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August 2019

Volume 49, No. 8

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In the Congress

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Environmental Law Institute and
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ENVIRONMENTAL LAW AND POLICY ANNUAL REVIEW

Jayni Foley Hein

*Federal Lands and Fossil Fuels: Maximizing Social Welfare
in Federal Energy Leasing*

With Responses by Tommy Beaudreau, Janice Schneider &
Joshua Marnitz and Rebecca Fischer & Daniel Timmons

Timothy Meyer

Free Trade, Fair Trade, and Selective Enforcement

With Responses by Jay C. Campbell and Sharon Anglin Treat

Richard C. Schragger

The Attack on American Cities

With Responses by Kim S. Haddow and Richie Feder &
Lewis Rosman

Richard L. Revesz and Burcin Unel

The Future of Energy Storage: Adopting Policies for a Cleaner Grid

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Tom Lininger

Reforming Judicial Ethics to Promote Environmental Protection

Honorable Mentions

Albert C. Lin

Herding Cats: Governing Distributed Innovation

Jim Rossi

Carbon Taxation by Regulation

Philip J. Weiser

Entrepreneurial Administration

ENVIRONMENTAL LAW AND POLICY ANNUAL REVIEW

2018-2019

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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:

- *News & Analysis*, *ELR*'s highly respected monthly journal, provides insightful features relevant to both legal practice and policy on today's most pressing environmental topics. *News & Analysis* 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. Subscribers can also receive *ELR Daily Update*, our daily summary of federal administrative news.

- *ELR Online*, *ELR*'s subscription-only website at www.elr.info, is a one-stop environmental law and policy research

site with access to over 45 years of *ELR* analysis, extensive links to statutes, regulations and treaties, a comprehensive subject matter index, 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. 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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ELR—*The Environmental Law Reporter*®
(ISSN 0046-2284) is published monthly.

Postmaster

Send address changes to
Environmental Law Reporter®
1730 M Street, NW
Ste. 700
Washington, DC 20036
(202) 939-3800
Fax (202) 939-3868

Periodicals postage paid at Washington, DC,
and at additional mailing offices

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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 as *ELR* 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, 2017, through July 31, 2018, 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 Professor Michael Vandenberg, ELI Senior Attorney Linda Breggin, *ELR* Editor-in-Chief Jay Austin, and ELI Associate Vice President for Communications & Publications Rachel Jean-Baptiste also assisted in the final selection process. Five articles were selected, and three received honorable mentions. Commentary on the selected papers then was solicited from practicing experts in both the private and public sectors.

On March 29, 2019, in Washington, DC, ELI and Vanderbilt cosponsored a 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 there were "Federal Lands and Fossil Fuels: Maximizing Social Welfare in Federal Energy Leasing"; "The Attack on American Cities"; and "Free Trade, Fair Trade, and Selective Enforcement." The conference was structured to encourage dialogue among presenters and attendees.

In addition, a March 25 symposium at Vanderbilt featured "Green Ethics for Judges," and an ELI public webinar on April 8 showcased "Managing the Future of the Electricity Grid: Energy Storage and Greenhouse Gas Emissions."

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*

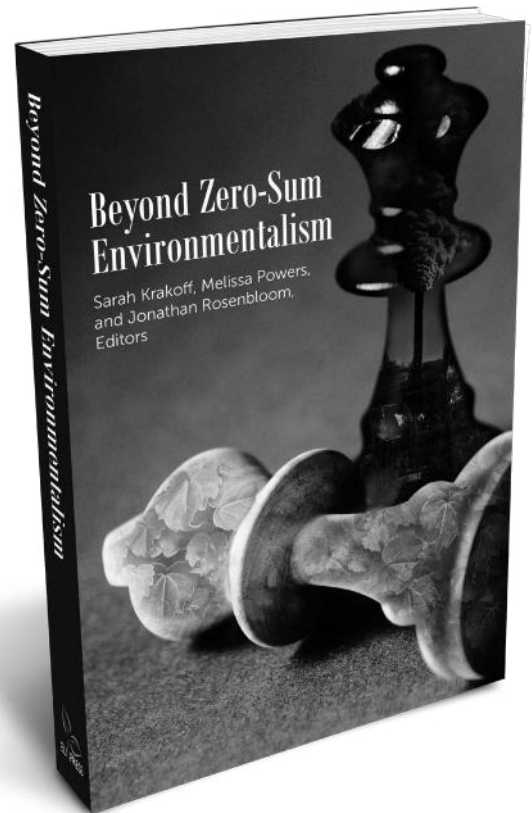
Michael P. Vandenberg, David Daniels Allen Distinguished Chair
of Law, Vanderbilt University Law School

Beyond Zero-Sum Environmentalism

Sarah Krakoff, Melissa Powers, and Jonathan Rosenbloom, Editors

Environmental law and environmental protection have long been portrayed as requiring trade offs between incompatible ends: “jobs versus environment”; “markets versus regulation”; “enforcement versus incentives.” Behind these views are a variety of concerns, including resistance to government regulation, skepticism about the importance or extent of environmental harms, and sometimes even pro-environmental views about the limits of Earth’s carrying capacity. This framework is perhaps best illustrated by the Trump Administration, whose rationales for a host of environmental and natural resources policies have embraced a zero-sum approach, seemingly preferring a world divided into winners and losers. Given the many significant challenges we face, does playing the zero-sum game cause more harm than good? And, if so, how do we move beyond it?

This book is the third in a series of books authored by members of the Environmental Law Collaborative (ELC), an affiliation of environmental law professors that began in 2011. In *Beyond Zero-Sum Environmentalism*, the authors tackle the origins and meanings of zero-sum frameworks and assess their implications for natural resource and environmental protection. The authors have different angles on the usefulness and limitations of zero-sum framing, but all go beyond the oversimplified view that environmental protection always imposes a dead loss on some other societal value.



Previous books from the ELC series include

Contemporary Issues in Climate Change Law and Policy: Essays Inspired by the IPCC (2016) and *Rethinking Sustainability to Meet the Climate Change Challenge* (2015).

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C O M M E N T

Analysis of Environmental Law Scholarship 2017-2018

by Maura Allen, Linda Breggin, Lauren Stern, and Michael Vandenberg

Maura Allen and Lauren Stern are recent graduates of Vanderbilt University Law School. Linda K. Breggin is a Senior Attorney with the Environmental Law Institute and Lecturer in Law, 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. The law journal articles that are re-published and discussed are selected by Vanderbilt University Law School students with input from their course instructors and an outside advisory committee of experts.

The purpose of this Comment is to highlight the results of the ELPAR article selection process and to report on the environmental legal scholarship for the 2017-2018 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 five articles were selected to re-publish in shortened form, some of them with commentaries from leading practitioners and policymakers. Thus, the goal of this Comment is to provide an empirical snapshot of the environmental legal literature during the past academic year, as well as provide 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.¹ 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,² with certain modifications.

The ELPAR Editorial Board and Staff start with a keyword search for "environment!" in an electronic legal scholarship database.³ Articles without a connection to the natural environment (e.g., "work environment" or "political environment") are removed, as are book reviews, eulo-

mental-law-policy-annual-review/online-supplements.php (last visited Apr. 11, 2019) [<https://perma.cc/F572-BEHG>].

2. *Law Journals, Submissions, and Rankings Explained*, WASH. & LEE SCH. OF L., <https://managementtools4.wlu.edu/LawJournals/> (last visited Apr. 11, 2019) [<https://perma.cc/YVV2-JNG7>].

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 2018, and the fall searches were performed in the 5th week of August 2018. 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, 2018, and ran until August 23, 2018. An alert was set up for the fall search on September 4, 2018, and ran until September 10, 2018. 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 schools removed from the top 100 after the spring search are not considered for trends data.

1. *Environmental Law and Policy Annual Review Publications*, ENVTL. L. INST., <https://www.eli.org/environmental-law-policy-annual-review/publications> (last visited Apr. 11, 2019) [<https://perma.cc/3T37-LCKC>]; *Environmental Law & Policy Annual Review Online Supplements*, VAND. L. SCH., <http://law.vanderbilt.edu/academics/academic-programs/environmental-law/enviro->

gies, 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 journal 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 in an effort 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 of an art than a science, and our conclusions should be interpreted in that light. However, we have attempted 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., executive power and standing), or tort law topics (e.g., punitive damages). 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.⁴ ELPAR students assign each article a primary topic category and, if appropriate, a secondary category.

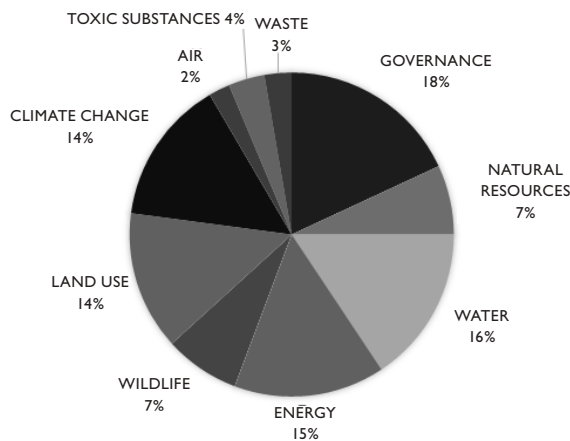
The ELPAR Editorial Board and Staff work in consultation with the course instructors, Prof. Michael P. Vandenberg and ELI Senior Attorney Linda K. Breggin, to determine whether articles should be considered environmental law articles and how to categorize the article by environmental topic for purposes of tracking scholarship. The articles included in the total for each year are identified on lists posted on the Vanderbilt University Law School website.⁵

II. Data Analysis on Environmental Legal Scholarship

During the 2017-2018 ELPAR review period (August 1, 2017, to July 31, 2018), we identified 332 environmental articles published in top law reviews and environmental law journals. Two hundred and fifty-eight (78%) of these articles were published in journals that focus on environmental law, and 74 (22%) were published in general law reviews.

The primary topics of the 332 environmental articles published in 2017-2018 were as follows (see Figure 1): 60 governance⁶ articles (18.1%), 52 water articles (15.7%), 50 energy articles (15.1%), 48 climate change articles (14.5%), 46 land use articles (13.9%), 25 wildlife articles (7.5%), 23 natural resources articles (6.9%), 12 toxic substances articles (3.6%), nine waste articles (2.7%), and seven air articles (2.1%). One hundred and thirty-five articles were also identified as including a secondary topic, categorized as follows (see Figure 2): 87 governance articles, 10 climate change articles, 10 energy articles, nine water articles, nine natural resources articles, five land use articles, three toxic substances articles, three waste articles, two wildlife articles, and one air article. Accordingly, the most common topic category was governance, followed by water and energy.

Figure 1. 2017-2018 Articles Categorized by Primary Topic

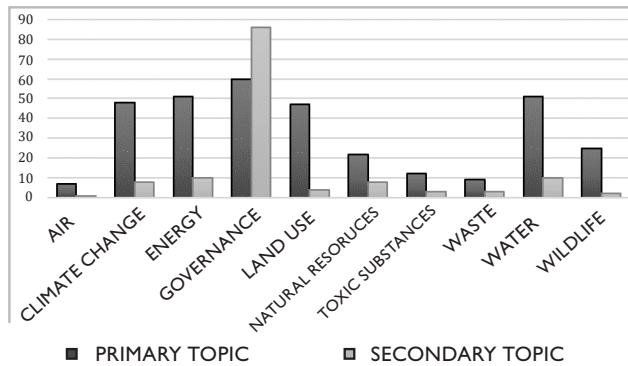


6. *ELR* subject matter index includes subtopics for each topic. For example, subtopics for the governance topic include: administrative law, Administrative Procedure Act, agencies, bankruptcy, civil procedure, comparative law, constitutional law, contracts, corporate law, courts, criminal law, enforcement 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.eli.info/subject-matter-index> (last visited Apr. 11, 2019) [<https://perma.cc/DF66-YSYC>].

4. *Subject Matter Index*, *ELR*, <http://www.eli.info/subject-matter-index> (last visited Apr. 11, 2019) [<https://perma.cc/DF66-YSYC>].

5. *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 Apr. 11, 2019) [<https://perma.cc/F572-BEHG>].

Figure 2. 2017-2018 Articles Categorized by Primary and Secondary Topic



III. Top 20 Articles Analysis

The top 20 articles chosen from the pool of eligible environmental law and policy-related articles published during the 2017-2018 academic year can be found in Table 1. Of the top 20 outlined below, six articles call for action by state and/or local governments as part of their proposal, nine articles call for federal or state agency action, and two

articles call for updates to federal or international law. Several of the articles include proposals that incorporate federal, state, local, and private entity actions.

Primary topics identified in the top 20 articles were as follows: eight governance articles, six energy articles, three land use articles, one climate change article, one water article, and one natural resources article. Secondary topics were also identified for several articles: five governance, two natural resources, two climate change, one energy, and one land use.

This year’s pool of top articles came from both general and environmental law journals. Seven of the top 20 articles were published in environmental law journals, including four articles from *Harvard Environmental Law Review* and two articles from *Columbia Journal of Environmental Law*. Thirteen of the top 20 articles were published in law reviews. The lead authors of the top articles came from a range of law schools and academic backgrounds.

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 they 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.

Table 1: Article Overview Chart

Author	Title	Citation and URL	Topic	The Big Idea
Adelman, David E. & Graeme W. Austin	Trademarks and Private Environmental Governance	93 NOTRE DAME L. REV. 709 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=303661	Governance (Private Governance)	Because green trademarks can overload consumers with information and green certifications can result in a “race to the bottom” on certification standards, trademark law should: (1) prohibit conventional trademarks on ecolabels, create Patent and Trademark Office trademark standards, and/or modify the dilution doctrine to end information overload; and (2) set minimum federal standards for green certifications.
Craig, Robin K.	It's Not Just an Off-shore Wind Farm: Combining Multiple Uses and Multiple Values on the Outer Continental Shelf	39 PUB. LAND & RESOURCES L. REV. 59 https://dc.law.utah.edu/cgi/viewcontent.cgi?article=1065&context=scholarship	Water/Energy	U.S. federal and state laws and regulations related to off-shore wind farms and marine aquaculture should be linked into one simplified permitting program, thereby allowing the United States to take advantage of Marine Spatial Planning and Planned Multiple Use technologies (such as technology that allows for energy production and aquaculture to exist in the same space) so that the ocean's potential to generate clean energy may be realized while reserving space for ecosystem health.
Eisen, Joel B. & Felix Mormann	Free Trade in Electric Power	2018 UTAH L. REV. 49 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2926116	Energy/Governance	State and federal regulators should adopt a new electricity trading ecosystem available to all, that includes: (1) creating state markets structured as platforms similar to Uber and Airbnb, (2) building on existing energy infrastructure, and (3) compensating utilities, to democratize the electrical grid and promote free trade.
Hein, Jayni Foley	Federal Lands and Fossil Fuels: Maximizing Social Welfare in Federal Energy Leasing	42 HARV. ENVTL L. REV. 1 http://harvardelr.com/wp-content/uploads/2018/03/hein1.pdf	Land Use/Natural Resources	To maximize public benefit and social welfare, DOI should, within its broad statutory mandate, update fossil fuel leasing and royalty rates on federal lands by adopting several reforms that will result in less production, fewer GHG emissions, and more revenue than under existing rules.

Author	Title	Citation and URL	Topic	The Big Idea
Keiter, Robert B.	Toward a National Conservation Network Act: Transforming Landscape Conservation on the Public Lands Into Law	42 HARV. ENVTL L. REV. 61 http://harvardelr.com/wp-content/uploads/2018/03/Keiter.pdf	Land Use/Natural Resources	A National Conservation Network Act should be enacted that would place a statutory umbrella over already-protected federal lands, mandate effective interagency coordination within them, enlist private lands as voluntary “affiliates” in these conservation efforts, and establish new wildlife corridor and restoration area designations.
Lin, Albert C.	Herding Cats: Governing Distributed Innovation	96 N.C. L. REV. 945 https://scholarship.law.unc.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=5980&context=nclr	Governance	The environmental risks of distributed innovation, such as ecological disruption by genetically engineered species through Do-It-Yourself Bio (DIY Bio), cannot be effectively regulated through conventional means and instead should be addressed through a combination of big data, big government regulation, private governance by nongovernmental intermediaries, and self-regulation by individuals.
Lininger, Tom	Green Ethics for Judges	86 GEO. WASH. L. REV. 711 https://www.gwlr.org/wp-content/uploads/2018/07/86-Geo.-Wash.-L.-Rev.-711.pdf	Governance	The ethical rules for judges should be revised using rules of general application to elevate the importance of environmental stewardship, such as by importing the “precautionary principle” and establishing an ethical imperative to find scientific facts accurately.
Meyer, Timothy	Free Trade, Fair Trade, and Selective Enforcement	118 COLUM. L. REV. 491 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3050009	Governance (Trade)	Selective enforcement of environmental and other laws distorts trade markets to the detriment of the environment by slowing development of competitive environmental-friendly products; accordingly, the WTO enforcement process should be reformed by (1) creating a centralized enforcement procedure for environmental products, and (2) reforming trade remedies investigations.

Author	Title	Citation and URL	Topic	The Big Idea
Mortazavi, Melissa	Food, Fracking, and Folly	50 ARIZ. ST. L.J. 617 http://arizonastatelaw-journal.org/wp-content/uploads/2018/08/Mortazavi-Pub.pdf	Energy/ Governance	Natural resource allocation models, land-based administration, and private rights-based legal strategies should be used to synthesize environmental regulation of the agriculture, and fracking industries on an intra-state level.
Posner, Eric A. & Cass R. Sunstein	Moral Commitments in Cost-Benefit Analysis	103 VA. L. REV. 1809 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2930450	Governance (Administrative Law)	Regulators should conduct cost-benefit analysis using valuations that reflect how much people are willing to pay to see their moral beliefs vindicated or to reduce the level of psychological harm they feel if those beliefs are not vindicated, in order to more accurately evaluate regulations aimed at reducing hard-to-measure, concrete moral harms, such as injuries to dolphins as a result of tuna harvesting
Revesz, Richard & Burcin Unel	Managing the Future of the Electricity Grid: Energy Storage and Greenhouse Gas Emissions	42 HARV. ENVTL. L. REV. 139 http://harvardelr.com/wp-content/uploads/2018/03/revesz_unel.pdf	Energy/Climate Change	To ensure that energy storage deployment is environmentally beneficial and economically efficient, state and federal regulators should adopt policy reforms that (1) internalize emission externalities, (2) eliminate entry barriers, and (3) modify market rules to guarantee accurate price signals that value the benefits of clean energy storage.
Robbins, Kalyani	Allocating Property Interests in Ecosystem Services: From Chaos to Flowing Rivers	42 HARV. ENVTL. L. REV. 197 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3027736	Land Use/Natural Resources	Ecosystem services, or the benefits that humans receive from natural ecosystems, are property rights that have economic value and should be allocated to the receiving land for the sake of both consistency and efficiency, rather than inconsistently assigned, as they are under the current legal framework.
Rossi, Jim	Carbon Taxation by Regulation	102 MINN. L. REV. 277 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2937783	Energy/ Governance	Regulators can achieve carbon reductions through “carbon taxation by regulation,” whereby internal subsidies are aligned with principles that inform the optimal design of a carbon tax, namely (1) neutrality, (2) cost spreading, (3) jurisdictional evenhandedness, and (4) fairness and equity

Author	Title	Citation and URL	Topic	The Big Idea
Ruhl, J.B.	Presidential Exit	67 DUKE L.J. 1729 https://scholarship.law.duke.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=3945&context=dlj	Governance (Administrative Law)	To constrain future presidential exit, Congress and presidents should strategically design direct action by (1) using dictated terms of exit in statutes delegating presidential authority; (2) modifying the timing, subject matter, and authority references in executive orders to boost their lifespan; and (3) tying direct action to external instruments and institutions.
Schragger, Richard C.	The Attack on American Cities	96 TEX. L. REV. 1163 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3026142	Governance (States)	The American constitutional system's roots in "anti-urbanism" (in which rural and suburban populations are favored over urban) result in state legislative actions that attempt to reign in "wayward" cities through preemption and hinder municipal action; thus, cities must forge alliances with national interest groups, powerful corporations, and metropolitan area citizens to preserve their power to regulate and promote their interests.
van de Biezenbos, Kristen	Contracted Fracking	92 TUL. L. REV. 587 http://www.tulanelawreview.org/92-3-vandebiezenbos/	Energy/ Governance (Private Governance)	Private contracting between local communities and energy companies provides an alternative solution for addressing concerns about fracking, such as water quality, increased congestion, and infrastructure damage, when federal regulations are lacking and local rules are preempted by states.
Weiser, Philip J.	Entrepreneurial Administration	97 B.U. L. REV. 2011 http://www.bu.edu/bulawreview/files/2018/01/WEISER.pdf	Governance (Administrative Law)	Agencies can better address new challenges and achieve regulatory goals more effectively through a model of earned authority created by entrepreneurial leadership, such as policy experimentation and trial-and-error problem solving, than through rulemaking and adjudication.

Author	Title	Citation and URL	Topic	The Big Idea
Welton, Shelley	Grasping for Energy Democracy	116 MICH. L. REV. 581 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2935331	Energy/Climate Change	Although advocates often refer to energy democracy as a single idea, there are actually three versions—consumer choice, local control, and access to process—each requiring different regulatory reforms and, if energy democracy is measured by the level of citizen participation in grid-wide energy decisions, the version we should advance is access to process.
Wilson, Augusta	Linking Across Borders: Opportunities and Obstacles for a Joint Regional Greenhouse Gas Initiative-Western Climate Initiative Market	43 COLUM. J. ENVTL. L. 227 http://www.columbiaenvironmentallaw.org/wp-content/uploads/sites/14/2018/03/Wilson-Article.pdf	Climate Change/Governance	RGGI and WCI should link their regional cap-and-trade markets to promote carbon emissions reduction by lowering the overall and overhead cost of achieving reductions, and this linkage could avoid constitutional pitfalls by, for example, clearly placing the regulatory burden only on the participating states.

A R T I C L E

Federal Lands and Fossil Fuels: Maximizing Social Welfare in Federal Energy Leasing

by Jayni Foley Hein

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I. Introduction

The externality costs of fossil fuel production—including pollution costs—are not accounted for under the U.S. Department of the Interior's (Interior) coal, oil, and natural gas leasing programs. This results in fossil fuel production on public lands imposing significant social costs. Interior's leasing programs have never been tailored to meet any past or present climate change goals, despite their significant contribution to domestic greenhouse gas emissions. Moreover, several government studies show that federal fossil fuel leasing programs are riddled with loopholes and stagnant fiscal terms that shortchange federal taxpayers, to whom the nation's minerals belong.¹

This Article presents a path forward for Interior's fossil fuel leasing programs that would instill more rationality into the process, with the goal of maximizing social welfare. This Article argues that Interior should account for all the costs and benefits of leasing—including environmental and social costs—and adjust the fiscal terms of its fossil fuel leases to recoup unmitigated externality costs. In doing so, Interior can arrive at a social-welfare maximizing leasing program. The tools and reforms suggested in this Article would likely have the effect of reducing production on marginal tracts where the cost of production would outweigh the benefits. Additionally, these tools and reforms could earn states, the federal government, and taxpayers more revenue from the resources they own while reducing

greenhouse gas emissions, illustrating the utility of using fiscal reform as a policy lever in the absence of comprehensive climate change legislation.

II. The Fossil Fuel Boom and Legal Lag

Overall, Interior oversees more than 260 million surface acres and 700 million subsurface acres of mineral resources onshore, and more than 1.7 billion acres offshore in the waters of the Outer Continental Shelf.² Despite these extensive public land and mineral holdings, Interior has consistently been criticized for failing to earn more from its mineral resources and for failing to protect environmental values. This part provides a brief overview of modern energy market trends and highlights recent critiques of federal leasing programs.

A. The Fossil Fuel Boom

Domestic oil and natural gas production has risen steadily for the past 10 years.³ Federal energy production generates one of the largest non-tax sources of revenue for the United States, accounting for approximately \$6.23 billion in fiscal year 2016.⁴ While federal oil and gas production has been decreasing as a share of total U.S. production,⁵ coal mining on federal lands, by contrast, has grown as a proportion of the domestic total.⁶ In 1960, federal coal accounted for

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1. See generally U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-14-140, COAL LEASING: BLM COULD ENHANCE APPRAISAL PROCESS, MORE EXPLICITLY CONSIDER COAL EXPORTS, AND PROVIDE MORE PUBLIC INFORMATION (2013), <https://perma.cc/8MME-ZDPU>.

2. U.S. GOV'T ACCOUNTABILITY OFFICE, NO. GAO-14-50, OIL AND GAS RESOURCES: ACTIONS NEEDED FOR INTERIOR TO BETTER ENSURE A FAIR RETURN 2 (2013), <https://perma.cc/CV96-ELRT> [hereinafter GAO, ACTIONS NEEDED].

3. *Id.*

4. Press Release, U.S. Office of Nat. Res. Revenue, Interior Department Disburses \$6.23 Billion in FY 2016 Energy Revenues: Federal Revenues Support State, Tribal, National Needs (Nov. 25, 2016), <https://perma.cc/N9WX-EV6Y>.

5. See, e.g., CONG. RESEARCH SERV., R42432, U.S. CRUDE OIL AND NATURAL GAS PRODUCTION IN FEDERAL AND NON-FEDERAL AREAS (2016).

6. U.S. ENERGY INFO. ADMIN., SALES OF FOSSIL FUELS PRODUCED FROM FEDERAL AND INDIAN LANDS, FY 2003 Through FY 2014 (2015), <https://perma.cc/HFZ3-LYH4> [hereinafter EIA, SALES OF FOSSIL FUELS]; U.S. ENERGY INFO. ADMIN., DECEMBER 2015 MONTHLY ENERGY REVIEW 97 (2015), <https://perma.cc/TS5K-U4KP>.

only 1.3% of the total coal mined in the United States.⁷ In 2015, federal coal accounted for 42% of the total coal produced in the United States.⁸ Together, coal, oil, and natural gas produced on federal lands account for approximately 25% of the total fossil fuels produced annually in United States.⁹

B. Program Deficiencies and Calls for Reform

Interior does not systematically evaluate or update the fiscal terms for fossil fuel production on federal lands,¹⁰ and because Interior excludes many environmental and social considerations when setting lease terms, federal leases are currently undervalued from a social welfare-maximizing perspective.¹¹ Some of the most salient issues with respect to Interior's planning processes, fiscal terms, and treatment of environmental externalities are described below.

I. Uncompetitive Leasing

The Mineral Leasing Act of 1920 and Federal Coal Leasing Amendments Act of 1976 require that federal oil, gas, and coal leases be offered competitively.¹² In 2013, the U.S. Government Accountability Office (GAO) found that approximately 90% of all federal coal lease sales since 1990 attracted only one bidder.¹³ Forty percent of oil and gas leases in effect as of 2015 were issued noncompetitively, for the minimum bid price of \$2 per acre.¹⁴ In addition, the Energy Policy Act of 2005 increased the amount of land that can be added to an existing coal lease through noncompetitive lease modification from 160 acres to 960 acres.¹⁵ From 2000 to 2013 the Bureau of Land Management (BLM) approved 45 noncompetitive lease modifications.¹⁶

7. See Nat. Res. Def. Council v. Hughes, 437 F. Supp. 981, 983, 7 ELR 20785 (D.C. Cir. 1977).

8. U.S. DEP'T OF INTERIOR, FEDERAL COAL PROGRAM: PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT—SCOPING REPORT VOL. I, ES-1 (2017), <https://perma.cc/J9FB-ENS3> [hereinafter COAL PEIS SCOPING REPORT VOL. I].

9. EIA, SALES OF FOSSIL FUELS, *supra* note 6.

10. See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-08-691, OIL AND GAS ROYALTIES: THE FEDERAL SYSTEM FOR COLLECTING OIL AND GAS REVENUES NEEDS COMPREHENSIVE REASSESSMENT 7-10 (2008) [hereinafter GAO, COMPREHENSIVE REASSESSMENT].

11. This argument is also highlighted in some of my earlier work. See generally JAYNI FOLEY HEIN & PETER HOWARD, INST. FOR POLICY INTEGRITY, N.Y. UNIV. SCH. OF LAW, ILLUMINATING THE HIDDEN COSTS OF COAL (2015), <https://perma.cc/4QRK-M9QY> [hereinafter HEIN & HOWARD, ILLUMINATING COAL COSTS]; JAYNI FOLEY HEIN, INST. FOR POLICY INTEGRITY, N.Y. UNIV. SCH. OF LAW, PRIORITIES FOR FEDERAL COAL REFORM (2016), <https://perma.cc/9A2P-TXP9> [hereinafter HEIN, PRIORITIES FOR FEDERAL COAL REFORM].

12. 30 U.S.C. §201(a)(1) (2012).

13. See, e.g., GAO, ACTIONS NEEDED, *SUPRA* note 2.

14. OIL AND GAS LEASING; ROYALTY ON PRODUCTION, RENTAL PAYMENTS, MINIMUM ACCEPTABLE BIDS, BONDING REQUIREMENTS, AND CIVIL PENALTY ASSESSMENTS, 80 Fed. Reg. 76 (proposed Apr. 21, 2015) (to be codified at 43 C.F.R. pt. 3100), <https://perma.cc/QYS4-KWTU>. In 2014, about 10 percent of new leases were issued non-competitively. *Id.*

15. See 30 U.S.C. §203 (2012); Energy Policy Act of 2005, Pub. L. No. 109-58, §432, 118 Stat. 594, 761 (2005).

16. U.S. Dep't of the Interior, Office of Inspector General, No. CR-EV-BLM-0001-2012, Coal Management Program 13 (2013), <https://perma.cc/7GMK-LLC7>.

2. Stagnant Minimum Bids and Royalty Rates

A 2008 GAO report found that the United States receives one of the lowest overall "takes" worldwide for fossil fuel leases.¹⁷ Minimum bids have failed to keep up with inflation; for example, although the Mineral Leasing Act gives the Secretary of the Interior authority to set the national minimum bid for onshore oil and gas leases at \$2 per acre or greater, the minimum bid for onshore oil and gas has remained at \$2 per acre since 1987.¹⁸ Likewise, the minimum bid for coal leases has been set at \$100 per acre since 1982.¹⁹ Accounting for inflation, alone, would more than double the minimum bid for coal to \$247 per acre.

Royalty rates, which account for approximately 80% of all federal revenue from oil, gas, and coal leases, have also remained stagnant, and, in some cases, have not changed since 1920.²⁰ The floor for both onshore and offshore oil and natural gas royalty rates is set at no less than 12.5%.²¹ The royalty rate floor for coal production is 12.5% from surface mines,²² and 8% from underground mines.²³ In 2008, Interior increased the royalty rate for new offshore leases in the Gulf of Mexico to 18.75%.²⁴ Interior stated that this change would both increase oil and gas revenues by an estimated \$4.5 billion over 20 years,²⁵ and ensure that the "American taxpayer is getting a fair return for the oil and gas that the American people own."²⁶ According to some estimates, if onshore federal oil and gas royalty rates were also changed to the 18.75% rate, the U.S. government would collect an additional \$730 million each year.²⁷

3. Ignoring the Cost of Production Externalities

Interior's planning processes and lease terms do not account for the externality costs of oil, gas, and coal pro-

17. GAO, COMPREHENSIVE REASSESSMENT, *supra* note 10 (citing a June 2007 Wood McKenzie report finding that the United States ranked 93rd lowest out of 104 oil and gas fiscal systems evaluated).

18. 30 U.S.C. §226(b)(1)(B) (2012). The Mineral Leasing Act requires that the minimum bid be uniform nationwide, and prohibits BLM from setting minimum bids on a tract-by-tract basis. See *id.*

19. See 43 C.F.R. §3422.1(c)(2) (1982).

20. Onshore oil and gas royalty rates have been set at 12.5% since 1920. See 30 U.S.C. §226(b)(1)(A).

21. 30 U.S.C. §226(b)(1)(A); 43 U.S.C. §1337(a)(1) (2012).

22. 30 U.S.C. §207(a) (2012); Federal Coal Leasing Amendments Act of 1976, Pub. L. No. 94-377, 90 Stat. 1083 (Aug. 4, 1976).

23. 43 C.F.R. §3473.3-2(a)(2) (2005).

24. See U.S. BUREAU OF OCEAN AND ENERGY MGMT., PROPOSED FINAL OUTER CONTINENTAL SHELF OIL & GAS LEASING PROGRAM 2012-2017 96 (2012), <https://perma.cc/NTZ6-HRBQ>. Alaskan offshore leases utilize a 12.5 percent royalty rate. *Id.*

25. See, e.g., CONG. RES. SERV., RL33493, OUTER CONTINENTAL SHELF: DEBATE OVER OIL AND GAS LEASING AND REVENUE SHARING 2 (2008), <https://perma.cc/3UBJ-7XJ8>.

26. Interior, *Env't, and Related Agencies Appropriations for 2013, Testimony Before the House Comm. on Appropriations, Subcomm. on Interior, Env't, and Related Agencies*, 102d Cong. 46-47 (2012) (statement of Hon. Ken Salazar, Sec'y of the Interior), <https://perma.cc/U393-8TXE> ("The underlying principle is we are mandated by statute, mandated by fairness to make sure the American taxpayer is getting a fair return for the assets the American people own.")

27. CTR. FOR W. PRIORITIES, A FAIR SHARE: THE CASE FOR UPDATING OIL AND GAS ROYALTIES ON OUR PUBLIC LANDS 7 (2015), <https://perma.cc/4Q8T-YT8P>.

duced on federal land. In 1920, when the U.S. Congress first set minimum royalty rates at 12.5% for federal oil and natural gas production, legislators did not understand the direct link between producing, transporting, and burning fossil fuels, and climate change. Today, the connection is clear. As a consequence of this failure to account for the externality costs of fossil fuel production, the market price of fossil fuels is less than the socially optimal price, which leads to inefficiently high levels of extraction.

4. Royalty Rate Loopholes and Deductions

Further coal, oil, and gas lessees can apply for a royalty rate reduction if the current royalty rate imposes economic hardship that would otherwise result in abandoning the lease, or in less than full recovery of the resource.²⁸ Royalty rate reductions occurred on approximately 36% of coal leases offered for sale since 1990.²⁹ These royalty rate reductions distort the energy market by subsidizing coal, oil, and gas production, even when production may be uneconomical.

II. Interior, as the Steward of Public Lands, Should Use Procedural and Economic Tools to Maximize Net Social Benefits When Leasing

Interior is not just any property owner and lessor; it is tasked with managing lands for the benefit of current and future generations. Interior has a dual mandate to manage development of resources while ensuring adequate protection of environmental and social values. Interior sets rules for how it leases public lands to private parties in order to uphold its statutory mandates to earn “fair market value” for the public and to harmonize energy production with resource conservation.³⁰ There are several procedural and modern economic tools Interior can use to align its statutory mandates with maximizing net social benefits.

A. Procedural Tools: Cost-Benefit Analysis, Leasing Plans, and Programmatic Environmental Impact Statements

Interior should not lease any fossil fuels to private companies for extraction unless the social benefits of doing so outweigh the costs. Interior can make this determination by conducting a cost-benefit analysis of its leasing programs that accounts for the externality costs of production. Interior should also develop multiyear plans for leasing and corresponding programmatic environmental impact state-

ments (EIS) prepared pursuant to the National Environmental Policy Act (NEPA) to guide its decisionmaking.

Interior’s decision to initiate a programmatic EIS for the federal coal program in 2016 is an example of the type of analysis that can and should be done regularly in order to determine whether taxpayers are receiving “fair market value” for fossil fuel leases. Prior to 2016, the last time the federal coal program was reviewed programmatically was 1986.³¹ Preparing strategic plans and programmatic EISs on a regular schedule would enable Interior to better weigh the trade offs between competing uses of federal lands; analyze viable leasing alternatives and their environmental and social impacts; monitor changing market conditions; and evaluate lease timing and fiscal terms to manage a program that best serves the public interest.

B. Economic Tools: The Social Cost of Carbon, Energy Substitution Analysis, and Option Value

In conjunction with procedural tools, there are several economic tools available that would enable Interior to account for costs that have historically been omitted from its decisionmaking, or applied inconsistently. For example, the federal Interagency Working Group’s Social Costs of Carbon and Methane remain the best methods available to analyze the social cost of greenhouse gas emissions.³²

Another economic tool, energy substitution analysis, would enable Interior to model alternative leasing scenarios and potential changes to its programs, such as adjustments to fiscal terms or ceasing to issue new leases altogether. In its NEPA analysis, Interior should analyze the effect of these alternatives, including the “no action” alternative, on energy markets and upstream and downstream emissions.

Finally, Interior should use available techniques to estimate option value—the informational value of delaying irreversible decisions—such as when and on what terms to sell non-renewable resources to private companies. The failure to account for option value in minimum bids and internal fair market value calculations systematically undervalues public resources and contributes to leasing too much public land and resources too early, and at too low of a price.³³

III. Interior’s Statutory Mandates Are Consistent With Maximizing Social Welfare

Interior has broad discretion to interpret its statutory mandates to move toward maximizing social welfare, and this social welfare-maximization interpretation is supported by both legislative history and judicial precedent.

28. 30 U.S.C. §209 (2012); 43 C.F.R. §§3473.3-2(e), 3485.2(c)(1) (2012) (coal). 43 C.F.R. §3103.4-1(a) (2015) (oil and gas).

29. MARK HAGGERTY, HEADWATERS ECONOMICS, AN ASSESSMENT OF U.S. FEDERAL COAL ROYALTIES: CURRENT ROYALTY STRUCTURE, EFFECTIVE ROYALTY RATES, AND REFORM OPTIONS 8 (2015), <https://perma.cc/7KEN-P3WS>.

30. 43 U.S.C. §1344(a)(3)-(4); 43 U.S.C. §1701(a)(8)-(9) (2012).

31. COAL PEIS SCOPING REPORT VOL. I, *supra* note 8, at 5-7.

32. Richard L. Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 SCI. 655, 655 (2017).

33. See Michael A. Livermore, *Patience Is an Economic Virtue: Real Options, Natural Resources, and Offshore Oil*, 84 U. COLO. L. REV. 581, 636-37 (2013).

A. Interpreting Interior's Statutory Mandate

Four primary statutes set forth Interior's duties with respect to natural resources production on federal lands: the Federal Land and Policy Management Act (FLPMA),³⁴ the Mineral Leasing Act,³⁵ the Federal Coal Leasing Amendments Act of 1976,³⁶ and the Outer Continental Shelf Lands Act (OCSLA).³⁷ Each statute contains a provision requiring Interior to earn "fair market value" for the United States for the use of onshore and offshore public lands and resources.³⁸ These statutes can be interpreted to support a social welfare maximization framework:

1. FLPMA provides that federal lands are to be used only for the advancement of the national interest and sets forth Interior's dual mandate of development and preservation.³⁹ The Act further requires agencies to manage public lands in accordance with principles of "multiple use"⁴⁰—"the management of public lands and their various resource values so that they are utilized in the combination that will best meet the *present and future needs of the American people . . . harmonious and coordinated management of the various resources* without permanent impairment of the productivity of the land and the quality of the environment . . ."⁴¹ The terms "harmonious" and "coordinated" imply rational, reasoned decisionmaking.
2. The Mineral Leasing Act of 1920 declares that it is in the national interest to foster and encourage private enterprise in "orderly and economic development of domestic mineral resources."⁴² The term "orderly" conveys a congressional desire for careful, rational management of America's energy resources, and the term "economic" is consistent with a cost-benefit analysis framework.
3. The Federal Coal Leasing Amendments Act of 1976 provides that the Secretary of the Interior is authorized to lease lands "as he finds appropriate and *in the public interest*."⁴³ This statutory framework is consistent with Interior accounting for the environmental and social costs of fossil fuel leasing, as well as its economic benefits.
4. For offshore resources, the OCSLA directs Interior to maintain an oil and gas leasing program "so as to obtain a *proper balance between the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse*

impact on the coastal zone."⁴⁴ One reasonable way to interpret the call to "obtain a proper balance" is to manage the program in order to maximize social welfare. The Act emphasizes rational management in other phrases too, such as "expeditious and orderly development . . . subject to environmental safeguards."⁴⁵

B. Legislative History

Legislative history of the statutes governing federal fossil fuel programs reveals a direct link between receipt of production revenues and compensation for the social and environmental costs of mineral production, in line with a social welfare-maximization approach. The revenue share provision of FLPMA provides that the state share of revenue from federal leases "shall be . . . used by such State . . . giving priority to those subdivisions of the State *socially or economically impacted by development of minerals leased under this Act . . .*"⁴⁶ Congressional testimony leading up to the passage of the Act also reveals support for revenue sharing provisions that would direct a portion of the revenue from fossil fuel production to the states where the production occurs in order to "help county government[s] cope with energy development impact problems."⁴⁷ Similarly, the legislative history of the Federal Coal Leasing Amendments Act of 1976 reflects a concern that states be paid a greater share of federal coal royalties to account for social and environmental externalities.⁴⁸ And coastal states and their congressional representatives have repeatedly advocated for a greater portion of revenue from federal offshore oil and gas production due to significant impacts on coastal infrastructure and the environment.⁴⁹

C. Judicial Precedent

Judicial precedent also supports the argument that Interior can use cost-benefit analysis to help guide its leasing decisions. For example, in *California v. Watt (Watt I)*, the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) endorsed Interior's interpretation that OCSLA's requirement to strike a "proper balance" among competing uses could be achieved through cost-benefit analysis.⁵⁰ In *California v. Watt (Watt II)*, the D.C. Circuit upheld Interior's revised offshore leas-

34. 43 U.S.C. §§1701-1787 (2012), ELR STAT. FLPMA §§102-603.

35. 30 U.S.C. §§181-287 (2012).

36. Federal Coal Leasing Amendments Act of 1976, Pub. L. No. 94-377, 90 Stat. 1083.

37. 43 U.S.C. §§1331-1356b (2012).

38. 43 U.S.C. §1701(a)(9); 30 U.S.C. §201(a)(1); 43 U.S.C. §1344(a)(4).

39. 43 U.S.C. §1701(a)(1), (8), (12) (2012).

40. *Id.* §1712(a)-(c)(1).

41. *d.* §1702(c) (emphasis added).

42. 30 U.S.C. §21a (2012).

43. *Id.* §201 (emphasis added).

44. 43 U.S.C. §1344(a)(3) (emphasis added).

45. *Id.* §1332(3).

46. 30 U.S.C. §191 (2012) (emphasis added).

47. *Bills to Provide for the Mgmt., Prot., and Dev. of the National Res. Lands, and for Other Purposes: Hearings on S.1507 and S.1292 Before the Subcomm. on Envt. & Land Res. of the S. Comm. on Interior & Insular Affairs, 94th Cong., 244 (1975)* (statement of James Evans, Legis. Rep., Nat'l Ass'n of Cty., Washington, D.C.).

48. H.R. REP. NO. 94-681, at 38 (1975), as reprinted in 1976 U.S.C.C.A.N. 1943, 1975 WL 12515 (Leg. Hist.).

49. See, e.g., CONG. RESEARCH SERV., NO. R40645, U. S. OFFSHORE OIL AND GAS RESOURCES: PROSPECTS AND PROCESSES 19 (Apr. 26, 2010), <https://perma.cc/JT7N-CMZB>.

50. *California v. Watt (Watt I)*, 668 F.2d 1290, 1317-18, 12 ELR 20001 (D.C. Cir. 1981).

ing program.⁵¹ The court deferred to Interior's policy judgment to carry out the "fair market value" requirement in a way that would be most socially optimal, even if it did not maximize revenue.⁵² In addition, in light of recent judicial precedent,⁵³ a reviewing court would likely find that the use of economic tools, such as the Social Cost of Carbon, are reasonable methods for Interior to quantify the cost of relevant environmental externalities.

IV. Recommendations for Reform

A. Interior Should Prepare Strategic Leasing Plans and Evaluate Whether Its Current Leasing Programs Earn "Fair Market Value" for Taxpayers, by Conducting Cost-Benefit Analysis

In order to manage a federal fossil fuel leasing program that better serves American taxpayers, Interior should prepare strategic plans for leasing and regularly evaluate potential reforms that have the potential to increase social welfare. These strategic plans should be accompanied by regular programmatic EISs that compare the externalities of alternative leasing scenarios.

In its strategic planning process, Interior should evaluate whether it earns "fair market value" for taxpayers by analyzing the revenue and other benefits of leasing, as compared to the costs, including social and environmental costs. Interior should use the Social Cost of Carbon and Methane in this analysis. If the full benefits of production are accounted for in such an inquiry, the full suite of social and environmental costs must be accounted for, as well.⁵⁴ The result of this analysis would provide a baseline against which to measure potential royalty rate increases; increases to minimum bids; and other policy changes, such as tailoring fossil fuel production to meet any climate goals or ceasing to issue new leases altogether.

B. Interior Should Analyze Optimal Fiscal Terms for New or Modified Leases, Including Social Cost of Carbon or Social Cost of Methane Royalty "Adders," Among Other Changes Geared to Maximizing Net Benefits

Interior should comprehensively review its fossil fuel leases in order to assess how an increase in royalty rates might affect total revenue, externality costs, and better meet the mandates of its governing statutes. Interior should consider

increasing minimum royalty rates to account for foreseeable environmental and social costs of production. A royalty rate that would lead to a more socially optimal level of extraction would account for the cost of unregulated externalities. In considering adjustments to royalty rates, Interior could focus on externalities associated with "upstream" production on federal lands, as opposed to downstream combustion, because production externalities occur on public lands and are closely tied to Interior's statutory mandates to prevent "undue waste"⁵⁵ and undue degradation of lands.⁵⁶

A study that I co-authored quantified and applied an "upstream" Social Cost of Methane adder that accounted for federal coal production methane costs by relying on fugitive methane emissions data.⁵⁷ The adder would increase royalty rates from 12.5% to 18.7% for surface-mined coal, and from 8% to 28.7% for underground coal.⁵⁸ This royalty rate adder would have yielded approximately \$2 billion in additional royalty revenue between 2009 and 2013 for federal coal production in Colorado, Montana, Utah, and Wyoming.⁵⁹ Moreover, this royalty rate increase would have provided up to \$2.9 billion in net social benefits, accounting for both increased revenue and decreased externality costs.⁶⁰

A separate independent study examined the effect of an increase in the federal coal royalty rate or decrease in production through a tonnage production cap. The study found that a lifecycle carbon dioxide royalty adder set at 20% of the Social Cost of Carbon would add nearly \$3 billion in royalty receipts by 2025.⁶¹ Introducing this higher royalty rate, or carbon adder, phased in over 10 years, would also reduce overall carbon dioxide emissions by the year 2030 by between 54 million metric tons (using an adder of 20% of the Social Cost of the Carbon) and 260 million metric tons (using 100% of the Social Cost of Carbon).⁶² Each of these modeled reforms would induce some substitution of renewable energy and natural gas for coal, as well as increased energy conservation, resulting in a net decline in greenhouse gas emissions. As such, these royalty rate adjustments would result in significant net benefits to the public. Ramping coal production down directly would achieve similar greenhouse gas emission benefits, but with diminished revenue for states and the federal government to use for environmental mitigation, adaptation, education, and infrastructure investment.⁶³ This illustrates one of the primary benefits of fiscal reform, as opposed to setting a cap on federal fossil fuel production: the additional revenue generated from royalty reform would go both to the federal government and to fossil fuel producing states and communities.

55. See 30 U.S.C. §187 (2012).

56. See 43 U.S.C. §1732(b) (2012).

57. See HEIN & HOWARD, ILLUMINATING COAL COSTS, *supra* note 13, at 7 (surface mines); HEIN, PRIORITIES FOR FEDERAL COAL REFORM, *supra* note 13, at 13 (underground mines).

58. See HEIN & HOWARD, ILLUMINATING COAL COSTS, *supra* note 13, at 7.

59. *Id.*

60. *Id.*

61. SPENCER REEDER & JAMES H. STOCK, VULCAN PHILANTHROPIES, FEDERAL COAL LEASING REFORM OPTIONS: EFFECTS ON CO₂ EMISSIONS AND ENERGY MARKETS: EXECUTIVE SUMMARY 4 (2016), <https://perma.cc/4KXT-BGM8>.

62. *Id.* at 5, 6.

63. See *id.* at 8.

51. *California v. Watt (Watt II)*, 712 F.2d 584, 606, 13 ELR 20723 (D.C. Cir. 1983).

52. *Id.* at 590, 606.

53. See, e.g., *Zero Zone v. U.S. Dep't of Energy*, 832 F.3d 654, 678-79, 46 ELR 20137 (7th Cir. 2016).

54. See, e.g., *High Country Conservation Advocates v. Forest Serv.*, 52 F.Supp.3d 1174, 1197, 44 ELR 20144 (D. Colo. 2014). (holding that it was arbitrary and capricious to quantify the benefits of coal lease modifications and not the costs, when such analysis was possible using the Social Cost of Carbon).

