.info/administrative/state-updates>.

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## ARIZONA

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### WATER

The Department of Environmental Quality seeks comment on the fiscal year 2022 public water systems master priority list to identify systems in need of technical assistance. *See* 27 Ariz. Admin. Reg. 852 (June 4, 2021).

The Department of Environmental Quality proposed to re-issue with modifications the Arizona Pollutant Discharge Elimination System de minimis general permit, multi-sector general permit for stormwater discharges associated with industrial activities, and construction general permit. *See* 27 Ariz. Admin. Reg. 877, 879 (June 11, 2021).

The Department of Environmental Quality proposed to re-issue without modification the Arizona Pollutant Discharge Elimination System pesticide general permit and the Phase II municipal separate storm sewer system general permit. *See* 27 Ariz. Admin. Reg. 878, 880 (June 11, 2021).

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## DISTRICT OF COLUMBIA

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### CLIMATE CHANGE

The Department of Energy and Environment proposed to adopt the California Low-Emissions Vehicle III standards and compliance requirements for vehicles of model year 2025 and beyond that are bought, sold, and registered in the District of Columbia. *See* 68 D.C. Reg. 006298 (June 18, 2021).

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## FLORIDA

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### WILDLIFE

The Fish and Wildlife Conservation Commission proposed to add the striped newt to the state list of endangered or threatened species. *See* [https://www.flrules.org/gateway/notice\\_Files.asp?ID=24587965](https://www.flrules.org/gateway/notice_Files.asp?ID=24587965) (May 27, 2021).

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## IOWA

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### AIR

The Environmental Protection Commission proposed to adopt new mandatory federal new source performance standards and NESHAPs. *See* XLIII Iowa Admin. Bull. 2900 (June 16, 2021).

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## MAINE

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### TOXIC SUBSTANCES

The Department of Environmental Protection proposed to repeal and replace the state's lead management regulations to better align with EPA requirements for how lead hazards are cleared. *See* <https://www.maine.gov/sos/cec/rules/notices/2021/060221.html> (June 2, 2021).

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## MASSACHUSETTS

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### WATER

The Department of Environmental Protection proposed to amend the water resources management program regulations. The amendment would add a new condition to registrations that would restrict nonessential outdoor water use by registrants during times of drought. *See* <https://www.sec.state.ma.us/spr/sprpub/061121c.pdf> (June 25, 2021).

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## NEW HAMPSHIRE

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### WATER

The Department of Environmental Services proposed to amend N.H. CODE ADMIN. R. ANN. Env-Wq 306. The amendments would, among other things, incorporate updated federal standards for treatment at dental practices of wastewater that contains or could contain mercury-containing amalgam. *See* XLI N.H. Rulemaking Reg. 5 (June 17, 2021).

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## NEW JERSEY

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### CLIMATE CHANGE

The Department of Environmental Protection proposed to adopt N.J. ADMIN. CODE §7:27E to implement provisions of the New Jersey Global Warming Response Act. The new rule would establish emissions tracking for halogenated gases from facilities with large, stationary, non-residential refrigeration systems. Comments are due August 20, 2021. *See* <https://www.nj.gov/dep/rules/notices/20210621a.html> (June 16, 2021).

The Department of Environmental Protection proposed to amend N.J. ADMIN. CODE §§7:27-21.2, -21.3, and -21.5, and §§7:27A-3.2, -3.5, and -3.10 to implement provisions of the New Jersey Global Warming Response Act. The amendments would add a reporting threshold for methane to the emissions statement rules for all sources that emit or have the potential to emit methane in excess of 100 tons per year and require natural gas public utilities to submit a report with information about their distribution pipelines, including leaks and maintenance events that emit methane. Comments are due August 20, 2021. *See* <https://www.nj.gov/dep/rules/notices/20210621a.html> (June 16, 2021).

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## NEW MEXICO

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### AIR

The Environmental Improvement Board proposed to adopt new regulations for ozone precursor pollutants from sources in the oil and gas sector located in areas of the state within the Board's jurisdiction that are experiencing elevated ozone levels. A hearing will be held September 20, 2021. Comments are due the same date. *See* [http://164.64.110.134/NMAC/NMREGISTER/XXXII/EDNOTICE\\_XXXII12.html](http://164.64.110.134/NMAC/NMREGISTER/XXXII/EDNOTICE_XXXII12.html) (June 22, 2021).