C. *For Each Alternative Scenario, Interior Should Model Energy Substitution and Climate Effects*

Interior should model its selected alternatives' energy production, climate, revenue, and other effects, including downstream greenhouse gas emissions. As part of this analysis, it should analyze the substitution effects among coal, natural gas, oil, and renewable energy sources that result from changes in leasing policies.⁶⁴ This analysis in an environmental review process is critical to properly analyzing environmental impacts, and, ultimately, to selecting the most efficient alternative. Interior should model each alternative scenario's energy market and greenhouse gas emission effects, which requires accounting for the substitution effects induced by each alternative, as well as increased energy conservation.

Interior should also analyze production scenarios in its planning and environmental review processes that would tailor federal production to any U.S. climate change goals. For example, the government could set a national "carbon budget" for federal lands, based on what is needed to meet its climate change goals, and adjust leasing policies for fossil fuels in order to meet that budget. This could be done through an escalating royalty rate designed to decrease federal coal and oil production over time—which would provide short-term revenue benefits—or through a production cap or moratorium.⁶⁵

D. *Interior Should Curb Royalty Rate Reductions and Loopholes, Which Impair a Fair Return to Taxpayers*

Interior should eliminate its existing royalty relief regulations, as they provide improper incentives to companies and hinder the receipt of a fair return. Rate reductions that are "necessary to promote development" of the resource amount to a subsidy for fossil fuels. This regulation is at odds with managing federal fossil fuel programs to maximize the net return to taxpayers, and threatens the efficacy of any future royalty rate adjustments.

E. *Interior Should Evaluate Bidding Reforms, Consider the Alternative of Delayed Lease Sales, and Promote Competition*

At the lease sale stage, Interior should be compensated for the estimated market price of the resource to be leased, as well as the option value of mining or drilling. Minimum bids should be raised to account for both inflation and the

option value of leasing, in order to serve as a floor price for fair market value. Furthermore, Interior should consider the alternative of delaying lease sales in its NEPA "alternatives analysis" for proposed lease sales.

Option value, the value of waiting for more information before deciding whether and when to lease,⁶⁶ should be incorporated into Interior's fossil fuel leasing management in three major ways:

- Option value should be part of the planning process, to determine when and where to lease tracts, if ever.
- Option value should be a component of minimum bids and bid adequacy procedures.
- Interior should consider the alternative of delaying or strategically timing fossil fuel lease sales when it prepares its "alternatives analysis," pursuant to NEPA. Considering a delayed lease sale alternative would require Interior to assess the potential effects of leasing fossil fuels later, when resource prices may be higher, or more infrastructure is in place that would reduce externalities, transportation costs, and more.

Finally, Interior should consider taking steps to make leasing more competitive, such as by moving to a market-based system of leasing that would pit bidders against one another across tracts, based on the quantity of oil, gas, or coal that they seek to produce in a practice called inter-tract bidding.⁶⁷ Alternatively, Interior could simply offer fewer tracts for lease and eliminate practices like area-wide leasing, which it uses in offshore auctions.

V. Conclusion

Interior, as the steward of public lands, should structure its leasing programs to provide maximum net benefits to the public, including by accounting for climate change costs. Adjusting royalty rates to account for the externality costs of production would ensure that any leasing provides net benefits to the public—not just short-term gains for private companies. And modernizing bidding to account for option value and to increase competition for leases would better effectuate Interior's duty to earn fair market value for the use and development of federal lands and resources. By increasing revenue to states and the federal government while reducing greenhouse gas emissions, the tools and reforms suggested in this Article can serve as effective policy levers in the absence of comprehensive climate change legislation.

64. *Id.*

65. For discussion and analysis of a potential production cap, see Peter Erickson & Michael Lazarus, *How Would Phasing Out U.S. Federal Leases for Fossil Fuel Extraction Affect CO₂ Emissions and 2°C Goals?* 22 (Stockholm Env't Inst., Working Paper No. 2016-02, 2016), <https://perma.cc/BCX4-ZQRW>.

66. See Livermore, *supra* note 33, at 589, 593-96.

67. COAL PEIS SCOPING REPORT VOL. I, *supra* note 8, at 6-11.

C O M M E N T

The Public's Interest and Durable Management of Energy Development on Public Lands

by Tommy Beaudreau, Janice Schneider, and Joshua Marnitz

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The United States owns, on behalf of all Americans, approximately 30% of the nation's land, totaling more than 600 million acres, including vast landscapes in the west and in Alaska. These lands include our national parks, national forests, wildlife refuges, national monuments, as well as other public lands that are overseen by the Bureau of Land Management (BLM) in the United States Department of the Interior (DOI or the Interior Department). In addition to managing more than 245 million surface acres—nearly one-half—of these public lands, the BLM is responsible for administering approximately 700 million acres of subsurface mineral estate. Offshore, the Interior Department manages and regulates the entire 1.7 billion-acre U.S. outer continental shelf (OCS), including for oil and gas exploration and development.

The Interior Department's stewardship responsibilities over these lands, and the diverse natural resources that they contain, are grounded in its authorizing statutes. For example, the BLM's fundamental mandate under the Federal Land Policy and Management Act of 1976 (FLPMA) is to administer public lands "on the basis of multiple use and sustained yield," which includes "meet[ing] the present and future needs of the American people."¹ Under the Mineral Leasing Act of 1920 (MLA), the Interior Secretary is charged with establishing terms for the leasing of oil, natural gas, and coal that are necessary "for the safeguarding of the public welfare."² Similarly, the Outer Continental Shelf Lands Act (OCSLA) establishes the OCS as a "vital natural resource" that should be "made available for expeditious and orderly development, subject to environmental safeguards, in a manner which is consistent with the maintenance of competition and other national needs."³

In light of these statutory directives that DOI's management of public lands be, broadly speaking, in the public's interest, Prof. Jayni Foley Hein argues in *Federal Lands and Fossil Fuels: Maximizing Social Welfare in Federal Energy Leasing* that the Interior Department must rethink its pro-

grams for the leasing of fossil fuels—including coal, oil, and natural gas—on public lands "with the goal of maximizing social welfare."⁴ She observes that DOI's regulatory programs for leasing coal, oil, and natural gas on public lands have been in place, relatively unchanged, for decades. Indeed, the laws and regulations that govern these programs have seen few updates since they were promulgated the late 1970s and early 1980s, even though the conventional energy industries, as well as arguably the country's policy imperatives, have evolved substantially since then.

Professor Hein also argues forcefully that the Interior Department's current fossil fuel leasing programs employ "no mechanism to account for many significant externalities associated with fossil fuel extraction, transportation, and consumption."⁵ She discusses that these programs fail to properly quantify, let alone address, major environmental and social effects, including related to greenhouse gas (GHG) emissions and their effect on climate.⁶

In light of the broad requirement that public lands be managed in the public's interest, Professor Hein recommends that to "better fulfill its statutory mandates under FLPMA, the Mineral Leasing Act, and OCSLA, Interior should update its leasing process and fiscal terms."⁷ These proposed reforms include (1) requiring the development of strategic leasing plans to evaluate whether leasing would earn fair market value for taxpayers, including after considering social and environmental costs by using tools such as Social Cost of Carbon and Social Cost of Methane analyses; (2) optimizing fiscal terms for new leases, including by adding social cost of carbon and social cost of methane royalty "adders" to maximize net benefits; (3) requiring the development of alternative leasing scenarios by modeling energy substitution and climate effects; and (4) other reforms intended to curb royalty rate reduction "loopholes" and require consideration of alternatives, such as delaying

1. 43 U.S.C. §§ 1702(c), 1712(c)(1).
2. 30 U.S.C. § 187.
3. 43 U.S.C. § 1332(3).

4. Jayni Foley Hein, *Federal Lands and Fossil Fuels: Maximizing Social Welfare in Federal Energy Leasing*, 42 HARV. ENVTL. L. REV. 1, (2018), at 4.
5. *Id.* at 5.
6. *Id.* at 3-7.
7. *Id.* at 49.

lease sales, as part of a land management agency's analysis under the National Environmental Policy Act (NEPA).

In sum, Professor Hein advocates a strategy for using existing administrative authorities governing the management of fossil fuel leasing on public lands to advance social welfare by addressing the social costs of GHG emissions related to the eventual combustion of those fuels. While the goals of using federal authorities to advance social welfare are laudable, we are skeptical that the proposed reforms can be implemented in a durable way in light of the absence of political consensus that the "public interest" and "social welfare" require that fossil fuel development on public lands be managed specifically to address GHG emissions and climate effects.

Absent clearer legislative authority establishing that the public's interests in managing oil, natural gas, and coal leasing and development on public lands includes GHG emissions reduction and advancing climate goals, administrative policy and even regulatory changes premised on the generalized statements about the nation's interests and needs—such as those currently contained in DOI's existing authorities under FLPMA, the MLA, OCSLA and other relevant statutes—are not likely to be durable. The advantages of using the interpretation and exercise of existing authority as a lever for action on emissions and climate change—i.e., the ability to act without seemingly unattainable new legislative mandates codifying these objectives—are the same features that make such action susceptible to significant policy swings between executive administrations. As we have seen in recent years, what is done administratively can be dismantled quickly.

I. Fossil Fuel Development on Public Lands

First, a brief discussion about the opportunity—and limitations—of using the management of fossil fuels leasing and development on public lands as a lever in climate policy. Professor Hein discusses the "fossil fuel boom" that has occurred in the United States over the past decade, and this is important context for the proposed administrative reforms and their potential to affect overall GHG emissions from fossil fuel development in the United States. Indeed, oil and natural gas production in the United States has increased dramatically since the mid-2000s, driven by technological advances such as horizontal drilling and hydraulic fracturing that have unlocked massive hydrocarbon resources found in shale formations. According to the U.S. Energy Information Administration (EIA), between 2008 and 2016, total U.S. oil production increased by 77% and natural gas production increased by 35%.⁸ This trend in increased domestic oil production has continued

in recent years, and the EIA reports that the U.S. produced nearly 12 million barrels of oil per day in March 2019, which is more than double the 5.5 million barrels per day produced in March 2010.⁹

However, this unprecedented growth in domestic oil and natural gas production has largely been a story about the rise of shale basins, which happen to coincide predominantly with private and state managed lands. While federal onshore oil production has increased by 59% since 2008, that growth is dwarfed by what has happened on non-federal lands.¹⁰ The EIA estimates that 90% of the growth in oil and natural gas development between 2011 and 2016 can be attributed to tight oil and shale gas plays located primarily on state and private (i.e., non-federal) lands.¹¹ Similarly, while offshore oil production from the federal OCS in the Gulf of Mexico has remained relatively steady, it has decreased as a percentage of overall domestic oil and gas production from approximately 29% in March 2010 to 16% in March 2019.¹²

Federal coal is a different picture altogether. Due largely to market forces, plant retirements, regulation, and the proliferation of cheap natural gas, total coal production in the United States declined approximately 23% from 2008 to 2015.¹³ The production of federal coal, which accounts for nearly 40% of the coal produced in the United States, has declined approximately 19% during that same time period.¹⁴

Therefore, while public lands remain a source of significant oil, natural gas, and coal production, they are not responsible for the fossil fuel production boom that the United States has experienced over the past decade. Oil production in the U.S. has risen dramatically over the past 10 years, but public lands have not played a significant role in that growth. Meanwhile, for a variety of reasons, coal production from public lands continues to trend downward. Accordingly, public lands do not present a game-changing opportunity for advancing climate policy through administrative changes to federal oil, natural gas, and coal leasing programs, particularly under existing authorities.

II. Case Studies in the Limitations of Using Existing Administrative Authorities to Advance Social Welfare

The absence of political consensus supporting reinterpretation of the public's interest in how fossil fuels leasing is managed on public lands is illustrated by the short-lived reforms attempted during the Barack Obama Administration. In this comment, we discuss three examples, each of which highlights different aspects of the political, legal, and practical challenges that face Professor Hein's proposed

8. UNITED STATES GOVERNMENT ACCOUNTABILITY OFFICE, REPORT TO CONGRESSIONAL COMMITTEES GAO-17-540, OIL, GAS, AND COAL ROYALTIES: RAISING FEDERAL RATES COULD DECREASE PRODUCTION ON FEDERAL LANDS BUT INCREASE FEDERAL REVENUE, at 12 (June 2017) ("GAO Royalties Report") (citing EIA data).

9. EIA, Monthly Crude Oil and Natural Gas Report, at <https://www.eia.gov/petroleum/production/> (last visited June 27, 2019).

10. See *supra* note 8, at 12. (citing Office of Natural Resources Revenue data).

11. *Id.* (citing EIA data).

12. See *supra* note 9.

13. See *supra* note 8, at 14.

14. *Id.*

reforms to manage fossil fuels leasing on public lands with an eye toward social welfare, as defined as reducing carbon pollution and addressing climate change.

First, we discuss the 2016 *Federal Coal Program Programmatic Environmental Statement—Scoping Report* (the Coal PEIS Scoping Report), which former Interior Secretary Jewell commissioned to provide a broad review of the federal coal leasing program similar to the comprehensive, programmatic evaluation and reorientation that Professor Hein recommends.

Second, we examine the Obama Administration's consideration of changes to onshore oil and gas royalty rates, including potentially to account for negative externalities associated with carbon pollution through analytical tools such as the Social Cost of Carbon, premised on the BLM's established authority to set royalty rates through regulation.

Finally, we discuss the BLM's 2016 *Final Rule on Waste Prevention, Production Subject to Royalties, and Resource Conservation* (the BLM Methane Rule), which hewed closely to BLM's traditional stewardship responsibilities to prevent waste and ensure a fair return to the taxpayer, as opposed to any climate-related emission reduction policy, and yet nevertheless was immediately targeted for rescission and revision following the 2016 election and change in the political party governing the federal Executive Branch.

A. The 2016 Federal Coal PEIS

The MLA affords the Secretary of the Interior substantial discretion in implementing the federal coal leasing program by authorizing the Secretary to manage federal lands for coal leasing “as he finds appropriate and in the public interests.”¹⁵ The Federal Coal Leasing Amendments Act of 1976 amended the MLA to require that all public lands available for coal leasing be offered competitively. The MLA also directs the federal government not to accept any bid on a coal lease tract that is less than the “fair market value.”¹⁶ On the royalties side, the MLA generally establishes a floor for surface coal royalties of 12.5%, and authorizes the Secretary to establish a lesser royalty rate for coal recovered from underground mining operations.¹⁷ The BLM regulations implementing the federal coal leasing program were primarily developed in the late 1970s, and the program has not been subject to comprehensive review since the 1980s. Meanwhile, as discussed above, the coal industry and energy markets have changed substantially since that time. Additionally, in recent years the Government Accountability Office (GAO) and DOI Inspector General's Office have criticized the federal coal leasing program for failing to provide for a fair return to taxpayers.¹⁸

In January 2016, Interior Secretary Jewell issued Secretarial Order 3338, which directed BLM to prepare a Programmatic Environmental Impact Statement under NEPA to identify and analyze potential leasing and management reforms for the federal coal program (Coal PEIS).¹⁹ Secretarial Order 3338 stated that the Coal PEIS would “provide a vehicle for the Department to undertake a comprehensive review of the program and consider whether and how the program may be improved and modernized to foster the orderly development of BLM administered coal on Federal lands in a manner that gives proper consideration to the impact of that development on important stewardship values, while also ensuring a fair return to the American public.”²⁰ Secretarial Order 3338 highlighted three main concerns to be addressed in the Coal PEIS—fair return, climate change, and market conditions.²¹ Secretarial Order 3338 also imposed a “pause on the issuance of new federal coal leases for thermal (steam) coal” administered by the BLM to “allow future leasing decisions to benefit from the recommendations that result” from the Coal PEIS.²² Professor Hein points to the Coal PEIS directed under Secretarial Order 3338 as exactly the type of analysis that she recommends be done “regularly to determine whether taxpayers are receiving ‘fair market value’ and whether the program is aligned with climate change or other environmental goals.”²³

The problem, from the perspective of Professor Hein's recommendations, is that Secretarial Order 3338 and the Coal PEIS, which were premised on the Secretary's authorities under the MLA, FLPMA and other statutes to act in the public interest, resulted in no change to the way BLM administers the federal coal program.

Just before the end of the Obama Administration in January 2017, BLM published its Coal PEIS Scoping Report.²⁴ In the Coal PEIS Scoping Report, BLM found that “[c]onsideration of the implications of Federal coal leasing for climate change, as an extensively documented threat to the health and welfare of the American people, falls squarely within the factors to be considered in determining the public interest.”²⁵ In fact, BLM in the Coal PEIS Scoping Report identified for additional analysis many of the same proposals made by Professor Hein, including accounting

15. 30 U.S.C. § 201(a)(1).

16. *Id.*

17. 30 U.S.C. § 207(a).

18. See OFFICE OF THE INSPECTOR GENERAL, U.S. DEPARTMENT OF THE INTERIOR, COAL MANAGEMENT PROGRAM, U.S. DEPARTMENT OF THE INTERIOR, Report No. CR-EV-BLM-0001-2012 (June 2013); GOVERNMENT ACCOUNTABILITY OFFICE, COAL LEASING: BLM COULD ENHANCE APPRAIS-

AL PROCESS, MORE EXPLICITLY CONSIDER COAL EXPORTS, AND PROVIDE MORE PUBLIC INFORMATION, GAO-14-140 (Dec. 2013); GOVERNMENT ACCOUNTABILITY OFFICE, OIL, GAS, AND COAL ROYALTIES: RAISING FEDERAL RATES COULD DECREASE PRODUCTION ON FEDERAL LANDS BUT INCREASE FEDERAL REVENUE, GAO-17-540 (June 2017).

19. U.S. Department of the Interior Secretarial Order No. 3338, *Discretionary Programmatic Environmental Impact Statement to Modernize the Federal Coal Program*, at 1 (Jan. 15, 2016).

20. *Id.*

21. *Id.* at 4-5.

22. *Id.* at 8-10. Secretarial Order 3338 also included numerous exceptions to this moratorium on new coal leasing by BLM, including for lease sales associated with applications in advanced stages of review, emergency leasing, and certain lease modifications and lease exchanges.

23. See *supra* note 4, at 27.

24. U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT, FEDERAL COAL PROGRAM PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT—SCOPING REPORT (Jan. 2017).

25. *Id.* at ES-2.

for social costs of coal production and pricing externalities associated with carbon emissions through either increased royalty rates or the imposition of a carbon “adder” equivalent to a per-ton fee to be paid in addition to the royalty.²⁶

The Coal PEIS never advanced beyond scoping. One of the early acts of the Donald Trump Administration was to rescind Secretarial Order 3338, terminate the Coal PEIS review, and lift the moratorium on new coal leasing by BLM.²⁷ The Coal PEIS was politically contentious at the time it was proposed, and despite responding to calls for modernizing and reforming the federal coal program and purporting to be grounded in the Secretary’s general authority under the MLA, FLPMA and other statutes to act in the public interest, it did not survive a presidential election and change in administration.²⁸

B. Onshore Oil and Natural Gas Royalty Rates and the Social Cost of Carbon

Our next case study in the challenges of using existing authorities to implement durable change in the public’s interest concerns the previous administration’s attempts to adjust royalty rates for onshore oil and gas production from public lands, including consideration of the use of social cost of carbon calculations to quantify external costs. Those efforts were not a broad re-evaluation of the BLM’s oil and gas program, such as contemplated by the Coal PEIS, but rather consideration of how existing authorities could be used to quantify and recoup social costs related to GHG emissions.

Under the MLA, the royalty rate for non-competitively issued oil and gas leases on BLM-managed lands is fixed at 12.5%.²⁹ For competitively issued oil and gas leases on BLM-managed lands, the MLA requires a royalty “at a rate not less than 12.5%.”³⁰ In 2015, BLM issued an Advanced Notice of Proposed Rulemaking (ANPR) to assist BLM in preparing a proposed rule to provide the Interior Secretary with “the flexibility to adjust royalty rates in response to changes in the oil and gas market.”³¹ Among the questions BLM asked in the ANPR was whether BLM should “consider other factors in determining what royalty level might provide a fair return, such as life cycle costs, externalities, or the social costs associated with the extraction and use of

the oil and gas resources.”³² BLM also asked commenters if the agency should consider factors such as externalities and social costs, and to “please explain how it should do so.”³³

Professor Hein proposes an answer. She explains that because “environmental externalities vary with the amount of fossil fuels that are produced,” increased royalty rates on oil and gas could be used to recoup the social costs of carbon associated with these fuels. Accordingly, she recommends that DOI use “economic tools to measure the cost of these impacts, such as the Social Cost of Carbon and Social Cost of Methane” to help establish royalty rates as a “type of Pigouvian tax: a tax levied on activity that generates negative externalities.”³⁴

While BLM’s consideration of oil and gas royalty rate adjustments during the Obama Administration never advanced to the point of implementing royalty rates at levels tied to recovery of the social costs of carbon pollution, the Obama Administration worked to develop the Social Cost of Carbon as a tool for federal agencies to use, including in evaluating GHG emissions and climate effects under NEPA. In August 2016, the White House Council on Environmental Quality (CEQ) published its *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*, which required federal agencies to consider GHG emissions and climate change issues when evaluating the potential impacts of a federal action under NEPA.³⁵ CEQ specifically suggested that federal agencies use the Social Cost of Carbon analytical tool.³⁶

In March 2017, President Trump’s Executive Order 13783 directed CEQ to rescind its 2016 guidance on analyzing GHG emissions and climate change under NEPA.³⁷ This Executive Order also disbanded the Interagency Working Group on Social Cost of Greenhouse Gases (IWG) and withdrew the technical analyses generated by the IWG as “no longer representative of governmental policy.”³⁸ On June 21, 2019, CEQ issued its *Draft National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions*, which among other things proposed advising federal agencies that they “need not weigh the effects of the various alternatives in NEPA in a monetary cost-benefit analysis using any monetized Social Cost of Carbon (SCC) estimates and related documents . . . or other similar cost metrics.”³⁹

26. *Id.* at 6-13.

27. Presidential Executive Order 13783, *Promoting Energy Independence and Economic Growth* (Mar. 28, 2017); U.S. Department of the Interior Secretarial Order 3348, *Concerning the Federal Coal Moratorium* (Mar. 29, 2017); U.S. Department of the Interior Secretarial Order 3349, *American Energy Independence* (Mar. 29, 2017).

28. Indeed the Trump Administration recently doubled down on its position in the face of litigation over this issue. *See, e.g.*, Draft Environmental Assessment, *Lifting the Pause on the Issuance of New Federal Coal Leases for Thermal (Steam) Coal*, DOI-BLM-WO-WO2100-2019-0001-EA (May 2019).

29. 30 U.S.C. §226(c).

30. 30 U.S.C. §226(b)(1)(A).

31. BUREAU OF LAND MANAGEMENT, ADVANCED NOTICE OF PROPOSED RULEMAKING, OIL AND GAS LEASING; ROYALTY ON PRODUCTION, RENTAL PAYMENTS, MINIMUM BIDS, BONDING REQUIREMENTS, AND CIVIL PENALTY ASSESSMENTS, 80 Fed. Reg. 22148 (Apr. 21, 2015).

32. *Id.* at 22, 154.

33. *Id.*

34. *See supra* note 4, at 18.

35. COUNCIL ON ENVIRONMENTAL QUALITY, FINAL GUIDANCE FOR FEDERAL DEPARTMENTS AND AGENCIES ON CONSIDERATION OF GREENHOUSE GAS EMISSIONS AND THE EFFECTS OF CLIMATE CHANGE IN NATIONAL ENVIRONMENTAL POLICY ACT REVIEWS, 81 Fed. Reg. 51866 (Aug. 5, 2016).

36. *Id.*

37. *See supra* note 27; *see also* 82 Fed. Reg. 16576 (Apr. 5, 2017) (CEQ notice withdrawing the guidance).

38. *See supra* note 27.

39. COUNCIL ON ENVIRONMENTAL QUALITY, DRAFT NATIONAL ENVIRONMENTAL POLICY ACT GUIDANCE ON CONSIDERATION OF GREENHOUSE GAS EMISSIONS, 84 Fed. Reg. 30097 (June 26, 2019).

While BLM during the Obama Administration never went as far as to propose a rule that would allow for consideration of externalities associated with GHG emissions to be factored into royalty rates for oil and gas production, even the analytical tools, such as the Social Cost of Carbon, necessary for developing the calculation of such an approach to royalty rates were rejected following the 2016 election. Where even such tools are deemed not consistent with federal policy, it seems unlikely that BLM would enjoy the political support necessary to administratively use royalty rates as a form of tax to recoup external costs related to GHG effects on climate, particularly under the existing statutory framework.

C. BLM Methane Rule

This brings us to our final case study—the 2016 BLM Methane Rule. BLM attempted to use its existing authorities to directly address upstream methane emissions in the 2016 BLM Methane Rule.⁴⁰ The MLA specifically requires BLM to ensure that lessees “use all reasonable precautions to prevent waste of oil or gas developed in the land” and comply with rules “for the prevention of undue waste.”⁴¹ Coupled with BLM’s obligation to obtain a fair return for the American public on produced resources such as natural gas, these waste prevention requirements are four square with the traditional exercise of BLM’s authorities in the public interest.

The BLM Methane Rule hewed closely to that traditional understanding of BLM’s responsibility to serve the public’s interest by regulating oil and gas operations to prevent the waste of resources and to ensure a fair return to the taxpayer. For example, the BLM Methane Rule required operators to develop waste minimization plans; established clear criteria for when flared gas would be subject to royalties; generally prohibited venting and tightened rules on flaring of associated gas from oil wells; and established standards for detecting and/or addressing gas leaks from equipment at the well site or elsewhere on the lease, the operation of high-bleed pneumatic controllers and certain pneumatic pumps, controlling gas emissions from storage vessels, downhole well maintenance and liquids unloading, and well drilling and completions.⁴² BLM also included provisions authorizing variances from requirements under the BLM Methane Rule where a state or tribe demonstrates that a state, local, or tribal regulation imposes equally effective requirements.⁴³

Despite its grounding in traditional notions of the public interest in regulating emissions from oil and gas operations, as opposed to achieving goals related to climate policy, the BLM Methane Rule was immediately a target for rescission following the 2016 election. The BLM Methane Rule

narrowly survived a rescission under the Congressional Review Act, and did so only because of concerns in the U.S. Senate about permanently impairing BLM’s authority to regulate to prevent waste and ensure fair return.

The Interior Department then turned to revising the BLM Methane Rule through the Administrative Procedures Act notice and comment rulemaking process. In September 2018, BLM published the final revised Methane Rule, entitled *Waste Prevention, Production Subject to Royalties, and Resource Conservation; Rescission or Revision of Certain Requirements* (Revised Methane Rule).⁴⁴ The Revised Methane Rule eliminated a number of provisions of the original BLM Methane Rule, including requirements related to waste management plans, leak detection and repair, and gas capture. The Revised Methane Rule also modified requirements related to gas capture and the flaring of associated gas royalty-free, downhole well maintenance and liquids unloading, and the measuring and reporting of volumes of gas vented or flared.

Despite being premised on preventing waste and ensuring fair return, BLM in the Trump Administration determined that the costs to industry of compliance with the original BLM Methane Rule outweighed its benefits. BLM originally estimated the BLM Methane Rule would result in a minimum annual net benefit of \$46 million, and produce a minimum increase in oil and gas royalties of \$3 million.⁴⁵ In the Revised Methane Rule, however, BLM estimated that the reduction of compliance costs would exceed the forgone cost savings from recovered natural gas and the value of the forgone methane emissions reductions, producing minimum benefits of \$734 million.⁴⁶ BLM further estimated that the Revised Methane Rule would result in minimum forgone royalty payments to the federal government, tribal governments, states, and private landowners of \$28.3 million.⁴⁷ Thus, not only were the social costs associated with fugitive emissions not a factor in the new cost benefit analysis, BLM eliminated or modified a number of provisions under the original BLM Methane Rule because the compliance cost to industry outweighed the value of prevented waste of gas or lost royalty revenue to the taxpayer.

III. Conclusion

Determining the public interest, in order to manage the United States’ shared resources on public lands in a way that maximizes social welfare, is inherently political. As illustrated by efforts during the Obama Administration to exercise existing authorities related to the administration of energy development on public lands—efforts that fell along a continuum of executive authority from re-imagining the entire federal coal program through the lens

40. DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT, FINAL RULE, WASTE PREVENTION, PRODUCTION SUBJECT TO ROYALTIES, AND RESOURCE CONSERVATION, 81 Fed. Reg. 83008 (Nov. 18, 2016).

41. 30 U.S.C. §§ 187, 225.

42. See *supra* note 40.

43. *Id.*

44. BUREAU OF LAND MANAGEMENT, WASTE PREVENTION, PRODUCTION SUBJECT TO ROYALTIES, AND RESOURCE CONSERVATION; RESCISSION OR REVISION OF CERTAIN REQUIREMENTS, 83 Fed. Reg. 49184 (Sept. 28, 2018).

45. See *supra* note 40, at 83014.

46. See *supra* note 44, at 49205.

47. *Id.*

of climate policy, to reinterpreting existing authority to include accounting for the social costs of GHG emissions in royalty rates and NEPA analyses, to hewing closely to traditional understanding of the public interest in curbing waste and ensuring fair return through regulation of fugitive emissions—absent political consensus, the reforms recommended by Professor Hein are unlikely to be durable or result in meaningful changes to the oversight of energy development on public lands.

This does not mean that changes to how the Interior Department manages energy development on public lands are impossible. But, recent experience does tell us that the U.S. Congress has a role to play. As Interior Secretary Bernhardt stated in his recent testimony during a U.S. House of Representatives budget hearing, there is not a clear statutory mandate, or even policy consensus, that public lands—and energy development on public lands in particular—must be managed with climate impacts in mind.

When asked whether it is his job as Interior Secretary to help address climate change, he responded, “You know what, there is not a ‘shall’ for ‘I shall manage the land to stop climate change’ or something similar to that. You guys come up with the ‘shalls.’”⁴⁸

Exercising administrative authorities based on the interpretation of the public interest mandate under FLPMA, the MLA, OCSLA, and other existing statutes is not enough to accomplish the social welfare objectives that Professor Hein argues are necessary to reflect the true social cost of GHG emissions related to energy development on public lands and address the effects of climate change on our landscapes. Lasting and effective changes in the way public lands are managed—the kinds of changes that can survive swings in the political pendulum—would also require Congress to weigh in on defining the public’s interest in energy development on public lands.

48. *Rep. Chellie Pingree Asks Secretary Bernhardt About Climate Change and Scientist Vacancies*, C-SPAN (May 7, 2019), <https://www.c-span.org/video/?c4796445/rep-chellie-pingree-asks-secretary-bernhardt-climate-change-scientist-vacancies>.

C O M M E N T

No New Fossil Fuel Leasing: The Only Path to Maximizing Social Welfare in the Climate Change Era

by Rebecca Fischer and Daniel Timmons

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I. Introduction

In *Federal Lands and Fossil Fuels: Maximizing Social Welfare in Federal Energy Leasing*, Prof. Jayni Foley Hein assesses inefficiencies in the federal fossil fuel leasing program that lead to the over-extraction of fossil fuels at great societal cost. In recognition of the U.S. Department of the Interior's (Interior's) role in stewarding federal lands for the long-term benefit of the American people, Hein proposes that Interior should adopt a policy of seeking to maximize social welfare or "net public benefits" in its leasing decisions. The article suggests that such reforms could significantly increase revenues for states and the federal government, while simultaneously reducing greenhouse gas emissions and other environmental costs. Hein provides valuable, practical suggestions for how Interior could utilize strategic lease planning and make changes to its royalty rates and bidding processes that would help the agency account for the social cost of carbon.

Addressing the current climate crisis, however, requires much more than marginal changes to royalty rates and the leasing process. That said, Professor Hein's proposed reforms—if fully implemented—could potentially have significant on-the-ground impacts. First, if federal agencies truly accounted for the social costs of climate change, they would come to the inescapable conclusion that leasing new fossil fuels has no net public benefit. Maximizing social welfare and averting catastrophic climate change requires a rapid shift away from fossil fuels that is simply incompatible with new fossil fuel leasing on federal lands. Second, Professor Hein fails to fully account for the climate impacts of existing fossil fuel leases, the development of which may also push the world over warming limits. Thus, effective reforms must ultimately phase out existing leases as well. Finally, Interior's staunch opposition to a full accounting for the social costs of fossil fuel leasing must be acknowledged. Even under more climate change-aware administrations, Interior was unwilling to complete a programmatic analysis of its federal onshore oil and gas leasing

program or fully account for the costs of carbon at the lease sale or permit to drill stages. Thus, any future reform which relies on Interior's discretion will require concerted public pressure to ensure social welfare is maximized in its management of our federal public lands.

II. The Federal Fossil Fuel Program

Professor Hein's article first assesses the current state of Interior's fossil fuel program, discussing the recent boom in fossil fuel production and lagging regulatory response.¹ Advances in technology, such as multi-stage hydraulic fracturing and horizontal drilling, have allowed the United States to recently become the world's largest producer of oil² and natural gas.³ Oil production on federal lands is at record levels,⁴ and some 24% of crude oil, 13% of natural gas, and 42% of coal produced in the country comes from federal lands.⁵

As Professor Hein highlights, however, Interior's fossil fuel leasing program has failed to keep up with the recent boom in production and its attendant social costs, privileging the economic interests of extractive industry over public welfare. For example, unlike for offshore drilling, Interior does not prepare five-year programmatic assessments for its onshore leasing programs.⁶ Instead leasing decisions are

1. See generally Jayni Foley Hein, *Federal Lands and Fossil Fuels: Maximizing Social Welfare in Federal Energy Leasing*, 42 HARV. ENVTL. L. REV. 1 (2018).
2. U.S. ENERGY INFO. ADMIN., THE UNITED STATES IS NOW THE LARGEST GLOBAL CRUDE OIL PRODUCER (2018), <https://www.eia.gov/todayinenergy/detail.php?id=37053> (last visited Feb. 8, 2019).
3. U.S. ENERGY INFO. ADMIN., UNITED STATES REMAINS THE WORLD'S TOP PRODUCER OF PETROLEUM AND NATURAL GAS HYDROCARBONS (2018), <https://www.eia.gov/todayinenergy/detail.php?id=36292> (last visited Feb. 8, 2019).
4. CONG. RES. SERV., U.S. CRUDE OIL AND NATURAL GAS PRODUCTION IN FEDERAL AND NONFEDERAL AREAS 1, 3 (2018), <https://crsreports.congress.gov/product/pdf/R/R42432>.
5. *Id.* at 1, 2; STRATUS CONSULTING, GREENHOUSE GAS EMISSIONS FROM FOSSIL ENERGY EXTRACTED FROM FEDERAL LANDS AND WATERS: AN UPDATE, 1, 2 (2014).
6. See WildEarth Guardians, Petition Requesting a Programmatic Environmental Impact Statement Addressing the Bureau of Land Management's Oil

reactive in nature, with Interior relying on private fossil fuel companies to nominate parcels for leasing, allowing the narrow private interests of those companies to determine where and when fossil fuel extraction occurs.

As Professor Hein explains, bidding at lease sales is also often non-competitive,⁷ and the Secretary of Interior has never exercised the authority to raise the national minimum bid for oil and gas sales, which has remained stuck at \$2 per acre for decades.⁸ Further, royalty rates have not kept pace with changes in the broader market, or even inflation.⁹ And the Donald Trump Administration has tried to walk back a 2016 regulation allowing the Bureau of Land Management (BLM) to set new royalty rates higher than the statutory 12.5% minimum.¹⁰ Thus, Interior has chosen to tie its own hands to keep minimum bids and royalty rates artificially low, benefitting private oil and gas companies at the expense of American taxpayers and the global climate.¹¹

These artificially low bids and royalty rates fail to fully compensate the American public for the social costs of fossil fuel production related to climate change, air quality impacts, earthquakes induced by fracking and injection wells, fragmentation of wildlife habitat, use and contamination of vast quantities of fresh water, and public health and safety risks.¹² Current royalty rates do not even account for the economic value of methane, a potent greenhouse gas, wasted through leaks, intentional venting, or flaring.¹³

III. The Proposed Reforms

In outlining her social welfare maximization proposal, Professor Hein takes seriously—perhaps more seriously than Interior—the agency’s role as steward of the nation’s public lands for the benefit of current and future generations.¹⁴ The crux of Professor Hein’s agency reform proposal is that

Interior has broad discretion to interpret its statutory mandate to set fossil fuel royalty rates as incorporating principles of social welfare maximization.¹⁵

Under the Mineral Leasing Act, royalty rates are to provide a “fair market value” to the taxpayer.¹⁶ Reviewing a series of federal statutes, legislative history, relevant case law, and Interior regulations, Professor Hein convincingly argues that the term “fair market value” need not simply refer to the value of the extracted resources, but also may reasonably include option value, or “informational value of delaying irreversible decisions.”¹⁷ In other words, the law does not require Interior to ignore the long-term negative consequences of fossil fuel development in setting royalty rates.

Professor Hein proposes a series of reforms to rationalize the federal fossil fuel leasing process and optimize future production.¹⁸ First, Interior should conduct a programmatic review of its fossil fuel leasing programs, including a comprehensive cost-benefit analysis.¹⁹ As detailed below, we believe that this type of programmatic action alone—if *conducted properly*—would lead Interior to the inevitable conclusion that new fossil fuel leasing activities must cease. Professor Hein further suggests: (1) technical adjustments to royalty rates to recoup some of the environmental and social costs of production, such as the adoption of existing federal Social Cost of Carbon and Social Cost of Methane protocols,²⁰ (2) requirements for energy substitution analysis and consideration of climate effects during NEPA alternatives analysis,²¹ (3) eliminating royalty rate reductions and loopholes,²² and (4) bidding reforms to promote competitiveness.²³

At their core, Professor Hein’s reforms would require Interior to adopt a socially optimal definition of fair market value, ensuring that any future fossil fuel leasing on federal lands—if any—would be required to have a net positive benefit to the American people.

IV. The Realities of the Climate Crisis

Unfortunately, the current state of the climate crisis makes it impossible for the United States to keep global warming limited to levels recommended by scientists while leasing new fossil fuels. Indeed, if Interior were to properly implement Hein’s concept of maximizing social welfare in its decisions, it would necessarily conclude that new fossil fuel leasing must be halted, and existing leases must be phased out. Federal fossil fuels emit a significant portion of global greenhouse gas emissions,²⁴ and allowing new leasing could

and Gas Leasing Program and Formal Adoption of the Council on Environmental—Quality’s Guidance for Greenhouse Gas Emissions and Climate Change Impacts (2016), http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2016/20160120_docket-none_petition.pdf.

7. See Hein, *supra* note 1, at 13.

8. *Id.*

9. *Id.*

10. See U.S. Dep’t of Interior, Waste Prevention, Production Subject to Royalties, and Resource Conservation; Rescission or Revision of Certain Requirements, 83 C.F.R. 3160 (2018), <https://www.govinfo.gov/content/pkg/FR-2018-09-28/pdf/2018-20689.pdf> (purporting to rescind Barack Obama-era rule, which clarified BLM’s authority to set royalty rates at or above 12.5%) (hereinafter “2018 Methane Rescission Rule”).

11. According to Hein, many states set royalty rates on state lands at between 15 to 20 percent, and private royalty rates in states like Oklahoma and Texas are often above 20 percent. See Hein, *supra* note 1, at 17.

12. See generally Concerned Health Prof’ls of NY & Physicians for Soc. Responsibility, *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction)* (5th ed. 2018) (hereinafter *Fracking Compendium*).

13. In yet another regulatory giveaway to the fossil fuel industry, the Trump Administration has tried to rescind the Obama Administration’s moderate attempt to reduce methane emissions. 2018 Methane Rescission Rule, *supra* note 10. Wildearth Guardians and a coalition of environmental groups have challenged the 2018 Methane Rescission Rule in federal court. *Sierra Club v. Zinke*, No. 3:18-cv-05984 (N.D. Cal. filed Sept. 28, 2018).

14. Hein, *supra* note 1, at 6.

15. *Id.* at Part III.

16. 30 U.S.C. §201(a)(1).

17. Hein, *supra* note 1, at 33-36.

18. See *id.* at 10-11.

19. *Id.* at 7.

20. *Id.* at 18-20.

21. *Id.* at 31-32.

22. *Id.* at 31.

23. *Id.* at 31-32.

24. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. See U.S. EPA,

use up all of the United States' remaining carbon budget to keep warming below 2.0°C.²⁵ Furthermore, the dramatic increase in projected impacts between warming of 1.5°C and 2.0°C described in the Intergovernmental Panel on Climate Change's (IPCC's) recent special report should compel action to limit warming to 1.5°C.²⁶ Thus, Interior must stop new leasing and phase out existing federal fossil fuel leases to limit the consequences of climate change.

The U.S. role in the global climate crisis is undeniable. The United States is the largest historic carbon emitter in the world²⁷ and the second largest current carbon emitter in the world.²⁸ As of 2014, emissions from federal fossil fuels were approximately 23.0% of the United States' carbon emissions.²⁹ If federal greenhouse gas emissions were their own country, they would be ranked 5th globally.³⁰ And, the U.S. entrenchment in fossil fuels is increasing. As Hein notes, the United States is now the world's largest producer of crude oil and natural gas,³¹ and the third largest producer of coal.³²

The Paris Agreement, of which the United States is still a part of until 2020,³³ commits countries to "[h]olding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels."³⁴ This commitment has given rise to the concept of carbon budgeting, where remaining global carbon emis-

sions are calculated based on the 1.5°C and 2°C warming limits.³⁵ Apportioning this global carbon budget by country provides the United States with a finite range of allowable carbon emissions.³⁶

To date, our world has already experienced approximately 1.0°C of global warming above pre-industrial levels.³⁷ This means that our world can experience no more than 0.5°C of additional warming. According to the IPCC, "[g]lobal warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate."³⁸ Put another way, the world has 12 years to cut global greenhouse gas emissions by 45% from 2010 levels and must zero out emissions by 2050 in order to limit warming to 1.5°C.³⁹

Limiting warming to the limits outlined by the Paris Agreement is critical.⁴⁰ Even allowing warming of 2.0°C above pre-industrial levels, as compared to 1.5°C, will expose 10 million more people to flooding as a result of sea level rise, greatly increase habitat loss for all species, kill off more than 99% of coral reefs, reduce fisheries, limit agricultural yields, and leave several million more people susceptible to poverty.⁴¹

Unfortunately, greenhouse gas emissions from unleased federal oil, gas, and coal could push the United States beyond a carbon budget tailored to limit warming to 2.0°C.⁴² For example, a 2015 report estimates that potential emissions from unleased federal fossil fuels equal 319 to 450 gigatons (Gt) of carbon dioxide equivalent (CO₂e).⁴³ The U.S. carbon budget has been calculated as between 85 to 356 Gt of CO₂e based on a 2.0°C warming limit.⁴⁴ Keeping global warming to 1.5°C will require even further reductions to this budget.

In addition, already-leased federal fossil fuels could by themselves consume the United States' remaining carbon budget.

Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66496, 66497 (Dec. 15, 2009), <https://www.govinfo.gov/content/pkg/FR-2009-12-15/pdf/E9-29537.pdf>.

25. Ecoshift Consulting, *The Potential Greenhouse Gas Emissions From U.S. Federal Fossil Fuels* 1, 3 (2015), <http://www.ecoshiftconsulting.com/wp-content/uploads/Potential-Greenhouse-Gas-Emissions-U-S-Federal-Fossil-Fuels.pdf>.

26. IPCC, *SPECIAL REPORT: GLOBAL WARMING OF 1.5°C, SUMMARY FOR POLICYMAKERS*, 1,6, 9-11 (2018), <https://www.ipcc.ch/sr15/> (hereinafter *IPCC SR15, SUMMARY FOR POLICYMAKERS*).

27. Justin Gillis & Nadja Popovich, *The U.S. Is the Biggest Carbon Polluter in History. It Just Walked Away From the Paris Climate Deal*, N.Y. TIMES, June 1, 2017, <https://www.nytimes.com/interactive/2017/06/01/climate/us-biggest-carbon-polluter-in-history-will-it-walk-away-from-the-paris-climate-deal.html>.

28. Global Carbon Atlas, CO₂ Emissions, "Chart View," <http://www.globalcarbonatlas.org/en/CO2-emissions> (last visited Feb. 11, 2019).

29. U.S. GEOLOGICAL SERV., *FEDERAL LANDS GREENHOUSE GAS EMISSIONS AND SEQUESTRATION IN THE UNITED STATES: ESTIMATES FOR 2005-14* at 1, 8 (2018).

30. The Wilderness Society, *Federal Lands Emissions Accountability Tool*, <https://www.wilderness.org/articles/article/federal-lands-emissions-accountability-tool> (last visited Feb. 10, 2019).

31. EIA, *Crude Oil Production*, *supra* note 4; EIA, *Petroleum & Natural Gas Production*, *supra* note 4.

32. See KELLY TROUT & LORNE STOCKMAN, *OIL CHANGE INTERNATIONAL, DRILLING TOWARD DISASTER: WHY U.S. OIL AND GAS EXPANSION IS INCOMPATIBLE WITH CLIMATE LIMITS* 5 (2019), <http://priceofoil.org/content/uploads/2019/01/Drilling-Towards-Disaster-Web-v3.pdf>.

33. See Valerie Volcovici, *U.S. Submits Formal Notice of Withdrawal From Paris Climate Pact*, REUTERS, Aug. 4, 2018, <https://www.reuters.com/article/us-climate-usa-paris/u-s-submits-formal-notice-of-withdrawal-from-paris-climate-pact-idUSKBN1AK2FM>. To date, 20 states have also independently committed to uphold the terms of the Paris Agreement. U.S. Climate Alliance, Michigan Governor Gretchen Whitmer Joins Climate Alliance, Feb. 4, 2019, <https://www.usclimatealliance.org/publications/2019/2/4/michigan-governor-gretchen-whitmer-joins-us-climate-alliance>.

34. United Nations Climate Change, *Paris Agreement*, Art. II, Section 1(a), https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

35. The concept of assessing fossil fuel reserves within a global carbon budget has been discussed in depth in two Oil Change International reports. The first report, released in 2016, calculated a worldwide carbon budget by determining the maximum level of greenhouse gas emissions allowable based on the Intergovernmental Panel on Climate Change's (IPCC's) recommended warming limits of 2°C and 1.5°C. See Greg Mutitt et al., *The Sky's the Limit*, OIL CHANGE INTERNATIONAL 1, 12 (2016), http://priceofoil.org/content/uploads/2016/09/OCL_the_skys_limit_2016_FINAL_2.pdf. The second report, released in January 2019, builds upon the first report and focuses on the United States' current entrenchment in oil and gas that will lead to carbon burst in the near future. See TROUT & STOCKMAN, *supra* note 32, at 1, 3.

36. See generally Ecoshift, *supra* note 25.

37. IPCC SR15, *SUMMARY FOR POLICYMAKERS*, *supra* note 26, at 6.

38. *Id.*

39. *Id.* at 14.

40. It should be noted that adhering to the emissions reduction commitments stemming from the Paris Agreement (26% to 28% below 2005 levels) would not be enough to limit warming to 1.5 or 2.0°C. Jeffery Greenblatt & Max Wei, *Assessment of the Climate Commitments and Additional Mitigation Policies of the United States*, 6 NATURE CLIMATE CHANGE 1, 1 (2016). See also TROUT & STOCKMAN, *supra* note 32, at Preface.

41. *Id.* at 9-11.

42. Ecoshift, *supra* note 25, at 2 (finding that "The potential emissions from unleased federal fossil fuels are incompatible with any U.S. share of global carbon limits that would keep emissions below scientifically advised levels.").

43. *Id.* at 3.

44. *Id.* at 4 (citing Michael Raupach et al., *Sharing a Quota on Cumulative Carbon Emissions*, 4 NATURE CLIMATE CHANGE 873, 874 (2014)).

With the United States having failed to take any significant action to limit GHG emissions since 2015 and “leased federal fossil fuels represent[ing] 30 to 43 Gt CO₂e,”⁴⁵ this amount could easily consume the United States’ existing carbon budget based on a 1.5°C warming limit.

Indeed, reports have found that the world’s *currently operating* fields and mines could fully exhaust carbon budgets based on a 1.5°C warming limit.⁴⁶ And even if production were to stop in all of these fields, rapid expansion of U.S. oil and gas production from already leased lands is set to consume half the global oil and gas budget by 2030.⁴⁷ The bottom line is, if we want to keep the United States’ contribution to global climate change in line with levels recommended by the IPCC, we cannot allow new coal or oil and gas leasing on federal lands.

In sum, while Professor Hein presents a moderate, cautious approach to reform, the climate crisis demands much more. However, if Interior were to honestly evaluate the social welfare costs of fossil fuel leasing as Hein suggests, in the current climate crisis this would compel a dramatic and much-needed end to new federal leasing activities and phaseout of existing leases.

V. The Political Challenge

Professor Hein focuses on agency-level reforms that would not require congressional action, likely a wise choice given political gridlock in Washington. Professor Hein, however, underestimates the political challenge of implementing technical reforms through Interior staff. Past practice suggests that, to the extent that substantial discretion remains with agency staff, it will generally be exercised on behalf of the agency’s fossil fuel industry ‘clients,’ not the American people. Professor Hein notes that “potential regulatory agency ‘capture’” may have contributed to the agency’s past non-competitive leasing practices,⁴⁸ but largely ignores the implications of this for implementation of needed reforms.⁴⁹

While an honest accounting of social welfare should lead to radical changes in the federal fossil fuel programs, we unfortunately doubt Interior’s ability to make such an accurate accounting, which could jeopardize the agency’s historically close relationship with the fossil fuel industry. Thoughtfully designed regulatory reforms along the lines suggested by Professor Hein could still lead to marginal reductions in federal leasing. But unless Interior can be relied upon to fully and accurately account for the social costs of its fossil fuel programs, the impacts of the proposed reforms will remain modest. Instead, to stop future federal fossil fuel leasing activities—as needed to avoid catastrophic climate change—a clear top-down policy mandate is likely needed. We must “keep it in the ground.”

VI. Conclusion

In *Maximizing Social Welfare in Federal Energy Leasing*, Professor Hein accurately assesses various deficiencies in the federal fossil fuel leasing program, which is inefficient, outdated, and generally fails to account for climate change and the impacts of horizontal drilling and multi-stage fracking. Under its existing statutory mandates, Interior should be considering social welfare in its leasing decisions, and Hein’s proposed reforms are a step in the right direction. To that end, increasing minimum bids and royalty rates should marginally reduce production on federal lands. Ultimately, however, the climate crisis demands a much more robust policy response. Since further development of new fossil fuel resources is incompatible with averting catastrophic climate change, the long-term negative consequences of future leasing undoubtedly outweigh any short-term economic benefits. There is simply no net social benefit to continued federal fossil fuel leasing. We must keep it in the ground.

45. *Id.* at 3.

46. Greg Mutitt et al., *supra* note 35, at 6. The report focuses on “developed reserves” from oil and gas fields and coal mines that are already operating. *Id.* at 17.

47. TROUT & STOCKMAN, *supra* note 32, at 21. Oil Change International arrives at this conclusion by assessing “core shale & discovered conventional reserves” or “reserves that are already discovered and evaluated, and already leased to a company in most cases, but for which no final development decision has yet been made.” *Id.* at 18.

48. Hein, *supra* note 13, at 35 n.182.

49. Exemplifying its capture by fossil fuel industries, BLM continued to process oil and gas drilling permits during the government shutdown in December 2018 and January 2019, while shuttering public-serving functions such as responses to Freedom of Information Act requests. *See e.g.*, Cooper Mc-Kim, *Favoritism or Economics: Oil and Gas Permitting During the Shutdown*, WYOMING PUBLIC MEDIA, Jan. 25, 2019, <https://www.wyomingpublicmedia.org/post/favoritism-or-economics-oil-and-gas-permitting-during-shutdown#stream/0>.

A R T I C L E

Free Trade, Fair Trade, and Selective Enforcement

by Timothy Meyer

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I. Introduction

The notion of “fair” trade implies that trade agreements should protect values other than pure trade liberalization. But which values must be protected in order for trade to be “fair”? This Article makes two novel contributions. First, focusing on the environmental context, it demonstrates that selective enforcement in trade law today is pervasive. Notably, instead of selectively enforcing environmental laws to gain a trade advantage—the traditional concern of critics—governments selectively enforce trade laws in ways that hurt environmental interests. Second, this Article argues that this kind of selective enforcement slows the development of competitive environmentally-friendly products. In effect, selective enforcement of trade law acts as an implicit subsidy for products with large social costs. To illustrate these two arguments, this Article evaluates how governments enforce rules that limit subsidies and other forms of government financial support for industries against programs benefitting natural resources (such as fossil fuels) and their substitutes (such as renewable energy).

Lastly, this Article concludes by suggesting how governments can reform trade law enforcement to address the pernicious effects of selective enforcement. Ongoing efforts to renegotiate trade agreements to make them fair should include measures that limit selective enforcement to ensure that similarly situated products are regulated in the same fashion. In particular, World Trade Organization (WTO) members should consider creating an administrative enforcement process that would identify any products that compete with products at issue in formal WTO disputes and prima facie benefit from the same kind of unlawful conduct.

II. What Is Selective Enforcement?

Virtually all laws are underenforced. Governments typically lack the resources to pursue all violators, and it is by no means obvious that striving for perfect enforcement

would make sense.¹ For these reasons, governments have discretion in choosing the violators against whom they will enforce the law. In the environmental context, regulators may choose to pursue the largest polluters in order to achieve the greatest environmental benefit.² Selective enforcement, as used in this Article, does not refer to this ordinary exercise of prosecutorial discretion, nor does it refer to random variation in how the laws are enforced. Instead, this Article defines selective enforcement as the systematic imposition of the law against one class of actors but not another that is similarly situated. For purposes of this definition, two actors are similarly situated if (1) they compete with each other in the marketplace and (2) both engage in or benefit from the unlawful practice to similar degrees.³ Selective enforcement of this kind suggests that prosecutorial discretion is being exercised for reasons other than merely ensuring compliance with the law.

III. Selective Enforcement of Environmental Trade Laws

This part provides evidence of a heretofore unremarked-upon kind of selective enforcement in trade law: selective enforcement that disadvantages environmentally beneficial products. In both the energy and fisheries sectors, trade law is actively used to regulate government support for natural resource substitutes (renewable energy and farmed fish) but rarely, if ever, used to challenge government support for production and consumption of the natural resources themselves (fossil fuels and wild fish).

*This Article is adapted from Timothy Meyer, *Free Trade, Fair Trade, and Selective Enforcement*, 118 COLUM. L. REV. 491 (2018), and is reprinted with permission.*

1. See Kevin M. Stack & Michael P. Vandenbergh, *The One Percent Problem*, 111 COLUM. L. REV. 1385, 1393 (2011).
2. *Id.* at 1393-94.
3. This definition is consistent with how the term is used in other contexts. See Pamela S. Kane, *Why Have You Singled Me Out? The Use of Prosecutorial Discretion for Selective Prosecution*, 67 TUL. L. REV. 2293 (1993).

The existence of selective enforcement in these two sectors is important in and of itself—because fuels constitute the most traded commodity in the world,⁴ and fish the most traded food.⁵ Moreover, it also suggests a broader pattern in which trade enforcement systematically disadvantages products that compete with established natural-resource-intensive industries. This ultimately raises a question of fairness: is trade law in its current form undermining important nontrade values?

A. Selective Enforcement in the Energy Sector

In 2014, governments subsidized fossil fuels—oil, gas, and coal—with approximately \$934 billion.⁶ Renewables received only \$135 billion.⁷ In recent years, governments have enforced trade law vigorously against renewable energy subsidies. Since 2008, governments have initiated at least 25 challenges to other nations' support for renewable energy—either directly before the WTO or through domestic mechanisms such as trade remedy investigations.⁸

In contrast to this robust history of challenges to renewable energy, not a single case has ever been brought before the WTO directly challenging government support for fossil fuels.⁹ This absence of disputes against fossil fuels does not stem from any systematic differences between fossil fuel subsidies and renewable energy subsidies.¹⁰ Disputes over government support for the energy sector thus show a clear trend: governments are willing to use WTO rules to challenge other governments' financial support for renewable energy, but not for fossil fuels, despite the fact that support for fossil fuels is many times that for renewable energy. This selective enforcement magnifies the discrepancy in subsidization between fossil fuels and renewable energy and reinforces the market dominance of increasingly scarce and environmentally harmful fossil fuels.

B. Selective Enforcement in the Fisheries Sector

A remarkably similar story plays out in the world of fish. Like energy, fish can be divided into natural resources that must be captured (wild fish) and substitute resources that

are largely “manufactured” (fish produced through aquaculture, i.e., farmed fish). Fishing nations have for years granted huge subsidies to their fishing fleets to capture wild fish. The result has been widespread overfishing, leading to dangerously low stocks of certain breeds of fish.¹¹ Yet, nations do not invoke trade rules to challenge subsidies for wild fishing. No WTO member to date has ever directly challenged another WTO member's financial support for fisheries before the WTO.¹² Instead, nations—most notably the United States—regularly invoke trade rules to challenge government support for aquaculture, which seeks to provide an alternative to wild stocks while also achieving greater efficiency than fishing fleets. Thus, government support of aquaculture has driven trade remedies cases and associated WTO disputes, while trade disputes centered on wild fisheries—considerably more supported by governments—are conspicuously absent.

IV. How Selective Enforcement of Trade Law Hurts Environmental Products

A. The Financial Costs of Selective Enforcement

Selective enforcement creates costs that some market participants, but not others who are similarly situated, must bear. These costs create a market advantage for those firms not targeted for enforcement. This advantage, the result of government action, is an implicit subsidy. For example, defendants must bear potentially significant costs when defending themselves in litigation, and these costs can tax the resources of any country.¹³ Defendants may also have to bear financial liability or other penalties if a tribunal finds they have acted unlawfully or engaged in “unfair” trade practices. Defendants may also spend more on precautionary measures in the future than those market participants that do not believe they are likely targets for enforcement action.¹⁴

The most important costs of selective enforcement, though, are decreased investment and increased costs of capital. Litigation and liability costs increase the minimum price a producer must charge to break even. If money coming in goes back out the door in response to enforcement efforts, businesses cannot use it to settle other debts, make further investments in their business, or simply to take a profit. This reduction in profits can create a vicious cycle. Investors direct money to firms that make profits. Increased costs reduce profits and therefore reduce investors' willing-

4. WORLD TRADE ORGANIZATION, INTERNATIONAL TRADE STATISTICS 72 (2015).

5. Martin D. Smith et al., *Sustainability and Global Seafood*, 327 SCIENCE 784, 784 (2010).

6. ELIZABETH BAST ET AL., OVERSEAS DEV. INST. & OIL CHANGE INT'L, EMPTY PROMISES: G20 SUBSIDIES TO OIL, GAS AND COAL PRODUCTION 11 (2015), <http://perma.cc/P3NM-ALJN> [hereinafter *Empty Promises*]; INT'L ENERGY AGENCY, WORLD ENERGY OUTLOOK 27 (2015), <http://perma.cc/Y2EM-YXYG> [hereinafter *World Energy Outlook 2015*].

7. World Energy Outlook 2015, *supra* note 6, at 343.

8. See Table 1, Timothy Meyer, *Free Trade, Fair Trade, and Selective Enforcement*, 118 COLUM. L. REV. 491, 506 (2018) [hereinafter Table 1].

9. Dirk De Bièvre et al., *No Iceberg in Sight: On the Absence of WTO Disputes Challenging Fossil Fuel Subsidies*, 17 INT'L ENVTL. AGREEMENTS 411, 412-13 (2017) [hereinafter *No Iceberg in Sight*]; Timothy Meyer, *Explaining Energy Disputes at the World Trade Organization*, 17 INT'L ENVTL. AGREEMENTS 391, 392-93 (2017) [hereinafter Meyer, *Explaining Energy Disputes*]. The domestic imposition of trade remedies is also virtually nonexistent. See Meyer, *supra* note 6, at 516.

10. See Meyer, *Explaining Energy Disputes*, *supra* note 10, at 399. Both, for instance, often contain local content requirements.

11. See MARGARET A. YOUNG, TRADING FISH, SAVING FISH: THE INTERACTION BETWEEN REGIMES IN INTERNATIONAL LAW 6 (2011).

12. See Table 2, Timothy Meyer, *Free Trade, Fair Trade, and Selective Enforcement*, 118 COLUM. L. REV. 491, 519 (2018) [hereinafter Table 2].

13. See, e.g., Marc L. Busch et al., *Does Legal Capacity Matter? A Survey of WTO Members*, 8 WORLD TRADE REV. 559, 560-61 (2009) (documenting the burdens of the WTO dispute settlement process).

14. See, e.g., Robert Cooter, *Unity in Tort, Contract, and Property: The Model of Precaution*, 73 CALIF. L. REV. 1, 2-3 (1985).

ness to put money behind a firm. This investor reluctance itself translates into higher costs of capital.

B. *What Kind of Relationship Between Products Makes Selective Enforcement Pernicious?*

Selective enforcement in trade law is unfair only if it disadvantages a competitor. But how similar do two products have to be for this harm to arise? In economic terms, selective enforcement becomes more pernicious the higher the cross-elasticity of demand between two products.¹⁵ If a product has few close substitutes and the demand for a product is inelastic, producers can pass price increases to the consumer. Hence, if a product has relatively inelastic demand, the costs discussed above—litigation, liability, and lost investment—will not affect a product's bottom line. But as demand becomes more elastic, consumers will purchase less of the product as these costs force producers to raise prices. If the product has a high cross-elasticity of demand with another product, consumers will substitute that second product for the newly more expensive one. In this way, one producer's loss is another producer's gain.

C. *The Social Costs of Selective Enforcement*

Critically, selective enforcement of trade law has its worst effects when targeted products have social benefits beyond those captured by producers, while similarly-situated, untargeted products have social costs. In these circumstances, selective enforcement reinforces a market failure. In economic terms, the law should encourage private actors to internalize the externalities created by their actions. Thus, governments should not subsidize products that have significant social costs. Government support for wild fisheries and fossil fuels keeps prices artificially low, increasing consumption and thereby increasing the overall costs on society. Ultimately, the failure of governments to eliminate these subsidies results in the market producing and consuming more fossil fuels and wild fish than it would without subsidies.¹⁶

V. *The Effects of Selective Enforcement in Energy and Fisheries*

Selective enforcement has consistently undermined natural resource substitutes. Especially in developing countries, producers and their governments have struggled with the burden of defending themselves in trade actions brought by the United States and Europe. The imposition of trade remedies has closed markets and threatened to shutter entire industries, such as the Argentinian biofuel or Viet-

namese catfish farming sectors. And with no similar action nor costs imposed on them, the fossil fuel and wild fisheries industries win big.

A. *The Effects of Selective Enforcement in Energy*

Despite the critical role of government support for clean energy innovation, selective enforcement has only reinforced the market position of fossil fuels. While subsidies have increased on the renewable side, fossil fuel subsidies continue to dwarf renewable subsidies. And trade law has not led to any reduction in fossil fuel subsidies. Fossil fuel subsidies have maintained their ratio vis-à-vis renewable energy subsidies and, in absolute dollar terms, have grown faster. To illustrate, using the combined estimate of both consumption and production subsidies (\$934 billion),¹⁷ fossil fuels received approximately seven times the amount of subsidies today than renewables received in 2014.¹⁸ Moreover, in absolute terms, renewable energy subsidies increased by only \$75 billion from 2009 to 2014, while fossil fuel consumption subsidies alone (not including production subsidies) increased by \$190 billion. This demonstrates a correlation between selective enforcement and a discrepancy in government support for renewable energy—a discrepancy that governments themselves have pledged to close by reducing fossil fuel subsidies.¹⁹

Selective enforcement is surely not the only cause of this policy failure. The power of the fossil fuel lobby and downstream industries that benefit from cheap fuels plays an important role. But part of the way in which lobbying affects subsidies policies is through the kinds of trade cases governments bring. And selective enforcement does demonstrably reduce the availability of government support for renewable energy. For example, in Canada,²⁰ China,²¹ and Argentina,²² governments and industry groups have incurred litigation costs defending themselves against trade claims. They have also incurred significant liability. The governments of Ontario and China have been forced to withdraw green subsidies, a significant loss for the renewable sector.

Ultimately, renewable subsidies have been reduced, and their effectiveness undercut, by trade enforcement actions pursued under the current international trade regime. Fossil fuel companies benefit from substantial government support without suffering any consequences, and their fos-

15. Gregory J. Werden, *The History of Antitrust Market Delineation*, 76 MARQ. L. REV. 123, 131 (1992).

16. Indeed, many argue that a tax further raising the cost of fossil fuels is necessary to align the price of fossil fuels with their total social good. See, e.g., Dennis W. Carlton & Alan S. Frankel, *Transaction Costs, Externalities, and "Two-Sided" Payment Markets*, COLUM. BUS. L. REV. 617, 622 (2005).

17. See *Empty Promises*, *supra* note 6, at 11. World Energy Outlook 2015, *supra* note 6, at 27.

18. World Energy Outlook 2015, *supra* note 6, at 343.

19. LEADERS' STATEMENT, THE PITTSBURGH SUMMIT ¶ 24 (Sept. 24-25, 2009), <https://perma.cc/V8ZZ-6M8F>.

20. See, e.g., Appellate Body Report, Canada—Certain Measures Affecting the Renewable Energy Generation Sector, ¶ 6, WTO Doc. WT/DS412/AB/R (adopted May 6, 2013) [hereinafter Canada—Renewables Appellate Body Report].

21. See, e.g., Doug Palmer & Leonora Walet, *China Agrees to Halt Subsidies to Wind Power Firms*, REUTERS (June 7, 2011), <https://perma.cc/Q9MX-N4XR>.

22. See, e.g., PANEL REPORT, EUROPEAN UNION—ANTI-DUMPING MEASURES ON BIODIESEL FROM ARGENTINA, ¶ 7.179, WTO Doc. WT/DS473/R (adopted Oct. 26, 2016) [hereinafter EU—Biodiesel].

sil fuel prices can be lower and profits higher because of these subsidies. Renewable subsidies, on the other hand, continue to lag behind fossil fuel subsidies, despite the beneficial environmental impacts of such subsidies. While this type of enforcement might well improve competitiveness among renewable energy sources, it severely disadvantages renewable energy against its primary competition, fossil fuels.

B. *The Effects of Selective Enforcement in Fisheries*

In 1992, the Food and Agriculture Organization of the United Nations (FAO) sounded the alarm: fisheries subsidies were leading to dangerous levels of overfishing, putting the world's fish stocks at risk of extinction.²³ The FAO initially estimated global fisheries subsidies at approximately \$54 billion per year.²⁴

Because the environmental benefits of contemporary aquaculture are mixed in practice,²⁵ and in light of 31.4% of the world's fisheries being overfished,²⁶ the long-term viability of fish as a source of human food depends on investment and innovation. Governments and international organizations have recognized this need,²⁷ but despite these ambitions, current selective enforcement practices allow government support for aquaculture to be dwarfed by government support for wild fisheries. And just as with fossil fuels, trade cases—in particular trade remedies that target government support without the need to bring a WTO case first—have resulted in withdrawn support for aquaculture. For example, most recently, Turkey agreed to withdraw subsidies for farmed sea bass and sea bream.²⁸

VI. Reforming Trade Law Enforcement

Fixing selective enforcement is imperative if we are to have a fair trade policy, one that does not undermine core non-commercial values. Thus, this Article makes two proposals. For both, the goal of reform is to address selective enforcement of trade obligations by increasing enforcement, asking member states to look for ways to ratchet enforcement up, rather than down.

23. See UN FOOD & AGRIC. ORG., *MARINE FISHERIES AND THE LAW OF THE SEA: A DECADE OF CHANGE 1*, 6-7 (1992), <http://perma.cc/UM32-CF38>.

24. *Id.* U. RASHID SUMAILA ET AL., *DIRECTORATE-GEN. FOR INTERNAL POLICIES*, EUR. PARLIAMENT, *GLOBAL FISHERIES SUBSIDIES 11* (2013), <http://perma.cc/VW35-QD7C>.

25. For example, natural habitats are often destroyed to make way for fish farms. See J.H. Primavera, *Overcoming the Impacts of Aquaculture on the Coastal Zone*, 49 *OCEAN & COASTAL MGMT.* 531, 533 (2006).

26. UN FOOD & AGRIC. ORG., *THE STATE OF WORLD FISHERIES AND AQUACULTURE 38* (2016), <http://perma.cc/LGC5-8TNP> [hereinafter *State of World Fisheries 2016*].

27. See, e.g., *About the Platform*, FISHERIES AND AQUACULTURE INNOVATION PLATFORM (Oct. 17, 2017), <http://perma.cc/AN36-EMK9>.

28. See, e.g., Commission Implementing Decision 2016/1360 of Aug. 8, 2016, *Terminating the Anti-Subsidy Proceeding Concerning Imports of European Sea Bass and Gilthead Sea Bream Originating in Turkey*, 2016 O.J. (L 215) 31, 32 (EU) [hereinafter *Turkey Bass and Bream Decision*].

A. *Reforming the WTO Enforcement Process*

The WTO should consider the creation of a centralized enforcement process. The cornerstone of this process would involve the WTO Secretariat identifying products that are similarly situated to products targeted by WTO dispute settlement or trade remedies. In a weak version, the list of similarly situated products would be circulated to WTO members. In a stronger version, a WTO prosecutor could be empowered to bring cases to remove the pernicious effects of selective enforcement.

The development of this list of similarly-situated products would follow a two-step process. First, when a WTO member prevails in a dispute or notifies the WTO that it has levied antidumping or countervailing duties, the WTO Secretariat would identify products that compete with the product at issue in the dispute.²⁹ Officials should not apply the ordinary WTO “like products” test because it unduly privileges a variety of extraneous factors, such as the physical composition of two products or their tariff classifications.³⁰ Instead, officials should focus on whether two products are substitutes within the marketplace. In conducting this analysis, officials should employ a test like the “relevant market” analysis used in antitrust law.³¹ The relevant market includes all products that are “reasonably interchangeable by consumers for the same purposes.”³² Cross-elasticities of demand are used to mark out the boundaries of relevant markets. Competition agencies throughout the world—such as the Federal Trade Commission in the United States and the European Commission in the EU—are familiar with this basic inquiry, suggesting that the WTO Secretariat could credibly perform this task without significant difficulty.

Second, after defining the universe of relevant products, the Secretariat would identify which products in the relevant market benefit from the same conduct that either the WTO found unlawful, or a trade remedy investigation targeted. The result would be a list of identified measures that the Secretariat has preliminarily determined both violate WTO rules and affect the competitive conditions for the product subject to the original dispute.

To illustrate this two-step process, in the energy context, imagine a WTO finding that local content requirements discriminate against foreign producers. The Secretariat would then look to see whether fossil fuels or other forms of renewable energy in the relevant jurisdiction also benefit from local content requirements. In each example it identified, the Secretariat would make a preliminary determination as to whether the allegedly unlawful measure is sufficiently similar to the measure found illegal by the

29. Antidumping and countervailing-duty investigations are already subject to WTO oversight, so including them within the scope of the centralized enforcement process does not expand the WTO's reach.

30. See, e.g., Appellate Body Report, Japan—Taxes on Alcoholic Beverages, 18-19, WTO Doc. WT/DS8/AB/R, WT/DS10/AB/R, WT/DS411/AB/R (adopted Oct. 4, 1996) (discussing the factors used in a like-products analysis).

31. See, e.g., *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 395 (1956).

32. *Id.*

WTO, and hence illegal itself. This determination would be based upon an unbiased analysis of both the similarities and the differences between the two measures.

Having compiled the list, what should the Secretariat do with it? In the weak version of the enforcement process, the Secretariat would circulate the list of identified measures to all WTO members.³³ At that point, its involvement would end. Individual member states could then consider whether to initiate further proceedings challenging any of the identified measures.³⁴ These proceedings could take an adversarial form, such as a formal complaint, or a less adversarial form—member states could act through various WTO committees, which serve as party-led forums for, among other things, informally resolving disputes. This weak version of the enforcement process preserves the fundamentally party-driven nature of WTO dispute settlement. The Secretariat would provide a public good to members in the form of information, which is especially valuable to the majority of smaller members that lack the resources to conduct this kind of inquiry themselves but might nevertheless be interested in the result. Additionally, members themselves would still have to choose to act on this information, allowing dispute settlement to retain a more diplomatic character. This feature makes the weak form of centralization more politically feasible. It is also more consistent with a view of the WTO in which the agreements are contracts among parties. Whether the parties to a contract enforce their rights is, at the end of the day, up to them.

The stronger version of this enforcement process would call for a prosecutor's office within the Secretariat with the authority to initiate WTO disputes challenging identified measures.³⁵ This mechanism would remove the political filter that prevents some meritorious cases from being brought. The prosecutor's mandate, then, would be limited to addressing identified similarly situated measures. Hence, the prosecutor would not have the authority to investigate just any potential violation of WTO law. The office's focus would be on ensuring that the normal operation of the rules governing dispute settlement do not distort the development of socially beneficial products. In this sense, the prosecutor would supplement the state-driven dispute settlement system, rather than replace it.

Recent criticism of the WTO's Dispute Settlement Body (DSB) has focused on claims that it has overstepped

its mandate.³⁶ This criticism likely means that the creation of a prosecutor's office within the WTO is not politically viable. However, the existence of prosecutors in international law in general suggests that even if the creation of one is ill-advised or unlikely now, members might come to view it more favorably in the future. Several additional safeguards could also limit the possibility of overreach by the prosecutor.

First, as part of bringing a case the prosecutor could be required to demonstrate harm to the development of socially-beneficial products in the absence of the case. For instance, using the energy example from above, before bringing a case against a local content requirement for fossil fuels, the prosecutor would have to show that failing to do so would harm renewable energy products benefitting from local content requirements. This requirement is a departure from the norm in most WTO cases, in which "nullification and impairment" (trade speak for injury) is presumed.³⁷

Second, a pretrial chamber could be created to evaluate the merits of disputes that the prosecutor wishes to initiate. The pretrial chamber would authorize the prosecutor to initiate a dispute upon a preliminary showing that the identified measure is both WTO-inconsistent and affects the competitive conditions for similarly situated products involved in other disputes. Absent such authorization, the prosecutor could not initiate a dispute. The initiation of a dispute would also be subject to the DSU's ordinary reverse consensus rule—the prosecutor would notify member states of her intention to initiate a dispute. Member states could then block the prosecutor from proceeding by consensus.³⁸

Finally, the WTO's system of retaliation would also operate as a check on the prosecutor. Under ordinary WTO rules, sanctions for violations are imposed by individual member states after receiving WTO authorization.³⁹ The creation of a prosecutor would not change that. The prosecutor would have no independent ability to seek or impose sanctions against a respondent state that refused to comply with an adverse decision of the DSB. If the respondent did not remove the unlawful measure, a member state would have to come forward and seek authorization to retaliate on the basis of the decision. The state seeking authorization to retaliate would not have to relitigate the legality of the measure, though. In this way, the prosecutor provides a public good to members by establishing that a nation's measures violate a WTO obligation. That finding alone would subject the member state to reputational sanctions.⁴⁰ But the reciprocal suspension of trade concessions—the

33. Others have called for similar kinds of transparency-based measures to compensate for underenforcement at the WTO. See Chad P. Bown & Bernard M. Hoekman, *Developing Countries and Enforcement of Trade Agreements: Why Dispute Settlement Is Not Enough* (World Bank Dev. Research Gp., Policy Research Working Paper No. 4450, 2007), <https://perma.cc/ZGK4-HA2T>.

34. This process is "weak" precisely because it leaves open the possibility that states would do nothing at this stage. States may be captured by, for instance, their fossil fuel industries in a way that drives them to use enforcement as an implicit subsidy for fossil fuels (and a weapon against renewable energy). The weak enforcement does not prevent this outcome. It merely creates public information that can encourage nations to take action.

35. Cf. Claus D. Zimmermann, *Rethinking the Right to Initiate WTO Dispute Settlement Proceedings*, 45 J. WORLD TRADE 1057, 1068-69 (2011) (arguing for centralized enforcement of WTO rules).

36. Statement by the United States at the WTO Dispute Settlement Body's First "Dedicated Session" on the Issue of Reappointments of Appellate Body Members (Sept. 26, 2016), <http://perma.cc/V68J-PMHX>.

37. Understanding on Rules and Procedures Governing the Settlement of Disputes art. 3.8, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 U.N.T.S. 401 [hereinafter DSU].

38. See, e.g., *id.*, art. 17.14.

39. See *id.*, art. 22.2.

40. See generally ANDREW T. GUZMAN, *HOW INTERNATIONAL LAW WORKS: A RATIONAL CHOICE THEORY* (2008).

backbone of the WTO's relatively effective enforcement procedures—would remain subject to states' political and diplomatic calculations.

B. Reforming Trade Remedy Investigations

Reforming antidumping and countervailing-duties law would also reduce the pernicious effects of selective enforcement. Selective enforcement against environmentally beneficial products relies primarily on trade remedy investigations. Consequently, limiting the role of trade remedies would curtail the most prevalent tool of selective enforcement.⁴¹

Given their role as a safety valve, however, doing away with antidumping and countervailing-duty investigations is neither possible nor, indeed, necessarily advisable.⁴² Instead, proposals should focus on reforming the requirements for the findings governments must make before imposing trade remedies. For example, trade remedy investigations might be required to focus on the collateral consequences of imposing trade remedies, rather than only on whether the “unfair” trade practice injures a domestic entity. Consumers benefit, after all, from dumped or subsidized goods. The only time they do not benefit is if the dumped or subsidized goods force competitors out of business and lead to monopoly prices.⁴³ This, in turn, can only happen when barriers to entry prevent competition from re-emerging. A focus on competition, rather than discriminatory pricing or subsidies, would thus allow the continuation of antidumping and countervailing-duty investigations, but would target them at behavior that

actually reduces the welfare from liberalized trade.⁴⁴ Transparency measures, such as the weak version of centralized enforcement proposed above, would also deter some of the most egregious uses of trade remedies.

VII. Conclusion

The question of what a fair-trade policy should look like—what noncommercial values trade law should protect and how it should do so—is currently on the table, and addressing the market distortions that selective enforcement creates must be part of the answer. Free trade agreements are supposed to open markets to competition. The great irony is that the process through which these rules are enforced can have the opposite effect. While substantive trade rules promote competition, government enforcement policies curtail it. Worse, they do so precisely for those products that have the largest social benefits—environmentally sustainable products that could reduce the burden imposed by natural resource-intensive industries. Governments should ultimately look at ways to make enforcement more evenhanded across products that compete with each other—like fossil fuels and renewable energy, or wild caught fish and farmed fish. A global trade prosecutor may not be in governments' interests today, but a multilateral process to coordinate enforcement actions would go a long way towards rebuilding the trade regime's legitimacy. As Hunter S. Thompson once said, “We cannot expect people to have respect for law and order until we teach respect to those we have entrusted to enforce those laws.”⁴⁵

41. See MARK WU, E15 INITIATIVE, RE-EXAMINING “GREEN LIGHT” SUBSIDIES IN THE WAKE OF NEW GREEN INDUSTRIAL POLICIES 10 (2015), <http://perma.cc/M9HU-FUGN>.

42. For an in-depth description of the arguments for and against antidumping and countervailing-duty investigations, and their reform, see Timothy Meyer, *Free Trade, Fair Trade, and Selective Enforcement*, 118 COLUM. L. REV. 491, 562-64 (2018).

43. ANDRÉ SAPIR, SOME IDEAS FOR REFORMING THE COMMUNITY ANTI-DUMPING INSTRUMENT 2 (2006).

44. See Bernard M. Hoekman & Petros C. Mavroidis, *Dumping, Anti-Dumping, and Antitrust*, 30 J. WORLD TRADE 27, 27-29 (1996).

45. Hunter S. Thompson: *In His Own Words*, GUARDIAN (Feb. 21, 2005), <http://perma.cc/558Q-MMCK>.

C O M M E N T

Selective Enforcement of Trade Laws: A Problem in Need of Fixing to Advance Environmental Goals?

by Jay C. Campbell

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I. Introduction

Prof. Timothy Meyer has written a thought-provoking article about how governments selectively enforce trade laws in ways that undermine environmental interests.¹ He argues trade enforcement against products with social benefits (i.e., renewable energy and farmed fish) slows their development and results in an implicit subsidy for products with social costs (i.e., fossil fuels and wild-caught fish)—at the expense of products with social benefits. Professor Meyer’s argument is convincing, and I agree that selective enforcement of trade laws results in an implicit subsidy for fossil fuels and wild-caught fish and is therefore problematic. To address the problem, Professor Meyer proposes ways to increase enforcement of trade laws against imports of fossil fuels and wild-caught fish. In other words, the author’s prescription “is to address selective enforcement of trade obligations by increasing enforcement.”² Here, my personal views diverge with Professor Meyer’s in two key respects. I question whether evenhanded enforcement (1) can be achieved, and (2) even if achievable, would help address the underlying problem: governments need to increase investments in renewable energy and aquaculture, and phase out investments in fossil fuels and fisheries.

II. Can Evenhanded Enforcement Be Achieved?

After establishing that trade laws are selectively enforced against imports of renewable energy products and farmed fish, Professor Meyer proposes two ways to encourage enforcement of trade rules against imports of fossil fuels and wild-caught fish: (1) the establishment of a centralized enforcement process at the World Trade Organization

(WTO), and (2) reforming trade remedy investigations.³ I question whether either proposal would lead to evenhanded enforcement.

A. Reforming the WTO Enforcement Process

Professor Meyer proposes a centralized enforcement process at the WTO, which would begin with “the WTO Secretariat identifying products that are *similarly situated* to products targeted by WTO dispute settlement or trade remedies.”⁴ In a strong version of centralized enforcement, a prosecutor’s office would be established within the WTO Secretariat authorized to investigate the similarly situated products. In a weak version, the WTO Secretariat would circulate the list of similarly situated products to WTO members, which, individually, could consider whether to initiate trade enforcement proceedings against imports of fossil fuels and wild-caught fish. I doubt, however, that the proposed WTO enforcement process would increase trade actions against imports of fossil fuels and wild-caught fish.

Start with the proposal that the WTO Secretariat be empowered to identify “similarly situated” products. Professor Meyer defines “similarly situated” products as those that (1) compete with the renewable energy or farmed fish products found to be subsidized or dumped, *and* (2) benefit from the same form of subsidization or are also dumped.⁵ With respect to identifying competitive substitute products, Professor Meyer suggests the WTO Secretariat employ a test similar to the “relevant market” analysis used in antitrust law.⁶ In the United States, for example, the Federal Trade Commission (FTC) and Department of Justice (DOJ) typically determine the relevant market by interviewing purchasers of the product at issue, and inquiring whether certain increases in price would lead them to shift to substitute products. Purchasers generally have an incentive to cooperate with FTC and DOJ investigations,

Author’s Note: The views expressed in this Comment should be attributed to the author alone.

1. Timothy Meyer, *Free Trade, Fair Trade, and Selective Enforcement*, 118 COLUM. L. REV. 491, 506 (2018).
2. *Id.* at 555.

3. *Id.* at Section V.A.
4. *Id.* at 556 (emphasis added).
5. *Id.* at 556.
6. *Id.*

because they understand that antitrust enforcement promotes competition, resulting in lower prices for purchasers. In contrast, trade enforcement *discourages* competition by raising import prices, resulting in *higher* prices for purchasers. Moreover, the FTC and DOJ have subpoena power to compel private companies to cooperate with their investigations. How would the WTO Secretariat, if faced with uncooperative private actors, be equipped to define the relevant market?

After identifying competitive products, assuming it could do so, the WTO Secretariat would next need to examine whether the competitive products benefit from or engage in the same unlawful trade practice found for the renewable energy or farmed fish products. In theory, the WTO Secretariat would have some basis to determine whether the competitive products also benefit from similar subsidies, as WTO members are required to notify the WTO of subsidies that they give. WTO members, however, decide what government programs constitute subsidies and are reportable in the first instance. Some subsidies, such as discriminatory grants and tax credits, are readily identified as potentially prohibited or actionable subsidies that must be reported under the WTO Subsidies and Countervailing Measures Agreement. Other forms of financial assistance, such as when the government “entrusts or directs” a private party to provide funding, are obscure, and may go unreported unless successfully challenged by another WTO member. In cases where the unlawful subsidization found for the renewable energy or farmed fish product is not of the type that WTO members would normally report as a subsidy in the first place, how would the WTO Secretariat determine whether WTO members potentially provide the same subsidies to the fossil fuel and wild-caught fish industries?

Dumping presents a bigger problem. Dumping is investigated on a company-specific basis, and requires a detailed examination of the company’s corporate structure, sales accounting data, and cost accounting data. How would the WTO Secretariat make findings of dumping—even on a preliminary or prima facie basis? It is hard to imagine WTO members agreeing to give the WTO Secretariat the authority to examine private companies within their jurisdictions, and equally hard to imagine private companies voluntarily granting the WTO Secretariat access to proprietary business information. How would the WTO Secretariat have the authority to compel private companies to cooperate? Yet another problem is one of scope. How would the WTO Secretariat identify potential dumping by companies in all the WTO member countries that export fossil fuels or wild-caught fish?

Assuming the obstacles to identifying the list of similarly situated products could be overcome, Professor Meyer offers two versions of the next stage of centralized WTO enforcement: a strong version and a weak version. Under the strong version, a prosecutor’s office would be established within the WTO Secretariat, charged with conducting investigations of the similarly situated products to determine whether the merchandise is unlawfully sub-

sidized or dumped. Given the Donald Trump Administration’s hostility toward the WTO (including its refusal to reappoint WTO Appellate Body members, which are needed for the WTO dispute settlement system to function), the creation of a WTO prosecutor is highly unlikely for at least the near-term, as Professor Meyer also acknowledges. Moreover, even setting the Trump Administration’s criticisms aside, it is questionable whether other WTO members would embrace the concept of a WTO prosecutor, which would empower the WTO to act as both prosecutor and adjudicator with respect to subsidization and dumping issues.

In response to possible concerns of WTO overreach, Professor Meyer notes that the WTO’s system of retaliation would “operate as a check on the prosecutor.”⁷ In other words, it would remain up to individual WTO members to decide whether to enforce WTO rulings against the offending member through the suspension of trade concessions to that member. This strikes me as a significant problem. If WTO members are already reluctant to enforce trade rules against imports of fossil fuels and wild-caught fish, why would they be willing to enforce adverse WTO rulings against imports of such products? WTO members would remain subject to the same political and diplomatic pressures that prevent them from enforcing trade rules against imports of fossil fuels and wild-caught fish in the first place.⁸

Under the weak version of Professor Meyer’s proposal, the WTO Secretariat would circulate the list of similarly-situated products to WTO members, which, individually, would decide whether to initiate proceedings (either direct challenges to subsidization at the WTO or their own countervailing duty or antidumping investigation). Although the list of similarly-situated products would provide WTO members (including smaller members) with initial information concerning fossil fuels or wild-caught fish products that are potentially subsidized or dumped, the WTO member would still need to engage in the fact-finding and legal analysis necessary to present a direct case to the WTO (in the case of a subsidy) or undertake its own countervailing duty or antidumping investigation. Consequently, the weak version suffers from the same concern mentioned above. That is, WTO members would remain subject to the same

7. *Id.* at 560.

8. *Save Domestic Oil* provides an example of the political pressures that can prevent an authority from investigating oil imports. In June 1999, a group of independent oil producers in the United States, dubbing themselves Save Domestic Oil, Inc., filed petitions requesting that the U.S. Department of Commerce conduct antidumping and countervailing duty investigations of imports of crude petroleum oil products from Iraq, Mexico, Saudi Arabia, and Venezuela. *Save Domestic Oil, Inc. v. United States*, 357 F.3d 1278, 1280 (Fed. Cir. 2004). Because major U.S. oil producers—with foreign oil field operations—opposed, however, the U.S. Department of Commerce dismissed the independent oil producers’ petitions for lack of domestic industry support. *Dismissal of Antidumping and Countervailing Duty Petitions: Certain Crude Petroleum Oil Products From Iraq, Mexico, Saudi Arabia, and Venezuela*, 64 Fed. Reg. 44480 (Dep’t Commerce Aug. 16, 1999). The perceived importance of cheap petroleum to industrialized nations’ economies is another factor discouraging trade enforcement against imports of fossil fuels. See William C. Smith, *Save Domestic Oil, Inc.’s Crude Oil Market Dumping Petition: Domestic and International Political Considerations*, 8 TULSA J. COMP. & INT’L L. 147, 149 (2000).

political and diplomatic pressures that prevent them from investigating and enforcing trade rules against imports of fossil fuels and wild-caught fish in the first place.

B. Reforming Trade Remedy Investigations

Professor Meyer also argues “any trade remedy reforms aimed at reducing selective enforcement should focus on ensuring evenhanded enforcement.”⁹ The question is how to achieve this. As an example, the author proposes that trade remedy investigations not only consider whether the unfairly traded imports injure the domestic industry, but also the collateral consequences of imposing a trade remedy, such as the impact on consumers of the imports. Although I, personally, would welcome this change to trade remedy laws, I fail to see how it would ensure evenhanded enforcement. That is to say, the proposed change to trade remedy investigations might reduce the imposition of countervailing and antidumping duties on imports of renewable energy and farmed fish products, but seemingly would do nothing to encourage trade remedy investigations of fossil fuels and wild-caught fish.

III. Even if Achievable, Would Evenhanded Enforcement Solve the Problem?

Setting aside the obstacles to achieving evenhanded enforcement, I question whether eliminating selective enforcement would solve the problem, which is this: Despite the crises we face from climate change and depleting fisheries, governments are *underinvesting* in renewable energy and aquaculture (industries with social benefits) and *overinvesting* in fossil fuels and wild-caught fish (industries with social costs). Although evenhanded enforcement, in theory, would mitigate the implicit subsidy problem identified by Professor Meyer, it would likely fall short of addressing the underlying problem defined above. Even with evenhanded enforcement, trade actions against renewable energy and farmed fish would continue to discourage government investments in these socially beneficial goods, while trade enforcement actions against fossil fuels and fisheries would likely fail to significantly reduce or eliminate government subsidization of these socially costly goods.¹⁰ Dumping is practiced by private companies, and therefore raises a separate issue.

So, as long as we are dealing in the realm of theory, what *would* work? Regarding ways to encourage governments to increase investments in renewable energy and aquaculture, there is no one-size-fits-all answer because each industry faces different circumstances. In the case of renewables, Professor Meyer recognizes government support is needed to make renewable energy products more competitive with fossil fuels.¹¹ Consequently, WTO members should agree

to permit government subsidies that help renewable energy producers reduce their production costs or otherwise charge lower prices. To be sure, despite calls for the “green lighting” of such subsidies, no action has been taken. But, as an initial matter, we are looking for solutions that would work in theory. Prohibiting trade enforcement actions against certain renewable energy subsidies would encourage—or at least not discourage—needed government investment. In contrast, with evenhanded enforcement, trade enforcement actions against renewable energy subsidies could continue.

Dumping raises a different problem. If, for example, an exporter of solar products is dumping (*i.e.*, unfairly pricing) shipments of the merchandise in another country, should not the importing country have the right to impose antidumping duties? Here, I would favor a reform to WTO members’ antidumping investigations. In cases where an investigating authority finds foreign exporters of renewable energy products are dumping, the authority may impose antidumping duties only if it makes an additional finding: that imposition of the duties would be unlikely to curtail supply or demand for the renewable energy product in the importing country’s market.

With respect to farmed fish, price competitiveness with wild-caught fish is not an issue. This is because harvesting fish through aquaculture tends to be more efficient and productive than catching fish in the wild.¹² Although government support is thus unnecessary to enhance the price competitiveness of farmed fish, government investment *is* needed to make aquaculture a more environmentally sound practice.¹³ Consequently, WTO members should agree to “green light” government subsidization of the research and development needed to promote environmentally friendly innovation in aquaculture. Regarding dumping of farmed fish products, I would propose that the investigating authority be permitted to impose antidumping duties only if it makes an additional finding: to the extent the imported farmed fish products are priced lower than the domestic product, a significant portion of the price differential does not arise solely because the foreign industry has lower production costs.

Regarding how to discourage or eliminate government subsidization of fossil fuels and wild fisheries, the theoretical answer is simple: Governments must pledge to phase out subsidies to fossil fuels and wild fisheries and hold violators to account. To be sure, such a coordinated international response would be bold and politically difficult due to the power of the fossil fuel and wild fishery lobbies.¹⁴ Considering the climate and fishery crises we face,

9. See Meyer, *supra* note 2, at 562.

10. The problem is largely one of scope. As Professor Meyer points out, governments gave over \$900 billion in subsidies to fossil fuels in 2014, compared to only \$135 billion for renewables. *Id.* at 506.

11. *Id.* at 541.

12. Gunnar Knapp, *Implications of Aquaculture for Wild Fisheries: The Case of Alaska Wild Salmon* at 242-43 (comparing the economics of salmon farming to salmon fishing) (published by Food and Agriculture Organization of the United Nations, Global Trade Conference on Aquaculture, May 2007).

13. See Meyer, *supra* note 2, at Section IV.B.

14. As Professor Meyer notes, certain governments already have pledged to reduce subsidies to the fossil fuel and fishery industries, but progress has been slow. With respect to fisheries, WTO members have been negotiating an agreement to prohibit certain forms of fisheries subsidies that contribute to overfishing, overcapacity, and illegal fishing, with a goal to adopt the agreement by the Ministerial Conference in 2019.

however, bold action is exactly what the moment demands. Moreover, governments might fare better against political pressure by acting in unison to confront these issues. In contrast, individual trade enforcement actions against imports of fossil fuels or wild-caught fish might leave the acting governments more exposed and susceptible to lobbying pressure.

IV. Conclusion

Professor Meyer has made an important contribution to the field by calling attention to selective enforcement of

trade laws, and the advantage it creates for fossil fuels and wild-caught fish at the expense of renewable energy and aquaculture. I worry, however, that complications would prevent evenhanded enforcement—even as a theoretical matter—from addressing the underlying problem. Sometimes the simple and obvious solution remains the best solution. Unless WTO members agree to permit government investment in renewable energy and aquaculture, and phase out subsidization of fossil fuels and wild fisheries, we will likely fail to prevent climate change and depletion of wild fishery stocks from reaching catastrophic levels.

C O M M E N T

Fixing a Broken System That Promotes Climate Change and Depletion of Global Fisheries: WTO Subsidy Reform Is Just the Tip of the (Melting) Iceberg

by Sharon Anglin Treat

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I. Introduction

Our planet is hurtling toward dramatic and devastating impacts from climate change caused in large part by our reliance on fossil fuels. Meanwhile, liberalized trading rules have promoted a global economy heavily reliant on trade, which itself increases greenhouse gas (GHG) emissions. The climate impact of trade is manifested directly through reliance on global supply chains and as food and finished goods are shipped halfway around the world to consumers; and indirectly as trade rules are used to attack domestic policies that support fossil fuel alternatives while giving a free pass to subsidies that increase GHG emissions.¹ One consequence well underway is ocean warming and acidification leading to significant declines in fish stocks that are already threatened by overfishing.² There is also a direct link between fisheries subsidies and GHG emissions: by one estimate, 22 percent of these subsidies go to the purchase of fuel for fishing vessels and to lower the costs of fuel-dependent ships.³ With recent comprehensive United Nations assessments⁴ and U.S. government data⁵ concluding that destructive climate changes are well advanced, it is clear we must effectively tackle trade-related contributions to GHG emissions before it is too late.

1. See generally Report of the Working Group on Trade, Investment, and Climate Policy, *Trade in the Balance: Reconciling Trade and Climate Policy* (2016), https://www.bu.edu/pardee/files/2016/11/Pardee_TradeClimate_110316final.pdf (hereinafter *Trade in the Balance*).
2. See Kendra Pierre-Louis, *The World Is Losing Fish to Eat as Oceans Warm, Study Finds*, N.Y. TIMES (Feb. 28, 2019), <https://www.nytimes.com/2019/02/28/climate/fish-climate-change.html>.
3. Markus Gehring, *From Fisheries Subsidies to Energy Reform Under International Trade Law*, CIGI Papers No. 188, at 4 (2018), <https://www.cigionline.org/sites/default/files/documents/Paper%20no.188web.pdf>.
4. See Coral Davenport, *Major Climate Report Describes a Strong Risk of Crisis as Early as 2040*, N.Y. TIMES (Oct. 7, 2018), <https://www.nytimes.com/2018/10/07/climate/ipcc-climate-report-2040.html>; see also United Nations Environment Report, *Global Environment Outlook 6* (Mar. 4, 2019), <https://www.unenvironment.org/resources/global-environment-outlook-6>.
5. See David Malakoff, *Climate Change Poses Major Threat to United States, New Government Report Concludes*, SCIENCE (Nov. 23, 2018), <https://www.sciencemag.org/news/2018/11/climate-change-poses-major-threat-us-new-government-report-concludes>.

Prof. Timothy Meyer of Vanderbilt University Law School has contributed to our knowledge about the relationship between trade policy and both climate change and fishing sustainability in his article, “Free Trade, Fair Trade, and Selective Enforcement”⁶ by providing a comprehensive inventory of World Trade Organization-related subsidy challenges and investigations related to energy, fishing, and aquaculture and exploring the social costs of these challenges. Meyer argues that the selective enforcement of WTO subsidy prohibitions against renewable energy and aquaculture, but not against fossil fuel and wild fishing, distort trade markets to the detriment of the environment, by promoting environmentally unsustainable practices and slowing development of competitive more environmentally-friendly products. He offers as a solution centralized WTO investigation and enforcement authority to insure even-handed treatment of environmental products.