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## NEW YORK

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### WASTE

The Department of Environmental Conservation proposed amendments to the petroleum bulk storage regulations. The amendments would adopt new initiatives incorporated by EPA at 40 C.F.R. Pt. 280, add requirements for financial responsibility for tank owners and operators for EPA-regulated USTs, and incorporate needed clarifications. A hearing

will be held August 17, 2021. Comments are due August 23, 2021. *See* XLIII N.Y. Reg. 3 (June 16, 2021).

The Department of Environmental Conservation proposed amendments to the chemical bulk storage regulations. The amendments would, among other things, adopt new initiatives incorporated by EPA at 40 C.F.R. Pt. 280, incorporate needed clarifications, and correct errors in the list of hazardous substances. A hearing will be held August 17, 2021. Comments are due August 23, 2021. *See* XLIII N.Y. Reg. 6 (June 16, 2021).

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## NORTH CAROLINA

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### WASTE

The Department of Environmental Quality proposed to amend the criteria and standards applicable to USTs to achieve consistency with federal regulations. A hearing will be held August 3, 2021. Comments are due August 16, 2021. *See* 35 N.C. Reg. 2680 (June 15, 2021).

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## OHIO

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### WASTE

The Environmental Protection Agency proposed to amend the hazardous waste management rules as part of a five-year review. *See* <http://www.registerofohio.state.oh.us/hearings/hearingsSearch/results/779600/334884> (June 7, 2021).

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## PENNSYLVANIA

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### WASTE

The Department of Environmental Protection seeks comment on proposed revisions to the general permit authorizing the beneficial use of regulated fill as a construction material. Comments are due August 3, 2021. *See* <http://www.pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol51/51-23/898.html> (June 5, 2021).

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### WATER

The Department of Environmental Protection seeks comment on the clean water and drinking water state revolving fund fiscal year 2021 intended use plans. *See* <http://www.pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol51/51-23/897.html> (June 5, 2021).

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## VERMONT

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### ENERGY

The Department of Forests, Parks, and Recreation proposed to adopt 10-87 VT. CODE R. §2751, which would require the commissioner of the Department to adopt rules establishing renewability standards for forest products used to generate energy by distributed renewable generation and energy transformation products within the renewable energy standard established by Act No. 56 in 2015. *See* <https://secure.vermont.gov/SOS/rules/> (June 9, 2021).

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## VIRGINIA

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### TOXIC SUBSTANCES

The Board for Asbestos, Lead, and Home Inspectors proposed to adopt a new regulation to establish procedures and

requirements for individuals and businesses conducting lead-based paint renovation, repair, and painting activities. *See* 37 Va. Reg. Regs. 3268 (May 24, 2021).

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## WEST VIRGINIA

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### AIR

The Department of Environmental Protection proposed amendments to air quality regulations concerning ambient air quality standards, standards of performance for new stationary sources, air pollution from solid waste combustion, and emission standards for hazardous air pollutants. *See* <http://apps.sos.wv.gov/adlaw/registers/readpdf.aspx?did=39955> (June 4, 2021).

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### WATER

The Division of Water and Waste Management proposed amendments to water quality standard requirements. *See* <http://apps.sos.wv.gov/adlaw/registers/readpdf.aspx?did=39956> (June 11, 2021).

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## In the World

“In the World” features notable developments reported in the international section of *ELR Update* during the month of June 2021. Current and archived materials, and links to primary news sources, can be found on *ELR*'s website at <https://elr.info/international/international-update>.

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## CLIMATE CHANGE

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### BANK OF ENGLAND AIMS FOR NET ZERO CARBON EMISSIONS BY 2050

On June 3, the Bank of England (BoE)'s Governor, Andrew Bailey, stated the bank would seek to cut greenhouse gas emissions associated with running its physical offices and printing banknotes to net zero by 2050 “at the latest.” The decision was in line with a larger push by the United Kingdom (U.K.) to improve its climate action agenda ahead of the United Nations Climate Change Conference (COP26), to be hosted by the U.K. in Glasgow later this year (Reuters).