II. Governments Acknowledge the Subsidy Problem

For the past decade, governments across the globe have made a series of pledges to reform and phase out fossil fuel subsidies. In 2009, the G20 governments committed to “rationalize and phase out over the medium term inefficient fossil-fuel subsidies that encourage wasteful consumption”⁷ and Asia-Pacific Economic Cooperation (APEC) countries and others soon followed suit with similar pledges.⁸ In 2016, the G7 countries, accounting for 64 percent of the total fiscal support directed towards fossil fuel use,

6. Timothy Meyer, *Free Trade, Fair Trade, and Selective Enforcement*, 118 COLUM. L. REV. 2, 491 (2018), <https://columbialawreview.org/wp-content/uploads/2018/03/Meyer-Free-Trade-Fair-Trade-and-Selective-Enforcement.pdf>.
7. *Leaders’ Statement, The Pittsburgh Summit*, Treasury, at ¶ 24 (Sept. 24-25, 2009), http://www.treasury.gov/resource-center/international/g7-g20/Documents/pittsburgh_summit_leaders_statement_250909.pdf.
8. See Mark Halle, Opinion, *Phase Out Fossil-Fuel Subsidies*, The Broker (Oct. 6, 2010), <http://www.thebrokeronline.eu/Articles/Phase-out-fossil-fuel-subsidies>.

agreed to phase out fossil fuel subsidies by the year 2025.⁹ As Meyer has documented, these commitments haven't translated into even one fossil fuel subsidy challenge under the WTO's Agreement on Subsidies and Countervailing Measures (SCM). Nor have these commitments resulted in actual reductions in subsidies. In fact, each of the G7 countries committing to phase out fossil fuel subsidies provided new public financing for oil and gas exploration following the 2016 signing of the Paris Climate Agreement.¹⁰

The picture is similar with respect to fishing subsidies. A non-binding United Nations Sustainable Development Goal (SDG) signed by 193 nations set 2020 for an end to subsidies that "contribute to overcapacity and overfishing, or to illegal, unreported and unregulated fishing."¹¹ In 2017, WTO members committed "to continue to engage constructively in the fisheries subsidies negotiations" and to agree on "comprehensive and effective disciplines" by the 2019 ministerial. The ministerial has been postponed to 2020, but reaching agreement by even the extended deadline remains unlikely.¹² Needless to say, as Meyer details, the global willingness to discuss the pernicious consequences of fishing subsidies hasn't led to a single challenge under the SCM agreement.

Meyer estimates combined annual fossil fuel consumption and production subsidies at 934 billion USD in 2014, seven times the amount spent on renewables' subsidies.¹³ On the fisheries side, Meyer cites a European Parliament estimate of \$35 billion spent annually on subsidies as of 2009, but doesn't quantify the level of aquaculture-related subsidies.¹⁴ Meyer effectively makes the case for eliminating these environmentally harmful fossil fuel and wild fisheries subsidies. The other prong of his argument, however—that renewable energy and aquaculture promote environmentally sustainable practices that are inhibited by subsidy challenges and domestic trade investigations—oversimplifies the bad-subsidy, good-subsidy comparison.

III. Industrial-Scale Biofuel Production and Aquaculture Are Part of the Problem

Meyer makes a mistake in defining "biofuels" and "bio-diesel" as renewable and stating that they "emit fewer greenhouse gases than fossil fuels."¹⁵ As the scale of bio-fuel production has increased, displacing food crops and

clearing forests, more attention is being paid to the negative environmental impacts, including GHG emissions. As a World Resources Institute paper puts it, "bioenergy that entails the dedicated use of land to grow the energy feedstock will undercut efforts to combat climate change and to achieve a sustainable food future."¹⁶ Also, carbon modeling for biofuels has been based on incorrect assumptions that underestimate the amount of carbon dioxide released when burned.¹⁷ The WRI paper recommends phasing out all subsidies for biofuels and their production.¹⁸ A landmark European Commission study quantifying GHG impacts of biofuels found palm and soy oil, both in common and rapidly expanding use, to be particularly destructive: bio-diesel from palm oil is three times worse for the climate than regular diesel while soy oil diesel is two times worse.¹⁹ On March 13, 2019, the Commission issued a regulation implementing its decision that because of deforestation impacts, beginning in 2023, biodiesel produced from palm oil may not be counted towards meeting EU green fuel targets,²⁰ with the rule to be fully phased in by 2030.²¹

Meyer also glosses over the environmental impacts of aquaculture in comparing the selective enforcement of WTO subsidy rules against aquaculture, but not wild fisheries. While environmentally sustainable aquaculture is possible, for example small-scale bivalve operations,²² much of today's aquaculture is industrial in scale and environmentally destructive. Salmon and other fish farmed in large concentrations in open ocean pens are dosed with high levels of antibiotics and pesticides,²³ and further

9. Han Chen, *G7 Fossil Fuel Subsidy Scorecard*, Natural Resources Defense Council (June 3, 2018), <https://www.nrdc.org/resources/g7-fossil-fuel-subsidy-scorecard>. This includes significant support to fossil fuel use in transport (\$26 billion), industry (\$9 billion), households (\$11 billion), and in other sectors (\$5 billion), and support to fossil fuel exploration, production and fossil fuel-based power in 57 countries (including other G7 countries).

10. *Id.* at 2.

11. United Nations, *Goal 14: Conserve and Sustainably Use the Oceans, Seas and Marine Resources for Sustainable Development*, <https://oceanconference.un.org/sdg14> (last visited, June 10, 2019).

12. Peter Thomson, *2019: The Year to End Harmful Fisheries Subsidies*, SDG Knowledge Hub (Jan. 8, 2019), <https://sdg.iisd.org/commentary/guest-articles/2019-the-year-to-end-harmful-fisheries-subsidies/>.

13. Meyer, *supra* note 6.

14. *Id.*

15. *Id.* at 515 n.131.

16. Tim Searchinger & Ralph Heimlich, *Installation 9 of "Creating a Sustainable Food Future": Avoiding Bioenergy Competition for Food Crops and Land*, World Resources Institute, at 1 (2015), <https://www.wri.org/publication/avoiding-bioenergy-competition-food-crops-and-land>. The growth of the biofuel industry also poses a number of challenges to water quantity and quality around the world, *see e.g.*, Shinye Varghese, *Biofuels and Global Water Challenges*, Institute for Agriculture and Trade Policy (2007), https://www.iatp.org/sites/default/files/451_2_100547.pdf.

17. Searchinger & Heimlich, *supra* note 16, at 4, 17.

18. *Id.* at 26.

19. Hugo Valin et al., *The Land Use Change Impact of Biofuels Consumed in the EU: Quantification of Area and Greenhouse Gas Impacts*, European Commission, at Fig. 2 (Aug. 10, 2015), https://ec.europa.eu/energy/sites/ener/files/documents/Final%20Report_GLOBBIOM_publication.pdf.

20. European Commission, *Commission Delegated Regulation (EU) (Mar. 13, 2019)*, <https://www.transportenvironment.org/sites/te/files/PART-2019-142068V1.pdf>.

21. Environmental groups note that this directive has loopholes—resulting from trade policy pressures. *See EU Labels Palm Oil in Diesel as Unsustainable*, Transport & Environment (Mar. 13, 2019), <https://www.transportenvironment.org/press/eu-labels-palm-oil-diesel-unsustainable>.

22. Off the coast of Maine, oysters and mussels have long been harvested sustainably and without harm to marine environments, but a proposal to expand an operation to 40 acres is raising environmental concerns. *See Paul Dioli, Maine Voices: Oyster Company's Plan for 40-Acre Lease Is Bad for Bay, Public*, PORTLAND PRESS HERALD (Nov. 15, 2018), <https://www.pressherald.com/2018/11/15/maine-voices-oyster-companys-plan-for-40-acre-lease-is-bad-for-bay-public/>; *see also Maine Oyster Trail 2015 Spring Update*, University of Maine (last visited June 11, 2019), <https://seagrant.umaine.edu/maine-oyster-trail/>; *New Report Big Opportunity for Maine Aquaculture Industry*, Gulf of Maine Research Institute (Oct. 26, 2016), <https://www.gmri.org/news/news-archive/new-report-big-opportunity-maine-aquaculture-industry>.

23. For example, Cooke Aquaculture's Atlantic operations used illegal pesticides that caused massive lobster die-offs off the coast of Maine and New Brunswick. *See Bill Trotter, Cooke Aquaculture to Pay \$490,000 After Illegal Pesticides Kill Lobsters in Canada*, BANGOR DAILY NEWS (Apr. 27, 2013),

pollute ocean waters with large volumes of fish wastes.²⁴ Escaped farmed fish can interbreed with wild fish, transferring diseases and altering biology. This latter concern raised ecological and legal issues under the federal Endangered Species Act in Maine,²⁵ and is at the root of a dispute in Washington State. There, the Canadian company Cooke Aquaculture threatened to sue for 76 million USD plus lost anticipated profits pursuant to the investor-state dispute settlement (ISDS) provisions of the North American Free Trade Agreement (NAFTA), unless the state backed down from a plan to tightly restrict all aquaculture operations after hundreds of thousands non-native Atlantic salmon repeatedly escaped from the company's fish farms into Puget Sound.²⁶

Land-based aquaculture, too, is destructive. Intensive shrimp farming in southeast Asia is destroying mangrove forests and opening up the coastline to erosion, with heavy chemical use.²⁷ Aquaculture-caused deforestation has a climate link: one scientist has estimated the carbon intensity of shrimp from deforested mangroves is 10 times greater than that of beef grown in deforested Amazonian rain forest, without including the energy involved in feeding, processing, and transporting the shrimp.²⁸ The parallels between modern aquaculture and industrial agriculture are becoming even clearer as transnational corporations including Archer Daniels Midland and Cargill are buying up fish feed companies and considering starting their own fish farms.²⁹ It is also questionable whether farmed fish replaces wild-caught fish in the marketplace and will ultimately help sustain global marine resources. A new study

indicates global aquaculture production largely supplements fisheries capture.³⁰

Meyer is on firmer ground in making the case that solar and wind energy projects are renewable, and that projects and investment that otherwise would have displaced or at least not increased GHG emissions have been directly threatened by the selective enforcement of the WTO's subsidy rules. Indeed, the WTO's ruling in favor of the challenge to Ontario's wind energy feed-in tariff and local content rules, and the tit-for-tat investigations and WTO challenges (especially the retaliatory investigations by India and China into U.S. sub-federal programs intended to boost renewables)³¹ chilled the expansion of U.S. state-level renewable policies.³² This matters, as in recent years, most of the innovation in energy policy in the United States has been at the sub-federal level.

IV. The Broader Context of the Subsidy Problem

The larger picture is that trade rules that promote fossil fuels and discourage alternatives are a problem that go well beyond the WTO's subsidy agreement. Rebalancing trade rules to support, rather than undermine, a transition to a low-carbon economy and a sustainable environment is a decidedly uphill challenge. At the fore of these climate-harming policies is the ISDS system allowing corporations to challenge even-handed domestic policies they claim unfairly limit their profits. Half of all ISDS cases registered at the World Bank by the end of 2015 related to oil, mining, gas, electric power or other energy forms.³³ Many of these were brought pursuant to the Energy Charter Treaty (ECT), a trade and investment agreement that deals exclusively with the energy sector and applies to nearly 50 countries. This treaty was the basis for challenges, for example, over environmental restrictions on a coal-fired power plant and for phasing out nuclear power in Germany, and a ban on offshore oil drilling in Italy. Outside of international energy lawyers the ECT is little known; the fact that many

<https://bangordailynews.com/2013/04/27/business/cooke-aquaculture-to-pay-490k-after-illegal-pesticides-kill-lobsters-in-canada/>.

24. See, e.g., *Key Issues: Salmon Farming*, TBuck Suzuki Environmental Foundation, <http://www.bucksuzuki.org/key-issues/salmon-farming1/>; see also Celine Serrat, *Taking the Environmental Bite Out of Salmon Farming* (Sept. 28, 2016), <https://phys.org/news/2016-09-environmental-salmon-farming.html>; John Vidal, *Salmon Farming in Crisis: "We Are Seeing a Chemical Arms Race in the Seas."* THE GUARDIAN (last amended Apr. 2, 2017), <https://www.theguardian.com/environment/2017/apr/01/is-farming-salmon-bad-for-the-environment>.

25. See National Research Council of the National Academies, *Atlantic Salmon in Maine*, CONSENSUS STUDY REPORTS, at 82-90 (2004), <https://www.nap.edu/read/10892/chapter/5#82>.

26. See Press Release, *Cooke Aquaculture Pacific Urges Lawmakers to Consider Jobs, Science-Based Policy, Fair and Equitable Treatment*, ISDS Platform (Feb. 19, 2018), <https://isds.bilaterals.org/?cooke-aquaculture-pacific-urges>; see also Cindy Carr, *ICYMI: Canadian Corporation Uses NAFTA to Threaten Proposed Protection for Puget Sound*, Sierra Club (Feb. 22, 2018), <https://www.sierraclub.org/press-releases/2018/02/icymi-canadian-corporation-uses-nafta-threaten-proposed-protection-for-puget>.

27. See Zoe Osborne, *The Environmental Hazards of Intensive Shrimp Farming on the Mekong Delta*, PACIFIC STANDARD (July 20, 2018), <https://psmag.com/environment/the-environmental-impacts-of-shrimp-farming-in-vietnam>; see also Federico Páez-Osuna, *The Environmental Impact of Shrimp Aquaculture: Causes, Effects, and Mitigating Alternatives*, 28 ENVTL. MGMT. 1, at 131-40 (July 2001), <https://www.ncbi.nlm.nih.gov/pubmed/11436996>.

28. See Erik Stokstad, *The Carbon Footprint of a Shrimp Cocktail*, SCI. MAG. (Feb. 17, 2012), <https://www.sciencemag.org/news/2012/02/carbon-footprint-shrimp-cocktail>.

29. See Claire Kelloway, *Big Ag Eyes Big Aquaculture*, FOOD & POWER (Feb. 28, 2019), <http://www.foodandpower.net/2019/02/28/big-ag-eyes-big-aquaculture/>.

30. See Stefano B. Longo et al., *Aquaculture and the Displacement of Fisheries Captures*, CONSERVATION BIOLOGY (Feb. 4, 2019), <https://doi.org/10.1111/cobi.13295>.

31. Panel Report, *United States—Certain Measures Relating to the Renewable Energy Sector*, WT/DS510/R (June 27, 2019) (holding that the renewable energy policies of seven U.S. states violated WTO rules as being discriminatory because they provided preferential treatment/subsidies for use of locally produced content).

32. Personal experience of the author and other U.S. state legislators seeking to enact renewable energy policies; State of Maine Citizen Trade Policy Commission, *Add. to 2012 Trade Policy Assessment*, at 31-34 (Aug. 2012), <https://www.maine.gov/legis/opla/CTPC2012finalassessment.pdf>.

33. See Trade Justice Movement, *Take Back the Power: Energy Transition and the International Trade and Investment Regime* (2016), https://www.tjm.org.uk/documents/reports/Take_back_the_power_-_energy_transition_and_the_international_trade_and_investment_regime_FINAL.pdf; see also Investment Policy Hub, Investment Dispute Settlement Navigator, UNCTAD, <https://investmentpolicyhub.unctad.org/ISDS> (last visited June 24, 2019) (showing current data).

of the investor lawsuits under the treaty remain secret keeps it that way.³⁴

Despite lip service to the Paris Climate Agreement and the need to address global GHG emissions, recent regional trade agreements track problematic WTO provisions and go much further in promoting trade in fossil fuels; limiting controls over fuel extraction and pipeline development; and restricting not only subsidies, but local procurement and content policies that would otherwise help jumpstart renewable energy industries. Official messaging notwithstanding,³⁵ the full range of climate-unfriendly policies, including ISDS in slightly modified form, are found in both the EU-Canada trade agreement (CETA)³⁶ and the now 11-country Transpacific Partnership (rebranded the “Comprehensive and Progressive” TPP or CPTPP),³⁷ both finalized after the Paris Agreement. These same policies were being pursued in the ultimately unsuccessful EU-US Trans-Atlantic Trade and Investment Partnership (TTIP) negotiations taking place during and after the Paris Agreement was negotiated.³⁸ European political initiatives to reform fossil fuel subsidy policies in TTIP went nowhere.³⁹

Illustrating this disconnect, at the same time the Obama Administration was signing onto the Paris Agreement, the U.S. Trade Representative largely ignored climate impacts in its required environmental review of TTIP, and acted to remove references to climate change in the TPP.⁴⁰ The Trump Administration’s new NAFTA, re-branded the “US-Mexico-Canada Agreement” (USMCA), generally

further this fossil fuel-friendly agenda.⁴¹ Strikingly, while changing some of the most egregious investment rules and removing ISDS between Canada and the United States, the new NAFTA would continue ISDS for Mexico’s oil and gas sector. The new NAFTA also prevents countries from restricting exports of goods, including energy products, to another party, which could hamstring some supply-side climate policies; and a U.S.-Canada side letter on energy guarantees access to each other’s pipeline networks for importing and exporting fossil fuels.⁴²

We can speculate as to why governments have been so uninterested in challenging fossil fuel subsidies and so willing to sign onto the Energy Charter Treaty and maintain special rights for oil and gas companies in their regional trade and investment agreements. The fossil fuel, chemical and agribusiness industries are all well-represented in meetings on trade policy with European Commission staff.⁴³ The oil and gas industry spent over \$125 million on lobbying the U.S. government in 2018 and millions more in direct and indirect campaign contributions,⁴⁴ and there is a continuous revolving door as government staff leave for the energy industry and cycle back again.⁴⁵ The USTR has institutionalized preferential industry access to the trade negotiation process through industry advisory committees, and the energy sector has its own committee.⁴⁶ And governments are themselves economic actors, with direct stakes in oil and gas exploration and production.

In the fisheries context, some recent regional trade agreements have included provisions to phase out fisheries subsidies that contribute to overfishing or to illegal activities. CPTPP Article 20.16 prohibits subsidies which have a negative effect on overfished fisheries or benefit vessels carrying out illegal, unreported and unregulated fishing, and any new specific subsidies to fisheries that contribute

34. See Pia Eberhardt et al., *One Treaty to Rule Them All: The Energy Charter Treaty and the Power It Gives Corporations to Halt the Energy Transition*, Corporate Europe Observatory (June 13, 2018), <https://corporateeurope.org/international-trade/2018/06/one-treaty-rule-them-all>.

35. For example, outside of the CETA agreement itself, the EU and Canada promised to “promote the mutual supportiveness of trade and climate policies” and mentioned the Paris Agreement. See Press Release, European Commission, *Canada and the European Union Hold the Inaugural Meeting of the CETA Joint Committee* (Sept. 27, 2018), http://europa.eu/rapid/press-release_STATEMENT-18-5924_en.htm; see also Megan Darby, *Canada and EU Add Climate Clause to Trade Pact*, Euractiv (Sept. 28, 2018), <https://www.euractiv.com/section/climate-environment/news/canada-and-eu-add-climate-clause-to-trade-pact/>; European Commission, *CETA: Taking Action for Trade and Climate* (Jan. 24, 2019), https://ec.europa.eu/clima/events/ceta-taking-action-trade-and-climate_en.

36. See Ernst-Christoph Stolper, *Free Trade or Climate Protection? Energy and Climate Policy-Related Threats Posed by CETA*, in *MAKING SENSE OF CETA*, 57-64 (Hadrian Mertins-Kirkwood et al. eds., Marie-Sophie Keller & Madeleine Drescher trans., 2d ed. 2016), <https://corporateeurope.org/sites/default/files/attachments/making-sense-of-ceta-2018.pdf>.

37. See Oliver Hailes et al., *Climate Change, Human Health and the CPTPP*, *NEW ZEALAND MED. J.*, at 7-12 (2018), https://www.researchgate.net/publication/323664461_Climate_change_human_health_and_the_CPTPP; see also Ben Lilliston, *The Climate Cost of Free Trade: How TPP and Trade Deals Undermine the Paris Climate Agreement*, Institute for Agriculture and Trade Policy (Sept. 2016), https://www.iatp.org/sites/default/files/2016_09_06_ClimateCostFreeTrade.pdf.

38. See Irene Monasterolo & Marco Raberto, *No Contest: Green vs. Brown Subsidies Under the TTIP*, in *TRADE IN THE BALANCE: RECONCILING TRADE AND CLIMATE POLICY*, at 28-35 (2016), https://www.law.georgetown.edu/wp-content/uploads/2017/09/Pardee_TradeClimate_110316final.pdf.

39. See Constanze Adolf et al., *TTIP and Fossil Fuel Subsidies: Using International Policy Processes as Entry Points for Reform in the EU and the USA*, Heinrich Boll Stiftung TTIP Series (2014), https://eu.boell.org/sites/default/files/hbs_ttipp_fossil_fuel_subsidies_1.pdf.

40. See Matthew C. Porterfield et al., *Assessing the Climate Impacts of U.S. Trade Agreements*, 7 *MICH. J. ENVTL. & ADMIN. L.* 51 (2017), <https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1069&context=mjdeal>.

41. See Ben Lilliston, *“New NAFTA” Continues Damaging Climate Legacy*, Institute for Agriculture & Trade Policy (Oct. 17, 2018), <https://www.iatp.org/documents/new-nafta-continues-damaging-climate-legacy>; see also Kevin Book et al., *A First Look at the Naftermath*, Clearview Energy Partners, LLC (Oct. 2, 2018), https://gallery.mailchimp.com/0554cc7ed0bda904329a48c93/files/4c7b719b-d6e8-4052-8f4b-2fb6c81056c8/2018_10_02_The_Naftermath.pdf (side-by-side comparison of the energy-related provisions of the original NAFTA and the USMCA).

42. See Hadrian Mertins-Kirkwood, *Updated NAFTA Deal a Profound Failure for Climate Action*, Canadian Centre for Policy Alternatives (Oct. 12, 2018), <http://behindthenumbers.ca/2018/10/12/updated-nafta-deal-a-profound-failure-for-climate-action/>; see also Dr. Frank Ackerman et al., *NAFTA 2.0: For People or Polluters? A Climate Denier’s Trade Deal Versus a Clean Energy Economy*, Sierra Club (2018), <https://www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/NAFTA%20and%20Climate%20Report%202018.pdf>.

43. See *TTIP Reloaded: Big Business Calls the Shots on New EU-US Trade Talks*, Corporate Europe Observatory (Feb. 21, 2019), <https://corporateeurope.org/international-trade/2019/02/ttip-reloaded-big-business-calls-shots-new-eu-us-trade-talks>.

44. See *Oil & Gas: Summary*, OpenSecrets (last accessed June 12, 2019), <https://www.opensecrets.org/industries/indus.php?cycle=2018&ind=E01>.

45. See *Revolving Door: Top Industries*, OpenSecrets (last accessed June 12, 2019), <https://www.opensecrets.org/revolving/top.php?display=I>.

46. See U.S. Department of Commerce and the Office of the United States Trade Representative, *Industry Trade Advisory Committee on Energy and Energy Services Itac6* (last visited Mar. 12, 2019), <https://www.trade.gov/itac/committees/itac06.asp>.

to overfishing or excess capacity to fish.⁴⁷ Although the banned subsidies are very narrowly defined in the new NAFTA, the text does set a hard deadline of three years for the parties to come into compliance.⁴⁸ Environmentalists have called into question how meaningful these measures are, given that enforcement is largely unchanged from the ineffective mechanisms of prior FTAs.⁴⁹ Still, the specificity of the fishing subsidy commitments (which also cross-reference the WTO's SCM agreement) contrasts with the vague climate and fossil fuel references in the same agreements. Perhaps this is a result of the many years of (otherwise inconclusive) multilateral WTO negotiations to finalize a global agreement to end fishing subsidies by 2020.

V. How Best to Reform a Broken System?

Meyer effectively makes the case that reform is needed to address environment-harming fossil fuel and fishing subsidies. The question is how best to achieve it, and practically speaking, what change is possible, especially given the overwhelming advantage oil and gas, and associated industries, have in buying and exercising influence. The WTO comprises a powerful set of enforceable rules promoting international trade; the goal “is to ensure that trade flows as smoothly, predictably and freely as possible.”⁵⁰ The goal of the WTO is not to promote environmental sustainability, public health, or to address climate change, and as Meyer has demonstrated, nor does it. This goes for the SCM agreement itself; the rules of that agreement are fundamentally about enhancing trade—not enhancing the environment. Does it make sense, then, to give this entity independent enforcement authority to root out subsidies that promote GHG emissions or overfishing, as Meyer has proposed? And if not, what's the alternative?

My initial reaction to Meyer's proposal was to reject it out of hand as empowering the wrong venue. Even those of us who would like to see limits placed on harmful subsidies may balk at turning over powerful new enforce-

ment authority to the WTO, an institution promoting a global trade model that has helped drive the very harms it would now be tasked with ameliorating. In his recent article, *What Do Trade Agreements Really Do?*,⁵¹ noted international political economy professor Dani Rodrik argues that modern trade agreements “serve to empower special interests, rather than rein them in.” In an example relevant to our subsidy discussion, he makes the case that moving the focus of international negotiation on intellectual property into the trade sphere—from the UN's World Intellectual Property Organization to the WTO—“was a brilliant strategic move for business. It ensured that commercial considerations would dominate and outweigh other goals, such as implications for economic development and public health.”⁵²

On a practical level, too, it seems unlikely that the independent prosecutorial function Meyer proposes would be agreed to in time to make a significant dent in climate-harming emissions. Environmentalists would not be alone in having reservations. Certainly, the United States is unlikely to support this reform. Recent comments by Kelly Ann Shaw, special assistant to the president for international trade, investment and development, that the WTO is “stuck in the past,” do not refer to the need to incorporate environmental sustainability and climate change considerations into WTO decisionmaking. Rather, the United States is pushing new rules to reduce the number of WTO members claiming “developing” status, among other changes.⁵³

Even the investigative and reporting function outlined in what Meyer calls his “weak” version raises concerns of balance and the appropriateness of the trade-promoting WTO as arbiter. As evidence of the complexity of the task, consider the differing conclusions about the environmental impacts of aquaculture and GHG emissions produced by biofuels discussed above. For a real-world example of environmental decisionmaking going awry when the overarching framework is trade liberalization, we need only look to the Environmental Goods Agreement (EGA) being negotiated by WTO members, which aims to reduce or eliminate tariffs on “environmentally beneficial” products and services.⁵⁴ Potentially, the EGA could be a mechanism to indirectly address one of the problems Meyer identifies: subsidy challenges that increase the cost of renewable energy, making it less competitive in the marketplace. In

47. See discussion in *The Politics of Fossil Fuel Subsidies and Their Reform*, at 121-39 (Jakob Skovgaard & Harro Van Asselt eds., Cambridge Univ. Press, 2018), https://www.cambridge.org/core/services/aop-cambridge-core/content/view/B8CB7D383F33AD9AF9CC82EB50A74DE5/9781108416795AR.pdf/The_Politics_of_Fossil_Fuel_Subsidies_and_their_Reform.pdf?event-type=FTLA; see also Consolidated Trans-Pacific Partnership, at Ch. 20—Environment (last modified Dec. 6, 2016), <https://international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/tpp-ptp/text-texte/20.aspx?lang=eng>.

48. USMCA, Art. 24.20.2:

Subsidy programs that are established by a Party before the date of entry into force of this Agreement and are subsidies referred to in paragraph 1(b) shall be brought into conformity with paragraph 1 as soon as possible and no later than three years after the date of entry into force of this Agreement.

https://ustr.gov/sites/default/files/files/agreements/FTA/USMCA/Text/24_Environment.pdf.

49. See World Trade Online, *Environmental Groups: USMCA “Weak” on Past Environmental Agreements*, INSIDETRADE (Oct. 5, 2018), <https://insidetradetrade.com/daily-news/environmental-groups-usmca-weak-past-environmental-agreements>.

50. World Trade Organization, *The WTO* (last visited June 12, 2019), https://www.wto.org/english/thewto_e/thewto_e.htm.

51. Dani Rodrik, *What Do Trade Agreements Really Do?*, 32 J. ECON. PERSP. 2, 73-90 (Spring 2018), <http://j.mp/2EsEOPk>.

52. *Id.* at 84. Those commercial considerations have culminated in the new NAFTA's extreme pharmaceutical and biotechnology IP protections. See James Love, *KEI's Pre-Hearing Submission to the ITC on the USMCA*, KNOWLEDGE ECOLOGY INT'L (Oct. 31, 2018), <https://www.keionline.org/29175>; see also USMCA Ch. 20, https://ustr.gov/sites/default/files/files/agreements/FTA/USMCA/Text/20_Intellectual_Property_Rights.pdf.

53. World Trade Online, *White House Adviser: Lack of Negotiations at the Heart of U.S. WTO Concerns*, INSIDETRADE (Mar. 7, 2019), <https://insidetradetrade.com/daily-news/white-house-adviser-lack-negotiations-heart-us-wto-concerns?s=em>.

54. World Trade Organization, *Eliminating Trade Barriers on Environmental Goods and Services* (last accessed June 12, 2019), https://www.wto.org/english/tratop_e/envir_e/envir_neg_serv_e.htm (last accessed June 12, 2019).

practice, the EGA seems less about promoting environmental protection than promoting tariff-free trade. The list of 54 products considered environmentally beneficial by the APEC countries includes environmentally harmful chemical and toxic waste incinerators, for example.⁵⁵

Although the WTO-sponsored negotiations on ending fishing subsidies have yet to result in agreement, the results of this exercise may offer a counter-argument in favor of WTO involvement in further subsidy reform. As detailed above, recent regional trade agreements have included potentially enforceable bans, with deadlines, on certain fishing subsidies—measures which appear to be an outgrowth of the WTO-sponsored talks.⁵⁶ This is similar to the International Labour Organization model, which has developed labor rights standards outside of the WTO. The ILO standards have been incorporated into trade agreements where, if the enforcement mechanism (and political will) are strong enough, they have the potential to achieve reforms.⁵⁷ While seemingly a small step, just putting together a comprehensive fossil fuel subsidy database (and agreeing on what is a subsidy) would likely help advance climate action. When you see the wildly different estimates of how much money is funneled into subsidies—compare Meyer’s 2014 figure of \$984 billion with other estimates of \$2.6 to 5.3 trillion based on different definitions and data—the problem is apparent. Without agreement even as to what constitutes a

subsidy and a public database of information, phasing out fossil fuel subsidies is even more difficult.⁵⁸

VI. Conclusion

The worldwide climate crisis and our planet’s overfished oceans are in part the consequence of the global trading system established and implemented through the WTO. Multilateral negotiations focused on environmental and public health, including the Paris Climate Agreement and the UN’s Sustainable Development Goals, lack the trade-based enforcement mechanisms available through the WTO. Powerful financial and political interests, which dump vast sums of money into lobbying and campaign donations, support this trading system and are arrayed against progress in the public interest negotiations. To his credit, Timothy Meyer has suggested some reforms of the WTO to start to redress this imbalance. But setting up the WTO as a powerful arbiter of environmental values and disputes could backfire and further empower the fossil fuel industry and other commercial interests. Alternatively, the WTO may serve a useful role as convener, as the global fisheries subsidy negotiations have demonstrated, and in developing and disseminating the fossil fuel subsidy data needed to ensure more effective agreements in the future.

55. See Ilana Solomon, *Trade in Environmental Goods May Not Actually Be So Good*, Sierra Club (Jan. 24, 2014), <https://blogs.sierraclub.org/compass/2014/01/trade-in-environmental-goods-may-not-actually-be-so-good.html>; see also APEC List of Environmental Goods (Sept. 8, 2012), https://www.apec.org/Meeting-Papers/Leaders-Declarations/2012/2012_aelm/2012_aelm_annexC.aspx. The APEC list is just the starting point for further negotiations toward an EGA encompassing the United States, the EU, and other countries “together accounting for nearly 90% of global exports in environmental goods.” See Office of the United States Trade Representative, *Environmental Goods Agreement* (last accessed June 12, 2019), <https://ustr.gov/trade-agreements/other-initiatives/environmental-goods-agreement>.

56. New Zealand claims it is the reason these subsidies were addressed in the CPTPP. See Farah Hancock, *NZ Leads Push to End Fishing Subsidies*, NEWSROOM, <https://www.newsroom.co.nz/2018/03/04/93563/nz-leads-push-to-end-fishing-subsidies> (“New Zealand does not provide harmful subsidies to the fishing industry and has been involved in attempting to ban subsidies for illegal, unreported, and unregulated fishing through the World Trade Organisation (WTO) for many years.”).

57. See generally International Labour Organization, *Labour Standards* (last accessed June 12, 2019), <https://www.ilo.org/global/standards/lang-en/index.htm>.

58. See Laura Merrill et al., *Better Datasets Urgently Needed to Understand Full Scale of Fossil Fuel Subsidies*, International Institute for Sustainable Development (Feb. 16, 2018), <https://www.iisd.org/blog/better-datasets-urgently-needed-understand-full-scale-fossil-fuel-subsidies>.

A R T I C L E

The Attack on American Cities

by Richard C. Schragger

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I. Introduction

Cities often test the existing limits of their regulatory authority in areas like environmental protection, labor and employment, and immigration. The last few years witnessed an explosion of preemptive state legislation attacking, challenging, and overriding municipal ordinances across a wide range of policy areas. But this hostility to city government is not new.¹ In 1915, one professor observed that “the relations of states to metropolitan cities in this country is ‘a history of repeated injuries’ . . . [and] ‘repeated usurpations.’”²

This Article’s descriptive goal is to understand how an institutional system overtly dedicated to the principles of devolution can be so hostile to the exercise of city power. Part II describes the twenty-first century attack on American cities by canvassing preemptive state legislation across a number of policy areas. Part III turns to “Our Federalism’s” anti-urbanism. It describes how state-based federalism hinders municipal power generally, and how the U.S. Constitution favors rural over urban voters specifically. Part IV places this “anti-urban constitution” in the context of the historic skepticism of the exercise of city power. Finally, Part V considers the legal and political options available to cities in responding to these conflicts.

*This Article is adapted from Richard C. Schragger, *The Attack on American Cities*, 96 TEX. L. REV. 1163 (2018), and is reprinted with permission.*

1. See generally GERALD E. FRUG & DAVID J. BARRON, CITY BOUND: HOW STATES STIFLE URBAN INNOVATION 231 (2008); GERALD E. FRUG, CITY-MAKING: BUILDING COMMUNITIES WITHOUT BUILDING WALLS 5 (1999). This Article’s attention to constitutional anti-urbanism complements that work.
2. Robert C. Brooks, *Metropolitan Free Cities*, 30 POL. SCI. Q. 222, 222 (1915).

II. Conflictual Federalism: A Review of State-Law Preemption

A. Industry-Specific Preemption

A range of specific industries sought and successfully lobbied for state preemption of local regulations. For example, certain materials used regularly by businesses, such as plastic and Styrofoam, have invited statewide preemptive legislation. States like Arizona, Idaho, and Missouri have explicitly preempted localities from banning plastic bags,³ and Florida has preempted the regulation of Styrofoam.⁴ Similarly, as of 2013, explicit preemption language targeting local pesticide regulation was adopted in 29 states.⁵ Other local environmental regulations also invited state opposition; Oklahoma and Texas specifically preempted local regulation of hydraulic fracturing, or fracking.⁶

B. Local Authority Preemption

In addition to preempting local laws that seek to regulate private businesses, states have also preempted local authority in areas that come closer to the traditional core of municipal authority: revenue raising and spending. States dramatically limit localities’ tax and spending abilities through tax and expenditure limitations. Thirty-four states, as of 2015, imposed property tax rate limits on localities.⁷ Land-use regulation and schools are other topics of traditional local concern that have seen recent preemption activity. Local immigration issues also elicited state

3. *State Plastic and Paper Bag Legislation*, NAT’L CONF. ST. LEGISLATURES, <https://perma.cc/YS54-MG7V>.
4. FLA. STAT. §500.90 (2017) (preempting local regulation of polystyrene products).
5. MATTHEW PORTER, STATE PREEMPTION LAW: THE BATTLE FOR LOCAL CONTROL OF DEMOCRACY, <https://perma.cc/WPG8-SGLT>.
6. See, e.g., OKLA. STAT. tit. 52, §137.1 (2017) (effective Aug. 21, 2015).
7. *Significant Features of the Property Tax: Tax Limits*, LINCOLN INST. LAND POL’Y, <https://perma.cc/S8K2-7PM8>.

legislative attention—as conflicts over sanctuary cities have become more widespread.⁸

C. Punitive, Deregulatory, and Vindictive Preemption

Punitive preemptive laws seek to deter cities from—and punish cities for—passing ordinances that are in conflict with state law.⁹ These laws fall into three broad categories: privately enforced civil penalties against local officials and governments, state-enforced fiscal sanctions for local governments, and criminal penalties.

“Deregulatory preemption,”¹⁰ a more common form of state preemption, preempts for no obvious regulatory purpose; it functions merely to deny localities certain regulatory powers, rather than to protect actual policies adopted at the state level.

Lastly, vindictive preemption occurs when state law preempts more local authority than is necessary to achieve the state’s specific policy goals, when the state threatens to withhold funds in response to the adoption of local legislation, or when the state threatens all cities with preemptive legislation in response to one city’s adoption of a particular policy.

III. “Our Federalism’s” Anti-Urbanism

The rise of state law preemption does not merely reflect a string of victories by deregulation-seeking interest groups. Instead, the recent spate of preemptive state legislation also reflects a structural bias against local government and an enduring feature of American federalism: its anti-urbanism.

A. The Problem of States

A number of commentators have pointed out that federal systems of government tend to be less decentralized than unitary ones.¹¹ What is it about U.S. states that impedes the devolution of power to U.S. cities? First, in a unitary government, implementation and monitoring are costly, so we might expect such a government to devolve significant powers and responsibilities to smaller-scaled entities, many of them smaller than U.S. states. Moreover, in the United States, the boundaries of regional governments—states—are fairly arbitrary. Each state’s jurisdictional reach is a function of geography and history, not a result of a considered evaluation of a particular geographically concentrated population. Conversely, city boundaries can roughly cohere with an identifiable constituency. Absent strong

reasons militating in favor of a particular federal structure, municipal or metro-area boundaries seem more relevant to governing than do regional ones.

Furthermore, in a federal system, regional or state governments take up the policy space that would otherwise be occupied by local governments. The existence of a regional tier of government always impedes localism because it introduces a constraint on local officials, who otherwise would have unmediated relationships with their own constituents and with the central authority.¹²

The third reason for the dominance of states is vertical redundancy.¹³ City leaders do not enjoy a monopoly on local representation, nor are cities *qua* cities represented in the state or national legislatures. Instead, numerous elected officials—in statehouses and in the U.S. Congress—can validly assert that they represent locals, even as they do not represent the city as a whole. Because states share so much political and policymaking space with their local governments, state preferences will likely predominate.

B. Malapportionment

American anti-urbanism is not simply a function of state-based federalism: the problem for American cities is exacerbated by a system that favors rural over urban jurisdictions. The malapportionment of the U.S. Senate is a significant impediment to city power. By giving each state equal suffrage, the Senate favors less populated, rural states over highly populated, urban ones.¹⁴ As metropolitan-area populations take up ever larger proportions of their states as well as increasing percentages of the total population of the nation, the Senate’s malapportionment will continue to result in significant underrepresentation of urban interests.

State and congressional legislative districting also leads to an anti-urban bias. Following prominent apportionment cases,¹⁵ suburban interests gained representation at a cost to both rural and urban constituencies. Those suburban interests were in some cases less willing to defer to cities than were the rural legislators. Add to this partisan gerrymandering and the geographical sorting by political affiliation, and the legislative anti-urban bias is magnified.¹⁶

C. Home Rule Failure

Home rule was intended to protect cities from a legislature that refused to let them govern,¹⁷ but it has become mostly

8. See, e.g., *City Enforcement of Immigration Laws Before Panel*, BILLINGS GAZETTE (Jan. 14, 2013), <https://perma.cc/9QCY-SAYS>.

9. See *Legal Strategies to Counter State Preemption and Protect Progressive Localism: A Summary of the Findings of the Legal Effort to Address Preemption (LEAP) Project*, BETTER BALANCE (Aug. 9, 2017), <https://perma.cc/Q7Z6-J6BG> [hereinafter *Legal Strategies*].

10. Thanks to Richard Briffault for this insight.

11. See, e.g., Frank B. Cross, *The Folly of Federalism*, 24 CARDOZO L. REV. 1, 35-36, 39-40 (2002) (arguing that the benefits of decentralization are derived primarily from independent local governments and that unitary, rather than federal, governments provide greater authority to local municipalities).

12. See *id.* at 27-28, 33-36 (arguing that local government power is significantly curtailed by state governments, which often limit decentralization at the local level).

13. See generally RICHARD SCHRAGGER, CITY POWER: URBAN GOVERNANCE IN A GLOBAL AGE 89-96 (2016).

14. Paul A. Diller, *Reorienting Home Rule: Part 1—The Urban Disadvantage and State Law-making*, 77 LA. L. REV. 287, 291 (2016) [hereinafter Diller, *Part 1*].

15. See, e.g., *Reynolds v. Sims*, 377 U.S. 533, 547-51 (1964) (holding that state legislative and congressional districts have to abide by the one-person, one-vote rule).

16. Diller, *Part 1*, *supra* note 14, at 291.

17. DAVID R. BERMAN, LOCAL GOVERNMENT AND THE STATES: AUTONOMY, POLITICS, AND POLICY 62 (2003).

toothless in that regard.¹⁸ The original version of home rule usually limited city power to matters of “local” concern, and local concern was almost always interpreted narrowly by state courts and against the background presumption that the state still held general police power.¹⁹ Alternatively, some states adopted blanket grants of the police power to local governments, subject to the denial of that power by a specific act of the state legislature.²⁰ This “legislative” home rule permits local governments wide discretion in initiating legislation, but no or very limited protection against state law preemption.²¹ Our current, late-20th-century version of home rule favors suburban power to protect property values over urban power to promote equality.²² Courts conventionally hold that zoning and other land use matters fall within the core of home rule authority, thus vindicating a power that often favors exclusionary suburbs.²³ At the same time, courts are skeptical of city efforts to embrace other policies that might redistribute away from property owners or that might benefit cities to the detriment of suburbs.²⁴ Home rule is most robust insofar as it is associated with protection of a sphere of home life,²⁵ but has less traction when it comes to commercial or redistributive policies.²⁶ Consequently, localism is protected by home rule grants, but that localism is of a certain kind, more readily enjoyed by suburban jurisdictions and easily effaced when locals seek to regulate powerful commercial and financial actors.²⁷

IV. Forms of Anti-Urbanism

This part identifies a number of strands of anti-urbanism that continue to shape attitudes toward the exercise of city power. The enduring anti-urban narrative suggests that the city is badly governed, bad for citizens’ welfare, and bad for the nation.

A. Antidemocratic Anti-Urbanism

The first strand of anti-urbanism consists of a skepticism of municipal government that took root in the Progressive Era and has never been entirely shaken. That skepticism begins with a conventional view—adopted then and still prevalent now—that American cities are abysmally governed, more corrupt than state or national polities, and more prone to capture by special interests.²⁸ These notions continue to persist, often in mayoral contests, in which the idea of the “CEO mayor” who can bring discipline to municipal government and run it more efficiently, has become popular²⁹

Today, *antidemocratic* anti-urbanism is best illustrated by state takeovers of fiscally distressed municipalities. That a city could be stripped of elected municipal government might be surprising if it were applied to a state or a suburban jurisdiction. However, the trope of city mismanagement, corruption, and political failure is a powerful one. Takeovers are driven by an assumption of city political failure. But democratic accountability is not the problem, it is the solution in these cases. For example, in Flint, Michigan, an unelected manager shifted the city’s water supply to save money despite significant popular opposition and evidence that the water system was poisoning residents.³⁰ Thus, emergency managers’ lack of political accountability should be a strike against their appointment, not an advantage.³¹

B. Anti-City Anti-Urbanism

The *anti-city* strand of anti-urbanism is best captured by Ebenezer Howard, who offered the Garden City as an antidote to the crowded and congested London of the late-19th century.³² The Garden City’s real import was its approach to planning: a rigid separation of uses; an obsession with the healthful qualities of nature; and a commitment to a suburban-style landscape.³³ These features were taken up by progressive planners in the 1920s and applied through the rapid adoption of zoning codes nationwide.

The Garden City was followed by Le Corbusier’s Radiant City, which led to mid-century planners developing a belief that cities are noisy, congested, dangerous, and unhealthful. These planners began to promote forms of planning that stripped city neighborhoods of their human scale, that demonized street life, that minimized the mixing of commercial and residential uses, and that treated grassy

18. For an excellent account of the “failed promise of intrastate federalism,” see Kenneth A. Stahl, *Preemption, Federalism, and Local Democracy*, 44 *FORDHAM URB. L.J.* 133, 163-77 (2017).

19. Richard Briffault, *Home Rule and Local Political Innovation*, 22 *J.L. & POL.* 1, 18-19 (2006).

20. Diller, *Part 1*, *supra* note 14, at 291.

21. See Paul A. Diller, *Reorienting Home Rule: Part 2—Remedying the Urban Disadvantage Through Federalism and Localism*, 77 *LA. L. REV.* 1045, 1119 (2017) [hereinafter Diller, *Part 2*].

22. David J. Barron, *Reclaiming Home Rule*, 116 *HARV. L. REV.* 2255, 2263 (2003).

23. See, e.g., 2 W. MIKE BAGGETT & BRIAN THOMPSON MORRIS, *TEXAS PRACTICE GUIDE: REAL ESTATE LITIGATION* §8:11 (2017) (explaining that both statute and case law grant broad zoning powers to Texas municipalities).

24. Richard Thompson Ford, *The Boundaries of Race: Political Geography in Legal Analysis*, 107 *HARV. L. REV.* 1841, 1878 & n.108 (1994) (showing how courts give authority to local governments when the controversy is close to the “associational rights of individuals”).

25. Kenneth A. Stahl, *Local Home Rule in the Time of Globalization*, 2016 *BYU L. REV.* 177, 185-86 (2016).

26. See *id.* at 181-82 & nn.10-13 (acknowledging that courts regularly strike down local laws which regulate commercial and financial actors).

27. See *id.* (acknowledging that courts regularly strike down local laws which regulate commercial and financial actors); see also Rick Su, *Have Cities Abandoned Home Rule?*, 44 *FORDHAM URB. L.J.* 181, 195 (2017) (suggesting that cities have been complicit in undermining the concept of home rule).

28. See Barron, *supra* note 22 at 2292-93 (2003).

29. Richard C. Schragger, *Can Strong Mayors Empower Weak Cities? On the Power of Local Executives in a Federal System*, 115 *YALE L.J.* 2542, 2576 (2006).

30. Richard Schragger, *Flint Wasn’t Allowed Democracy*, *Slate* (Feb. 8, 2016), <https://perma.cc/BL3G-T2HU>.

31. See *id.* (“State officials, in fact, don’t want appointed managers to be responsive to local constituents. That is the whole point of appointing a manager—to prevent him or her from responding too readily to the costly demands of city constituents.”).

32. JANE JACOBS, *THE DEATH AND LIFE OF GREAT AMERICAN CITIES* 17 (1961).

33. *Id.* at 18-19.

spaces as necessary for the full realization of the good life.³⁴ These design elements had a moralizing valence—poor living conditions were associated with poverty as well as with deviance and criminality.

Anti-city anti-urbanism continues to exert a powerful subterranean force: remedying poverty is often confused with improving the neighborhood. And an undercurrent of anti-urbanism exists in the notion that urbanites need to move to the suburbs to succeed.³⁵ Social welfare policy continues to be preoccupied by the deficiencies of city neighborhoods themselves—both in terms of those neighborhoods' physical attributes and their sociological make-up.³⁶

C. *Antigovernment Anti-Urbanism*

Antigovernment anti-urbanism draws a direct connection between bigness and the loss of liberty; centralization and the absence of self-government; and density and the threat to American values.³⁷ Resistance to central authority is a continuing and pervasive political and cultural trope, but cities have been less able to assert the values of local autonomy than have the suburbs. Cities are viewed as centralizers; suburbs and small towns are where local self-government is perceived to flourish. Large cities require large municipal governments, expansive municipal services, and significant amounts of revenue. City living also mandates tolerance of a certain collective, public life that appears to be antithetical to rural or suburban individualism.³⁸

D. *Populist Anti-Urbanism*

At the turn of the twentieth century, the fear of ethnic masses animated anti-city sentiment. Present-day anti-urbanism is driven by ethnic and racial hostility as well. It also appears to be animated by dissatisfaction with large-scale national and global economic processes. The city is often associated—on both the political right and left—with these processes. The city is the location of corporate headquarters, large-scale global finance, and free trade cosmopolitanism. Ironically then, the recent success of American cities has inaugurated heightened conflict between cities and states and between cities and the nation.

V. City Defenses

This part begins by evaluating the legal arguments available to cities in resisting state centralization.³⁹ It then turns to the politics of city power. Federalism's anti-urban bias, the dominance of the suburbs, and the effects of political sorting cannot be undone with legal arguments—thus, the cities' central defenses must be political.