Last March, British Finance Minister Rishi Sunak amended BoE's mandate to require that the institution support and complement the government's national emissions reduction goals. BoE has since moved forward on this. Beyond Governor Bailey's June 3 announcement, BoE also required British banks and insurers to take a “stress test” to gauge their exposure to climate-related financial risks (Reuters). BoE also

unveiled plans to “green” its corporate bond purchase scheme (Yahoo, Bloomberg).

Though Britain's central financial institution and many other nations' central banks have begun to lean toward climate preparedness (Wall Street Journal), there remains some hesitancy toward decisive action. Governor Bailey, though affirming the importance of climate action, stated that he felt it was too early to link capital requirements directly to climate change goals (Reuters).

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## GOVERNANCE

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### BRAZILIAN ENVIRONMENT MINISTER RESIGNS AMID ILLEGAL LOGGING INVESTIGATION

On June 23, Brazil's Environment Minister, Ricardo Salles, resigned. The news came one month after the country's Su-

preme Court authorized an investigation against Salles, alleging he had obstructed a federal investigation into illegal logging in the Amazon. He will be replaced by Secretary for the Amazon Joaquim Alvaro Pereira Leite (CNN). In a separate investigation, Salles and other top officials were also accused of facilitating the illegal export of timber to Europe and the United States. Ten other officials were suspended in connection with this investigation, including the head of Brazil's environmental protection agency, IBAMA (Associated Press, Buenos Aires Times).

Environmental activists said that Salles' departure was long overdue. Upon taking office in January 2019, Salles presided over an extreme acceleration in deforestation in the Amazon. Though the outgoing minister stated he aimed to balance economic development and environmental conservation, satellite data showed the forest was disappearing at record-breaking rates, with 456 square miles of land cleared in May alone (Guardian, Associated Press).

This rapid deforestation did not go unnoticed by the current U.S. administration. Ahead of his resignation, Salles acted as the lead negotiator for Brazil in ongoing discussions with the United States regarding preservation of the Amazon. Observers said that talks between the two countries had been "paralyzed" amid American dissatisfaction with Brazil's current trajectory (Guardian).

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## **REINSURERS SEEK TO EXCLUDE COAL INVESTMENTS FROM BULK-BUY CONTRACTS**

On June 8, United Nations Secretary-General António Guterres declared to the Insurance Development Forum

that the insurance and reinsurance industry had "a key role to play" in the future of climate action (Reinsurance News). Now, reinsurance companies—insurers who help share the burden of insurance risks by underwriting primary insurers—are looking for ways to further exclude coal projects from coverage in a new effort to combat the impending climate crisis (Reuters, Insurance Journal).

Many reinsurers took their first steps toward climate preparedness by ceasing to offer bespoke insurance coverage for coal projects. However, most of these companies continued to underwrite coal investments through "bulk-buy contracts," which bundle together hundreds of insurers' policies, making it difficult to disaggregate specific projects. Now, some of the world's largest reinsurance companies plan to remove this mechanism as well. Swiss Re was an early actor in this space, and announced it would fully phase out thermal coal investment coverage from its bulk-buy contracts by 2040 (Reuters, Insurance Journal).

Some observers noted concerns that this shift would not achieve its desired impact, pointing out that coal projects would seek coverage from smaller reinsurers. But growing climate consciousness in the insurance sector has already begun affecting coal investments. Recently, a rail contractor to a large Australian coal project was forced to ask the Australian government for help obtaining insurance after failing to secure it from the market. Additionally, an American insurance company, AIG, was dropped by a British asset manager for failing to act on climate change (Reuters, Al Jazeera).

# RECENT JOURNAL LITERATURE

“Recent Journal Literature” lists recently published law review and other legal periodical articles. Within subject-matter categories, entries are listed alphabetically by author or title. Articles are listed first, followed by comments, notes, symposia, surveys, and bibliographies.

## AIR

- Adler, Kenneth J. et al., *Using an Emissions Banking and Trading Program to Reduce Diesel Emissions: A Case Study in Houston*, 49 TEX. ENV'T L.J. 183 (2019).
- Turney, John B. & Evan Z. Pearson, *Air Quality: TCEQ Redesignation Request and Maintenance Plan for the HGB Area's One-Hour and 1997 Eight-Hour Ozone National Ambient Air Quality Standards*, 49 TEX. ENV'T L.J. 339 (2019).

## CLIMATE

- Bordner, Autumn Skye, *Climate Migration and Self-Determination*, 51 COLUM. HUM. RTS. L. REV. 183 (2019).
- Burger, Michael et al., *The Law and Science of Climate Change Attribution*, 51 ELR 10646 (Aug. 2021).
- Gooderham, David, *The Defence of Necessity and Addressing Climate Change: A Canadian Case*, 42 PUB. LAND & RESOURCES L. REV. 119 (2020).
- Lopez, Gabriel, *National Flood Insurance Program Reform in the Face of Climate Change*, 35 J. LAND USE & ENV'T L. 91 (2019).
- Spalding, Joanne & Daniel Hales, *The Uses of Climate Change Attribution Science: The NGO Practitioner's View*, 51 ELR 10654 (Aug. 2021).

## ENERGY

- Babcock, Hope M., *Issuance of the Keystone XL Permit: Presidential Prerogative or Presidential “Chutzpah”*, 81 MONT. L. REV. 5 (2020).
- Bell, Jessica R. & Hampden T. Macbeth, *Climate Stumbling Blocks: Zombie Energy Laws, States, and the Path to Paris*, 51 ELR 10697 (Aug. 2021).
- Brethour, Annie, *Responsibility in Catastrophe: Are the Fiscal Requirements for Offshore Oil Leasing Sufficient to Cover the Costs of a Major Oil Spill?*, 49 TEX. ENV'T L.J. 269 (2019).
- Claybour, Margaret H., *You Can't Take Them Like That, It's Against Regulation*, 51 ELR 10702 (Aug. 2021).
- Furlong, Wesley James, *The Other Non-Renewable Resource: Cultural Resource Protection in a Changing Energy Future*, 42 PUB. LAND & RESOURCES L. REV. 1 (2020).
- Gosman, Sara R., *Framing Energy Resilience*, 35 J. LAND USE & ENV'T L. 1 (2019).
- Gryder, Rebekah M., *Master Limited Partnerships: A Step in the Renewable Direction*, 81 MONT. L. REV. 97 (2020).

- Jones, Kevin B. et al., *Puerto Rico's Road to Resilience: An Island's Challenging Transition to a Cleaner, More Resilient Future*, 35 J. LAND USE & ENV'T L. 49 (2019).
- Macey, Joshua C., *Zombie Energy Laws*, 51 ELR 10691 (Aug. 2021).
- Macey, Joshua C. & Jackson Salovaara, *Rate Regulation Redux*, 168 U. PA. L. REV. 1181 (2020).
- Parekh, Eashaa D., *The Suniva Petition: The Economic Effects of Section 201 Safeguards on Crystalline Silicon Photovoltaic Cells*, 10 GEO. WASH. J. ENERGY & ENV'T L. 105 (2020).
- Riter, Jennifer J., *An Exploration of the Extractive Industries Transparency Initiative as a Model for Incorporating Collaborative Accountability Into Collective Global Governance*, 40 U. PA. J. INT'L L. 839 (2019).
- Van Nostrand, James M., *Quantifying the Resilience Value of Distributed Energy Resources*, 35 J. LAND USE & ENV'T L. 15 (2019).
- Wright, Schef, *Valuing Resiliency: Approaches and Public Policy Implications*, 35 J. LAND USE & ENV'T L. 35 (2019).