A. *City Legal Defenses*

I. Federalism

The Tenth Amendment's anti-commandeering principle is a ready—if limited—tool for cities to use in resisting federal commands. Consider SB4, the recently enacted Texas anti-sanctuary city provision, that requires local officials to comply with federal immigration law on threat of civil and criminal liability.⁴⁰ Under existing U.S. Supreme Court precedent, federal immigration officials cannot commandeer local police to spend money, allocate resources, or provide personnel to enforce federal law.⁴¹ So too under existing precedent, the state of Texas cannot create its own parallel immigration enforcement authority.⁴² SB4, however, compels local officials to enforce federal law.

If the protections of the Tenth Amendment run to the state of Texas, then one would assume that the state could waive this protection.⁴³ However, if the Tenth Amendment runs to the people, then Texas cannot force cities to do what the state or the federal governments cannot each do separately.⁴⁴ A municipal anti-commandeering principle would admittedly be novel—though the principle is sound if one assumes that the people act most immediately through their local governments. The leading argument against SB4 is that by deputizing local-government officials to enforce immigration laws, Texas has created an enforcement apparatus that is preempted by federal law.

2. Home Rule

A more direct way to defend against state law preemption is via state constitutional home rule guarantees or via other

34. See *id.* at 20, 22 (describing the belief held by many city planners that streets were a bad place and that houses should be turned inward, providing the "illusion of isolation and suburban privacy").

35. The evidence is actually uncertain regarding the social and economic outcomes for specific movers. See, e.g., Raj Chetty et al., *The Effects of Exposure to Better Neighborhoods on Children: New Evidence From the Moving to Opportunity Experiment*, 106 AM. ECON. REV. 855, 857-59 (2016). For a critique of "moving to opportunity" and other dispersal strategies, see David Imbroscio, *Urban Policy as Meritocracy: A Critique*, 38 J. URB. AFFAIRS 79, 89-92 (2016).

36. See Imbroscio, *supra* note 35, at 89.

37. STEVEN CONN, AMERICANS AGAINST THE CITY: ANTI-URBANISM IN THE TWENTIETH CENTURY 62 (2014).

38. See *id.*

39. Some of this work has been done previously in law reviews and elsewhere. The discussion that follows is informed by the sources cited below as well as by conversations I have had with my local government law colleagues; see also *Legal Strategies*, *supra* note 9.

40. See S.B. 4, 85th Leg., Reg. Sess. (Tex. 2017) (enacted); see TEX. GOV'T CODE §§752.053, .056 (West 2017); TEX. PENAL CODE ANN. §39.07 (West 2017).

41. See *Printz v. United States*, 521 U.S. 898, 935 (1997) ("Congress cannot compel the States to enact or enforce a federal regulatory program.")

42. *Arizona v. United States*, 567 U.S. 387, 394 (2012) (finding that the federal government has broad powers over immigration).

43. *But see New York v. United States*, 505 U.S. 144, 181-86 (1992) (rejecting the argument that consenting to infringement of state sovereignty may waive the protections of the Tenth Amendment); *Gregory v. Ashcroft*, 501 U.S. 452, 458 (1991).

44. *Cf. Bond v. United States*, 564 U.S. 211, 222 (2011) ("By denying any one government complete jurisdiction over all the concerns of public life, federalism protects the liberty of the individual from arbitrary power.")

state constitutional provisions that prevent the targeting of municipalities for special treatment. The difficulty is that most states have embraced a form of constitutional home rule that cannot resist explicit state law preemption.⁴⁵ Cities often have the power of initiative, but what they do not often enjoy is the power of immunity—they cannot generally assert local law’s supremacy over a duly and properly enacted state statute that conflicts.

Generality requirements in state constitutions may have more teeth.⁴⁶ Yet, most states’ generality requirements are mere formalities; they merely prevent the legislature from specifically identifying a city for special regulation.⁴⁷ Moreover, home rule provisions in state constitutions do not interpret themselves—there is often textual room to create more space for local authority. Courts, however, are generally wary of broad grants of local power. State court judges tend to be amenable to arguments for statewide uniformity and are by definition part of a statewide professional, political, and cultural apparatus. Their allegiance is unlikely to run to cities.

3. Equal Protection

One example of this type of litigation involves situations in which the absence or withdrawal of local authority is itself a structural component of the constitutional injury. The most prominent example of this is *Romer v. Evans*.⁴⁸ There, the Supreme Court held that Amendment 2, which barred Colorado local governments from adopting LGBT protective antidiscrimination laws, was unconstitutional—both because of its breadth, and because it undermined the ability for local pro-gay majorities to gain protections in local jurisdictions with pro-gay majorities.⁴⁹ Nevertheless, the Supreme Court has not extended *Romer* beyond its narrow confines, and there are few cases applying it in a case of state-local conflict.⁵⁰ In what circumstances a shift of decisionmaking authority from the local to the state would constitute an equal protection violation is uncertain. Preemptive state legislation may be a violation when it overrides local laws that extend equal benefits to a normally unpopular group, and when there are no good reasons for statewide regulation—both indications of state-wide animus, an impermissible motive for government regulation.⁵¹

45. *E.g.*, *Reynolds v. Sims*, 377 U.S. 533, 556-57 (1964); *Gray v. Sanders*, 372 U.S. 368, 379 (1963).

46. *See, e.g.*, *City of Canton v. State*, 766 N.E.2d 963, 964-65 (Ohio 2002).

47. Diller, *Part 2, supra* note 21, at 1073.

48. 517 U.S. 620 (1996).

49. *Id.* at 633.

50. An example of the Sixth Circuit adopting a localist reading of *Romer* can be found in *Equal. Found. of Greater Cincinnati v. City of Cincinnati*, 128 F.3d 289, 295 (6th Cir. 1997), *cert. denied*, 525 U.S. 943 (1998).

51. *See* Richard C. Schragger, *Cities as Constitutional Actors: The Case of Same-Sex Marriage*, 22 J.L. & POL. 147, 185 (2005). *But cf.* *Schuette v. Coal. to Defend Affirmative Action*, 134 S. Ct. 1623, 1638 (2014) (plurality opinion) (rejecting a challenge to a Michigan constitutional amendment prohibiting state universities’ use of race-based preferences).

B. City Political Defenses

While it is useful to analyze possible legal defenses to preemptive state legislation, it is more relevant to examine a city’s political defenses. Many preemptive laws are never tested in court, and their repeals can short-circuit a full judicial hearing. Consequently, very little preemptive legislation is ultimately susceptible to legal challenge. Instead, city resistance normally takes place within the legislative arena, in fights over legislation.

1. Cities and National Interest Groups

City-state conflicts have become increasingly salient, in part because of state and federal inaction in particular regulatory arenas, and in part because political entrepreneurs have found opportunities at the local level. A good example of this is pro-labor efforts—generally spearheaded by national organizations working as part of a larger cross-city effort,⁵² and opposed by organizations that have made a concerted effort to promulgate model state legislation consistent with industry-friendly, free-market positions.⁵³

That industry would seek to counter local regulation hostile to it is unsurprising. But because cities also attract the attention of state legislators, the problem of legislative capture is apparent. State legislators depend heavily on interested parties to provide them with information. At the same time, cities rarely have the resources to counter expertise, to marshal evidence, or to respond to proposed state legislation. And the organizations that represent cities within the state tend to be fractured and weak. Thus, the lack of a concerted municipal *qua* municipal voice in state-city preemption debates means that specific policy interest groups tend to drive intergovernmental relations.

2. Corporate Cosmopolitanism

In response to the city of Charlotte’s adoption of a transgender bathroom ordinance that permitted individuals to use the public bathroom that corresponded with their gender identity, the North Carolina Legislature passed HB2—“the bathroom bill”—mandating that public bathrooms and changing facilities be restricted to individuals of their biological sex.⁵⁴ HB2 is a good example of a local ideological fight that may have garnered less reaction in a less hyperpolarized and nationalized political environment.

The bathroom bill is also an example of how economic development remains a central concern of state and local politicians and an important driver of policy. The most significant political pressure groups were large-scale national corporations. The National Basketball Association and the

52. Steven Malanga, *How the “Living Wage” Sneaks Socialism Into Cities*, CITY J. (Winter 2003), <https://perma.cc/4FGK-2UR3>.

53. *See, e.g.*, Molly Jackman, *ALEC’s Influence Over Lawmaking in State Legislatures*, BROOKINGS (Dec. 6, 2013), <https://perma.cc/H4JS-QM5U>.

54. N.C. GEN. STAT. §143-422.11 (repealed 2017); *see also* NAT’L LEAGUE OF CITIES, CTR. FOR CITY SOLUTIONS, CITY RIGHTS IN AN ERA OF PREEMPTION: A STATE-BY-STATE ANALYSIS 11 (2017), <https://perma.cc/FBM3-SAF6>.

National Collegiate Athletic Association have been vocal about LGBT nondiscrimination, and both threatened to withdraw their tournaments and events from North Carolina locations.⁵⁵ Other companies threatened to suspend planned expansions in the state.⁵⁶ This pressure ultimately resulted in the repeal of HB2, and a moratorium on all municipal private-sector employment and public-accommodation ordinances until December 1, 2020—striking down Charlotte’s antidiscrimination law, as well as the state’s more far-reaching bathroom bill. Thus, local power to adopt antidiscrimination ordinances was not vindicated, but it was not entirely preempted either.

It is notable that the primary arguments against HB2 were economic and driven by the threat of corporate flight. Cities like Charlotte are economic engines for their states, especially if those cities and their immediate surrounding metropolitan areas are homes to corporate headquarters, and business leaders. Private, corporate boycotts as a means to induce policy change have been effective in a number of states. Thus, corporate “cosmopolitans” can be effective allies to cities, though certainly not across the whole range of issues. LGBT antidiscrimination, for example, may be both familiar to corporate decisionmakers and consistent with the corporate mission. Economic and regulatory issues, by contrast, may not be. If Charlotte was proposing a local minimum wage, it is likely the interests would line up differently.

3. Metro-Area Demographics

In the face of a hostile state legislature, the city’s political influence will ultimately turn on the metropolitan-area population’s identification with the city’s interests. The city population is often dwarfed by the surrounding metropolitan-area population, which is located in suburban towns and smaller municipalities, or in a large suburban county. Even as metro-area suburbs become increasingly dense and more ethnically diverse, it is unclear if suburban voters will come to identify with city voters. Suburban voters have generally not been interested in consolidating school districts, sharing revenue with the central city, or creating regional planning or metro-wide governing bodies.

Two kinds of demographic shifts could auger a political change. The first is the rising wealth and economic

primacy of the central city. Economically robust cities are more likely to be able to pursue social-welfare legislation, and defend those policies against state objection. Simply having access to more stable municipal resources makes a significant difference in the political and fiscal life of the city. The less fiscally dependent the city is on the state, the more autonomy it can exercise.

The second demographic shift is the increasing economic diversity of the suburbs. Struggling and poor suburban locations are becoming more commonplace, and central cities are no longer the primary locations for the poorest metropolitan-area residents.⁵⁷ But does this “great inversion”⁵⁸ imply city political strength? To the extent that non-metro or non-city populations are less connected to the expanding cosmopolitan economy, and a sense of cultural distance remains prevalent, their interests will diverge from city dwellers.⁵⁹

VI. Conclusion

The attack on the cities is not simply a function of present-day polarized American politics. Anti-urbanism is deeply embedded in the structure of American federalism. The relative weakness of the American city has often puzzled observers, who note that the U.S. constitutional system is otherwise highly decentralized. The puzzle is more explainable once one appreciates the political and cultural distinction between local autonomy and city power. The U.S. intergovernmental system supports local autonomy of a certain form; it does not support city power.

Cities and their wider metropolitan areas now contain the bulk of the American population and are the primary economic drivers of their states, regions, and the nation. The focus on states in “Our Federalism” distracts from this important long-term demographic and economic shift. If federalism is to have any force as an idea, it must wrestle with this current reality. City power is necessary to vindicate the values of diversity, majority rule, and local self-government.

For cities operating in a political environment where the ideological distance between them and the state is significant and growing, the need for both corporate and metro-area allies is essential. The structural, cultural, and political anti-city biases are otherwise difficult to overcome.

55. *In Bitter Divide, Repeal of North Carolina LGBT Law Fails*, ESPN (Dec. 21, 2016), <https://perma.cc/MR26-PZHD>.

56. Ryan Bort, *A Comprehensive Timeline of Public Figures Boycotting North Carolina Over the HB2 “Bathroom Bill,”* NEWSWEEK (Sept. 14, 2016), <https://perma.cc/N58X-FRAA>.

57. See Elizabeth Kneebone & Natalie Holmes, *U.S. Concentrated Poverty in the Wake of the Great Recession*, BROOKINGS (Mar. 31, 2016), <https://perma.cc/5ZQA-V8YQ> (observing that suburbs have the largest and fastest growing poor populations).

58. ALAN EHRENHALT, *THE GREAT INVERSION AND THE FUTURE OF THE AMERICAN CITY 1* (2012).

59. See William H. Frey, *Census Shows Nonmetropolitan America Is Whiter, Getting Older, and Losing Population: Will It Retain Political Clout?*, BROOKINGS (June 27, 2017), <https://perma.cc/VAD3-WRLP>.

C O M M E N T

Local Control Is Now “Loco” Control

by Kim S. Haddow

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Cities have become a critical source of innovation across a wide array of policy areas that advance inclusion, equitable opportunity, and social justice. In the absence of state and federal action, cities and other local governments have taken the lead in enacting minimum wage and paid sick leave policies, expanding the boundaries of civil rights, tackling public health challenges, responding to emerging environmental threats, and advancing new technologies.

But this expansion in the role of cities has been met with an increase in the use and scope of state preemption laws now crafted deliberately to strip local governments of their power to regulate.¹

While this wave of “New Preemption,” seems without precedent, Prof. Richard Schragger’s article, *The Attack on American Cities*, reminds us that “hostility to city government is not new.”² In fact, the recent surge in state preemption is built on a long history of anti-urbanism “that is deeply embedded in the structure of American federalism”³ and a function of enduring cultural biases.

Schragger makes a compelling case that the recent explosion of preemptive state legislation is the latest in a long-term unbroken attack on cities. But it is important to note this most recent siege is distinctive in its magnitude, malice and disruption of democratic norms.

In the past, preemption was used to nullify local measures inconsistent with state law, where the state interest in uniformity, comprehensive regulation, or other legitimate priorities was clear. Preemption has also been used to advance well-being and equity. The federal Civil Rights Act of 1964, for example, allowed states and cities to increase protection for individual rights, but prohibited them from doing less than what was required under federal law. But, “New Preemption,” as defined by Columbia law professor Richard Briffault, “clearly, intentionally, extensively, and at

times punitively bar local efforts to address a host of local problems Often propelled by trade association and business lobbying, any preemptive state laws are aimed not at coordinating state and local regulation but preventing any regulation at all.”⁴ This New Preemption is also being used to overturn the outcomes of municipal ballot elections, perpetuate racial and gender inequity, cut deep into the traditional core powers of local governments, and punish cities and local officials who defy their states.

In his article, Schragger identifies several long-standing structural and cultural impediments to city power that provide the foundation for current efforts to limit local control, including:

- Vertical redundancy. States share so much political and policymaking space with their local governments that state preferences are likely to predominate.
- The malapportionment of the U.S. Senate. Because every state has equal suffrage, less populated rural states have an inherent advantage over highly populated states, resulting in “significant underrepresentation of urban interests.”
- Partisan gerrymandering and geographical sorting by political affiliation. This clustering and consolidation of populations also magnifies the legislature’s anti-urban bias.

In addition, Schragger cites the failure of home rule—the concept of local legal authority—to protect local authority. Home rule, he argues, “permits local governments wide discretion in initiating legislation, but no or very limited protection against state law preemption” and that the authority granted in home rule provisions is “easily effaced when locals seek to regulate powerful commercial

1. National League of Cities, *City Rights in an Era of Preemption: A State-by-State Analysis*, 2018 Update, February 2018.

2. Richard Schragger, *The Attack on American Cities*, 96 TEX. L. REV. 1163 (2018), at 1166.

3. *Id.* at 1232.

4. Richard Briffault, *The Challenge of the New Preemption*, STANFORD L. REV., Vol. 70 (June 2018), at 1995.

and financial actors.”⁵ Schragger also notes that the “current version of home rule favors suburban power to protect property values over urban power to promote equality.”⁶

Finally, Schragger argues that cities face an enduring and negative narrative that they are “badly governed, bad for citizens’ welfare, and bad for the nation.”⁷ Not only do Americans believe that cities are “abysmally governed, more corrupt than state and national politics, and more prone to capture by special interests,” according to Schragger, but their size, diversity and density stand as counters to traditional American values of individualism and personal freedom. He argues that “Antigovernment anti-urbanism draws a direct connection between bigness and the loss of liberty, centralization and the absence of self-government. . . .” And Schragger notes that “present day anti-urbanism is driven by ethnic and racial hostility as well.”⁸

All of the strains of anti-urbanism identified by Schragger are necessary, but not sufficient conditions to explain the present, virulent use of preemption laws. This foundation of anti-urban prejudices has been in place for more than a century, with roots that stretch back to our earliest days. Conservative organizations, including the American Legislative Exchange Council (ALEC), laid plans and wrote policies to limit local regulation decades ago. Industry groups and trade associations first began pressuring state legislatures to rein in their cities in the late 1980s, according to political scientist Lori Riverstone-Newell.⁹

So, why are we seeing this explosion in state preemption now? Despite the broad success of state preemption strategies deployed by the gun and tobacco industries in the 1980s and 1990s, why are we only now seeing the amped-up use of preemption laws to expressly block local regulation across an unprecedented number of policies?

Evidence shows two events in 2010 contributed to the sharp increase in the misuse of preemption we are witnessing now—the U.S. Supreme Court’s ruling in *Citizens United v. Federal Election Commission* in 2010 and the results of that year’s midterm elections. Those two events led to the election of legislatures that were steeped in the anti-urban biases identified by Schragger—and demonstrably more conservative and ideologically-driven to enact an anti-regulatory agenda.

At the beginning of that year, the Supreme Court handed down a ruling that reshaped the political landscape. In *Citizens United*, the Court declared political spending to be protected under the First Amendment, allowing corporations and unions to spend unlimited (and largely undisclosed) amounts of money on political activities, if it was done independently of a party or candidate.

According to the National Council of State Legislatures, at the time of the *Citizens United* decision there were 24 states that prohibited or restricted corporate and/or union spending on candidate elections.¹⁰ Since that ruling, many of these states have repealed or re-written their campaign finance laws to avoid legal challenges. Opening the door on corporate and union giving at the federal level also opened the same door in state races, directly affecting the composition and political leanings of legislatures since then.

According to economist Gordon Lafer of the Economic Policy Institute, the ruling resulted in a “flood of money” contributing to candidates in state elections and “a wave of conservative Tea Party candidates” being elected to state office in November 2010.¹¹ Recent research shows “strong evidence that removing bans on the funding of outside spending increases the electoral success of Republican [state legislative] candidates and leads to ideologically more conservative state legislatures.”¹²

“Partisan control affects cities,” notes Riverstone-Newell. “Republican state leaders are geographically and ideologically distant from city interests. They are elected by constituents who are removed from the types of challenges that cities face, challenges that accompany economic and social diversity and concentrated populations. They have little reason to support anything uniquely ‘city,’ and are likely to be ideologically opposed to the progressive social policies favored by most who live there.”¹³

At the end of the 2010, the midterm elections produced a tectonic shift in power in the states. The Republicans picked up 675 legislative seats, the biggest gain in the legislature made by any party since 1938. They went from controlling 14 legislatures to 25, and from nine to 21 state trifectas where they controlled both houses and the governorship. As Dan Balz at the *Washington Post* noted, these gains gave Republicans “the power to work their will in the states in ways they can’t begin to think about doing in Washington.”¹⁴ And work their will they have.

Every year since 2011 has seen more preemption activity than the last. And, as a result, local governments have lost power in every legislative session since 2011.¹⁵ Today, local governments in 25 state states cannot raise their minimum wage—15 (60%) of those preemption laws were put in place in 2011 or after. Before 2011, only one state, Georgia, had preempted paid sick days; now 22 states do. The three states that bar localities from passing and enforcing local

5. Richard Schragger, *The Attack on American Cities*, 96 TEX. L. REV. 1163 (2018) at 1193.

6. *Id.*

7. *Id.* at 1195.

8. *Id.* at 1208.

9. Lori Riverstone-Newell, *The Rise of State Preemption in Response to Local Policy Innovation*, PUBLIUS: THE JOURNAL OF FREEDOM, Vol. 47, Issue 3, July 2017, 403-25, at 405.

10. National Conference of State Legislatures, *Citizens United and the States*, Updated July 21, 2016, at <http://www.ncsl.org/research/elections-and-campaigns/citizens-united-and-the-states.aspx>.

11. Jay-Anne B. Casuga & Michael Rose, *Are State Workplace Preemption Laws on the Rise?*, BLOOMBERG NEWS (July 19, 2016).

12. Abdul-Razzak et al., *After Citizens United: How Outside Spending Shapes American Democracy* (Apr. 17, 2018).

13. Lori Riverstone-Newell, *The Rise of State Preemption in Response to Local Policy Innovation*, PUBLIUS: THE JOURNAL OF FREEDOM, Vol. 47, Issue 3, July 2017, 403-25, at 406.

14. Dan Balz, *The GOP Takeover in the States*, WASH POST, Nov. 13, 2010, at <http://www.washingtonpost.com/wp-dyn/content/article/2010/11/13/AR2010111302389.html>.

15. *Workers Rights Preemption in the U.S.*, Economic Policy Inst., 2018, at <https://www.epi.org/preemption-map/>.

LGBTQ nondiscrimination laws all enacted their provisions in 2011 or after: Tennessee (2011), Arkansas (2015), South Carolina (2016).

There has also been a steep increase number of preemption laws that benefit specific industries since 2011. Lobbying by AT&T and Verizon has resulted in 21 states banning local control over 5G technology, all of them in the 2017 and 2018.¹⁶ As a result of pressure from the plastics industry, 11 states now prohibit local plastic bag regulation.¹⁷ Most of those bans were put in place starting in 2015. Since 2016, four states lobbied hard by the American Beverage Association have preempted local soda taxes: Arizona, California, Michigan, and Washington. The preemption in Arizona and Michigan occurred before efforts to tax sugarsweetened beverages were on local advocates' agenda.

The tactics used by the American Beverage Association at the end of the 2018 session to win a 12-year preemption of local taxes on sugary beverages from the California Legislature signaled a chilling new phase in industry demands for an end to local regulation. The trade group—which represents Coca Cola and Pepsi—agreed to drop a planned ballot initiative which would have seriously weakened the ability of local communities to raise revenues—but only if the state legislature agreed to ban local soda taxes until 2030. The California Legislature had no choice but to acquiesce.

Preemption is being used to advance the interests of both corporations and conservatives and to implement an agenda that limits government regulation and oversight and consolidates power at the state. New Preemption measures frequently outlaw local action on an issue, even when the state itself has no existing policy standard or regulation set in place and has no plans to put a statewide law in place. Increasingly, preemptive state laws are aimed at preventing any regulation at all.

Anti-regulatory lawmakers say they are imposing preemption to fight the “oppression” of local control and local government’s encroachment on “liberty,” clearly following the anti-urban narrative so well documented by Schragger.¹⁸ At a 2019 Texas Public Policy Foundation event, Texas Sen. Donna Campbell demonstrated the open contempt for local government that is driving some state preemption efforts; audience member, Justin Keener, a former Texas Senate and House staffer tweeted: “‘When local control becomes loco control,’ is the time for #TxLege to reign in cities, says @DonnaCampbellTX.”

While New Preemption clearly has its roots in traditional anti-urbanism, states are now acting more broadly

on that animus and aiming to eliminate any regulatory action by local governments. States are passing sweeping preemption bills that seek to end local regulation of whole sectors of the government, including policy areas that have traditionally been “purely local.” According to the *New York Times*, “states aren’t merely overruling local laws; they’ve walled off whole new realms where local governments aren’t allowed to govern at all.”¹⁹ In response to what they argue is “oppressive” local control, states are using preemption to “rein-in local government.”²⁰ Texas Gov. Greg Abbott has called “for legislation that reduces, restricts and prohibits local regulations,”²¹ and asserts that a “broad-based law by the state of Texas that says across the board, the state is going to pre-empt local regulations, is a superior approach.”²²

In 2015, Michigan became the first state to pass a “Death Star” bill—a sweeping measure which eliminated local control over broad swaths of wage and workplace standards. In one bill (HB 4052), Michigan prohibited local actions on minimum wage, benefits, sick leave, union organizing and strikes, wage disputes, apprenticeship programs, and “ban the box” policies (blocking employers from asking about felony convictions). In 2017, Iowa preempted in one bill (House File 295) all local ordinances on employment leave, hiring practices, employment benefits, scheduling practices, and other terms or conditions of employment. The law also included sweeping preemption on plastic bags and other containers made of a cloth, paper, plastic, and a range of other materials. And in 2018, Wisconsin (AB 748) prohibited, among other things, local regulation of: employee hours and overtime, employment benefits, wage claims and collections, an employer’s right to solicit salary information of prospective employees, employment discrimination, and professions regulated by the state.

A prime example of the growth of this kind of sweeping blanket bill is HB 3 introduced in the 2019 session of the Florida Legislature. This bill, described as a “wrecking ball,” would eliminate all local business regulations as of July 1, 2021, “nullifying everything from anti-discrimination ordinances to Key West’s ban on sunscreens that harm coral reefs.”²³ The bill would also require an economic impact analysis and a supermajority approval every two years for local regulations, no matter how clearly protective of public health and welfare, to be reauthorized.

16. National Conference of State Legislatures, *Mobile 5G and Small Cell 2018 Legislation*, Dec. 31, 2018, at <http://www.ncsl.org/research/telecommunications-and-information-technology/mobile-5g-and-small-cell-legislation.aspx>.

17. National Conference of State Legislatures, *State Plastic and Paper Bag Legislation*, Feb. 27, 2019, at <http://www.ncsl.org/research/environment-and-natural-resources/plastic-bag-legislation.aspx>.

18. Tom Lindsey, *State Regulation of Cities Does Not Illegitimately Infringe on “Local Control.”* FORBES, July 24, 2017, at <https://www.forbes.com/sites/tomlindsay/2017/07/24/state-regulation-of-cities-does-not-illegitimately-infringe-on-local-control/#6688c39b98ca>.

19. Emily Badger, *Blue Cities Want to Make Their Own Rules. Red States Won't Let Them.*, N.Y. TIMES, July 6, 2017, at <https://www.nytimes.com/2017/07/06/upshot/blue-cities-want-to-make-their-own-rules-red-states-wont-let-them.html>.

20. Ashley Goudeau, *Reducing City Regulations on Agenda for Texas Special Session*, KVUE, July 11, 2017, at <https://www.kvue.com/article/news/local/reducing-city-regulations-on-agenda-for-texas-special-session/269-455609887>.

21. *Id.*

22. Patrick Svitek, *Abbott Wants “Broad-Based Law” That Preempts Local Regulations*, TEX. TRIB., Mar. 21, 2017, at <https://www.texastribune.org/2017/03/21/abbott-supports-broad-based-law-pre-empting-local-regulations/>.

23. Mark Lane, *New Legislative Session Starting, So Watch This Space.*, DAYTONA BEACH NEWS-J., Mar. 5, 2019, at <https://www.news-journalonline.com/news/20190305/mark-lane-new-legislative-session-starting-so-watch-this-space>.

And in the 2018 sessions, several legislatures worked to undermine core powers traditionally reserved for cities, passing bills that preempted the power of cities to require certain wage and benefit standards from their own contractors (WI, AZ), to control their own elections (AZ) and to regulate zoning in the form of short-term rentals (multiple states).

This new preemption trend also seeks to punish cities and city officials. One state—Arizona—has taken a chilling and punitive approach to all local laws subject to state preemption.²⁴ Under SB 1487, “the mother of all preemption bills,”²⁵ if the state Attorney General finds a local law contradicts state law, the offending city can either repeal the law or face the loss of state revenue sharing funds—which can make up as much as 40 percent of a small city’s budget. While the Arizona law is uniquely broad, the threat of withholding state funds as a form of punishment is becoming more commonplace. In 2018, Tennessee and Iowa passed sanctuary city bills that threaten cities with the elimination of state funds and grants monies for refusing to comply with federal immigration programs and policies.

Beyond attacks on local power, local officials themselves are also being individually targeted for punishment. Provisions that single out elected and occasionally administrative or law enforcement officials for fining, firing, civil liability even criminal action are seen most often in sanctuary city and firearms preemption laws. Texas’ sanctuary city preemption bill, SB 4, included civil penalties for local officials who spoke out against the policy or directed their staff to follow different procedures. An official could face misdemeanor charges and even removal from office. Additionally, the official’s local jurisdiction would incur civil penalties up to \$25,000 per day per violation. After a court challenge, this punitive provision remains in place for non-elected officials and on hold for elected officials, pending further litigation.

Several states, including North Carolina, Pennsylvania, Tennessee, and Wyoming, have gun control bills that allow for a “private right-of-action” giving “individuals or groups the right to sue local governments and, in some cases, local officials, if they believe they are enforcing local firearms laws.”

States are now targeting popular democracy as well. Starting in 2011, preemption laws were used for the first time to override the results of local ballot elections. The Wisconsin state legislature overturned Milwaukee’s paid sick days initiative, which had been approved by voters 69% to 31%.

Legislatures in at least five other states have used preemption to nullify local ballot election results since then:

- Denton, Texas, Fracking Ban: Passed 59% to 41% (2015);
- Fayetteville, Arkansas, Nondiscrimination Ordinance: Passed 53% to 47% (2015);
- Nashville, Tennessee, Local Hire Law: Passed 57% to 43% (2016);
- Austin, Texas, Defeated UBER’s efforts to escape regulation: Passed 56% to 44% (2017); and
- Tempe, Arizona, Campaign Finance Disclosure Law: Passed 91% to 8% (2018).

Finally, putting this all together, it has become clear that over the last eight years the New Preemption has had the consequence of perpetuating economic and racial inequity. Many of the local laws being preempted—minimum wage, paid sick time, pay equity, local hire laws—would disproportionately help low wage workers, people of color and women. Research shows that preemption legislation is often passed by predominantly white legislatures to block laws benefiting and supported by majority communities of color.²⁶

In the case of *Lewis v. Governor of Alabama*, in a ruling that has now been vacated, the U.S. Court of Appeals for the Eleventh Circuit allowed a challenge to the state of Alabama’s preemption of Birmingham’s minimum wage ordinance to proceed noting “the disproportionate effect of the Minimum Wage Act on Birmingham’s poorest black residents; the rushed, reactionary, and racially polarized nature of the legislative process; and Alabama’s historical use of state power to deny local black majorities authority over economic decisionmaking.”

Schrager has developed an important paper, one that clearly nests current efforts to strip cities of their powers into a larger historical, legal, and cultural context. His paper helps to explain how an “institutional system overtly dedicated to the principles of devolution can be so hostile to the exercise of city power.”²⁷ By examining the long standing political and cultural differences among cities and their states, Schrager makes a distinction between local autonomy and city power and concludes that the “U.S. intergovernmental system supports local autonomy of a certain form; it does not support city power.”²⁸

But states’ use of New Preemption to weaken or eliminate city power comes at a cost and cannot last. The loss of local autonomy and authority limits cities’ ability to act on the unique views, values and needs of their residents and respond in a tailored manner to fast-changing economic, social and environmental problems. New Preemption is also closing off opportunities for innovation and policy change. “Indeed, state leaders’ aggressive pursuit of pre-

24. Alia Beard Rau, *Legislature Keeps Its Thumb on Arizona Cities*, ARIZ. CENTRAL, May 9, 2016, at <https://www.azcentral.com/story/news/politics/legislature/2016/05/09/legislature-keeps-its-thumb-arizona-cities/83842924/>.

25. Adam Edelman, *Cities Have a Good Idea? Not Unless the State Says So*, NBC NEWS, Sept. 30, 2017, at <https://www.nbcnews.com/politics/politics-news/cities-have-good-idea-not-unless-state-says-so-n805951>.

26. *State Preemption of Local Laws Are an Extension of Jim Crow*, Partnership for Working Families, Aug. 29, 2017, at <https://www.forworkingfamilies.org/blog/states-preempting-local-laws-are-extension-jim-crow>.

27. Richard Schrager, *The Attack on American Cities*, 96 TEX. L. REV. 1163 (2018), at 1167.

28. *Id.* at 1168.

emption will undoubtedly have a chilling effect in the full range of policy matters affecting localities,” according to Riverstone-Newell.²⁹

Changing demographic and economic dynamics will require changes in the city-state relationship. According to Schragger,

Cities and their wider metropolitan areas now contain the bulk of the American population and are the primary economic drivers of their states, regions, and the nation. The focus on states in ‘Our Federalism’ distracts from this important long-term demographic and economic shift. If federalism is to have any force as an idea, it must wrestle with this current reality.³⁰

In addition, city leaders and advocates have recognized and are committed to addressing the structural shortcom-

ings of home rule, which saw its last comprehensive reform effort in 1953, at a time when cities were not the population and economic giants they are now. The National League of Cities, working with their state Municipal Leagues, and a group of local governance scholars, led by Fordham Law School Professor and Urban Law Center Director Nestor Davidson, and including Professor Schragger, are drafting modern home rule principles that acknowledge cities are at the center of America’s place in the global economy and that local governments are increasingly called upon to meet the needs and reflect the values of a large, diverse, and growing population. New Preemption, built on longstanding structural obstacles and outdated cultural biases, has left cities far too limited in authority and autonomy to respond effectively to these demands. Developing and adopting new home rule provisions to clarify the power of cities and define the limits of state constraint is a timely first step.

29. Lori Riverstone-Newell, *Beyond Legal Subordination: Local Governments as Political Actors*, in *THE NEW PREEMPTION READER*, West Academic Publ., Jan. 2019.

30. Richard Schragger, *The Attack on American Cities*, 96 *TEX. L. REV.* 1163 (2018), at 1168-69.

C O M M E N T

State Preemption of Local Government: The Philadelphia Story

by Richie Feder and Lewis Rosman

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I. Introduction

We are practitioners for the City of Philadelphia with extensive experience in cases and analysis regarding the extent to which the Commonwealth of Pennsylvania has, or has not, preempted local regulation in various subjects of concern to the City. As City attorneys, our perspective is based in our role as advocates for the preservation and defense of the City's exercise of its home rule powers.

In considering the city-state relationship, many of the practical, political and cultural issues addressed in Prof. Richard C. Schragger's article, *The Attack on American Cities*, resonate with us. In a number of instances, the city has seemingly been under "attack" from outside forces that appear mistrustful and hostile to the city's exercise of its regulatory authority. Because we are the quintessential "big city" in a state with an otherwise very large suburban and rural population, the commonly cited historical tension between urban life and non-urban interests has played out in ways that we recognize in Schragger's description of the national experience.

Frequent preemption of local efforts to regulate matters of "local concern" is a common theme of our work in advising city officials on our ability to legislate in significant areas of city life. This comes up in connection with matters of core interest to the City (for example preemption of the regulation of handgun ownership, a literally life or death problem in the City) as well as matters of perhaps limited interest (such as preemption of local authority to regulate the processing of scrap metal).

We are not wholly convinced, however, that state law preemption that impacts the city's powers is the outcome of a particular hostility to urban interests in general as much as it is the outcome of the ability of "special interests," often corporate but also often "interest-group" or culturally-based, to exert outsized influence on the state legislature.

As one of the largest cities in the country, with a progressive and full-time legislative body, many active local interest groups, and a population with a high degree of poverty, we are often on the cutting edge of progressive

legislative work and tend to legislate more than most, if not all, other local government jurisdictions in Pennsylvania.¹ As just one example, we were one of the first jurisdictions in the country to establish protections in employment, housing and public accommodations for its LGBTQ community.² We have a progressive sick leave law.³ And, if left to our own devices, we would very likely adopt a worker-friendly minimum wage law.⁴ Because we often are at the cutting edge of progressive legislation, we are likely to draw the ire of groups with interests opposed to such legislation; preemption law often impacts us more than others.

We therefore are not convinced that the extensive (but heterogeneous) body of preemption law in Pennsylvania is the result of a particular animus toward cities. Rather, we are where the action is; therefore, when the special interests that oppose regulation are able to get the state to enact preemption laws, such laws often mean more for us than for other jurisdictions that just do not regulate as much. This is not to say that anti-city bias does not exist; unfair and false stereotyping is, without a doubt, abundant in the state. But we think the corpus of preemption law in Pennsylvania reflects the expression of interests that oppose our regulatory interests, more so than it reflects opposition to our (extraordinarily diverse) way of life, *per se*.

II. The City of Philadelphia's Home Rule Powers

To start with, it's clear that, absent preemption, the City has very broad home rule powers under the state constitu-

Authors' Note: The views expressed in this Comment are solely those of the authors and do not represent the formal opinion or position of the City of Philadelphia.

1. See *The Philadelphia Code*, generally (consisting of close to 2,000 printed pages).
2. See *1982 Ordinances of the Council of the City of Philadelphia*, at 1476 (adding "sexual orientation" to the classes of protected status under the City's Fair Practices Ordinance (PHILADELPHIA, PA., CODE §9-1100)).
3. PHILADELPHIA, PA., CODE §9-4100 ("Promoting Healthy Families and Workplaces").
4. See Part III.A., *infra*.

tion and state statute that allow it to regulate in Philadelphia essentially co-extensively with the state.⁵ Article IX, Section 2 of the Pennsylvania Constitution provides, in relevant part, that:

Municipalities shall have the right and power to frame and adopt home rule charters . . . A municipality which has a home rule charter may exercise any power or perform any function not denied by this Constitution, by its home rule charter or by the General Assembly at any time.

The First Class City Home Rule Act of 1949 provides,⁶ also in relevant part, that

Subject to the limitations hereinafter prescribed, the city taking advantage of this act and framing and adopting or amending its charter thereunder shall have and may exercise all powers and authority of local self-government and shall have complete powers of legislation and administration in relation to its municipal functions.⁷

Philadelphia adopted a Charter pursuant to the Home Rule Act in 1951, which accepts the state grant of authority as broadly as possible.⁸ The City therefore can legislate with respect to any police power function except to the extent the Commonwealth has specifically prohibited such regulation.⁹ Indeed, the courts have recognized that such police power authority is co-extensive with that of the Commonwealth.¹⁰

Moreover, the City's muscular exercise of those powers in significant, but controversial, areas often is *not* targeted for restriction. In 2003, for example, the City adopted extensive campaign finance limitations applicable to candidates for city office.¹¹ Many practitioners at the time scoffed at the idea that the City could exercise its authority in this way. The restrictions were upheld, however, against a challenge by several mayoral candidates (defended by, along with the City, the ultimate winning candidate), not

just as a valid exercise of the City's police powers, but also in connection with broad preemption-based challenges.¹²

Indeed, the City sometimes is even explicitly left alone by the state legislature in instances in which the state otherwise has been paternalistic to local jurisdictions. For example, most jurisdictions in Pennsylvania, other than Philadelphia, are limited in their ability to regulate zoning by the state's Municipalities Planning Code; the MPC, however, "does not apply to the City of Philadelphia, which . . . is governed instead by the Home Rule Act and [the City's own] Zoning Code."¹³

Therefore, although we now turn to a discussion of some of the many ways in which city authority has been restricted by the state, in many significant ways the City has been left to regulate itself as it sees fit.

III. Time and Again, Preemption Protects Special Interests at the Expense of the City's Protection of Its People

Pennsylvania has certainly used its preemption authority with respect to myriad subjects of potential regulation; in many cases, these preemptions significantly impact, and harm, the interests of Philadelphia and its citizens. As Schragger suggests, preemption has been with us for a long time and is abundant. In contrast to his perspective, however, much preemption (at least from the point of view of the Philadelphia story) does not appear to result from an inherent anti-urban bias (though that certainly exists). Rather, Pennsylvania's extensive and varied body of preemption law is, in our view, the result of the efforts of specific interest groups (usually, but not always, business interest groups), unhappy with the reception they receive from local legislators in Philadelphia, running to Harrisburg to override the local democratic process; and where, for reasons about which we could speculate but are beyond the scope of this Comment, such groups apparently tend to find a more receptive ear.

There are corollaries to this business-interest-protection model. Most notably, there is a strong libertarian ethos that runs through many Pennsylvania preemption statutes. This ethos, though it has long and storied historical roots in American political philosophy, has much more to commend itself in rural or sparsely populated areas, where our conduct is unlikely to have much effect on your life, than it does in crowded urban spaces, where much of our con-

5. Whether the state's constitutional grant of home rule "rights" to municipalities creates a baseline of local right to self-government into which the state cannot intrude, given the state's constitutional authority to limit home rule, is of intense interest to us, but has not, to date, been directly litigated in Pennsylvania. There is, however, an undercurrent of recognition in Pennsylvania Supreme Court case law that there may be a constitutionally-granted baseline of home rule powers regarding matters of purely "local concern." See, e.g., *Ortiz v. Commonwealth*, 681 A.2d 152, 156 n.3 (Pa. 1996).

6. By virtue of the size of its population, Philadelphia is the only City of the First Class in Pennsylvania. It is also coterminous with, and overlaps almost entirely as a governmental matter with, Pennsylvania's only County of the First Class. See generally 53 P.S. §101 (first-class city); 16 P.S. §210(1) (first-class county).

7. 53 P.S. §13131.

8. See Phila. Home Rule Charter §1-100 ("The City's Powers Defined").

9. See, e.g., *Nutter v. Dougherty*, 938 A.2d 401, 411 (Pa. 2007) (city has authority to adopt local campaign finance regulations); *Warren v. City of Philadelphia*, 115 A.2d 218, 221 (Pa. 1955) (city has authority to impose rent control measures).

10. See *Warren v. Warren*, 115 A.2d at 221 (Ga. 1965) (the city "may legislate as to municipal functions as fully as could the General Assembly").

11. See PHILADELPHIA, PA., CODE ch. 20-1000 ("Political Contributions and Expenditures").

12. *Nutter v. Dougherty*, 938 A.2d 401 (Pa. 2007). In *Nutter*, the court determined that although the legislature had likely preempted the "field" of election law, the state's own sparse campaign finance rules could in no way be considered indicative of an intent to limit regulation in that area as a global matter.

13. *Scott v. City of Philadelphia, Zoning Bd. of Adjustment*, 126 A.3d 938, 941 (Pa. 2015). The City's robust use of its Zoning Code to maintain its urban character, notwithstanding national pressures in other directions, is discussed in Section IV., *infra*.

duct has a spillover effect on the lives of our neighbors. Critically, though, from our perspective, this libertarian bias doesn't so much reflect a bias *against* urban living, as much as it is a result of a *total lack of appreciation of life* in an urban environment.

We present in this section a partial review, organized by type of our presumed main “influence-basis,” of the extensive preemption law that impedes the ability of locally elected officials from acting in what they believe is the best interests of their constituents.

A. Protection of Business Interests

We begin with pro-business preemption. From our perspective, virtually all of this type of preemption is a result of business interests, fearful or recognizing that they won't be able to get their way in City Hall, finding a receptive audience in the State Capitol. We question whether *any* of these are responsive to the needs and interests of 1.5 million Philadelphians, or why those outside of Philadelphia should be making these decisions for us.

Philadelphia has a professionally staffed buildings department (the Department of Licenses and Inspections). Construction in a crowded urban environment—where an accident might injure many people at a time; where residential buildings are regularly built (quintessentially, in row-house Philadelphia) one next to the other next to the other; and where commercial towers regularly soar hundreds of feet into the sky—raises a myriad of safety, architectural and engineering issues far different from those presented by building in much of the rest of the Commonwealth. Yet, the building industry, apparently unhappy with the legislative efforts of local officials to address these unique local interests, managed to persuade the General Assembly of the need for “uniform” construction rules, applicable throughout the Commonwealth, thus preempting Philadelphia from (with limited exceptions) adopting its own, Philly-centric, building codes.¹⁴

Philadelphia has literally thousands of food establishments. They range in price, quality and ambience from the hundreds of food cart and truck vendors that sell everything from cheesesteaks to jerk chicken to halal gyros, to posh and trendy “foodie” destination restaurants with a four-week wait for reservations. Food handling and food safety issues are of critical importance to the public health, and the issues presented by preparing a falafel sandwich in a 4' by 8' cart with no running water are very different from the issues presented by preparing sushi or lamb shoulder in a four-star restaurant. Yet, the food-service industry has managed to persuade the General Assembly that food safety certification must be uniform throughout the Commonwealth, preempting much local regulation.¹⁵

Philadelphia has the second highest percentage of residents who smoke cigarettes among the 30 largest cit-

ies in the country,¹⁶ and a significantly higher percentage than among Pennsylvania residents, generally.¹⁷ Yet, Philadelphia is preempted from regulating youth access to tobacco,¹⁸ and recent state legislation may now preempt the City from regulating the sale of tobacco generally.¹⁹

Nationally, there is a growing consensus that the federal minimum wage of \$7.25/hour is insufficient to help working Americans escape from poverty. Philadelphia, the poorest big city in the country, would like to help its own residents work their way into a better life.²⁰ The business community, however, has persuaded the legislature not to let us, preempting the City from establishing a higher, local minimum wage.²¹

In April 2001, anticipating a national problem that would form one of the underpinnings of the worst financial crisis in generations, Philadelphia City Council attempted to address the growing and pernicious problem of predatory lending, i.e., the making of loans to high-risk individuals at interest rates that the individuals cannot afford.²² No sooner than the ink of that local ordinance was dry on the paper, however, the banking industry ran to Harrisburg and freed itself from the constraints of annoying, local regulation, with a broad preemption enacted only two months later that now precludes Philadelphia from adopting any regulations that pertain to the financial or lending activities of any banking institution (the behavior of many of which were direct causes of the financial crisis).²³

Other examples speak for themselves. Pennsylvania preempts local governments from regulating, *inter alia*, truck idling²⁴; disclosures at the time of residential property sales²⁵; the processing of scrap metal²⁶; dextromethorphan (a cough syrup medication)²⁷; massage therapy²⁸; dogs (based on a determination a dog is dangerous or on a breed specific basis)²⁹; the disclosure of hazardous substances³⁰; and drones.³¹ Notwithstanding the diversity of business-friendly preemptions, however, all of them have one thing

16. See Larry Eichel & Stephen Camp-Landis, *Philadelphia Ranks High for Smoking and Other Unhealthy Behaviors*, <https://www.pewtrusts.org/en/research-and-analysis/articles/2017/07/25/philadelphia-ranks-high-for-smoking-and-other-unhealthy-behaviors> (last visited June 20, 2019).

17. See Truth Initiative, *Tobacco Use in Pennsylvania 2018*, <https://truthinitiative.org/tobacco-use-pennsylvania> (last visited June 20, 2019).

18. 53 Pa. C.S. §301.

19. 72 P.S. §232-A.

20. See City Council Resolution No. 190115 (adopted Mar. 14, 2019); Bill No. 190102 (approved Mar. 14, 2019) (placing referendum on the ballot calling for General Assembly to allow Philadelphia to set its own, local minimum wage).

21. P.S. §333.114a.

22. See PHILADELPHIA, PA., CODE §9-2400.

23. Act No. 55 of 2001, §8(504) (now codified at 7 Pa. C.S. §6152).

24. 35 P.S. §4609.

25. 68 Pa. C.S., ch. 73.

26. 73 P.S. §1943.8.

27. 18 Pa. C.S. §6322(e).

28. 63 P.S. §627.16.

29. 3 P.S. 459-507-A(c).

30. 35 P.S. §7319.

31. 53 Pa. C.S. §305. Drones seem to present a potentially acute and dangerous problem, in a high-density area like Philadelphia; but until people are actually harmed from their use—either physically or in terms of their privacy—the state is unlikely to take significant protective action or to allow the City to do so.

14. See 35 P.S. §7210.104(d).

15. 3 Pa. C.S. §6503(e).

in common: they favor a particular business interest over the interests of the general public.

B. Protection Based on Libertarian Ideology

A libertarian bias is evident in a fair number of Pennsylvania preemptions. Many of these also happen to favor particular industries, and likely are the result, to some degree, of lobbying by those favored businesses, but there can be no doubt that each of these preemptions reflects a leave-the-people-alone attitude, and purports at least to be a protection of freedom from government overreach.

The single most dramatic and significant preemption—from Philadelphia's perspective—is the General Assembly's preemption of almost any regulation of the ownership, possession or transfer of firearms.³² Although we in Philadelphia government tend to believe that this preemption itself deprives Philadelphia citizens of a basic and fundamental right (the right to be safe in one's home, on the streets, and in public places), gun rights advocates see this preemption in precisely the opposite terms, as a protection of gun owners' right to be free from meddlesome government interference in *their* right to own and carry firearms. To date, the latter conception of "freedom" has prevailed in our General Assembly.

Unfortunately, from our perspective, this *individual rights* approach to firearms ownership, which perhaps fits well in rural areas, entirely ignores the rights of *the collective* in crowded urban spaces. Libertarian principles work great in political philosophy classes and in regions where what you do is less likely to affect anyone else. But doctrinal rigidity leads to a one-size-fits-all preemption, which has severe and irreparable consequences in the real world, especially in the crowded, sometimes chaotic, often unnecessarily dangerous real world of Philadelphia.

Although we think it plainly has gone too far, libertarian philosophy with respect to firearm ownership at least has some historical roots in the Second Amendment and in hunting traditions. Pennsylvania's libertarian approach to driving has no similar historical pedigree. Yet, Pennsylvania's often hands-off attitude toward driving severely restricts Philadelphia from addressing the unique local driving conditions that exist on the crowded, winding Schuylkill Expressway, or in the urban bustle of the City's streets. This manifests itself in at least two preemptions that may well allow Philadelphians to drive with impunity, without worry about government interference—a libertarian paradise—but at the expense of lives lost in crashes that could have been avoided.

In 2009, Philadelphia banned the use of mobile phones while driving, other than in hands-free mode.³³ It took the General Assembly almost three years to react (likely

because many in Harrisburg believed the local ordinance already was preempted),³⁴ but in 2011, the General Assembly expressly preempted the Philadelphia ordinance.³⁵ Libertarian philosophy prevails; public safety suffers.

And very little can demonstrate better the attitude that government interference with driving behavior is government overreach than the state's ban on speed-monitoring radar and cameras. Radar and cameras save lives; about that, there can be no doubt. Roosevelt Boulevard, a six- to 12-lane arterial route that runs the length of the geographically large northeast section of Philadelphia (in many places, through densely populated neighborhoods) has a deserved national reputation as an overly-dangerous road, in large part because of speeding.³⁶ Yet, Philadelphia police have for many years been preempted from using radar to enforce speed restrictions, and, until late last year, the General Assembly preempted Philadelphia from using radar in conjunction with speed cameras. (In October 2018, the legislature authorized speed radar and cameras in Philadelphia, but only on Roosevelt Boulevard, and even then, accompanied by a number of paternalistic limitations.)³⁷

A final example of libertarian philosophy producing a preemption that clashes with public health or safety relates to indoor smoking. Philadelphia was a leader in restricting smoking in public places,³⁸ and we have been fortunate to have largely been spared from the reach of preemption in this field. Nonetheless, no discussion of libertarian-based preemption in Pennsylvania would be complete without calling attention to preemption (other than in Philadelphia) of no-smoking ordinances. Apparently, the rights of smokers to be left alone take precedence over the rights of all others who might get in the path of their smoke.³⁹

IV. Preemption of Taxation and Zoning

Two areas of legislation, taxation and zoning, deserve special mention, because the Philadelphia story does not clearly line up with Schragger's analysis.

With respect to taxation, Schragger is certainly correct that, as a general matter, home rule rarely is so broad that it extends to local authority to tax without state control. But Philadelphia is fortunate in this one regard. While the power to tax is expressly excluded from our home rule authority (we are required to look to the General Assembly for express authorizations)⁴⁰ the General Assembly has, in fact, expressly granted Philadelphia broad taxing authority.

In the Sterling Act, the General Assembly has granted Philadelphia taxing authority that is largely co-extensive

32. 18 Pa. C.S. §6120. We say "almost any" because the preemption statute appears to leave open some window for some amount of local regulation, but, for the most part, Pennsylvania courts have not agreed with that reading. See generally *Nat'l Rifle Ass'n v. City of Philadelphia*, 977 A.2d 78, 82-83 (Pa. Commw. Ct. 2009).

33. PHILADELPHIA, PA., CODE §12-1132.

34. See 75 Pa. C.S. §6101.

35. 75 Pa. C.S. §3316.

36. See Jason Laughlin, *Traffic Deaths on Roosevelt Boulevard Spiked in 2018. A Safety Fix May Not Be in Place Until Fall*, PHILADELPHIA INQUIRER, Jan. 14, 2019, <https://www.philly.com/transportation/roosevelt-boulevard-fatalities-death-crash-safety-philadelphia-vision-zero-20190114.html> (last visited June 20, 2019).

37. See generally 75 Pa. C.S. §3368, 3370.

38. See PHILADELPHIA, PA., CODE §10-602.

39. See 35 P.S. §637.3.

40. 53 P.S. §13133(a)(1), (7), (8).

with the state's own taxing authority, with the important (but understandable) exception that Philadelphia cannot tax that which the state itself is already taxing, at least not without further express permission.⁴¹ Thus, although there certainly are other limitations on our taxing power that we do not have time or space here to discuss, the reality is that, when it comes to preemption, Philadelphia fares reasonably well with regard to taxing power.

With respect to zoning, Schragger insightfully notes that, when preemption and home rule come into conflict, one of the few areas of law where local government has some real chance of prevailing is zoning law. This is certainly the case in Pennsylvania.⁴² Where we part company with Schragger is in his assertion that this unique carve-out for an area of local concern that often is found to be off-limits to preemption is a uniquely pro-suburban, anti-urban power. In Philadelphia, at least, that is most definitely not true. Philadelphia has repeatedly and effectively used its zoning powers to *promote* urban values and urban living. A few examples will make the point.

The Philadelphia Zoning Code carves out certain districts in and around transit hubs as “Transit Oriented Development Districts.” Zoning rules are imposed here with the express purpose of “encourag[ing] compact urban growth patterns, opportunities for increased transportation mode choice, reduced reliance on the automobile, and a safe and pleasant pedestrian environment,”⁴³ i.e., the express opposite of the pro-suburban bias posited by Schragger.

Other zoning districts in the City require that buildings be built up to the street line, to create a lively pedestrian streetscape rather than a suburban-type series of empty front lawns.⁴⁴ Similarly, in commercial districts, the Zoning Code strongly favors active retail development on the first floor, again to promote a lively pedestrian streetscape.⁴⁵ The Code discourages take-out restaurants and drive-through windows.⁴⁶ The Code discourages curb cuts for driveway access on many streets.⁴⁷ And Philadelphia has a robust historic preservation ordinance and program that seeks to protect the beauty and character of the City's urban history.⁴⁸ Emphasis on this particular aspect of “urban renewal” is in direct counterpoint to the “Garden City”-type reforms of the 20th century and has paid off handsomely for the City in making it the best historically preserved city in the

United States (a significant basis for the City's tourism-based economy and a delight in its own right).

Bottom line: Zoning powers may well be favored by state legislatures for their ability to promote a pro-suburban, anti-urban bias. In Philadelphia, however, we have often used our zoning powers effectively and significantly for precisely the opposite purpose.

V. Conclusion

As we have attempted to show, excessive state preemption of local legislation is a significant problem in Pennsylvania and one that has a serious, and, at times, dangerous impact on Philadelphia and its citizens. In many significant respects, our government is not able to protect its citizens from avoidable harms because we are hamstrung by the state legislature. And the problem appears to be amplifying over time.

But in our view, this is more a problem of outsized influence of certain special interests, primarily business interests and those with libertarian perspectives, than it is of “anti-urban” bias, *per se*. To be sure, though, mistrust and resentment of city life significantly impact Philadelphia's relationship with its state government.

The most significant fallout from this mistrust and resentment is not, in our view, the growth of preemption law, but an irrational and stunted school funding system, which leaves areas with significant amounts of poverty (both urban and rural) at a great deficit in providing one of the core services that government in this country provides. Pennsylvania's funding system is notoriously lacking in this regard.⁴⁹ Apparently, many in Pennsylvania do not see the provision of a top-notch education to all the Commonwealth's citizens as a duty of the state. The failure to recognize that urban children are as valuable and important to the state as suburban children leads to many of the very ills that form the bases for the stereotypes' anti-urban views.

As far as solutions to the problem of state limitation of local government authority go, in our view political solutions are the only real basis for change. Unless and until elected leaders feel beholden to an interest in protecting the general public more than they are beholden to the special interests we have discussed herein, those special interests will continue to be successful in protecting themselves from local regulation through preemptive state legislation, at the expense of the general welfare.

41. 53 P.S. §15971.

42. *See, e.g.*, *Hoffman Min. Co. v. Zoning Hearing Bd.*, 32 A.3d 587, 600 (Pa. 2011).

43. PHILADELPHIA, PA., CODE §14-513(1).

44. *See, e.g.*, PHILADELPHIA, PA., CODE §§14-502(4)(a), 14-504(5)(b)(1), 14-701(3) (CMX-2.5)

45. *See, e.g.*, PHILADELPHIA, PA., CODE §14-602(4)(a)(3).

46. *See, e.g.*, PHILADELPHIA, PA., CODE §§14-502(5), 14-805(1)(c).

47. *See, e.g.*, PHILADELPHIA, PA., CODE §§14-504(7)(c)(6), 14-506(7)(a), 14-509(3)(k).

48. PHILADELPHIA, PA., CODE §14-1000 (“Historic Preservation”).

49. Pennsylvania ranks 47th among all states in percentage of public school funding that comes from the state itself (as opposed to from other sources). *See* U.S. Census Bureau, Public Education Finances, <https://www.census.gov/library/publications/2017/econ/g15-aspef.html> (last visited June 20, 2019).

A R T I C L E

The Future of Energy Storage: Adopting Policies for a Cleaner Grid

by Richard L. Revesz and Burcin Unel

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I. Introduction

The view that promoting the use of energy storage systems produces environmentally attractive results has been standard in policy circles.¹ Policymakers have been enthusiastic about energy storage systems primarily because of their belief that cheaper and more prevalent storage options could help facilitate the integration of increased renewable energy generation and speed up the transition to a low-carbon grid.² This beneficial outcome, however, is not guaranteed. Cheaper storage could also facilitate a higher usage of fossil fuels than the current fuel mix, causing an increase in greenhouse gas emissions. In fact, California's Self-Generation Incentive Program, which is the state's pioneering funding program developed to incentivize energy storage among other technologies, has led to an increase in greenhouse gas emissions,³ showing that it is this possibility that must be considered in policymaking. Therefore, it is important to design policies that help ensure that the increased use of energy storage leads to a reduction of greenhouse gas emissions, rather than to an increase. Thus, the first goal of this Article is to challenge the common belief that increased energy storage would necessarily reduce greenhouse gas emissions. We show, instead, that under certain scenarios the opposite could be

This Article is adapted from Richard Revesz & Burcin Unel, Managing the Future of the Electricity Grid: Energy Storage and Greenhouse Gas Emissions, 42 HARV. ENVTL. L. REV. 139 (2018), and is reprinted with permission. Copyright in the Environmental Law Review is held by the President and Fellows of Harvard College, and copyright in the article is held by the authors.

1. See, e.g., ETHAN L. ELKIND, U.C. BERKELEY LAW & UCLA LAW, THE POWER OF ENERGY STORAGE 8–10 (2010), <https://perma.cc/73MZ-ZUV6>; Jeff St. John, *How Energy Storage Can Cut Peaker-Plant Carbon for the Clean Power Plan*, GREENTECH MEDIA (Sep. 24, 2015), <https://perma.cc/56CP-ZUYT>.
2. See, e.g., U.S. DEP'T OF ENERGY, GRID ENERGY STORAGE 5 (2013), <https://perma.cc/J62X-JYED>.
3. See ITRON & ENERGY + ENV'T ECON., 2016 SGIP ADVANCED ENERGY STORAGE IMPACT EVALUATION, Figure 3-13 (2017), <http://www.cpsc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442454964>.

true. Our second goal is to analyze the failure of the current regulatory and policy landscape to provide incentives for a desirable level of deployment of energy storage and the reduction of greenhouse gas emissions, and propose policies that would correct these inefficiencies.

II. Standard Policy Arguments for Energy Storage

Solar and wind power are becoming increasingly important as many states move towards cleaner energy sources. However, both are intermittent and variable.⁴ If the sun is not shining, or the wind is not blowing, these resources cannot produce electricity. While certain aspects of their production profiles are fully predictable,⁵ their output can be variable even within short spans of time due to harder-to-predict factors like sudden cloud cover. Further, peak demand periods do not perfectly correspond to the peak generation times of solar and wind resources.⁶ Therefore, providing electricity from solar and wind energy reliably during the whole day requires smoothing out their output throughout the day. In addition, while all traditional power plants can be dispatched when they are needed, the same is not true for wind or solar, as they both heavily depend on weather patterns.

In this context, energy storage is often presented as a panacea to the many challenges utilities around the country face due to a desire for a higher penetration of renewable energy resources and distributed energy resources.⁷ With energy storage, wind or solar energy can be stored when there is excess demand and injected into the grid later when

4. See Paul L. Joskow, *Comparing the Costs of Intermittent and Dispatchable Electricity Generating Technologies*, 101 AM. ECON. REV. 238, 238 (2011).
5. See Phil Taylor, *Can Wind Power Be Stored?*, SCI. AM. (Sept. 28, 2009), <https://perma.cc/L5WZ-NHPJ>.
6. See Gwen Bredehoeft & Eric Krall, *Increased Solar and Wind Electricity Generation in California Are Changing Net Load Shapes*, TODAY IN ENERGY (Dec. 9, 2014), <https://perma.cc/4QUF-A3VW>.
7. See Lin Deng et al., *What Is the Cost of Negative Bidding by Wind? A Unit Commitment Analysis of Cost and Emissions*, 30 IEEE TRANSACTIONS ON POWER SYS. 1805 (2015).

the supply is insufficient to meet the demand. Energy storage can also help with minute-to-minute smoothing that would be necessary when a cloud passes by, as well as larger smoothing needs when a large amount of wind energy is generated during off-peak demand hours.⁸

A corollary to the assumption that energy storage is necessary for the integration of renewable resources is that it would also lead to a reduction of greenhouse gas emissions.⁹ For example, when a storage system is paired with a clean generator, it can store the excess clean energy generated at times of low market demand to inject it into the grid at a later time, reducing the need for generation from the bulk system generators, which are often fossil-fuel powered. Moreover, it is not even necessary for energy storage to be paired with a clean energy generator to help reduce greenhouse gas emissions. Since marginal emission rates—the amount of emissions that result from the additional electricity generation—vary by time and location,¹⁰ a stand-alone energy storage system can also lower greenhouse gas emissions by charging at times when marginal emissions are low and discharging at times when marginal emissions are high. For example, energy storage can reduce emissions by charging at times when natural gas plants are on the margin—the last generator that is required to meet the demand—and discharging when coal plants, which pollute more, are on the margin. Essentially, energy storage can help reduce emissions by moving the generation away from the times when dirty generators are providing the marginal power, and replacing it with generation from less carbon-intensive resources.

III. Potential Negative Effects of Energy Storage on Greenhouse Gas Emissions

Standard policy arguments in favor of energy storage assume that it is necessary for the integration of renewable resources. If there is enough diversification among the renewable energy resources, however, energy storage may not be necessary. A recent study suggests that even though energy storage might be necessary if the decarbonization efforts are dependent on very high shares of wind and solar energy, it is not a requisite if a diverse mix of flexible, low-carbon resources is employed.¹¹ In some cases, overbuilding wind capacity to meet multiple times the peak demand to reduce the need for shortage, for example, might be cheaper than providing storage capacity.¹² Moreover, as illustrated below, the increased deployment of energy stor-

age may result in an increase in greenhouse gas emissions, not a reduction—contrary to the standard perspective.

A. Effects on Existing Fossil Fuel Plants

Energy arbitrage—purchasing wholesale electricity when the price is low and selling it when the price is high—can help lower the total cost of meeting the electricity demand by reducing the need to generate electricity when it is costly to do so.¹³ But, because the external costs of greenhouse gas emissions are not currently reflected in wholesale electricity prices, such arbitrage decisions will be made without considering the resulting changes in emissions. As a result, energy storage can increase emissions if the cheaper energy resources that are used in charging are dirtier than the more expensive energy resources that are displaced during discharging. The academic literature confirms that this pattern could occur.¹⁴

Perverse incentives may be more pronounced if the cost functions of dirtier generators have a particular shape. The fixed costs of turning on certain generators, such as coal, are high, but the variable operational costs once the generator is turned on are low.¹⁵ This pattern creates incentives for such a generator to continue operating once it is already on, as long as it can get sufficient revenue from the electricity it generates to cover its variable costs. Without energy storage, the amount of generation from such a generator would be limited by market demand. However, when paired with energy storage, it can continue generating and storing electricity to sell later. For example, at times of low demand, such as during the night, coal plants that normally operate below capacity will have incentives to generate more electricity than needed and store it.

Perverse effects from energy storage can also result from the way in which electricity markets function. The electricity grid is an interconnected, and capacity-constrained, network that allows electricity to be traded over long distances. The use of energy storage can reduce network congestion at certain locations, freeing up network capacity to allow flow of more energy. This newly freed up capacity may facilitate an increase in the use of dirtier sources, the usage of which was previously limited by the finite capacity of transmission lines.

In addition, energy storage can change emissions over a longer period by affecting the profitability of fossil fuel plants. Many coal plants engage in long-term coal purchase agreements that usually have minimum purchase requirements.¹⁶ Energy storage would allow such plants to buy and burn the amount of coal that they are obligated to

8. See RICHARD SCHMALENSEE & VLADIMIR BULOVIC, MASS. INST. OF TECH. ENERGY INST., *THE FUTURE OF SOLAR ENERGY* 61 (2015), <https://perma.cc/S478-9CNH>.

9. See Amy L. Stein, *Reconsidering Regulatory Uncertainty: Making a Case for Energy Storage*, 41 FLA. ST. U. L. REV. 697, 709 (2014).

10. See Joshua S. Graff Zivin et al., *Spatial and Temporal Heterogeneity of Marginal Emissions: Implications for Electric Cars and Other Electricity-Shifting Policies*, 107 J. ECON. BEHAVIOR & ORG. 248, 249 (2014).

11. See generally Fernando J. de Sisternes et al., *The Value of Energy Storage in Decarbonizing the Electricity Sector*, 175 APPLIED ENERGY 368 (2016).

12. See Geoffrey Heal, *Notes on the Economics of Energy Storage* 11 (Nat'l Bureau of Econ. Research, Working Paper No. 22752, 2016).

13. See, e.g., SCHMALENSEE & BULOVIC, *supra* note 8, at 285-88.

14. See, e.g., Richard T. Carson & Kevin Novan, *The Private and Social Economics of Bulk Electricity Storage*, 66 J. ENVTL. ECON. & MGMT. 404 (2013); JOSHUA LINN & JIH-SHYANG SHIH, RESOURCES FOR THE FUTURE NO. RFF DP 16-37, DOES ELECTRICITY STORAGE INNOVATION REDUCE GREENHOUSE GAS EMISSIONS? 24 (2016).

15. See KEITH E. HOLBERT, ARIZ. STATE UNIV., *ELECTRIC ENERGY ECONOMICS* 1 (2011), <https://perma.cc/GPS3-69H8>.

16. See Steve Vied, *Burning Less Coal*, ENERGY CENT. (June 27, 2016), <https://perma.cc/9KLY-TVL2>.

buy without any financial consequences. This effect would improve the profitability of coal plants, and allow them to remain in the market longer, thereby increasing emissions.

B. Effects on Efficiency Losses

Even if there is no difference between the carbon intensity of the marginal generators during the charging and discharging periods, energy storage can still increase emissions because of efficiency losses. Energy losses occur during charging and discharging energy storage systems, as well as during transmission and distribution.¹⁷ As a result, the total generation needed to provide the same amount of electricity to the consumers with energy storage is higher, leading to higher overall emissions. If these efficiency losses are sufficiently high, energy storage can lead to increased emissions even when it uses less carbon-intensive generation to displace more carbon-intensive generation.

Furthermore, large-scale energy storage paired with generators will change the generation mix in the market. As a result, the total distance electricity has to travel in the aggregate through transmission and distribution lines, and, therefore, the amount of losses, will change. If energy storage leads to more generation closer to customers, such as local solar farms, the electricity would travel shorter distances, reducing losses. But, if energy storage leads to generation that is further from customers, such as offshore wind, and has to be transmitted long distances, energy losses might increase.

C. Effects on Incentives for Future Fossil Fuel-Fired Plants

Although the issue has not been fully analyzed, evidence suggests that under certain circumstances, storage could lead to the addition of fossil fuel capacity. One study concludes that depending on the responsiveness of renewable generation to the changes in electricity prices, overall emissions may decrease or increase.¹⁸ Because energy storage enables energy arbitrage, the price difference between peak and off-peak periods is reduced.¹⁹ This effect changes the investment incentives for each resource differently. To illustrate, wind generators usually produce electricity during off-peak times, so an increase in off-peak electricity prices would lead to more wind investment.²⁰ However, a reduction in peak prices usually decreases incentives for solar investment.²¹ How exactly the mix of new capacity investments changes as a result of such changes in electricity prices depends on how price sensitive each resource is. Wind generation, if highly price responsive, would go up significantly when faced with higher off-peak prices,

and displace fossil fuel plants.²² Solar generation, however, would go down significantly when faced with lower peak prices if it is highly price responsive, and would be replaced by fossil fuel generators.

D. Interactions With Existing Policy, Regulatory, and Market Structures

If a generator has market power, it can submit a bid over its marginal cost and withhold capacity to increase market prices, and, hence its profits. For example, consider a setting where coal-fired generators have market power and can withhold capacity from the market to keep market prices high. In this case, energy arbitrage is more likely to be between more efficient combined-cycle natural gas plants, which would be on the margin during off-peak time periods when there is not enough coal capacity, and less efficient simple-cycle natural gas plants, which would be on the margin during peak time periods.²³ Because now, the arbitrage is among natural gas plants, instead of being between coal-fired and natural gas plants, the potential emission benefits of standalone energy storage, as well as of energy storage paired with renewable resources, are lower compared to the benefits that could accrue in a competitive wholesale market.²⁴

Interactions with other policies and regulations can also create perverse incentives. For example, under the Clean Air Act, new construction, major upgrades, or changes in the method of operation would trigger a new source review, and more stringent standards.²⁵ However, an increase in the hours of operation is not considered a change that would trigger a new source review.²⁶ This regulatory regime might create incentives to couple energy storage with existing coal-fired plants, which would cause an increase in the plant's hours of operation but not trigger a new source review, instead of meeting the peak demand by building a new plant, which would be subject to more stringent standards.²⁷ Under this scenario, emissions would increase as a result of the availability of storage.²⁸

IV. Inadequacy of the Current Regulatory and Policy Landscape

A. Inadequacy of Direct Investment Incentives

Federal and state policymakers have channeled several billion dollars towards energy storage research, development,

17. See Jordan Wirfs-Brock, *Lost In Transmission: How Much Electricity Disappears Between a Power Plant and Your Plug?*, INSIDE ENERGY (Nov. 6, 2015), <https://perma.cc/9BKV-7477>.

18. See LINN & SHIH, *supra* note 14, at 4.

19. See *id.*

20. See *id.*

21. See *id.*

22. See *id.* at 25.

23. See Ramteen Sioshansi, *Emissions Impacts of Wind and Energy Storage in a Market Environment*, 45 ENVTL. SCI. & TECH. 10728, 10731 (2011).

24. See *id.*

25. See 42 U.S.C. § 7411(a)(2), (a)(4), (f) (2012), ELR STAT. CAA §111.

26. See Prevention of Significant Deterioration of Air Quality Rule, 40 C.F.R. §51.166(b)(2)(iii)(f).

27. See Paul Denholm & Tracey Holloway, *Improved Accounting of Emissions From Utility Energy Storage System Operation*, 30 ENVTL. SCI. & TECH. 9016, 9021 (2005).

28. See *id.*

and pilot projects, and established procurement mandates for energy storage, providing direct investment incentives for energy storage. These policies are intended to encourage the deployment of energy storage systems indiscriminately, without regard to whether their use might be harmful to society. Furthermore, even when there is direct evidence of actual negative emissions impacts of energy storage systems these policies are not revised or corrected.²⁹

Some direct investment policies are more targeted, seeking to create incentives for energy storage systems only if they are paired with renewable generators. For example, Puerto Rico's storage mandate, adopted in 2013, requires that all future renewable generators include some minimum quantity of storage capacity.³⁰ Although such a targeted policy can tip the balance towards investment in paired energy storage and renewable generator systems, it can also decrease the amount of investment in other types of energy storage systems—systems that can reduce greenhouse gas emissions, even when they are not paired with a renewable generator.

B. Inadequacy of Indirect Price Incentives

To ensure proper investment signals, energy storage systems must be able to participate in all the markets in which they can provide services, and they must receive compensation for all these services. However, current regulations, which were designed with more traditional resources in mind, create a barrier to establishing such a framework. While there are some state and federal level policies that allow for some types of energy storage systems to be compensated for some of the benefits they provide to the grid, they are not sufficient to ensure efficiency. More importantly, the greenhouse gas emissions-consequences of energy storage systems should be taken into account to ensure that energy storage systems can indeed help to achieve clean energy and climate policy goals.

V. Policies Needed to Achieve Efficient Incentives

In perfectly competitive markets, the price of a good reflects the true value of that good to the society, which is necessary for economic efficiency. But, current price signals do not accurately reflect the true societal value of energy storage systems for three reasons. First, electricity prices do not consider the external costs associated with electricity provision. Second, energy storage systems cannot fully participate in all the markets they could provide value for. Third, energy storage systems earnings do not accurately reflect their true value. Achieving efficiency requires solving all three of these problems.

A. Internalizing Externalities

If the greenhouse gas emissions effects of energy storage systems are not evaluated in policymaking, the resulting outcomes might indeed be detrimental to climate policy goals. When externalities such as greenhouse gas emissions are present, markets left to their own devices do not produce socially desirable results.³¹ The most economically efficient way of internalizing an externality is to impose an economy-wide tax on greenhouse gas emissions.³² This first-best policy requires congressional action, and, therefore is not feasible to adopt and implement in today's political climate.

The next best policy to make sure that the outcome in electricity markets is socially desirable is to ensure that the costs of the externalities are reflected in wholesale electricity markets. Carbon emissions in the electricity sector can be internalized by a policy that makes dirty generators pay for each ton of carbon they emit, either in the form of an adder, or an allowance price in a cap-and-trade policy. Such carbon pricing would make it costlier for emitting resources to generate electricity, forcing them to bid higher prices in the wholesale market, creating an advantage for clean resources, and ensuring that wholesale electricity prices are lower when only clean energy resources are producing, and are higher when dirtier energy resources are also being dispatched. This is not a solution that can be implemented quickly, however, because it requires coordination and agreement amongst state and federal policymakers, the Federal Energy Regulatory Commission (FERC), Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs).

Consequently, as more states are looking into integrating energy storage systems into the grid immediately, an interim policy tool is needed to ensure socially beneficial energy storage deployment in the near term. A societal cost-benefit analysis can help state regulators both incorporate greenhouse gas emission impacts of energy storage systems into decisionmaking, and eliminate socially undesirable investments. The cost-benefit analysis would monetize the expected benefits and costs of a particular energy storage system given the specific network characteristics of the area of the planned investment. Such an analysis can prevent investments in energy storage systems that would use high carbon intensive generation to displace low carbon intensive generation. An added advantage of cost-benefit analysis is that it can include emissions related to the construction and the operation of the storage systems.³³

While such use of a cost-benefit analysis can be a solution in the short term, it is not sufficient in the long term. First, it can be applied only to investments over which state regulators have jurisdiction. Therefore, it cannot prevent

29. See Graff Zivin et al., *supra* note 10, at 249.

30. See Jeff St. John, *Puerto Rico Mandates Energy Storage in Green Power Mix*, GREENTECH MEDIA (Dec. 27, 2013), <https://perma.cc/Z8A7-JAT7>.

31. See, e.g., PAUL KRUGMAN & ROBIN WELLS, *MICROECONOMICS* 250-52 (2008).

32. See *id.* at 251.

33. See Paul Denholm & Gerald L. Kulcinski, *Life Cycle Energy Requirements and Greenhouse Gas Emissions From Large Scale Energy Storage Systems*, 45 ENERGY CONVERSION & MGMT. 2153 (2004).

an unregulated energy company from investing in energy storage systems that might have detrimental emissions consequences. Second, carrying out a comprehensive analysis for every single investment opportunity might be burdensome given the expected increase in energy storage projects over the next decade, and may delay construction.

B. Eliminating Barriers to Entry

Currently, ISOs and RTOs integrate energy storage systems into their organized wholesale markets differently. Certain energy storage technologies already are allowed to provide energy and ancillary services in some of the organized markets by using existing participation rules. However, because these rules were designed with traditional generators in mind, they lack the flexibility to recognize unique characteristics of energy storage systems.³⁴

Redesigning market rules to ensure that energy storage systems participate to the full extent of their unique technical capabilities would increase the efficiency of the electricity markets. FERC has already shown some limited progress towards this goal by aiming to remove some of the barriers currently hindering electric storage resources in its 2016 Proposed Rule.³⁵ In the proposed rule, FERC recognizes that energy storage systems have the ability to provide a variety of services such as energy, capacity, and regulation, yet are restricted by rules that were designed for other resources.³⁶ Therefore, FERC seeks to require ISOs and RTOs to revise their tariffs to accommodate the participation of energy storage resources based only on their physical and operational characteristics, and their capability to provide energy, capacity, and ancillary services.³⁷ For example, FERC proposes new bidding parameters such as charge and discharge time and rate, which can give ISOs and RTOs information about the characteristics about energy storage systems, and hence the services they can provide.³⁸

However, these proposed changes, while a significant step towards increasing efficiency, are still limited in scope. Performance requirements, which penalize energy storage systems for not being able to provide certain services while charging, still remain.³⁹ Additionally, market rules and technological requirements vary from one market to another, making it more difficult to enter into more than one market with the same energy storage technology.⁴⁰ If, instead, market rules and eligibility requirements in all

jurisdictions were uniformly based on the technical attributes that are required for a particular service, the existing barriers for energy storage systems, as well as barriers for any other new energy technology that may be viable in the future, would be eliminated.

C. Eliminating Barriers to Earning Multiple Value Streams

For energy storage systems, ensuring accurate price signals requires eliminating the barriers for earning compensation for multiple value streams. An accurate price signal depends on unbundling the different services that energy storage systems can provide and ensuring that they get compensated for each service. The current regulatory framework makes it difficult, or impossible, for an energy storage system to participate in the market for every service that it has the technical ability to provide. Therefore, current price signals do not reflect the full value of energy storage systems. This inability of storage systems to participate in the markets for services they have the technical ability to provide leads both to an under-utilization of existing storage systems and to an under-investment in new storage systems. Therefore, an efficient policy must recognize the differential benefits that each storage system provides, and allow energy storage systems to be compensated for all these benefits.

Until recently, however, the regulators and the stakeholders in the electricity markets were more concerned about the opposite issue. In January 2017, FERC issued a Policy Statement that addressed the concerns about storage systems receiving both cost-based and market-based compensation.⁴¹ The first concern was the potential for combined cost-based and market-based rate recovery to result in double recovery of costs by the electric storage resource owners, to the detriment of cost-based ratepayers. The second concern was the potential for cost recovery through cost-based rates to inappropriately suppress competitive prices in the wholesale electric markets, to the detriment of competitors that do not receive cost-based rate recovery.⁴² FERC's 2016 Proposed Rule also discussed double compensation; FERC proposed that distributed energy resources that participate in one or more retail compensation programs, such as net metering, not be eligible to participate in the wholesale markets as part of a distributed energy resource aggregation.⁴³

While prohibiting duplicate compensation for the same service is necessary for economic efficiency, ensuring that distributed energy resources can be fully compensated for the unique benefits they can provide at every level—generation, transmission, and distribution—is also necessary,

34. See Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators, 157 FERC ¶ 61121, para. 13 (proposed Nov. 17, 2016) (to be codified at 18 C.F.R. pt. 35) [hereinafter 157 FERC ¶ 61121].

35. See *id.* at 14.

36. *Id.* at 17.

37. See *id.* at 56-57.

38. See *id.* at 58-59.

39. See Advanced Energy Economy, Comment Letter on Proposed Rule on Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators 41 (Feb. 13, 2017) [hereinafter AEE February Comments].

40. See Advanced Energy Economy, Comment Letter on Proposed Rule on Electric Storage Participation in Markets Operated by Regional Transmis-

sion Organizations and Independent System Operators 10 n.15 (June 5, 2016).

41. See FERC, Utilization of Electric Storage Resources for Multiple Services When Receiving Cost-Based Rate Recovery, Policy Statement, 158 FERC ¶ 61051 (Jan. 19, 2017).

42. See *id.* at 1, 11.

43. See 157 FERC ¶ 61121, *supra* note 34, at para. 96-102.

and perhaps more important, for economic efficiency in energy storage deployment. In addition, a framework for compensating unbundled ancillary services, which energy storage systems can provide even when they are not already online, is lacking.⁴⁴

Because the revenue potential based on only one category of benefits does not justify the current high upfront investment that is needed, one value stream is not enough to give enough incentives for large scale deployment. Therefore, a new framework that allows compensation for different value streams should be considered, even if those value streams are based on benefits that accrue to different parts of the market and, thus, have to rely on different compensation mechanisms. Setting up a framework for accurate valuation is especially critical as behind-the-meter energy storage systems are likely to become more prevalent in the recent future. Behind-the-meter systems can provide benefits to both the distribution system and the wholesale market and thus have the potential to confer large benefits on the grid. Therefore, limiting the source of compensation of these systems to only one of these levels, as the current regulatory framework does, hinders efficiency.

One solution to these dual problems would be for FERC and state regulators to coordinate and explicitly lay out the categories of benefits of energy storage systems and how to compensate for each benefit. While this task is not easy, the current state-level initiatives can provide a useful foundation for this route. For example, New York State currently is in the process of establishing a methodology to value all distributed energy resources.⁴⁵ The New York State Public Service Commission recently issued an order to outline a framework that is generally described as a “value stack” approach.⁴⁶ In this approach, distributed energy resources, including energy storage systems, are compensated for their energy value, capacity value, and environmental value of their net exports. In addition, the systems that can reduce demand during the ten highest usage hours of a utility’s territory are paid a demand reduction value, and the systems located at “high value” grid locations are paid a locational system relief value.⁴⁷

This value stack framework has the potential to provide compensation for the value that distributed energy

resources provide at all levels. Furthermore, if all states start using such an unbundled approach to compensate energy storage systems, rules can be crafted to determine which actor would compensate an energy storage system for each value component, based on where the benefits accrue. The environmental value that energy storage systems provide by avoiding emissions, if it exists, can be paid by the state itself, because it would be reflective of a state policy. Preventing double compensation is also easier under this approach. For example, if a system is being compensated for its energy value already by this framework or by the wholesale markets, the same system would not be compensated for its energy value by any other retail program, but would be allowed to be paid for its distribution level benefits by a retail program. Similarly, if a system is already being paid for the environmental value through this value stack approach, it would not be allowed to participate in additional programs such as renewable energy credit markets.

VI. Conclusion

Energy storage systems hold the key to decarbonization of the electric grid, and thus a clean energy future. However, contrary to the common assumptions relied on by policymakers to promote policies that indiscriminately encourage more energy storage deployment, there are circumstances under which energy storage systems can increase greenhouse gas emissions. In this Article, we describe some of these circumstances, filling an important void in the current debate, and discuss the shortcomings of the current regulatory and policy framework to provide sufficient incentives for socially beneficial energy storage deployment. Finally, we outline the reforms that are necessary to realize the clean energy future promised by increased energy storage deployment. To ensure that energy storage systems can indeed help achieve climate policy goals, externalities related to greenhouse gas emissions should be internalized, entry barriers should be eliminated, and market rules should be modified to guarantee accurate price signals that can value all the benefits energy storage systems have the technical ability to provide.

44. See AEE February Comments, *supra* note 39, at 52; Tesla Motors, Inc., Electric Storage Participation in Regions With Organized Wholesale Electric Markets, Docket No. AD16-20-000 (Jun. 6, 2016).

45. See N.Y. PUB. SERV. COMM’N., SUPPLEMENTAL STAFF WHITE PAPER ON DER OVERSIGHT (2017).

46. Order on Phase One Value of Distributed Energy Resources Implementation Proposals, Cost Mitigation Issues, and Related Matters, Case Nos. 15-E-0751 & 15-E-0082, N.Y. PUB. SERV. COMM’N. (2017).

47. *Id.* at 10.

C O M M E N T

Weighting the Risks and Benefits of Energy Storage on Fleet Emissions: Academics vs. Fundamentals

by John Fernandes

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I. Introduction

In their paper, *Managing the Future of the Electricity Grid: Energy Storage and Greenhouse Gas Emissions*, Richard L. Revesz and Burcin Unel of New York University School of Law (NYU team or authors) highlight a critical (and often times contentious) issue that the energy industry is attempting to address: how to quantify and incorporate a societal value of decreased greenhouse gas (GHG) emissions into the dollar value of incremental energy that is provided to the electric system. The NYU team has appropriately noted that this discussion becomes more complex when one considers the ability of energy storage to withdraw energy in real time to be injected when it can be better utilized later. This capability has the potential to change the way “marginal” energy is defined.

II. Concurrence

Beginning with issues currently at the core of effective energy storage enablement, the NYU team adequately summarized existing market barriers and the lack of full valuation of all of the technical capabilities of energy storage. Fortunately, as also noted by the authors, the industry is actively overcoming these roadblocks. The Federal Energy Regulatory Commission’s (FERC’s) recent Policy Statement and Orders 841 and 845 offer clarity on critical components such as cost recovery for project execution and effectively create a unique asset class for energy storage. And with so many states now pursuing storage policy development or active project deployment, jurisdictional lines may become less of a hurdle for more complex systems offering any combination of retail, distributed, and bulk system benefits. Central to the authors’ message, I fully agree with the recommendation that externalities related to GHG emissions should be internalized and that markets should value all of the benefits that energy storage can provide.

I must also commend the NYU team on their attention to resources that are “on the margin” during real time

operating hours. Up until recently, many discussions on energy and associated environmental issues focused bluntly on “clean” and the “peak,” with neither term objectively defined. Stakeholders are now appropriately recognizing the relevance of marginal resources across an operating day and how capturing electrons from these resources during specific hours can dramatically change the cumulative emissions from the fleet.

I note the inclusion of losses or round-trip efficiency of storage as a limiting factor in the contribution that storage can make to the grid, be it in terms of price savings, capacity factor, or environmental benefits. The efficiencies of specific storage technologies weigh heavily in any investment decision. It would be sound practice to take losses into consideration when establishing the parameters for policies that leverage storage to accomplish a societal objective.

Finally, I applaud the authors pointing out the shortcomings of New Source Review standards and how the standards could be updated to reflect the probable impact of any advanced technology coming to the market. It appears the authors have identified a standing potential flaw of the standards, and if this flaw may be exacerbated by the capabilities of storage, it is worthy of greater scrutiny.

III. Questions

Most of my questions are targeted towards theories that, while philosophically reasonable, may not precisely reflect what I believe are the operational realities occurring in most U.S. energy markets.

A. Storage + Renewables

First, the NYU team opens their position by stating that standard policy assumes that storage is “necessary” for the integration of renewable resources. I believe that policy supported by much of the storage industry never strongly reflected this sentiment, or at least has moved past it.

The authors cite a storage mandate adopted in 2013 in Puerto Rico as an indiscriminate policy to incentivize stor-

age that did not consider potential risks, but I offer that this mandate was technically sound, reflecting technical needs. Energy storage is an ideal resource to mitigate the grid impacts of high penetrations of intermittent resources in an isolated area while also providing parallel benefits such as the ability to shift output. I also enforce that island grids are highly unique, and while policies like those adopted in Puerto Rico should lead to productive discourse, these policies should not form the basis of any other storage directive without parallel system dynamics.

I will not necessarily argue that there may exist storage policies that bluntly encourage storage + renewables, and I do agree that policy should be precise, with clear objectives and metrics for success. When storage is being supported for the socially-conscious goal of sustainability, “why and how” should be the solution-focused questions.

B. Arbitrage

Under several scenarios, the NYU team focuses on energy arbitrage. First, the team has set the assumption that, without storage, the lone factor limiting the output of legacy fossil generators is demand. To the best of my understanding, emissions and air quality standards would cap the production from these facilities even in a condition of unlimited load. To simply assume that technical/physical mitigation measures render these restrictions moot without impacting the operating costs of the plant would be incorrect. I would be interested to see how environmental constraints could alter the authors’ assumption.

The team then cautions that legacy fossil generators (coal, specifically) will be incentivized via the use of storage to increase their output during off-peak hours and store the power, to be injected later. While theoretically reasonable, this assertion grossly misrepresents the value of energy arbitrage in the market. Arbitrage as a stand-alone application, especially for the size storage system that would be required for such an application, is not a viable business model, even for zero-variable-cost wind, in any energy market in the United States (save for perhaps isolated pricing nodes with extreme price volatility). The economic realities of market prices probably make this scenario theoretical only and should not preclude the integration of storage into any market.

I believe this market fundamental can also be applied to the notion that the owners of coal facilities would be able to “buy and burn” as much coal as they are obliged. Some coal facilities are already “dumping” electrons into the market, acting as a price-taker and exacerbating negative pricing. So far, it has not proven economic or a sound long-term strategy to pair a coal plant with storage and attempt to capture an arbitrage value.

Not necessarily arbitrage in its purest form, but still considering pricing during certain periods of an operating day, the NYU team goes on to describe how an increase in off-peak prices will increase wind investment, but a decrease in

peak prices will decrease solar investment, thereby increasing fossil investment. To start, this is in part a reasonable academic premise. I could also envision an actual scenario where an investment in solar + storage shifts a peak to later intervals in the day, perhaps increasing prices during those “new peak” periods.

However, I am unable to conceive a scenario where peak prices come down to a point where solar investment is no longer economic but fossil investment is. If a localized pricing signal is not strong enough to get one more increment of solar in the ground, I cannot imagine the economics justifying, as an alternative, the construction of a fossil fuel plant. Perhaps such a scenario needs to move away from the consideration of “the peak” and more towards baseload capacity needs . . . hence, again, highlighting the importance of clearly defining such system conditions.

C. Market Manipulation

Finally, recognizing a potential personal bias as ex-FERC staff, I find the scenario where a generator can leverage market power to maximize profits of nominal relevance to this paper. People and processes are in place to ensure that energy markets function in a fair and transparent manner. I would not be naïve enough to say that there are no bad actors in the industry that would manipulate markets for personal gain; such considerations always have to be made when creating policy. However, to imply that energy storage puts the market at greater risk for such activities may be unreasonable and distract from more unique but tangible risks to consider with the integration of advanced technologies.

IV. Other Considerations

A. The Broader Issue

I strongly support the perpetuation of the discourse over the valuation of carbon. Carbon and its impacts on public health is a matter that touches so many facets of human existence across the globe. As the NYU team has pointed out, though, this breadth of complexity makes carbon a substantial issue to tackle across regulatory lines. I struggle to decide the pathway to impactful policy: top-down or bottom-up.

I was at first skeptical to targeting bottom-up discussions starting with energy storage and carbon policy, fearing this intersection would be too niche to establish practices that could be built upon to reflect more broad energy objectives. However, this direction could streamline and focus the discussions, and starting with a technology as complex as storage may facilitate the review of more general applications later. Starting with state policy offers another benefit: the role of FERC is not market design; it is to ensure that rules are just and reasonable. States may have more leeway in creating unique platforms.

B. *Storage + Fossil (yes . . . fossil)*

While I'm sure it is anomalous to bring up the benefits of advanced fossil technology in a discussion of decreased emission and environmental sustainability, I do not find the two to be mutually exclusive. Natural gas is a substantial and still-growing part of the generation resource mix in the United States. If the real objective is cleaner air, environmental interests would be better served by improving the efficient utilization of fossil assets instead of attempting to find ways to marginalize them on an expedited timeline.

To explain by way of example: a major challenge in regions with high penetration of wind generation is lack of ramp: in this instance, the ability to meet unexpected deviations from forecasts of wind output and load. Depending on the "services" utilized by an organized market or incumbent Balancing Authority (BA), there appears to be a ten to thirty-minute window where actions to mitigate this market condition can result in uplift costs to ratepayers, or the BA could build redundancies into the operation of the fleet. While also costly, such redundancies may include operating fossil resources at sub-optimal heat rates or, in order to have the needed response time, when not even necessary at all.

Amongst the multiple flaws of such measures is increased emissions. While standalone, grid-connected storage could

provide ramping service, it so far has not been an economic driver strictly in terms of price, and standalone storage provides no on-site benefit to the fossil plant. Storage paired with new, efficient fossil generation, though, will allow the modern fleet to run at the ideal heat rate while taking unnecessary "spin" off the system, perhaps even allowing legacy units to finally retire. So, perhaps energy storage supplementing fossil generation is not such a bad thing in all instances.

V. **Conclusion**

This was a highly successful academic exercise. While I caution relying too heavily on certain theories and instead point to actual system and market fundamentals, the considerations, questions, and cautions raised by the NYU team will help policymakers avoid practices that invoke unintended consequences that would be counter to the desired outcomes of sustainable energy policy. There is a risk that, by overstating the risk, one may create unnecessary barriers to economic and environmentally sound storage deployment. While the authors have aptly recognized the potential burden of robust studies for project deployment, I still support the notion. Careful, system-level modeling is a sound means by which to ensure project deployments are compatible with clearly defined policy objectives.

C O M M E N T

A Minimal Problem of Marginal Emissions

by Ryan Thomas Trahan

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I. Introduction

Prof. Richard L. Revesz and Dr. Burcin Unel provide a useful, albeit no longer current, review of electric energy storage in *Managing the Future of the Electricity Grid: Energy Storage and Greenhouse Gas Emissions (Managing)*.¹ *Managing* was released in draft during the Federal Energy Regulatory Commission (FERC) comment period on revised rules for energy storage technologies. That rulemaking process culminated early last year in Final Order 841,² directing regional electricity grids operators to remove barriers to the participation of electric storage resources in wholesale markets.³ *Managing* remains relevant today as the process of implementing Final Order 841 carries on, and as state and local policymakers design incentive programs for accelerating the deployment of energy storage technologies.

Separate from the 841 rulemaking process, the energy storage market has continued its rapid technical and manufacturing evolution. Those advances may reasonably be expected to impact today's regulatory aims and frameworks, just as prior technological progress influenced administrative goals and processes. One current issue is whether interim technological progress has already affected the policy recommendations in *Managing*.

Central to the analysis in *Managing* is the proposition that deploying energy storage may actually increase greenhouse gas (GHG) emissions.⁴ Its recommendations each follow from that base, i.e., internalize emissions externalities, eliminate barriers to entry, and implement rules to guarantee accurate price signals.⁵ These policy directives

intuitively feel right, resembling as they do first principles of economics. Where theory intersects with administrative process, however, concessions are often made, and so it is here. Taking the prescription reviewed in this brief comment, *Managing* describes the path toward internalizing emissions externalities (vis-à-vis carbon tax or otherwise integrating with wholesale electricity market prices) as long and uncertain. As such, the actual recommendation to policymakers is to perform cost-benefit analysis.

Cost-benefit analysis is a familiar framework for decisionmaking, although *Managing* forwards two suggestions that may reasonably be viewed as less typical. It takes the position that its recommendations should be achieved prior to energy storage incentive programs being implemented, so as to avoid the specter of inadvertently causing higher emissions. Second, it encourages policymakers to engage in comprehensive analysis of all available energy storage technologies, and all manner of possible generation combinations as substitutes for deploying energy storage.⁶ These suggestions are addressed in reverse order.

II. Risks of “Comprehensive” Analysis

Managing does not seek to “pick winners” in energy storage and presents each major storage technology on equal terms, relying on data from Lazard's first study in 2015.⁷ When viewed today that presentation implies a false equivalency. Due to interim technical progress, “energy storage” in 2019 is an analog for battery energy storage, primarily in the form of lithium-ion batteries, a result achieved in the open market.⁸

1. Richard L. Revesz & Burcin Unel, *Managing the Future of the Electricity Grid: Energy Storage and Greenhouse Gas Emissions*, 42 HARV. ENVTL. REV. 139 (2018) [hereinafter *Managing*].

2. FEDERAL ENERGY REGULATORY COMMISSION, RM16-23-001; AD16-20-001, Order No. 841-A (2019).

3. Rather than being pedantic, it is suggested that the difference in usage between “grid,” singular, and “grids,” plural, affects analytical effort by focusing attention toward solutions for a single theoretical system rather than the diverse category of systems that actually exist and can be expected to proliferate.

4. *Managing* at 143.

5. *Id.* at 179-96.

6. *Id.* at 180-84.

7. See LAZARD, LAZARD'S LEVELIZED COST OF STORAGE ANALYSIS VERSION 1.0 (2015).

8. See generally U.S. DEPARTMENT OF ENERGY, GLOBAL ENERGY STORAGE DATABASE PROJECTS (last accessed Jan. 19, 2019). To date, lithium-ion technology exhibits technical, social, and cost attributes more competitive than other energy storage technologies, e.g., it is highly efficient in charge-to-discharge roundtrips, it is modular and flexible in both deployments and applications, and costs are broadly equivalent to or lower than the lowest cost substitute. Crucially, battery technology is in the midst of a cycle of substantial improvement.

Comprehensive cost-benefit analysis of substitute technologies is generally held to be most useful where market outcomes remain fluid, or are skewed. By contrast, applying such analysis at the end of a relatively transparent and open market competition risks harmful delay. Introducing such analysis to energy storage technologies, at present, might perversely provide an opening for bias and outcome shaping by reshuffling a dealt deck.