## GOVERNANCE

- Alexander, Frederick, *A Welfare Function for Shareholder Engagement: Recognizing Profit for What It Is*, 51 ELR 10666 (Aug. 2021).
- Andrus, James & Anne Simpson, *Externalities and the Common Owner: View From a Shareowner*, 51 ELR 10673 (Aug. 2021).
- Breggin, Linda K. et al., *Analysis of Environmental Law Scholarship 2019-2020*, 51 ELR 10639 (Aug. 2021).
- Condon, Madison, *Externalities and the Common Owner*, 51 ELR 10659 (Aug. 2021).
- Faust, John et al., *California's Environmental Justice Mapping Tool: Lessons and Insights From CalEnviroScreen*, 51 ELR 10684 (Aug. 2021).
- Jacobs, Hilary T. & Benjamin Wilson, *Mapping the Movement: The Future of Identifying and Addressing Cumulative Impacts*, 51 ELR 10688 (Aug. 2021).
- Jez, Areta, *Environmental Policy-Making and Tribunal Decision-Making: Assessing the Scope of Regulatory Power in International Investment Arbitration*, 40 U. PA. J. INT'L L. 989 (2019).
- Kang, Young, *State Farm, Secret Science and the Environmental Protection Agency's Postmodern Attack on Agency Decision-Making*, 35 J. LAND USE & ENV'T L. 69 (2019).
- Lamb, Natasha, *Can't We All Just Get Along?: How Diversified Investors and Companies Can Maintain Their Fiduciary Duty in a Climate Crisis*, 51 ELR 10670 (Aug. 2021).
- Lee, Charles, *Another Game Changer in the Making? Lessons From States Advancing Environmental Justice Through Mapping and Cumulative Impact Strategies*, 51 ELR 10676 (Aug. 2021).
- McGarity, Thomas O., *Supplemental Environmental Projects in Complex Environmental Litigation*, 98 TEX. L. REV. 1405 (2020).

- Owen, Dave, *Consultants, the Environment, and the Law*, 61 ARIZ. L. REV. 823 (2019).
- Qureshi, Waseem Ahmad, *The Response of International Law to the Challenges to Human Security*, 50 CAL. W. INT'L L.J. 341 (2020).
- Reilly-Diakun, Jori, *Addressing Blurred Lines: Institutional Design Solutions to Transgressions Across the Science-Policy Boundary*, 49 TEX. ENV'T L.J. 199 (2019).
- Robinson, Nicholas A., *The Public Trust Doctrine in the 21st Century*, 10 GEO. WASH. J. ENERGY & ENV'T L. 83 (2020).
- St. John, David et al., *Environmental Crimes*, 57 AM. CRIM. L. REV. 657 (2020).
- Wruck, Harry J., *The Time Has Arrived for a Canadian Public Trust Doctrine Based Upon the Unwritten Constitution*, 10 GEO. WASH. J. ENERGY & ENV'T L. 67 (2020).

## LAND USE

- Brammer, Joe, *Challenge Accepted: A Reconsideration of Regulatory Takings Jurisprudence Under the Privileges or Immunities Clause of the Fourteenth Amendment*, 86 U. CIN. L. REV. 1299 (2018).
- Burkett, William, *Southern Takings: Alabama Eminent Domain, Inverse Condemnation, and Regulatory Takings*, 50 CUMB. L. REV. 211 (2019-2020).
- Hammes, Katelyn A., *Land Use Management: A Governmental Obligation to Ensure Adequate Flood Prevention*, 49 TEX. ENV'T L.J. 323 (2019).
- Tai, Steph, *Legalizing the Meaning of Meat*, 51 LOY. U. CHI. L.J. 743 (2020).
- Wolf, Michael Allan, *A Common Law of Zoning*, 61 ARIZ. L. REV. 771 (2019).

## NATURAL RESOURCES

- Fluker, Shaun C. & David W. Mayhood, *Environmental Stewardship of Public Lands? The Decline of Westslope Cutthroat Trout Along the Eastern Slopes of the Rocky Mountains in Alberta*, 42 PUB. LAND & RESOURCES L. REV. 39 (2020).
- France, Thomas & Daniel Brister, *Bringing Back the Great Bear: Challenges and Opportunities of Grizzly Restoration in the Northern Rockies*, 42 PUB. LAND & RESOURCES L. REV. 15 (2020).

- Martin, Jeremy, *Active Forest Mismanagement and the "New Normal": Advocating for an Integrative Wildfire Management Policy*, 46 OHIO N.U. L. REV. 137 (2020).

## TOXIC SUBSTANCES

- Walsh, Michael & Patrick Larkin, *PFAS: Ubiquitous and Persistent Chemicals: Assessing Liability and Allocating Risk: Applying Lessons Learned in Industry-Wide Litigation*, 49 TEX. ENV'T L.J. 231 (2019).

## WASTE

- Mehta, Alisha & Rachel Lau, *Solid Waste: EPA Rule: Management Standards for Hazardous Waste Pharmaceuticals and Amendment to the P075 Listing for Nicotine*, 49 TEX. ENV'T L.J. 346 (2019).