Another risk of comprehensive cost-benefit analysis in this context is potentially more pernicious. *Managing* implies that substitutes for energy storage exist by gesturing to time-worn concepts: theoretical generation sources, brute generation build-out, and efficiency improvements through generation types. An adequate exposition of these approaches is not provided in *Managing* and none is warranted here; suffice to state that these approaches are all well studied and do not constitute actual substitutes for energy storage.⁹ Policymakers would likely be better served to focus on the deployment of current battery storage technology so as to capture its demonstrated benefits.

III. But What if Energy Storage Deployments Cause Higher GHG Emissions?

Where decarbonization is a policy goal, circumscribed policy review is supported by the understanding that increased deployment of energy storage corresponds with lower GHG emissions. That position is, in turn, grounded in current empirical study and common sense. Wind and solar do not incur marginal fuel costs and, therefore, intermittent generation has a fundamental marginal price advantage in charging an energy storage technology. Energy storage, in turn, expands the value and variety of applications for renewable generators and provides for crucial flexibility in dispatch. *Managing* makes reference to these benefits but relies primarily on an older study (CN Study)¹⁰ as the basis of its premonitory counter-analysis.

9. The theoretical generation technologies sketch is, in essence, a curious retreat of the possibility that dispatchable nuclear power will one day exist and be economic and useful when paired with other programs. The prescription to overwhelm problems of intermittency by brute installation, while valuable, is accounted in real-world installations—increased nameplate capacity is deployed to the extent it is economic but remains meaningless without energy supply. Efficiency gains in aggregate generation, e.g., from complimentary heterogeneous generation sources, are a well-studied source of marginal improvement, complimentary with energy storage.
10. See Richard T. Carson & Kevin Novan, *The Private and Social Economics of Bulk Electricity Storage*, 66 J. ENVTL. ECON. & MGMT. 404 (2013). *Managing* additionally cites to a more recent discussion paper which is derivative of the CN Study, see Joshua Linn & Jhih-Shyang Shih, *Does Electricity Storage Innovation Reduce Greenhouse Gas Emissions?*, RESOURCES FOR THE FUTURE (Sept. 2016). Joseph Linn and Jhih-Shyang Shih present a stylized model to question whether lower costs for energy storage will lead to a decrease in deployment of intermittent generation sources. Sufficient empirical data exists to conclude the opposite. *Managing* separately lists concerns with increased coal usage that should be of independent concern if, at some future time, gross subsidy steering overcomes the market diseconomies of coal.

A. Texas, 2007-2009

The CN study examined data sets, for the years 2007 through 2009, in the Texas market.¹¹ It assumed, among other things, a competitive wholesale electricity market with adequate price signals, and found that deploying bulk energy storage to the interconnection would tend to decrease peaks in consumption while increasing consumption troughs. This effect would result from an owner using an energy storage technology to engage in price arbitrage by charging during a single nighttime hour (lowest price during a consumption trough) and discharging during a single daytime hour (highest price during a consumption peak). The essential finding was that marginal GHG emissions would increase if a higher emitting generation source, like coal, were used for charging, and the stored energy was subsequently discharged during the day thereby avoiding marginal gas or solar generation. The reason being coal is dirtier than gas or solar, and inefficient storage technology amplifies the problem due to energy loss.

B. United States, 2019

Energy storage efficiency is accounted for in the CN Study. The observed result of higher GHG emissions from an increased deployment of bulk storage holds even assuming a theoretical energy storage technology with perfect efficiency. Thus, while the modern primacy of efficient lithium ion battery storage technology removes the worst-case scenarios of the CN Study, it does not affect the base finding.

Other interim developments do undermine the central proposition. The sound and explicit assumption of the CN Study was that renewables would not be the marginal sources of electricity used to charge energy storage technologies in circumstances where there was insufficient penetration. To wit, Texas only generated an average of 4.7% of its electricity from intermittent generation sources in the period studied, 2007 to 2009, and in all three of those years was among the national leaders in intermittent generation.¹²

Today, 10 states have intermittent generation of more than 20%, four have more than 30%, and two are expected to cross the 50% threshold this year. Texas no longer ranks among the top ten, even though intermittent generation now constitutes 17.4% of its overall generation mix.¹³ The United States, as a whole, is expected to obtain nearly three times the percentage of intermittent genera-

11. The Electric Reliability Council of Texas (ERCOT) interconnection does not of course encompass all of Texas, but CN Study's terminology is used herein for consistency.

12. *The Private and Social Economics of Bulk Electricity Storage*, *supra* note 10.

13. See EIA, Electricity Generation by State, <https://www.eia.gov/electricity/data/state> (last visited Jan. 19, 2019).

tion this year as Texas did in the 2007-2009 time frame.¹⁴ That remarkable change in penetration has been attendant with a fundamental cost reduction in intermittent (renewable) generation, thus increasing the absolute cost advantage of renewables in charging. The drastically reduced costs and much higher penetration of renewables, together with efficient lithium-ion energy storage, may reasonably permit policymakers to largely disregard the specter raised in *Managing*, more so in light of countervailing empirical demonstrations. It is beyond the scope of this brief comment but elsewhere I have sought to address the more fundamental policy problem of applying (particularly older) narrow marginal analysis of emissions in the context of rapidly changing technologies.¹⁵

Nonetheless, since *Managing's* analysis could be applicable in outlier circumstances, policymakers may be well-served to adopt a simple policy bifurcation: move quickly (deploy, iterate, and deploy again) on energy storage incentive programs coupled to renewable generation. Projects not joined to deployment of renewable generation may require greater study, provided such analysis is properly weighed against costs of inaction, delay, and outcome shaping. Incentives are by nature clumsy and inefficient, and where time is deemed of the essence policymakers should not make the perfect the enemy of the good.¹⁶

IV. Step Change Framework

In certain respects, the current energy storage discussion misses the forest for the trees. The core activity of electricity procurement in the United States flipped a little more than three years ago. In the 120 years prior, the only technically and economically feasible system was a centralized power architecture, mainly resembling the following: power plant ⇒ transmission lines ⇒ substation ⇒ distri-

bution lines ⇒ end consumer. As I have suggested,¹⁷ both the means and ends of electricity procurement were altered when distributed generation unexpectedly achieved broad cost parity with centralized electricity delivery, with root implications for each.

Energy storage is fundamental to the evolution of electricity procurement systems, decentralized or not, thus it may be of some use to policymakers designing energy storage incentive programs to note the principles identified in *Regulating Toward (in)Security*:

- The electricity industry invests more money toward the delivery of electricity than it does to generate it in the first instance, a trend that is likely to intensify as technological advances and demographic trends continue to interact.
- Distributed generation has recently achieved rough cost parity with centralized electricity systems, and the cost of decentralized electricity systems continues to fall rapidly alongside the improving economics of battery energy storage.
- Centralized electricity grids do not generate positive networked effects and, as such, are not a technical requirement of electricity procurement.
- Electricity grids, like communication networks, generate what I have termed *negative* networked effects in the form of shared and untenable security risks which worsen with greater connectivity. The impacts of negative networked effects in centralized grid networks are seen in three primary categories: (i) natural disasters; (ii) cyber insecurity; and (iii) physical attack. Impacts from negative networked effects have grown in economic magnitude, and are likely to continue to do so at an increasing pace.

V. Conclusion

In brief summary, policymakers committed to GHG reductions need not overthink the utility of battery energy storage incentives coupled with renewable generation deployment. Battery storage technology is efficient, and the charging sources are increasingly cleaner, and will be more so to the extent such incentives are implemented and adoption is accelerated. Additional policy analysis might instead be usefully applied to understanding the implications of recent and dramatic progress in generation and storage technology. Technical progress has opened a generational opportunity for policymakers to design more economic and resilient systems of electricity procurement for their constituencies.

14. See EIA, EIA forecasts renewables will be fastest growing source of electricity generation, <https://www.eia.gov/todayinenergy/detail.php?id=38053> (last visited Jan. 19, 2019).

15. Ryan Trahan, *Policy Problems in Economic Analysis of Decarbonization* (Vanderbilt Law Sch. Working Paper).

16. *Managing* laments past electric vehicle charging programs as an example of uncaredful policy analysis. Ironically, that position too is centrally based on a study using 2007 to 2009 data, see Joshua S. Graff Zivin et al., *Spatial and Temporal Heterogeneity of Marginal Emissions: Implications for Electric Cars and Other Electricity-Shifting Policies*, 107 J. ECON. BEHAVIOR & ORG. 248, 249 (2014). Joshua Graff Zivin used emissions data sets to, among other things, estimate the marginal emissions of electric vehicles. The results implied that, in specific scenarios, electric vehicle emissions were higher than internal combustion engines, e.g., if charged at night in certain parts of the Upper Midwest. The Graff Zivin findings were challenged as early as 2015, see, e.g., Rachael Nealer et al., *Cleaner Cars From Cradle to Grave How Electric Cars Beat Gasoline Cars on Lifetime Global Warming Emissions*, UNION OF CONCERNED SCIENTISTS (2015) (title serves as sufficient summary); and more recently definitively superannuated see David Reichmuth, *New Data Show Electric Vehicles Continue to Get Cleaner*, UNION OF CONCERNED SCIENTISTS (Mar. 8, 2018).

17. See Ryan Trahan, *Regulating Toward (in)Security in the U.S. Electricity System*, 12 TEX. J. OIL, GAS & ENERGY L. 2 (2017).

A R T I C L E

Reforming Judicial Ethics to Promote Environmental Protection

by Tom Lininger

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I. Introduction

Does the duty of environmental protection belong in the ethical rules for our profession? A number of scholars have explored whether lawyers should bear such duties. But little attention has focused on the possibility that “green ethics” would also be appropriate for judges.

The time is ripe to discuss this topic. In 2019, the judiciary plays a more critical role than ever before in reviewing—and sometimes barring—public and private actions that could affect the environment. Dockets now include a vast number of environmental matters, and environmental advocates are offering novel, game-changing theories: some are invoking the public trust doctrine to sue the federal government for neglecting to address climate change, and some are raising the necessity defense to fend off prosecutions of civil disobedience in environmental protests. Sometimes, the courts salvage environmental protections that executive or legislative officials want to abandon. Indeed, some analysts believe that that the courts may present the best hope for environmental advocacy at the national level in 2019.

Rules of judicial ethics frame the manner in which judges take account of environmental concerns. At present, these rules provide very little guidance that is relevant to environmental matters. Many judges have a general inclination to favor private property rights or to defer to governmental approvals of development projects, but there is no countervailing authority that counsels judges to consider environmental priorities.

Why should we worry that codes of judicial ethics fail to address environmental considerations? When the ethical rules do not call for judicial cognizance of environmental harm, judges tend to undervalue such harm. On the other hand, if the rules of judicial ethics were to focus judges’ attention on climate change and other environmental matters, judicial vigilance in these areas would likely increase. The result could be a more robust system of checks and balances, guided by consideration of environmental risks in every instance. In addition, judges can exert a steady

influence in overpoliticized areas of the law. In particular, federal judges are naturally suited to be guardians of the environment: with life tenure, federal judges have longer time horizons than do the executive and legislative officials who show little patience for the short-term sacrifices that environmental protection necessitates.

The following sections offer proposals for changes to the American Bar Association’s Model Code of Judicial Conduct (ABA Code). Each section begins with the relevant language (current or proposed) in the ABA Code, all of which is in italics. Underlining of text indicates a proposed insertion in a current provision of the ABA Code. Striking of text (e.g., *example of stricken text*) indicates a proposed deletion.

II. Duty of Accuracy in Fact-Finding

Canon 2 of the ABA Code should be amended to include the following new rule:

Rule 2.17: Accuracy in Fact-Finding

In hearings, bench trials, and other settings that necessitate judicial fact-finding, a judge shall carefully consider all available evidence and shall find facts as accurately as possible. A judge shall not knowingly issue any order that mischaracterizes the factual record.

Why impose an ethical duty on judges to find facts accurately? One reason is that such an amendment would correct an asymmetry between the ethical codes for lawyers and judges. Both lawyers and judges bear an ethical duty of accuracy when they make statements about the law, but only lawyers bear the same duty when they refer to facts. No specific language in the ABA Code requires judges to find facts as carefully as they apply the law.

This contrast between lawyers’ and judges’ ethics is perplexing. While the client-centered paradigm distinguishes lawyers from judges and may heighten the likelihood that lawyers exaggerate, judges are not immune from distort-

ing facts. The possibility of judicial bias is evident in the large number of disqualification rules—a set of rules that is approximately equal in breadth to the conflicts rules for lawyers. The potential for judicial bias suggests a potential for judges to mischaracterize facts.

Though juries find the facts in most trials, judges also play a significant role in fact-finding. When parties stipulate to a bench trial, the judge serves as the sole trier of fact. Even in litigation that culminates with a jury trial, the judge usually has sole responsibility for finding facts in hearings on various matters including motions to exclude evidence, motions for summary judgment, and motions for temporary restraining orders.

The factual findings by the trial judge are rarely reversed. Appellate courts exhibit a great deal of deference to trial courts' factual findings and credibility determinations, assuming that trial judges are in a unique position to weigh evidence and assess the credibility of witnesses. The infrequent reversal of trial judges' factual findings, compared with the more rigorous appellate review of trial judges' interpretation of controlling legal authority counsels in favor of imposing an ethical duty on judges to find facts as carefully as they construe the law.

The danger of erroneous fact-finding by judges is particularly stark in environmental cases. Consider, for example, the possibility that a judge might refuse to acknowledge anthropogenic climate change. In one recent case, a state judge in Washington had to determine whether a climate protester could present the necessity defense to defeat a criminal prosecution arising from his involvement in briefly shutting down a pipeline carrying oil into the United States from Canada. The judge barred the defendant from presenting evidence on the harm caused by climate change. Incredibly, the judge asserted that “there’s tremendous controversy over the fact whether [climate change] even exists.” The prevalence of such views among judges is impossible to gauge, but the number of “climate deniers” in judicial office could be substantial. This number could increase in the future, because the executive authorities who appoint both federal and state judges—including President Donald Trump and governors in fifteen states—have expressed skepticism about whether climate change results from human activities, and the environmental views of an appointed judge tend to mirror the views of the appointing authority. A judge who dogmatically denies that humans affect the climate could reach incorrect results in cases with significant ramifications, and could end up handling a disproportionate number of climate-related cases due to forum shopping.

The extent of scientific consensus about anthropogenic climate change leaves little room for doubt. A recent survey by the National Aeronautics and Space Administration (NASA) involving several categories of scientists found nearly universal agreement on the deleterious effects of global warming and the role of human activities in causing it. NASA estimates the rate of concurrence at ninety-seven percent of the relevant scientific community. Michael Burger, executive director of the Sabin Center for Climate

Change Law at Columbia University, wrote that, “no court could uphold a conclusion that climate change does not endanger public health and welfare.” A judge who mischaracterizes this scientific consensus as a “tremendous controversy” is so brazenly misrepresenting facts as to erode public confidence in the judicial system—a problem that the ABA Code is usually careful to avoid.

To be sure, it would be a mistake to insist on unquestioning orthodoxy in fact-finding about climate change. Legitimate disagreements can and do arise about particular aspects of the climate problem. A rule that prevents judges from choosing a side in such disagreements would ill serve the judicial system. On the other hand, when the accuracy of a judge's fact-finding is readily verifiable or falsifiable—as in the case of a ruling reporting the state of research on climate change in 2017—a judge should be accountable for errors to the same extent that the judge is accountable for errors in the characterization of controlling legal authority. Justice cannot abide a knowing error as to law or fact.

Some judges might consider an ethical duty of accuracy in fact-finding to be daunting, especially with respect to the sort of scientific matters that arise in environmental cases, but judges have been finding facts on scientific matters relevant to expert testimony for decades. Judges have the ability to appoint experts *sua sponte* at public expense if guidance from these experts would be valuable, and the ethical rules already permit judges to consult with experts on their own initiative, so long as judges share all such communication with the parties. An increasing number of publications are available to guide judges in considering climate-related climate science. An ethical duty to find facts accurately would indeed increase the burden on judges, at least in the short term, but this burden is less onerous than the hardships that could result from unmitigated global warming.

III. Duty of Caution When Addressing Catastrophic Risk

Canon 2 of the ABA Code should be amended to include the following new rule:

Rule 2.18: Caution When Addressing Catastrophic Risk

(A) A judge shall exercise caution when addressing catastrophic risk, including risk as to which some degree of uncertainty exists.

(B) *The judge shall thoroughly review all reasonably available information in order to ascertain whether the risk at issue is catastrophic.*

(C) *Upon determining that the risk at issue is catastrophic, the judge shall exercise caution in any procedural or substantive ruling relating to the risk. When other considerations are in or near equipoise, and more than one option is available for the judge's ruling, the judge will favor the option that minimize the risk.*

(D) The existence of uncertainty does not relieve the judge of the duty to minimize catastrophic risk.

An amendment to the “Terminology” section at the outset of the ABA Code is necessary to define the term “catastrophic risk”:

“Catastrophic risk” means risk of large-scale harm to human health or to the environment. In assessing whether a risk is catastrophic, the court shall evaluate not only the gravity of the harm, but shall also the probability of the harm. This definition excludes a risk so remote that its occurrence is entirely speculative. For example, if a majority of the relevant scientific community has determined that there is no credible evidence of risk, then the risk should fall outside this definition. Uncertainty in the relevant scientific community does not defeat a finding that risk is catastrophic.

The precautionary principle is a natural fit for judicial ethics. Indeed, the terms “judicious” and “prudent”—commonly used to describe the ideal judicial temperament—are virtually synonymous with “cautious.” The judicial branch is generally the voice of caution within the tripartite framework of the U.S. federal government. Through judicial review, the courts rein in rash actions by the executive and legislative branches. A vast number of provisions in the current ABA Code prescribe caution with respect to various matters: to identify only a few, the disqualification rules apply when there exists any possibility of conflict (not just an actual conflict), and the mere possibility of future harm is sufficient to trigger other duties such as limiting public comments, reporting misconduct by others, and avoiding entanglements in extrajudicial activities that could give rise to potential conflicts. Given the courts’ longstanding commitment to the notion of caution, it is but a small step to apply this principle to cases involving catastrophic risk.

As presently written, the ABA Code does not adequately articulate a duty to proceed cautiously in the face of catastrophic risk. The ABA Code does not explicitly mention either catastrophic risk or scientific uncertainty. In the absence of specific guidance, judges instinctively favor private property rights or defer to agency decisions, even if the private property owner or agency is advocating development that departs significantly from the status quo and portends ominously for the environment. One might argue that the current default position for the judiciary is not caution with respect to environmental devastation, but caution with respect to overriding the preferences of property owners or agencies.

In omitting the precautionary principle, the ethical rules for judges stand in contrast to their domestic and international counterparts. Various professions including nursing, engineering, homebuilding, landscape design, and several categories of business-related professions have promulgated ethical guidelines incorporating a version of

the precautionary principle with specific language addressing environmental harm. Countries around the world are following the precautionary principle. International instruments have adopted it as well.

Courts and agencies in the United States have occasionally embraced the precautionary principle. An early example is *Ethyl Corp. v. Environmental Protection Agency*, in which the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit upheld the U.S. Environmental Protection Agency’s (EPA’s) decision to regulate lead as an additive to gasoline. While noting the case involved a high degree of uncertainty, the court rejected the argument that uncertainty necessitated inaction. The court concluded that the U.S. Congress had, in effect, endorsed the EPA’s invocation of the precautionary principle with respect to the uncertainty about the potential harm of emissions attributable to leaded gasoline. Municipal governments have also adopted the precautionary principle, following it in a wide range of official decisions, from reviewing development proposals to contracting with outside vendors.

Some judges may find the precautionary principle to be unwieldy. In particular, the need to exercise caution in the face of scientific uncertainty may cause frustration for judges accustomed to basing their decisions on a clear evidentiary record and defaulting to protection of private property rights or approval of agency decisions. The reality, however, is that scientific uncertainty remains ineluctable in environmental law, particularly in the area of climate change. Judges have frequently confronted scientific uncertainty since 1993, when the U.S. Supreme Court’s ruling in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* changed the test for admission of scientific evidence: general acceptance by the relevant scientific community was no longer the crucial determinant of admissibility, so individual judges had no choice but to assess the reliability of novel scientific theories themselves. Even if scientific consensus were necessary, there is widespread agreement as to the validity of the science predicting grave harm from anthropogenic climate change.

Perhaps, judges might worry that the evaluation of catastrophic risk would consume undue time. But the language in proposed Rule 2.18(B) should allay these fears. Judges would have no ethical duty to consider expert testimony and other evidence on the subject of catastrophic risk unless the testimony were “reliable, credible and helpful to the court.” This language is no more expansive than the current language in the Federal Rules of Evidence governing the admission of expert testimony about scientific matters, so there is no reason to believe that the new ethical rule will cause excessive delay (especially when one considers that catastrophic risk would very well be a material issue in the litigation even without the proposed ethical rule). In any event, the consumption of additional time and resources to address catastrophic risk seems to be worth the trouble.

IV. Duty of Transparency

Canon 2 of the ABA Code should be amended to include the following new rule:

Rule 2.19: Transparency

Unless limits are necessary for the protection of safety, privacy, or other legitimate interests in accordance with applicable law, a judge shall maximize public access to court proceedings and to court records. A judge shall not allow court personnel to charge fees for reproduction of court records except to the extent that such fees are necessary to defray the actual costs of reproducing the records in question. A judge shall instruct court personnel to comply promptly with requests for information.

The United States judicial system has long recognized the value of transparency. Public access to court proceedings and court records improves the legitimacy of the legal system. Justice seems more accessible when the proceedings themselves are open to the public. Transparency promotes public understanding of court procedure and of the substantive matters handled by in the courts. The vigilance of the public provides an incentive for witnesses to testify truthfully, and publicity of trials might lead other witnesses to step forward. Ready access to court proceedings and court files can level the playing field between rich and poor citizens; when only the former can follow the courts' affairs, this disparity heightens political inequality. In addition, transparency is crucial for the accountability of the judiciary. Corruption and improper influence are more difficult when court proceedings are subject to close public scrutiny. The words of Justice Louis Brandeis still ring true: "Sunlight is said to be the best of disinfectants."

For these reasons and others, the U.S. Constitution provides for open proceedings in U.S. courts. The Sixth Amendment requires public trials in criminal cases, and the First Amendment also allows public access to various court proceedings. In determining whether the First Amendment right of access extends to a particular type of proceeding, the Supreme Court has considered two factors: first, "whether the place and process have historically been open to the press and general public"; and second, "whether public access plays a significant positive role in the functioning of the particular process in question." Lower courts have extended the right of access to both criminal and civil proceedings, and have found a right of access to hearings at various stages of litigation, as well as to court records. The case law has created a presumption of access, but opponents can overcome the presumption by demonstrating the potential for prejudice or other harm.

Why should the rules of judicial ethics promote transparency? While the benefits of open access may seem compelling on a theoretical level, judges who must deal with the reality of crowded galleries, intrusive reporters, and burdensome requests for documents might tend to favor a restrictive interpretation of the access rules. In other

words, judges might instinctively believe that transparency is a nuisance. Significant media attention can transform a trial into something akin to a circus, causing difficulties for court personnel and prejudice to parties. Even outside the context of high-profile cases, requests for public records can divert court personnel from their other tasks. Some judges might fear public monitoring for other reasons relating to the judges' self-interest: transparency could subject them to social opprobrium, could threaten their chances for reelection, or could embroil them in disciplinary proceedings.

The proposed new ethical rule on transparency would require that judges maximize public accessibility until it conflicts with other legitimate concerns. Under the new rule, judges would have an obligation to prevent court personnel from charging fees for records in excess of the actual costs incurred in retrieval and reproduction. While charging such fees might seem tempting as a means of raising revenue or discouraging burdensome requests, the hindrance to public access is too great a price to pay. Indeed, a federal judge has recently certified a class action suit on behalf of plaintiffs who believe they paid excessive fees for records obtained through the Public Access to Court Electronic Records (PACER) system.

Greater transparency would be valuable in environmental litigation. When risks to human or environmental health are at issue, the public has a right to know about these risks; failure to alert the public might cause harm before the ultimate disposition of the case. Observers with a potential interest in pending environmental litigation need access to information so they can consider whether to file a motion for intervention or for leave to file an amicus brief. The manner in which the court reviews a private development proposal or an agency's decision could provide useful guidance to other similarly situated parties and could promote compliance with the law. Finally, greater transparency could promote the public's sense of judicial accountability, and accordingly, could enhance the legitimacy of the court system.

There are potential disadvantages to greater transparency in environmental litigation. As Professor Richard Stewart has noted, an increase in transparency might potentially delay proceedings, limit options available to litigants, and make settlement more difficult. In unusual cases, the secrecy is necessary to protect parties or witnesses from suffering financial harm or even physical injury. The proposed rule recognizes that exceptions to transparency are sometimes prudent, and the rule allows the judge to impose limits on transparency when "necessary for the protection of safety, privacy, or other legitimate interests." In other situations that do not present such circumstances, sunlight is just as salutary in the justice system just as it is in nature.

V. Duty of Inclusion

Rule 2.6 of the ABA Code should be amended to provide as follows:

Rule 2.6: Including Stakeholders and Ensuring the Right to Be Heard

(A) When a judge adjudicates motions to intervene, motions to submit amicus briefs, and other requests for participation in pending proceedings, a judge shall strive to maximize the inclusion of stakeholders, subject to applicable law and considerations of efficiency, courtroom capacity, and fairness to current parties.

(AB) A judge shall accord to every person who has a legal interest in a proceeding, or that person's lawyer, the right to be heard according to law.

(C) In identifying potential legal interests that might deserve inclusion in pending litigation, the judge shall not deny an opportunity for participation based only on the lack of capacity to testify or direct legal counsel. In such circumstances, the judge shall explore the possibility of allowing an appearance by a guardian ad litem, conservator, or other representative.

(BD) A judge may encourage parties to a proceeding and their lawyers to settle matters in dispute but shall not act in a matter that coerces any party into settlement.

Inclusion of diverse stakeholders is generally advisable so that the courtroom does not become the exclusive province of well-heeled “insiders.” Broad participation increases the likelihood that the court will consider the full range of interests. By allowing inclusion of stakeholders while the matter is pending, the court can reduce the time-consuming subsequent litigation that is necessary for excluded parties to have their day in court.

An inclusive approach is crucial in environmental cases. The involvement of many stakeholders is sometimes necessary to meet statutory requirements for environmental review, and in any event, is a prudent approach in identifying and addressing potential concerns about the environmental dimensions of the matter at issue. Commentators have generally expressed enthusiasm for allowing broad participation by stakeholders in pending environmental cases, either as intervenors or amici.

The proposed rule contemplates the possibility of involving nontraditional stakeholders. For example, young children suffering the long-term effects of environmental problems, or even nonhuman stakeholders, might have important interests that the courts should bear in mind when adjudicating environmental matters. The proposed rule would accommodate nontraditional stakeholders even if they are unable to testify or express their preferences to attorneys. Judges could appoint guardians ad litem, conservators, or other representatives to assist in this process, just as ABA Model Rule 1.14 has prescribed procedures for representing adults with diminished capacity.

Inclusion of more stakeholders could bring logistical challenges. For example, the necessity to hear many differ-

ent viewpoints could prolong litigation and could diminish the influence of those parties who are central to the action. But the proposed rule does not require judges to maximize participation under all circumstances. Judges could limit participation when necessary due to such considerations as “efficiency, courtroom capacity, and fairness to current parties.” Of course, the rules of standing and courtroom procedure will continue to impose constraints that are separate from the ethical rules for judges.

VI. Duty of Candor and Forthrightness for Judicial Candidates

Rule 4.1(A)(13) of the ABA Code should be amended to provide as follows:

Rule 4.1: Political and Campaign Activities of Judges and Judicial Candidates in General

(A) Except as permitted by law, or by Rules 4.2, 4.3 and 4.4, a judge or judicial candidate shall not:

(13) in connection with cases, controversies, or issues that are likely to come before the court, make pledges, promises or commitments that are inconsistent with the impartial performance of the adjudicative duties of judicial office., but this limitation does not impair the ability of a judge or candidate for judicial office to share general viewpoints on matters relevant to judging, including substantive matters, in order to provide information to the electorate or to officials involved with the appointment or confirmation of judges.

In the landmark case *Republican Party of Minnesota v. White*, the Supreme Court made clear that judges and judicial candidates have a First Amendment right to communicate their general views to the electorate. The Court struck down the “announce clause” in the earlier version of the ABA Code. That clause had barred judges from announcing their positions on legal issues. The Court did not disturb the “pledges and promises clause,” which forbids judges from making commitments about particular matters that will come before them in the near future.

Judicial candidates do not always exploit the opportunities for candor that the Court has created. To the contrary, some candidates are wary of disclosing their general views about legal issues. These candidates worry that a forthright revelation of their true positions could cause division among voters (in the case of elected judges) or could alienate legislators involved with the confirmation process (in the case of appointed judges). When such a candidate would rather dodge a tough question, this candidate might invoke the pledges and promises clause and apply its preclusions too broadly: “I wish I could answer that question about [hot-button issue X], Senator, but the ethical rules prevent me from prejudging uses that could come before my court.”

The Code of Judicial Ethics should make plain that the pledges and promises clause does not foreclose a forthright comment about the views of a judge concerning a general legal issue. Indeed, as Justice Antonin Scalia noted in *White*, the democratic process requires that the public must be able to learn the ideology of candidates, or judicial elections will be a hollow exercise. The proposed amendments set forth above would provide clearer guidance about the ability of judges to share their opinions about matters lying outside the scope of the pledges and promises clause.

The need for candid, forthright judicial candidates is particularly stark with respect to environmental law. Matters such as climate change are urgent, and judges play an important role in addressing those matters. Judicial candidates facing election might try to avoid discussing such issues if the boundaries of the pledges and promises clause remained unclear. The appointing authorities may not always be concerned with the importance of remediating carbon emissions, but the general public is highly alarmed about this issue. Rules that clarify the ability of judges to reveal their views should result in greater accountability of elected and appointed judges to the public, and accordingly might provide a greater incentive for judges to protect the environment.

VII. Duty of Continuing Education in Law and Science

Rule 2.5 of the ABA Code should be amended to provide as follows:

Rule 2.5: Competence, Diligence, and Cooperation

(A) *A judge shall perform judicial and administrative duties competently and diligently.*

(B) *A judge shall obtain continuing education in law, legal ethics and science. The total time commitment devoted by the judge to continuing education shall be equivalent to the total time commitment required of a lawyer in the judge's jurisdiction. In choosing among providers of continuing education, the judge shall bear in mind the importance of neutrality, objectivity, and overall ideological balance.*

(BC) *A judge shall cooperate with other judges and court officials in the administration of court business.*

Both judges and lawyers have an ethical duty of competence. State bars generally require that lawyers must receive continuing legal education for a minimum number of hours each year in order to maintain their competence. The 1972 version of the ABA Code included language requiring that judges should maintain judicial competence—implying on ongoing duty to receive instruction and training in relevant areas—but the current ABA Code does not include this language, nor does the commentary mention any duty of continuing education. The ABA Code should declare

that judges have the same duty as lawyers to maintain their competence and to receive continuing education each year.

Environmental law is changing constantly. Judges need to stay abreast of fast-breaking developments in various areas including atmospheric trust litigation and the invocation of the necessity defense by climate protestors. Of course, education about such subjects would not obligate judges to take a particular position, but judges should learn how statutes and common law are evolving, and how other judges have addressed recent challenges.

The duty of education should extend to instruction on scientific subjects. For example, climate science is distinctive and presents unique issues with which judges may not have prior exposure. The ubiquity of climate-related impacts would make education about climate science relevant to judges at all levels.

In selecting among educational opportunities judges should be careful to avoid creating the appearance of bias. Judges should strive for balance and objectivity as they choose among presenters. Some putative “judicial education” may just be a junket designed to curry favor from the judge. Caution is necessary to maintain public confidence in the impartiality of the judiciary.

VIII. Duty to Avoid Political Questions, Not Political Implications

Rule 2.7 of the ABA Code should be amended to provide as follows:

Rule 2.7: Responsibility to Decide

A judge shall hear and decide matters assigned to the judge, except when disqualification is required by rule 2.11 or other law. A judge may properly decline to hear a matter or argument that would require the judge to usurp functions committed to the legislative or executive branches by explicit provisions of the Constitution or other law, but a judge shall not decline to hear a matter merely because it has political implications or might otherwise arouse political interest.

Opponents of litigation filed by environmental activists sometimes raise the defense that such litigation improperly calls on courts to address a “political question.” These opponents are essentially contending that the courts would overstep their boundaries and violate the separation of powers if they took up questions of a political nature.

For example, the U.S. Department of Justice raised such a defense in a motion to dismiss the atmospheric trust litigation filed by youth in Eugene, Oregon, who claimed that the government had neglected its obligation to protect against degradation of the climate. U.S. District Judge Ann Aiken rejected the defense, citing the multi-factor test that the Supreme Court set forth in *Baker v. Carr*. This result was noteworthy because it stood in contrast to many other cases in which the political question doctrine had defeated climate-related suits.

While the political question doctrine might conceivably require dismissal of certain cases, it would be unduly facile for defendants to argue that this defense can overcome any suit with political implications. Most environmental litigation is politically controversial, at least in some circles, but that fact does not deprive the courts of jurisdiction. When a suit has a permissible basis in statute or the Constitution, the fact that it incidentally raises politically charged issues is not fatal.

A judge has an obligation to decide all matters properly presented to the judge, including matters fraught with political consequences. The proposed revision to Rule 2.7 simply presents a logical corollary to that rule, which is that political implications are not tantamount to a political question requiring dismissal. Although critics of environmental litigation may insist that “there’s no place for politics in the courtroom,” they cannot contrive the political controversy themselves and then complain about it in a motion to dismiss.

IX. Duty of Disqualification Due to Board Memberships

Rule 2.11(A)(6)(e) of the ABA Code should be amended to provide as follows:

Rule 2.11: Disqualification

(A) A judge shall disqualify himself or herself in any proceeding in which the judge’s impartiality might reasonably be questioned, including but not limited to the following circumstances:

(6) The judge:

(e) served on the board of directors of a law reform organization that has been directly involved in the matter, or that has taken an advocacy position with respect to a category of issues that include an issue arising in the present matter, such that the judge’s participation in the matter would raise reasonable questions about the judge’s impartiality.

Professor Charles Geyh, one of the country’s leading experts on judicial ethics, recently stressed the importance of disqualification to maintain the public’s confidence in the impartiality of the judiciary:

For centuries, impartiality has been a defining feature of the Anglo-American judge’s role in the administration of justice. The reason is clear: in a constitutional order grounded in the rule of law, it is imperative that judges make decisions according to law, unclouded by personal bias or conflicts of interest. When the impartiality of

a judge is in doubt, the appropriate remedy is to disqualify that judge from hearing further proceedings in the matter.¹

As is the case in many areas of judicial ethics, general standards concerning impartiality are not as valuable as specific rules identifying what is off limits. The broad exhortations provide little notice to the judge or to litigants about what misconduct could expose the judge to discipline, and they provide scant basis for enforcement.

Presently Rule 2.11(A) offers a hybrid of general and specific guidance to judges concerning possible bases for disqualification. Some grounds—such as a judge’s prior work on a matter as a lawyer, or a family member’s substantial investment in a business with a stake in the matter—are subject to clear provisions that guide the judge in determining whether recusal would be appropriate. Other possible grounds not covered by specific rules are subject to general language at the outset of Rule 2.11(A): “A judge shall disqualify himself or herself in any proceeding in which the judge’s impartiality might reasonably be questioned”

A judge’s board memberships do not seem to fit within any of the specific provisions of Rule 2.11(A). The proposed amendment to Rule 2.11 would add language at the end of Rule 2.11(A) clarifying that a judge’s membership on the board of a law reform organization could prevent the judge from hearing a matter in which the organization is a party. The new language would also necessitate disqualification if the organization for which the judge served as a board member has taken an advocacy position with respect to a category of issues that include an issue arising in the present matter, subject to the caveat that this coincidence would only foreclose the judge’s participation where a reasonable person would reasonably raise questions about the impartiality of the judge.

How might the new version of Rule 2.11 operate? Judges serving on the boards of advocacy groups would not be able to hear cases directly involving those groups, or cases involving a category of issues as to which those groups had expressed such a clear position that the judges’ impartiality might be questioned. For example, the federal judges who served on the board of the Foundation for Research on Economics and the Environment (FREE), a group urging rollback of certain environmental regulations, would not be able to hear cases in which litigants challenged the very regulations that FREE opposed. But a judge who was merely a member of the Audubon Society would later be able to hear a case in which intervenors other than the Audubon Society advocated environmental interests. The main difference between the two scenarios is the degree of the judge’s immersion in the advocacy group. While

1. *Judicial Transparency and Ethics: Hearing Before the Subcomm. on Courts, Intellectual Property, and the Internet of the H. Comm. on the Judiciary*, 115th Cong. 18 (2017), at 34 (testimony of Charles Geyh, Professor of Law, Indiana Law School), https://judiciary.house.gov/wp-content/uploads/2017/02/115-1_24270.pdf (urging new procedures for judicial disqualification so that the system does not rely so heavily on the judge’s own assessment of his or her ability to be impartial).

board service is not quite as preclusive as representing a client, board service does signal a deeper commitment to the group's goals than does mere membership.

The proposed amendment to Rule 2.11 would not limit judges' freedom of association or freedom of speech. A judge's ability to join an advocacy group or speak their mind would be no different than under current rules. However, such a judge who served on the board of an advocacy group would not thereafter be able to hear a case implicating an issue as to which the group had advocated while the judge was a member of the group's board. The proposed rule is arguably less restrictive than current rules forbidding a judge from becoming a member of certain discriminatory groups or espousing discriminatory views. In any event, disqualification rules do not police association or speech; they just limit the categories of official business that the judge can handle based on the judge's voluntary choices outside of work.

A critic might point out that if the ABA adopted the amendment proposed here, the ABA would treat "positional conflicts" more strictly for judges than for lawyers. That is indeed true. Under the proposed rule, judges' past

board service for advocacy groups addressing particular issues could necessitate that judges avoid adjudicating cases involving those issues, while lawyers would have more leeway to take a position at variance with their advocacy for past clients or their past board service. But this disparity makes sense. The role of a lawyer is to be a partisan advocate—a hired gun, more or less—while the role of a judge is to be neutral. Past board service for an organization advocating reform of the law in particular areas would make it hard for a judge to maintain neutrality in a case presenting the exact same issues, so disqualification of the judge would be appropriate.

X. Conclusion

This Article has proposed a series of reforms to the ABA Code of Judicial Ethics. While such reforms will not, in themselves, be sufficient to protect the environment, they will help to create conditions in which the legal system can play a more efficacious, inclusive and transparent role in environmental protection.

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

Herding Cats: Governing Distributed Innovation

Albert C. Lin

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Do-It-Yourself biology, 3D printing, and the sharing economy are equipping ordinary people with new powers to shape their biological, physical, and social environments. This phenomenon of distributed innovation is yielding new goods and services, greater economic productivity, and new opportunities for fulfillment. Distributed innovation also brings new environmental, health, and security risks that demand oversight, yet conventional government regulation may be poorly suited to address these risks. Dispersed and dynamic, distributed innovation requires the development of more flexible tools for oversight and government collaboration with private

partners in governance. This Article considers three types of responses to the challenges raised by distributed innovation: large-scale government regulation that capitalizes on society's enhanced capacity to generate, process, and collect data; private governance by nongovernmental intermediaries such as certification programs and supply chain contracts; and reliance on individuals and other regulatory targets to determine and implement their own standards. In choosing from among these options, policymakers might consider criteria such as effectiveness, equity, adaptability, feasibility, and legitimacy.

This abstract is adapted from Albert C. Lin, Herding Cats: Governing Distributed Innovation, 96 N.C. L. REV. 945 (2018), and is reprinted with permission.

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

Carbon Taxation by Regulation

Jim Rossi

Jim Rossi is a Professor at Vanderbilt University Law School.

This Article argues that, even though a carbon tax remains politically elusive, “carbon taxation by regulation” has begun to flourish as a way of financing carbon reduction. For more than a century, energy rate setting has been used to promote public good and redistributive goals, akin to general financial taxation. Various non-tax subsidies in customer energy rates have enormous untapped potential for promoting low-carbon sources of energy, while also balancing broader economic and social welfare goals. While carbon taxation by regulation offers many benefits, regulators’ narrow fixation on consumer protection and economic goals has hobbled realization of its potential. In comparison to a national carbon tax, customer subsidies in regulation are piecemeal, isolated in focus, and fragmented. They also have not been sufficiently attentive to revenue shortfalls and burden allocation, important fairness and equity issues, or negative and positive jurisdictional spillovers. . . . [T]his Article illustrates how decades of unaligned approaches to taxation and regulation have contributed to substantial carbon lock-in in the energy sector . . . [and] describes how many state and federal policies adopted over the past few decades endorse the use of ratepayer subsidies [or so-called] internal subsidies

to promote the impending transition to deep decarbonization, even without a carbon tax. . . . The Article then uses the optimal design of a carbon tax to identify some basic principles to help guide the reform of internal subsidies . . . [and] also advances a menu of policy reforms to better advance carbon taxation by regulation in a principled manner.” [These basic principles include neutrality in addressing “incumbents and new-entrant energy resources,” “efficient cost spreading through broad-based application,” attention to equity and fairness with respect to consumers and suppliers, and jurisdictional evenhandedness to mitigate spillovers and arbitrage. In addition, the Article proposes (1) state policy reforms that include better articulating and matching the benefits of subsidies, such as improving alignment of “[Renewable Portfolio Standard] credits with the deep decarbonization attributes for each resource”; (2) federal agency initiatives to “leverage the better use of internal subsidies in the transition to grid decarbonization,” and (3) congressional approaches, such as providing better information about the use of carbon subsidies by “requiring the examination of carbon costs in agency regulatory impact assessment and cost-benefit analysis.”]

This abstract is adapted from Jim Rossi, Carbon Taxation by Regulation, 102 MINN. L. REV. 277 (2017), and is reprinted with permission.

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

Entrepreneurial Administration

Philip J. Weiser

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This Article explains that the conventional view of agency behavior—following the specific direction of the U.S. Congress or the president and using notice-and-comment rulemaking or adjudication processes—does not capture how public agencies and private entities develop innovative regulatory strategies and earn regulatory authority as a result. In particular, this Article explains how governmental agencies like the U.S. Environmental Protection Agency (EPA) and private entities like the United States Green Building Council (USGBC) (which oversees the LEED standard) depend on entrepreneurial leadership to develop experimental regulatory strategies. Entrepreneurial regulation refers to federal agency (a) development of programs that respond to important problems but are not explicitly required or authorized by Congress (e.g., EPA’s development of the Energy Star program) and (b) support for purely private initiatives that perform governmental functions (e.g., the Marine Stewardship Council). It also explains how, in the wake of such experiments, legislative bodies have the opportunity to evaluate regulatory innovations in practice before deciding whether to embrace, revise, reject, or merely tolerate them. [S]uch experimental strategies are not always preferable to traditional administrative rulemaking and adjudication, but considering experimental strategies and evaluat-

ing whether they would be more effective than traditional regulatory approaches is. This Article . . . first examines the traditional regulation model and emerging alternative models of agency action through coregulation, developing best practices through convening, and encouraging private regulation. It underscores that entrepreneurial leadership and a culture of experimentation and trial-and-error learning is essential to developing the best solution. Second, it discusses the relevant criteria for evaluating such experiments, including effectiveness, legitimacy, and accountability, and examines potential objections to the “earned regulatory authority” model, whereby entrepreneurial leadership is incentivized and maximized, because when innovations succeed, agencies and private actors are rewarded with more formal authority and budgetary support. Third, it discusses four case studies of experimental regulatory strategies. . . . Lastly, it examines the concept of policy entrepreneurship. The Article explains how considerable flexibility for a range of alternative options exists within current structures and is being used by agencies and private entities to great effect. The Article calls for a more self-conscious use of this model, and explains how agencies can implement this model successfully through entrepreneurial leadership and a culture of trial-and-error problem solving.

*This abstract is adapted from Philip J. Weiser, *Entrepreneurial Administration*, 97 B.U. L. REV. 2011 (2017), and is reprinted with permission.*

RECENT DEVELOPMENTS

In the Congress

“In the Congress” entries cover activities reported in the *Congressional Record* from June 1, 2019, through June 30, 2019. Entries are arranged by bill number, with Senate bills listed first. “In the Congress” covers all environment-related bills that are introduced, reported out of committee, passed by either house, or signed by the president. “In the Congress” also covers all environmental treaties ratified by the Senate. This material is updated monthly. For archived materials, visit <http://elr.info/legislative/congressional-update/archive>.

PUBLIC LAWS

S. 1693 (governance), which would reauthorize the National Flood Insurance Program, was signed by President Trump on May 31, 2019. Pub. L. No. 116-19, 165 Cong. Rec. D611 (daily ed. June 3, 2019).

H.R. 2157 (governance), which would make supplemental appropriations for the fiscal year ending September 30, 2019, was signed by President Trump on June 6, 2019. Pub. L. No. 116-20, 165 Cong. Rec. D641 (daily ed. June 10, 2019).

CHAMBER ACTION

H.R. 988 (water), which would provide for a study by the Ocean Studies Board of the National Academies of Science examining the impact of ocean acidification and other stressors in estuarine environments, was passed by the House. 165 Cong. Rec. H4329 (daily ed. June 5, 2019).

H.R. 1237 (water), which would amend the Federal Ocean Acidification Research and Monitoring Act of 2009 to establish an Ocean Acidification Advisory Board, expand and improve research on ocean acidification and coastal acidification, and establish and maintain a data archive system for ocean acidification data and coastal acidification data, was passed by the House. 165 Cong. Rec. H4318 (daily ed. June 5, 2019).

H.R. 1716 (water), which would direct the Secretary of Commerce, acting

through the Administrator of NOAA, to conduct coastal community vulnerability assessments related to ocean acidification, was passed by the House. 165 Cong. Rec. H4325 (daily ed. June 5, 2019).

H.R. 2157 (governance), which would make supplemental appropriations for the fiscal year ending September 30, 2019, was passed by the House. 165 Cong. Rec. H4184 (daily ed. June 3, 2019).

H.R. 3055 (governance), which would make appropriations for DOJ, NOAA, and related agencies for the fiscal year ending September 30, 2020, was passed by the House. 165 Cong. Rec. H5100 (daily ed. June 25, 2019).

COMMITTEE ACTION

S. 1507 (toxic substances) was reported by the Committee on Environment and Public Works. 165 Cong. Rec. S3843 (daily ed. June 19, 2019). The bill would include certain perfluoroalkyl and polyfluoroalkyl substances in the Toxics Release Inventory.

S. 1689 (water) was reported by the Committee on Environment and Public Works. 165 Cong. Rec. S3843 (daily ed. June 19, 2019). The bill would permit states to transfer certain funds from the clean water revolving fund of a state to the drinking water revolving fund of the state in certain circumstances.

H.R. 434 (land use) was reported by the Committee on Natural Resources. H. Rep. No. 116-135, 165 Cong. Rec. H5255 (daily ed. June 27, 2019). The

bill would designate the Emancipation National Historic Trail.

H.R. 1146 (natural resources) was reported by the Committee on Natural Resources. H. Rep. No. 116-133, 165 Cong. Rec. H5255 (daily ed. June 27, 2019). The bill would amend Pub. L. No. 115-97, commonly known as the Tax Cuts and Jobs Act, to repeal the Arctic National Wildlife Refuge oil and gas program.

H.R. 3052 (governance) was reported by the Committee on Appropriations. H. Rep. No. 116-100, 165 Cong. Rec. H4215 (daily ed. June 3, 2019). The bill would make appropriations for DOI, EPA, and related agencies for the fiscal year ending September 30, 2020.

H.R. 3055 (governance) was reported by the Committee on Appropriations. H. Rep. No. 116-101, 165 Cong. Rec. H4215 (daily ed. June 3, 2019). The bill would make appropriations for DOJ, NOAA, and related agencies for the fiscal year ending September 30, 2020.

BILLS INTRODUCED

S. 1706 (Gardner, R-Colo.) (energy) would amend the National Energy Conservation Policy Act to encourage the increased use of performance contracting in federal facilities. 165 Cong. Rec. S3215 (daily ed. June 4, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1730 (Harris, D-Cal.) (water) would direct the Administrator of NOAA to make grants to state and local governments and nongovern-

mental organizations for purposes of carrying out climate-resilient living shoreline projects that protect coastal communities by supporting ecosystem functions and habitats with the use of natural materials and systems. 165 Cong. Rec. S3251 (daily ed. June 5, 2019). The bill was referred to the Committee on Commerce, Science, and Transportation.

S. 1734 (Carper, D-Del.) (water) would amend the CZMA to allow the District of Columbia to receive federal funding under the Act. 165 Cong. Rec. S3251 (daily ed. June 5, 2019). The bill was referred to the Committee on Commerce, Science, and Transportation.