## WATER

- Bates, Rebecca, *Realizing the Right to Water Within Environmental Limits*, 23 U. DENV. WATER L. REV. 17 (2019).
- Green, Kristin, *The Emerging Role of State and Local Governments in Shaping Water Projects: A Colorado Case Study*, 23 U. DENV. WATER L. REV. 45 (2019).
- Hobbs, Gregory J. Jr., *Delph Carpenter's Interstate Water Trials and Tribulations Led to the Water Compact Era*, 23 U. DENV. WATER L. REV. 1 (2019).
- Rogers, Emily W. & Meng Yu, *Water Quality: Circuits Split on the Scope of Point Source Discharge Under the Clean Water Act*, 49 TEX. ENV'T L.J. 354 (2019).
- Widerschein, Mark, *Whiskey Is for Drinking, Water Is for Fighting Over: Lessons From Peacemaking Mediation for the Lasting Resolution of Water Allocation Disputes in the American West*, 23 U. DENV. WATER L. REV. 67 (2019).
- Ziemer, Laura et al., *How the West Is Won: Advancing Water Law for Watershed Health*, 42 PUB. LAND & RESOURCES L. REV. 81 (2020).

## WILDLIFE

- Drake, Jonathan S., *Protecting ESA-Listed Bull Trout in the Face of Climate Change: Can the Endangered Species Act and the Clean Water Act Do Their Part?*, 42 PUB. LAND & RESOURCES L. REV. 95 (2020).
- Gaddie, Greer, *Protecting Captive Endangered Animals: The Importance of Interpreting the Endangered Species Act Broadly*, 49 TEX. ENV'T L.J. 295 (2019).



# VOLUME 51 CUMULATIVE INDEX

Below are all Articles, Comments, and Dialogues published in *ELR—The Environmental Law Reporter* in 2021. To access the entire *ELR* archive online, visit <https://elr.info/articles>.

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Article—*Direct Air Capture Facilities and Production of Carbon-Neutral Hydrocarbons*, Neil Segel (May) . . . . . 10390

## CLIMATE

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Article—*The Legal and Administrative Risks of Climate Regulation*, Jonathan H. Adler (June) . . . . . 10485

Article—*Marine Protected Areas on the Uncertain Frontiers of Climate Change*, Vidya Vijayaraghavan (Feb.) . . . . . 10116

Article—*Using Blockchain to Address the IPCC's Climate Change Mitigation Strategies*, Grace Bogart (Apr.) . . . . . 10296

Comment—*Can Climate Change Labels Be "Purely Factual and Uncontroversial"?*, Barak Kamelgard (May) . . . . . 10380

Comment—*Revitalizing Greenhouse Gas Permitting Inside a Biden EPA*, Matt Haber & Seema Kakade (May) . . . . . 10384

Comment—*Time Has Come Today for Environmental and Climate Justice Legislation*, Barry E. Hill (Feb.) . . . . . 10102

Comment—*The Uses of Climate Change Attribution Science: The NGO Practitioner's View*, Joanne Spalding & Daniel Hales (Aug.) . . . . . 10654

Dialogue—*Global Perspective on Climate and Energy Justice*, Randall S. Abate et al. (June) . . . . . 10457

## ENERGY

Article—*Funding and Facilitating Public Participation at FERC*, Luther Caulkins (July) . . . . . 10605

Article—*Governing the Gasoline Spigot: Gas Stations and the Transition Away From Gasoline*, Matthew N. Metz & Janelle London (Jan.) . . . . . 10054

Article—*Zombie Energy Laws*, Joshua C. Macey (Aug.) . . . . . 10691

Comment—*Climate Stumbling Blocks: Zombie Energy Laws, States, and the Path to Paris*, Jessica R. Bell & Hampden T. Macbeth (Aug.) . . . . . 10697

Comment—*You Can't Take Them Like That, It's Against Regulation*, Margaret H. Claybour (Aug.) . . . . . 10702

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## GOVERNANCE

Article—*Another Game Changer in the Making? Lessons From States Advancing Environmental Justice Through Mapping and Cumulative Impact Strategies*, Charles Lee (Aug.) . . . . . 10676

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