S. 1740 (Wyden, D-Or.) (energy) would move the United States toward greater energy independence and security, increase the flexibility, efficiency, and reliability of the electric grid, increase the competitiveness of the U.S. economy, protect consumers, and improve the energy performance of the federal government. 165 Cong. Rec. S3251 (daily ed. June 5, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1741 (Wyden, D-Or.) (energy) would direct the Secretary of Energy to establish a program to advance energy storage deployment by reducing the cost of energy storage through research, development, and demonstration. 165 Cong. Rec. S3251 (daily ed. June 5, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1742 (Wyden, D-Or.) (energy) would direct the Secretary of Energy to establish certain demonstration grant programs relating to the demonstration of advanced distribution systems, smart water heaters, vehicle-to-grid integration, and granular retail electricity pricing. 165 Cong. Rec. S3251 (daily ed. June 5, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1743 (Shaheen, D-N.H.) (climate change) would direct the president to develop a plan for the United States to meet its nationally determined con-

tribution under the Paris Agreement. 165 Cong. Rec. S3251 (daily ed. June 5, 2019). The bill was referred to the Committee on Foreign Relations.

S. 1745 (Bennet, D-Colo.) (climate change) would establish a cost of greenhouse gases for carbon dioxide, methane, and nitrous oxide to be used by federal agencies. 165 Cong. Rec. S3251 (daily ed. June 5, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1750 (Harris, D-Cal.) (air) would establish the Clean School Bus Grant Program. 165 Cong. Rec. S3251 (daily ed. June 5, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1751 (Cantwell, D-Wash.) (energy) would amend the Reclamation Project Act of 1939 to authorize pumped storage hydropower development utilizing multiple Bureau of Reclamation reservoirs. 165 Cong. Rec. S3251 (daily ed. June 5, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1763 (Bennet, D-Colo.) (climate change) would amend the Internal Revenue Code of 1986 to provide for the issuance of exempt facility bonds for qualified carbon dioxide capture facilities. 165 Cong. Rec. S3284 (daily ed. June 10, 2019). The bill was referred to the Committee on Finance.

S. 1768 (Lee, R-Utah) (wildlife) would clarify that noncommercial species found entirely within the borders of a single state are not interstate commerce or subject to regulation under the ESA or any other provision of law enacted as an exercise of the power of Congress to regulate interstate commerce. 165 Cong. Rec. S3284 (daily ed. June 10, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1769 (Markey, D-Mass.) (energy) would require the Secretary of Energy to establish an offshore wind career training grant program. 165 Cong. Rec. S3284 (daily ed. June 10, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1812 (Merkley, D-Or.) (natural resources) would authorize the Administrator of EPA to conduct research on wildfire smoke. 165 Cong. Rec. S3363 (daily ed. June 12, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1813 (Merkley, D-Or.) (natural resources) would amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act to provide wildfire smoke mitigation assistance to states and units of local government. 165 Cong. Rec. S3363 (daily ed. June 12, 2019). The bill was referred to the Committee on Homeland Security and Governmental Affairs.

S. 1821 (Wyden, D-Or.) (energy) would amend the Energy Independence and Security Act of 2007 to provide for research on, and the development and deployment of, marine energy. 165 Cong. Rec. S3363 (daily ed. June 12, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1837 (Gillibrand, D-N.Y.) (water) would require the Administrator of EPA to establish a discretionary grant program for drinking water and wastewater infrastructure projects. 165 Cong. Rec. S3476 (daily ed. June 13, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1840 (Fischer, R-Neb.) (air) would establish certain requirements for the small refineries exemption of the renewable fuels provisions under the CAA. 165 Cong. Rec. S3476 (daily ed. June 13, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1849 (McSally, R-Ariz.) (land use) would provide flexibility and improve the effectiveness of the Four Forests Restoration Initiative in the state of Arizona. 165 Cong. Rec. S3476 (daily ed. June 13, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1856 (Heinrich, D-N.M.) (wildlife) would amend the National Wildlife Refuge System Administration Act of 1966 to prohibit the use of neonic-

otinoids in national wildlife refuges. 165 Cong. Rec. S3476 (daily ed. June 13, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1857 (Murkowski, R-Alaska) (energy) would amend the National Energy Conservation Policy Act to improve federal energy and water performance requirements for federal buildings and establish a Federal Energy Management Program. 165 Cong. Rec. S3476 (daily ed. June 13, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1864 (Klobuchar, D-Minn.) (climate change) would require transparency in reporting the greenhouse gas impacts of products procured by certain federal agencies. 165 Cong. Rec. S3476 (daily ed. June 13, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1890 (Cortez Masto, D-Nev.) (energy) would provide for grants for energy-efficiency improvements and renewable energy improvements at public school facilities. 165 Cong. Rec. S3652 (daily ed. June 18, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1899 (Cardin, D-Md.) (wildlife) would authorize FWS to seek compensation for injuries to trust resources and to use funds received as that compensation to restore, replace, or acquire equivalent resources. 165 Cong. Rec. S3843 (daily ed. June 19, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1901 (Cortez Masto, D-Nev.) (energy) would promote geothermal energy. 165 Cong. Rec. S3843 (daily ed. June 19, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1909 (Gillibrand, D-N.Y.) (governance) would amend Title 23, U.S. Code, to ensure that federal-aid highways and bridges are more resilient. 165 Cong. Rec. S3844 (daily ed. June 19, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1932 (Gardner, R-Colo.) (governance) would support water infrastructure in reclamation states. 165 Cong. Rec. S4169 (daily ed. June 20, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1957 (Markey, D-Mass.) (governance) would amend the Internal Revenue Code of 1986 to provide for an investment tax credit related to the production of electricity from offshore wind. 165 Cong. Rec. S4504 (daily ed. June 25, 2019). The bill was referred to the Committee on Finance.

S. 1958 (Bennet, D-Colo.) (governance) would amend the Internal Revenue Code of 1986 to provide a credit against tax for disaster mitigation expenditures. 165 Cong. Rec. S4504 (daily ed. June 25, 2019). The bill was referred to the Committee on Finance.

S. 1967 (Wyden, D-Or.) (land use) would promote innovative approaches to outdoor recreation on federal land and increase opportunities for collaboration with nonfederal partners. 165 Cong. Rec. S4504 (daily ed. June 25, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1973 (Lee, R-Utah) (air) would require the Administrator of EPA to establish a program under which the Administrator shall defer the designation of an area as a nonattainment area for purposes of the eight-hour ozone NAAQS if the area achieves and maintains certain standards under a voluntary early action compact plan. 165 Cong. Rec. S4505 (daily ed. June 25, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1974 (Udall, D-N.M.) (energy) would amend the Public Utility Regulatory Policies Act of 1978 to establish a renewable electricity standard. 165 Cong. Rec. S4565 (daily ed. June 26, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 1984 (Wyden, D-Or.) (wildlife) would amend the Magnuson-Stevens Fishery Conservation and Management Act to provide fisheries disaster relief for

commercial fishery failures that are due to certain duties. 165 Cong. Rec. S4566 (daily ed. June 26, 2019). The bill was referred to the Committee on Commerce, Science, and Transportation.

S. 1985 (Duckworth, D-Ill.) (waste) would assist communities affected by stranded nuclear waste. 165 Cong. Rec. S4566 (daily ed. June 26, 2019). The bill was referred to the Committee on Environment and Public Works.

S. 1988 (Carper, D-Del.) (governance) would amend the Internal Revenue Code of 1986 to extend the energy credit for offshore wind facilities. 165 Cong. Rec. S4566 (daily ed. June 26, 2019). The bill was referred to the Committee on Finance.

S. 2038 (Cortez Masto, D-Nev.) (governance) would amend the Internal Revenue Code of 1986 to extend the credit for alternative fuel vehicle refueling property. 165 Cong. Rec. S4629 (daily ed. June 27, 2019). The bill was referred to the Committee on Finance.

S. 2039 (Cortez Masto, D-Nev.) (governance) would amend the Internal Revenue Code of 1986 to provide for the issuance of exempt facility bonds for zero emission vehicle infrastructure. 165 Cong. Rec. S4629 (daily ed. June 27, 2019). The bill was referred to the Committee on Finance.

S. 2040 (Cortez Masto, D-Nev.) (energy) would establish a working group on electric vehicles. 165 Cong. Rec. S4629 (daily ed. June 27, 2019). The bill was referred to the Committee on Commerce, Science, and Transportation.

S. 2041 (Cortez Masto, D-Nev.) (governance) would establish the Green Spaces, Green Vehicles Initiative to facilitate the installation of zero emissions vehicle infrastructure on National Forest System land, National Park System land, and certain related land. 165 Cong. Rec. S4629 (daily ed. June 27, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 2044 (McSally, R-Ariz.) (land use) would amend the Omnibus Public Land Management Act of 2009

to establish an Aging Infrastructure Account, amend the Reclamation Safety of Dams Act of 1978 to provide additional funds under the Act, and establish a review of flood control rule curves pilot project within the Bureau of Reclamation. 165 Cong. Rec. S4629 (daily ed. June 27, 2019). The bill was referred to the Committee on Energy and Natural Resources.

S. 2048 (King, I-Me.) (energy) would require the Secretary of Energy to establish a demonstration initiative focused on the development of long-duration energy storage technologies, including a joint program to be established in consultation with the Secretary of Defense. 165 Cong. Rec. S4676 (daily ed. June 28, 2019). The bill was referred to the Committee on Energy and Natural Resources.

H.R. 3060 (Jackson Lee, D-Tex.) (governance) would provide for reform and reorganization of FEMA. 165 Cong. Rec. H4216 (daily ed. June 3, 2019). The bill was referred to the Committees on Transportation and Infrastructure, Small Business, Energy and Commerce, Education and Labor, the Judiciary, Financial Services, and Homeland Security.

H.R. 3079 (Welch, D-Vt.) (energy) would amend the National Energy Conservation Policy Act to encourage the increased use of performance contracting in federal facilities. 165 Cong. Rec. H4312 (daily ed. June 4, 2019). The bill was referred to the Committee on Energy and Commerce.

H.R. 3091 (Loebsack, D-Iowa) (governance) would establish a National Flood Research and Education Center to provide research, data, and recommendations on physical science, social science, economic analysis, policy analysis, risk analysis, monitoring, predicting, and planning as they relate to flooding and flood-related issues. 165 Cong. Rec. H4312 (daily ed. June 4, 2019). The bill was referred to the Committee on Science, Space, and Technology, and the Committee on Transportation and Infrastructure.

H.R. 3115 (Pallone, D-N.J.) (water) would direct the Administrator of

NOAA to make grants to state and local governments and nongovernmental organizations for purposes of carrying out climate-resilient living shoreline projects that protect coastal communities by supporting ecosystem functions and habitats with the use of natural materials and systems. 165 Cong. Rec. H4341 (daily ed. June 5, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3120 (Cartwright, D-Pa.) (energy) would require the Secretary of Energy to establish an energy-efficiency materials pilot program. 165 Cong. Rec. H4342 (daily ed. June 5, 2019). The bill was referred to the Committee on Energy and Commerce.

H.R. 3136 (Matsui, D-Cal.) (energy) would direct the Secretary of Energy to establish a program for the interim storage of high-level radioactive waste and spent nuclear fuel. 165 Cong. Rec. H4342 (daily ed. June 5, 2019). The bill was referred to the Committee on Energy and Commerce.

H.R. 3161 (Panetta, D-Cal.) (water) would amend Title 10, U.S. Code, to reauthorize the National Oceanographic Partnership Program. 165 Cong. Rec. H4349 (daily ed. June 6, 2019). The bill was referred to the Committees on Natural Resources, Armed Services, and Science, Space, and Technology.

H.R. 3167 (Waters, D-Cal.) (governance) would reform and reauthorize the National Flood Insurance Program. 165 Cong. Rec. H4387 (daily ed. June 10, 2019). The bill was referred to the Committee on Financial Services and the Committee on Transportation and Infrastructure.

H.R. 3195 (Van Drew, D-N.J.) (land use) would amend Title 54, U.S. Code, to provide permanent, dedicated funding for the Land and Water Conservation Fund. 165 Cong. Rec. H4431 (daily ed. June 11, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3203 (Deutch, D-Fla.) (energy) would provide research, development, and deployment of marine energy. 165 Cong. Rec. H4431 (daily

ed. June 11, 2019). The bill was referred to the Committee on Science, Space, and Technology.

H.R. 3210 (Mucarsel-Powell, D-Fla.) (governance) would require the Commandant of the U.S. Coast Guard to take certain steps to improve Coast Guard shore infrastructure. 165 Cong. Rec. H4432 (daily ed. June 11, 2019). The bill was referred to the Committee on Transportation and Infrastructure.

H.R. 3254 (Delgado, D-N.Y.) (water) would require the Administrator of EPA to establish a discretionary grant program for drinking water and wastewater infrastructure projects. 165 Cong. Rec. H4693 (daily ed. June 13, 2019). The bill was referred to the Committee on Transportation and Infrastructure, and the Committee on Energy and Commerce.

H.R. 3282 (Meng, D-N.Y.) (climate change) would authorize the Secretary of Energy to establish a prize competition for the research, development, or commercialization of technology that would reduce the amount of carbon in the atmosphere, including by capturing carbon dioxide directly from the atmosphere. 165 Cong. Rec. H4695 (daily ed. June 13, 2019). The bill was referred to the Committee on Science, Space, and Technology.

H.R. 3297 (Rooney, R-Fla.) (water) would amend the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 to clarify that during a lapse in appropriations certain services relating to the Harmful Algal Bloom Operational Forecasting System are excepted services under the Anti-Deficiency Act. 165 Cong. Rec. H4700 (daily ed. June 14, 2019). The bill was referred to the Committee on Science, Space, and Technology, and the Committee on Natural Resources.

H.R. 3306 (Luria, D-Va.) (energy) would direct the Secretary of Energy to establish advanced nuclear goals, provide for a versatile, reactor-based fast neutron source, and make available high-assay, low-enriched uranium for research, development, and demonstration of advanced nuclear reactor concepts. 165 Cong. Rec. H4770

(daily ed. June 18, 2019). The bill was referred to the Committees on Science, Space, and Technology, Energy and Commerce, Oversight and Reform, and Armed Services.

H.R. 3309 (Brown, D-Md.) (climate change) would direct the Secretary of Defense to report on vulnerabilities from sea-level rise to certain military installations located outside the continental United States. 165 Cong. Rec. H4770 (daily ed. June 18, 2019). The bill was referred to the Committee on Armed Services.

H.R. 3322 (Loebsack, D-Iowa) (energy) would provide for grants for energy-efficiency improvements and renewable energy improvements at public school facilities. 165 Cong. Rec. H4770 (daily ed. June 18, 2019). The bill was referred to the Committee on Education and Labor.

H.R. 3358 (Higgins, R-La.) (energy) would amend the Energy Policy Act of 2005 to direct the Secretary of Energy to carry out demonstration projects relating to advanced nuclear reactor technologies to support domestic energy needs. 165 Cong. Rec. H4917 (daily ed. June 19, 2019). The bill was referred to the Committee on Science, Space, and Technology.

H.R. 3361 (McKinley, R-W. Va.) (energy) would amend the Energy Policy Act of 2005 to reauthorize hydroelectric production incentives and hydroelectric efficiency improvement incentives. 165 Cong. Rec. H4917 (daily ed. June 19, 2019). The bill was referred to the Committee on Energy and Commerce.

H.R. 3363 (Moulton, D-Mass.) (water) would amend the FWPCA to ensure that POTWs monitor for and report sewer overflows. 165 Cong. Rec. H4917 (daily ed. June 19, 2019). The bill was referred to the Committee on Transportation and Infrastructure.

H.R. 3370 (Thompson, D-Cal.) (wildlife) would authorize FWS to seek compensation for injuries to trust resources and to use funds received as that compensation to restore, replace, or acquire equivalent resources. 165 Cong. Rec. H4918 (daily ed. June 19, 2019). The bill was referred to the

Committee on Natural Resources and the Committee on Appropriations.

H.R. 3382 (Carter, R-Ga.) (waste) would amend the public participation requirements of CERCLA. 165 Cong. Rec. H5005 (daily ed. June 20, 2019). The bill was referred to the Committee on Energy and Commerce, and the Committee on Transportation and Infrastructure.

H.R. 3384 (Case, D-Haw.) (water) would authorize federal agencies to establish prize competitions for innovation or adaptation management development relating to coral reef ecosystems. 165 Cong. Rec. H5005 (daily ed. June 20, 2019). The bill was referred to the Committee on Natural Resources and the Committee on Science, Space, and Technology.

H.R. 3399 (Harder, D-Cal.) (wildlife) would amend the Nutria Eradication and Control Act of 2003 to include California in the program. 165 Cong. Rec. H5035 (daily ed. June 21, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3405 (Grijalva, D-Ariz.) (natural resources) would direct the Secretary of the Interior to revise the Final List of Critical Minerals. 165 Cong. Rec. H5036 (daily ed. June 21, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3410 (King, R-Iowa) (air) would amend the renewable fuel program under the CAA to account for small refinery exemptions. 165 Cong. Rec. H5036 (daily ed. June 21, 2019). The bill was referred to the Committee on Energy and Commerce.

H.R. 3411 (King, R-Iowa) (air) would amend the renewable fuel program under the CAA to account for small refinery exemptions in past calendar years. 165 Cong. Rec. H5036 (daily ed. June 21, 2019). The bill was referred to the Committee on Energy and Commerce.

H.R. 3424 (Johnson, R-La.) (wildlife) would amend the Marine Mammal Protection Act of 1972 to reduce unnecessary permitting delays by clarifying associated procedures to increase economic development and support

coastal restoration programs. 165 Cong. Rec. H5036 (daily ed. June 21, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3427 (Rooney, R-Fla.) (air) would repeal the renewable fuel program under EPA. 165 Cong. Rec. H5037 (daily ed. June 21, 2019). The bill was referred to the Committee on Energy and Commerce.

H.R. 3432 (Rush, D-Ill.) (governance) would amend Title 49, U.S. Code, to improve the safety of the nation's natural gas and hazardous liquid pipeline systems. 165 Cong. Rec. H5075 (daily ed. June 24, 2019). The bill was referred to the Committee on Transportation and Infrastructure, and the Committee on Energy and Commerce.

H.R. 3449 (Posey, R-Fla.) (governance) would require that in a notice of proposed rulemaking for a new rule, the notice shall identify two rules that the agency intends to repeal. 165 Cong. Rec. H5075 (daily ed. June 24, 2019). The bill was referred to the Committee on the Judiciary.

H.R. 3458 (Bishop, R-Utah) (land use) would promote innovative approaches to outdoor recreation on federal land and increase opportunities for collaboration with nonfederal partners. 165 Cong. Rec. H5165 (daily ed. June 25, 2019). The bill was referred to the Committees on Natural Resources, Agriculture, Transportation and Infrastructure, Energy and Commerce, and Armed Services.

H.R. 3462 (Bilirakis, R-Fla.) (governance) would amend the Internal Revenue Code of 1986 to provide a credit against tax for disaster mitigation expenditures. 165 Cong. Rec. H5165 (daily ed. June 25, 2019). The bill was referred to the Committee on Ways and Means.

H.R. 3473 (Langevin, D-R.I.) (governance) would amend the Internal Revenue Code of 1986 to provide for an investment tax credit related to the production of electricity from offshore wind. 165 Cong. Rec. H5166 (daily ed. June 25, 2019). The bill was referred to the Committee on Ways and Means.

H.R. 3510 (Harder, D-Cal.) (water) would amend the Water Resources Research Act of 1984 to reauthorize grants for and require applied water supply research regarding the water resources research and technology institutes established under the Act. 165 Cong. Rec. H5200 (daily ed. June 26, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3514 (Moulton, D-Mass.) (wildlife) would amend the Magnuson-Stevens Fishery Conservation and Management Act to provide fisheries disaster relief for commercial fishery failures that are due to certain duties. 165 Cong. Rec. H5200 (daily ed. June 26, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3521 (Stanton, D-Ariz.) (water) would amend the FWPCA with respect to wastewater infrastructure workforce development. 165 Cong. Rec. H5201 (daily ed. June 26, 2019). The bill was referred to the Committee on Transportation and Infrastructure.

H.R. 3541 (Carbajal, D-Cal.) (water) would amend the CZMA to require the Secretary of Commerce to establish a coastal climate change adaptation preparedness and response program. 165 Cong. Rec. H5256 (daily ed. June 27, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3548 (Bonamici, D-Or.) (water) would improve data collection and monitoring of the Great Lakes, oceans, bays, estuaries, and coasts. 165 Cong. Rec. H5256 (daily ed. June 27, 2019). The bill was referred to the Committees on Natural Resources, Science, Space, and Technology, and Education and Labor.

H.R. 3585 (Rutherford, R-Fla.) (water) would provide for a moratorium on oil and gas leasing and exploration on the outer continental shelf off the coast of Florida until 2029. 165 Cong. Rec. H5258 (daily ed. June 27, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3586 (Schrader, D-Or.) (energy) would promote energy savings in residential and commercial buildings and industry. 165 Cong. Rec. H5258 (daily ed. June 27, 2019). The bill was referred to the Committee on Energy and Commerce.

H.R. 3596 (Pingree, D-Me.) (water) would amend the CZMA to establish a Working Waterfront Task Force and a working waterfront grant program. 165 Cong. Rec. H5265 (daily ed. June 28, 2019). The bill was referred to the Committee on Natural Resources.

H.R. 3597 (McAdams, D-Utah) (energy) would guide and authorize basic

research programs in the United States for research, development, and demonstration of solar energy technologies. 165 Cong. Rec. H5265 (daily ed. June 28, 2019). The bill was referred to the Committee on Science, Space, and Technology.

H.R. 3604 (Schakowsky, D-Ill.) (water) would amend the SDWA to require testing of underground sources of drinking water in connection with hydraulic fracturing operations. 165 Cong. Rec. H5265 (daily ed. June 28, 2019). The bill was referred to the Committee on Energy and Commerce.

H. Res. 427 (Bonamici, D-Or.) (water) would recognize World Oceans Day and the necessity to protect, conserve, maintain, and rebuild our oceans and its resources. 165 Cong. Rec. H4343 (daily ed. June 5, 2019). The resolution was referred to the Committee on Natural Resources and the Committee on Science, Space, and Technology.

H. Res. 454 (Courtney, D-Conn.) (governance) would call upon the U.S. Senate to give its advice and consent to the ratification of the United Nations Convention on the Law of the Sea. 165 Cong. Rec. H5006 (daily ed. June 20, 2019). The resolution was referred to the Committee on Foreign Affairs.

In the Courts

These entries summarize recent cases under the following categories: Air, Climate Change, Energy, Governance, Land Use, Natural Resources, and Wildlife. The entries are arranged alphabetically by case name within each category. This material is updated monthly. For archived materials, visit <http://www.elr.info/judicial>.

AIR

Sierra Club v. Environmental Protection Agency, No. 16-1158, 49 ELR 20094 (D.C. Cir. May 31, 2019). The D.C. Circuit dismissed in part and denied in part a petition to review EPA's 2016 revisions to its ambient air quality monitoring system regulations.

Sierra Club v. Environmental Protection Agency, No. 18-1038, 49 ELR 20103 (D.C. Cir. June 14, 2019). The D.C. Circuit dismissed a petition to review EPA's order denying an environmental group's objection to renewal of a Title V operating permit for a power plant in Utah.

CLIMATE CHANGE

Center for Biological Diversity v. United States Department of State, No. 18-563 (JEB), 49 ELR 20106 (D.D.C. June 12, 2019). A district court dismissed a request to compel the State Department to release two reports concerning U.S. greenhouse gas emissions as required by the U.N. Framework Convention on Climate Change.

ENERGY

Virginia Uranium, Inc. v. Warren, No. 16-1275, 49 ELR 20104 (U.S. June 17, 2019). The U.S. Supreme Court upheld a state law banning uranium mining on private lands in Virginia.

GOVERNANCE

EQT Production Co. v. Jefferson Hills, Borough of, No. 4 WAP 2018, 49 ELR 20098 (Pa. May 31, 2019). A state high court held that a borough council was allowed to consider residents' testimony regarding firsthand experiences with a natural gas extraction company's

hydraulic fracturing facility in a neighboring township in a hearing on the company's conditional use application to construct and operate a similar facility in the borough.

Knick v. Scott, Pennsylvania, Township of, No. 17-647, 49 ELR 20109 (U.S. June 21, 2019). The U.S. Supreme Court vacated a dismissal of a landowner's challenge to a town ordinance on takings grounds.

Mayor and City Council of Baltimore v. BP P.L.C., No. ELH-18-2357, 49 ELR 20102 (D. Md. June 10, 2019). A federal district court granted the city of Baltimore's motion to remand to state court its climate change case against oil companies.

Welty v. United States, No. 2018-1558, 49 ELR 20105 (Fed. Cir. June 14, 2019). The Federal Circuit affirmed a dismissal of landowners' lawsuit against the government for flooding that resulted when a federal land conservation program induced an adjacent landowner to build and maintain a levee.

LAND USE

Western Watersheds Project v. Bernhardt, No. 2:19-cv-0750-SI, 49 ELR 20099 (D. Or. June 5, 2019). A district court issued a temporary restraining order forbidding BLM from permitting a ranching company to use two grazing allotments that had been authorized by the Secretary of the Interior in response to a presidential pardon of the company's prior criminal convictions.

NATURAL RESOURCES

In re Applications of Enbridge Energy, Limited Partnership, for a Certificate of Need and Routing Permit for the Proposed Line 3 Replacement Project

in Minnesota From the North Dakota Border to the Wisconsin Border, Nos. A18-1283, A18-1291, and A18-1292, 49 ELR 20096 (Minn. Ct. App. June 3, 2019). A state appellate court reversed the Minnesota Public Utilities Commission's determination that the final EIS for a proposed pipeline replacement project was adequate.

Birckhead v. Federal Energy Regulatory Commission, No. 18-1218, 49 ELR 20097 (D.C. Cir. June 4, 2019). The D.C. Circuit denied a petition to review FERC's decision authorizing the construction and operation of a new natural gas compression facility in Tennessee.

EQT Production Co. v. Crowder, No. 14-C-64, 49 ELR 20100 (W. Va. June 5, 2019). A state high court affirmed a partial summary judgment for landowners in a challenge to an oil company's use of their land to extract natural gas from neighboring properties.

National Parks Conservation Ass'n v. Semonite, No. 18-5179, 49 ELR 20095 (D.C. Cir. May 31, 2019). The D.C. Circuit granted in part the U.S. Army Corps of Engineers' and a power company's request to reconsider a prior court order that vacated a permit for a 17-mile transmission line after finding the Corps failed to prepare an EIS for the line in violation of NEPA.

Sawtooth Mountain Ranch LLC v. United States Forest Service, No. 1:19-cv-0118-CWD, 49 ELR 20108 (D. Idaho June 13, 2019). A magistrate judge declined to preliminarily enjoin the U.S. Forest Service from constructing a recreational trail across private property located in the Sawtooth National Recreation Area.

United Steelworkers v. Mine Safety and Health Administration, No. 18-1116, 49 ELR 20101 (D.C. Cir. June 11,

2019). The D.C. Circuit vacated the Mine Safety and Health Administration's 2018 amendment to a 2017 safety standard that required mine operators to examine areas before miners began work and record any conditions that could adversely affect workers' safety and health.

WILDLIFE

Idaho Conservation League v. U.S. Forest Service, No. 1:18-CV-044-BLW, 49 ELR 20107 (D. Idaho June 17, 2019). A district court ordered the U.S. Forest Service to engage in formal consulta-

tion with other federal agencies to protect listed fish species being harmed by water diversions from the Salmon River in Idaho's Sawtooth National Recreation Area.

In the Federal Agencies

These entries cover the period June 1, 2019, through June 30, 2019. 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. This material is updated monthly. For archived material, visit <http://elr.info/daily-update/archives>.

Final Rules

AIR

EPA modified the volatility requirements for E15 fuels during the summer season based on a revised interpretation of CAA §211(h)(4); the Agency also modified certain elements of the Renewable Fuel Standard compliance system to improve functioning of the renewable identification number market and prevent market manipulation. 84 FR 26980 (6/10/19).

SIP Approvals: Alaska (updates to wood smoke curtailment program for the Fairbanks North Star Borough fine particulate matter nonattainment area) 84 FR 26019 (6/5/19). District of Columbia (emissions statements program certification for the 2008 ozone NAAQS) 84 FR 27202 (6/12/19). Illinois (interstate transport requirements for the 2012 fine particulate matter NAAQS) 84 FR 28745 (6/20/19). Indiana (sulfur dioxide emissions limitations for U.S. Steel-Gary Works) 84 FR 30628 (6/27/19). Kentucky (attainment plan for the Jefferson County one-hour sulfur dioxide nonattainment area) 84 FR 30920 (6/28/19). Massachusetts (infrastructure requirements for the 2012

fine particulate matter NAAQS) 84 FR 29380 (6/24/19). Ohio (open burning rules) 84 FR 29378 (6/24/19). Oklahoma (regional haze progress report) 84 FR 30918 (6/28/19). Oregon (infrastructure requirements for the 2015 ozone NAAQS) 84 FR 26347 (6/6/19). Texas (air pollution control rules for motor vehicles) 84 FR 26349 (6/6/19). Utah (administrative revisions) 84 FR 27039 (6/11/19).

WASTE

EPA amended the release notification regulations under EPCRA by adding the reporting exemption for air emissions from animal waste at farms provided in §103(e) of CERCLA; the Agency also added definitions for "animal waste" and "farm" to the regulations to delineate the scope of the exemption. 84 FR 27533 (6/13/19).

EPA proposed to change the designation of the Williamson County, Illinois, 2010 one-hour sulfur dioxide nonattainment area from nonattainment to attainment/unclassifiable. 84 FR 26627 (6/7/19).

EPA proposed to determine that the Phoenix-Mesa ozone nonattainment area attained the 2008 ozone NAAQS by its applicable moderate area attainment date. 84 FR 27566 (6/13/19).

EPA proposed to approve revisions to New Mexico's CAA §111(d) plan to regulate landfill gas and its components, including methane, from existing municipal solid waste (MSW) landfills, and to implement and enforce the Agency's emissions guidelines for existing MSW landfills in Albuquerque-Bernalillo County. 84 FR 29138 (6/21/19).

EPA proposed amendments to NES-HAPs for solvent extraction for vegetable oil production. 84 FR 30812 (6/27/19).

Proposed Rules

AIR

EPA proposed revisions to the NES-HAPs for surface coating of metal cans and metal coil based on the Agency's residual risk and technology review. 84 FR 25904 (6/4/19).

SIP Proposals: Alaska (interstate transport requirements for the 2015 ozone NAAQS) 84 FR 26041 (6/5/19); (updates to permitting rules and materials incorporated by reference) 84 FR 27049 (6/11/19). Arizona (volatile organic compounds emissions from graphic arts and coating of wood furniture and fix-

tures) 84 FR 26804 (6/10/19). California (requirements for the Los Angeles-South Coast air basin 1979 one-hour, 1997 eight-hour, and 2008 eight-hour ozone nonattainment area) 84 FR 28132 (6/17/19). Illinois (distillate fuel oil sulfur content limits) 84 FR 27212 (6/12/19). Indiana (negative declaration for the oil and gas industry control techniques guidelines) 84 FR 30066 (6/26/19). Iowa and Nebraska (interstate transport requirements for the 2012 fine particulate matter NAAQS) 84 FR 30062 (6/26/19). Kentucky (applicability dates and standards for existing and new storage vessels for volatile organic compounds) 84 FR 26030 (6/5/19). Maine (reasonably available control technology requirements for the 2008 ozone NAAQS) 84 FR 27046 (6/11/19). Missouri (administrative revisions) 84 FR 26047 (6/5/19); (revision to reference methods rule) 84 FR 27053 (6/11/19); (revisions to emissions reporting requirements and updates to materials incorporated by reference) 84 FR 27055 (6/11/19); (sulfur dioxide emissions control requirements for the Lake Road generating facility) 84 FR 27996 (6/17/19); (infrastructure requirements for the 2015 ozone NAAQS) 84 FR 29826 (6/25/19); (administrative revisions) 84 FR 30068 (6/26/19). Montana (update to materials incorporated by reference) 84 FR 26806 (6/10/19). New Mexico (minor new source review permitting program for the city of Albuquerque and Bernalillo County) 84 FR 26057 (6/5/19). New York (infrastructure requirements for the 2008 ozone, 2010 sulfur dioxide, and 2012 fine particulate matter NAAQS) 84 FR 27559 (6/13/19). North Carolina (nitrogen oxides emissions from large internal combustion engine sources) 84 FR 26031 (6/5/19). Ohio (revisions to nitrogen oxides SIP call and trading program requirements) 84 FR 30681 (6/27/19). Ohio and West Virginia (attainment plans for the Steubenville Ohio-West Virginia 2010 sulfur dioxide nonattainment area) 84 FR 29456 (6/24/19). South Dakota (revisions to PSD permitting program and air pollution control rules) 84 FR 30686 (6/27/19). Texas (air pollution control rules for motor vehicles) 84 FR 26379 (6/6/19); (maintenance plan and redesignation request for the Dallas-

Fort Worth 1979 one-hour and 1997 eight-hour ozone nonattainment area) 84 FR 29471 (6/24/19). Utah (nonattainment new source review permitting program) 84 FR 26049 (6/5/19); (clean data determination for the Salt Lake City, Utah, 2006 24-hour fine particulate matter nonattainment area) 84 FR 26053 (6/5/19); (interstate transport requirements for the 2010 nitrogen dioxide, 2010 sulfur dioxide, and 2012 fine particulate matter NAAQS) 84 FR 28776 (6/20/19).

NATURAL RESOURCES

The U.S. Forest Service proposed revisions to its NEPA implementing regulations to increase efficiency in its environmental analysis while meeting NEPA's requirements and fully honoring its environmental stewardship responsibilities. 84 FR 27544 (6/13/19).

WASTE

EPA proposed to authorize Ohio's changes to its hazardous waste management program under RCRA. 84 FR 27057 (6/11/19).

EPA proposed to delete the MGM Brakes Superfund site located in Cloverdale, California, from the NPL. 84 FR 28259 (6/18/19).

EPA proposed to partially approve Georgia's coal combustion residuals state permit program. 84 FR 30977 (6/28/19).

Notices

AIR

EPA entered into a proposed consent decree under the CAA that resolves a lawsuit filed against the Agency concerning Alaska's SIP submission; the proposed consent decree would require EPA to determine by July 8, 2019, whether Alaska made an administratively complete SIP submission that meets the serious nonattainment area

plan requirements for the Fairbanks North State Borough 2006 24-hour fine particulate matter nonattainment area. 84 FR 25803 (6/4/19).

EPA announced its approval of an alternative work practice (AWP) under the CAA in response to a request to use new technology and work practices developed for removal and replacement of asbestos cement pipe; the approval specifies the operating conditions, notifications, work practices, disposal, recordkeeping, and reporting requirements that must be followed to demonstrate compliance with the NESHAP for asbestos and the approved AWP. 84 FR 26852 (6/10/19).

EPA entered into a proposed settlement agreement under the CAA to resolve a case involving a challenge to the Agency's disapproval of an Indiana SIP revision that would require Indiana to submit to the Agency a SIP revision containing numeric emissions limits, a blast furnace gas testing protocol, and other specified provisions. 84 FR 29514 (6/24/19).

LAND USE

The president issued Executive Order No. 13874, Modernizing the Regulatory Framework for Agricultural Biotechnology Products, which directs EPA, FDA, and USDA to streamline regulatory processes for agricultural biotechnology products to ensure public confidence in the oversight of such products and promote future innovation and competitiveness. 84 FR 27899 (6/14/19).

NATURAL RESOURCES

CEQ published and seeks comment on its Draft National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions to assist federal agencies in their consideration of greenhouse gas emissions when evaluating proposed major federal actions in accordance with NEPA. 84 FR 30097 (6/26/19).

WASTE

EPA entered into a settlement agreement under CERCLA for recovery of costs incurred for a cleanup action at the Chemform, Inc. Superfund site in Pompano Beach, Florida. 84 FR 27112 (6/11/19).

EPA and the U.S. Forest Service entered into an administrative settlement under CERCLA concerning response costs incurred at or in connection with the Blue Ledge Mine Superfund site in Siskiyou County, California. 84 FR 28004 (6/17/19).

WATER

The U.S. Army Corps of Engineers announced the availability of and seeks comment on its 2018 National Wetland Plant List; the list is used to delineate wetlands for purposes of the CWA and wetland conservation provisions of the Food Security Act. 84 FR 26824 (6/10/19).

EPA proposed to approve revisions to Utah's public water system supervision program. 84 FR 26851 (6/10/19).

EPA reissued an NPDES general permit for offshore seafood processors in Alaska. 84 FR 28044 (6/17/19).

WILDLIFE

FWS initiated five-year status reviews under the ESA for 91 species in American Samoa, Hawaii, Oregon, and Washington. 84 FR 27152 (6/11/19).

NMFS completed a comprehensive status review under the ESA for alewife and blueback herring, and determined that listing either species as threatened or endangered is not warranted at this time. 84 FR 28630 (6/19/19).

FWS initiated five-year status reviews under the ESA for 53 southeastern species. 84 FR 28850 (6/20/19).

DOJ NOTICES OF SETTLEMENT

United States v. Gloucester County Utilities Authority, No. 2:19-cv-12818 (D. Conn. May 22, 2019). A settling CAA defendant that violated solid waste combustion provisions and requirements for sewage sludge incineration units must pay a \$132,500 civil penalty and perform a New Jersey-sponsored supplemental project that involves the purchase and installation of four electric vehicle-charging stations within Gloucester County. 84 FR 26448 (6/6/19).

United States v. American Electric Power Service Corp., Nos. 99-1182 (EAS) and 99-1250 (EAS) (S.D. Ohio May 29, 2019). Under a proposed fifth modification to a consent decree concerning CAA violations at 16 coal-fired power plants in several states, the deadline for installing flue gas desulfurization technology on one of defendant's electric generating units at its plant in Rockport, Indiana, will be extended, and the installment requirements for another unit will be removed, provided various conditions are met. 84 FR 26705 (6/7/19).

United States v. Philadelphia, City of, No. 2:19-cv-02433-MMB (E.D. Pa. June 5, 2019). Settling CERCLA defendants must pay \$8.4 million for costs incurred cleaning up a portion of the Lower Darby Creek Area Superfund site in Philadelphia, Pennsylvania. 84 FR 27162 (6/11/19).

In re Rehabilitation of Centaur Insurance Co., No. 87 CH 8615 (Ill. Cir. Ct. June 5, 2019). Under a proposed settlement agreement, an insurance company must (1) pay EPA \$500,000 for response costs incurred or to be incurred at the Sharon Steel Superfund site in Farrell and Hermitage, Pennsylvania; (2) pay NOAA \$967,000 and DOI \$33,000 for assessment costs and natural resource damages related to hazardous substances that migrated from the LCP Chemicals & Plastics, Inc. Superfund site in Linden, New Jersey; and (3) pay EPA \$4,330,000 and DOI \$670,000 for response costs incurred or to be incurred

as well as assessment costs and natural resource damages at the Avtex Fibers Superfund site in Front Royal, Virginia. 84 FR 27361 (6/12/19).

United States v. Earle M. Jorgensen Co., No. 19-cv-00907 (W.D. Wash. June 10, 2019). A settling CERCLA, CWA, and OPA defendant that released and discharged hazardous substances and oil from its formerly owned and operated facility to the Lower Duwamish River in and near Seattle, Washington, must pay \$1.3 million for natural resource damages and reimburse past assessment costs totaling \$75,538.96. 84 FR 28075 (6/17/19).

In re Kaiser Gypsum Co., Inc., No. 16-31602 (Bankr. W.D.N.C. June 17, 2019). Under a proposed bankruptcy settlement agreement concerning the Lower Duwamish Waterway Superfund site in Seattle, Washington, the United States will be provided a \$3.25 million allowed general unsecured claim on behalf of EPA and a \$1 million allowed general unsecured claim on behalf of DOI and NOAA. 84 FR 28857 (6/20/19).

United States v. Holly Refining and Marketing Tulsa LLC, No. 2:08-cv-0020 (D. Wyo. June 20, 2019). Under a proposed seventh amendment to a 2008 consent decree concerning CAA violations, a settling defendant agrees to maintain adequate capacity to control routine gases in its flare gas recovery system, improve its operation and maintenance of its continuous emissions monitoring systems, and pay a \$1.6 million civil penalty. 84 FR 30243 (6/26/19).

United States v. Dell'Aversano, No. 17-cv-1342 JEJ (D. Del. June 20, 2019). A settling CERCLA defendant must implement certain operations and maintenance measures on the portion of the Delaware Sand & Gravel Superfund site in New Castle County, Delaware, that he owns, submit annual reports, and record a notice of institutional controls. 84 FR 30773 (6/27/19).

United States v. Meridian, Mississippi, City of, No. 3:19-CV-427-DPJ-FKB (S.D. Miss. June 20, 2019). A settling CWA defendant must undertake in-

junction measures designed to eliminate sanitary sewer overflows and achieve compliance with its NPDES permit, the CWA, and state law, and pay a \$276,000 civil penalty. 84 FR 30773 (6/27/19).

United States v. Dyno Nobel, Inc., No. 3:19-cv-00984 (D. Or. June 24, 2019). Under a proposed consent decree concerning CAA, CERCLA, and EPCRA violations at an ammonia plant in St. Helens, Oregon, a settling defendant agrees to file

corrected Toxics Release Inventory reports, comply with applicable release reporting and risk management requirements, perform a supplemental environmental project, and pay a civil penalty. 84 FR 31103 (6/28/19).

In the State Agencies

The entries below cover state regulatory developments during the month of June 2019. The entries are arranged by state, and within each section, entries are further subdivided by subject matter. For material previously reported, visit <http://elr.info/administrative/state-updates/archive>.

ALABAMA

LAND USE

The Alabama Department of Environmental Management proposed amendments to ALA. ADMIN. CODE r. 335-5-1-.05 to -.07 and 335-5-3-.02. The proposed amendments would align provisions described in the Uniform Environmental Covenants Act and clarify programmatic requirements associated with those provisions. *See* <http://www.alabamaadministrativecode.state.al.us/UpdatedMonthly/AAM-MAY-19/335-5.pdf>.

WATER

The Alabama Department of Environmental Management proposed amendments to ALA. ADMIN. CODE r. 335-6-11-.02. The proposed amendments would revise the water use classifications for the Black Warrior River Basin segments of Duck River in Cullman County. *See* <http://www.alabamaadministrativecode.state.al.us/UpdatedMonthly/AAM-MAY-19/335-6-11-.02.pdf>.

DELAWARE

WATER

The Department of Natural Resources and Environmental Control proposed amendments to 7 DEL. ADMIN. CODE §101. The proposed amendments would specify the conditions under which heavy industry and bulk product transfer activities are permitted in the coastal zone. *See* <http://regulations.delaware.gov/register/june2019/proposed/22%20DE%20Reg%20993%2006-01-19.htm>.

<http://regulations.delaware.gov/register/june2019/proposed/22%20DE%20Reg%20993%2006-01-19.htm>.

FLORIDA

WATER

The St. Johns River Water Management District proposed amendments to FLA. ADMIN. CODE ANN. r. 40C-1.004, -1.1004, -1.1005, -1.1007, -1.1008, -1.135, -1.603, and -1.706. The proposed amendments would, among other things, update the delegation of sovereign submerged lands authority, update the permit fees rule, and update and clarify the rule on variances from water shortage orders and emergency orders. *See* <https://www.flrules.org/gateway/ruleNo.asp?id=40C-1.004>.

The Suwannee River Water Management District proposed to adopt FLA. ADMIN. CODE ANN. r. 40B-8.101. The proposed adoption would implement new minimum flows and minimum water levels for the Steinhatchee River and associated priority springs to protect the area from significant harm resulting from consumptive uses of groundwater and surface water. *See* <https://www.flrules.org/gateway/ruleNo.asp?id=40B-8.101>.

The Department of Environmental Protection proposed to adopt FLA. ADMIN. CODE ANN. r. 62-304.800. The proposed adoption would establish TMDLs and their allocations for certain waters impaired for dissolved oxygen in the Caloosahatchee River Basin. *See* <https://www.flrules.org/gateway/ruleNo.asp?id=62-304.800>.

WILDLIFE

The Fish and Wildlife Conservation Commission proposed amendments to FLA. ADMIN. CODE ANN. r. 68B-23.001 to .003, .0035, and .004 to .006. The proposed amendments would modify commercial Spanish mackerel vessel limit regulations for Atlantic state waters by reinstating in-season vessel limit reductions that are consistent with those in adjacent federal waters. *See* <https://www.flrules.org/gateway/ruleNo.asp?id=68B-23.001>.

ILLINOIS

WATER

The Pollution Control Board proposed amendments to ILL. ADMIN. CODE tit. 35, §1600. The proposed amendments would revise the Board's right-to-know rules. *See* https://www.cyberdriveillinois.com/departments/index/register/volume43/register_volume43_issue24.pdf (pp. 6881-6915).

LOUISIANA

WATER

The Department of Environmental Quality proposed amendments to LA. ADMIN. CODE tit. 33, §1123. The proposed amendments would classify a subsegment of Mermentau River Basin as naturally dystrophic and establish seasonal dissolved oxygen criteria based on an addendum to a use attainability analysis that was conducted in the basin. *See* <https://www.doa.la.gov/ost/REG/1906/1906.pdf> (pp. 776-77).

The Department of Environmental Quality proposed amendments to LA. ADMIN. CODE tit. 33, §1113. The proposed amendments would revise the turbidity criteria for two subsegments in the Pearl River Basin. *See* <https://www.doa.la.gov/osr/REG/1906/1906.pdf> (pp. 787-88).

MASSACHUSETTS

WATER

The Massachusetts Department of Environmental Protection proposed amendments to 310 MASS. CODE REGS. 44.00 and 45.00. The proposed amendments would clarify that enhanced subsidies may be offered to borrowers for categories of projects designated by the Massachusetts Clean Water Trust in the annual project solicitation as priority projects. *See* <http://www.sec.state.ma.us/spr/sprpub/053119b.pdf>.

NEW YORK

WASTE

The New York State Department of Environmental Conservation proposed amendments to N.Y. COMP. CODES R. & REGS. tit. 6, pts. 370 to 374, and 376. The proposed amendments would incorporate changes made within 38 federal hazardous waste management regulations that were promulgated between September 30, 1999, and April 8, 2015, as well as certain changes promulgated through November 28, 2016. A hearing will be held August 19, 2019. Comments are due August 24, 2019. *See* <https://docs.dos.ny.gov/info/register/2019/jun12/rulemaking.pdf> (pp. 1-5).

NORTH CAROLINA

AIR

The Department of Environmental Quality proposed to amend 15A N.C.

ADMIN. CODE 02D .1104 and adopt 15A N.C. ADMIN. CODE 02D .0546. The proposed amendment and adoption would add methyl bromide to the toxic air pollutant list with the value of 0.005 mg/m³ for a 24-hour averaging period and establish emission control requirements for hazardous air pollutant and toxic air pollutant emissions from bulk, chamber, and container log fumigation operations. Comments are due August 16, 2019. *See* <https://files.nc.gov/ncoah/documents/Rules/NC-Register/Volume-33-Issue-24-June-17-2019.pdf> (pp. 2361-65).

WASTE

The Environmental Management Commission proposed amendments to 15A N.C. ADMIN. CODE 13B .1201 to .1207. The proposed amendments would, among other things, clarify the requirements for packaging, temporary storage locations, the use of ozonation as a treatment method, and disposal options for noninfectious medical waste, trace chemotherapy waste, and non-hazardous pharmaceutical waste. Comments are due August 16, 2019. *See* <https://files.nc.gov/ncoah/documents/Rules/NC-Register/Volume-33-Issue-24-June-17-2019.pdf> (pp. 2365-73).

The Environmental Management Commission proposed amendments to 15A N.C. ADMIN. CODE 13B .1401 to .1409. The proposed amendments would, among other things, modify permitting requirements for solid waste compost facilities. Comments are due August 16, 2019. *See* <https://files.nc.gov/ncoah/documents/Rules/NC-Register/Volume-33-Issue-24-June-17-2019.pdf> (pp. 2373-90).

WATER

The North Carolina Environmental Management Commission proposed to reissue the NPDES general permit for the discharge of wastewater resulting from greensand and conventional-type water treatment facilities. *See* <https://files.nc.gov/ncoah/documents/Rules/NC-Register/Volume-33-Issue-23-June-3-2019.pdf>.

RHODE ISLAND

WATER

The Coastal Resources Management Council proposed amendments to 650-20 R.I. CODE R. §§11.2, 11.3, 11.5, 11.9, and 11.10, concerning the Ocean Special Area Management Plan. The proposed amendments would, among other things, clarify the purpose of the regulations and the differences between state permitting and federal consistency review authority, add wind farm design standards to enhance compatibility with commercial fishing operations, clarify the CZMA federal consistency review process as it relates to the Bureau of Ocean Energy Management and the filing of a construction and operation plan, and add baseline assessment requirements and standards. *See* <https://rules.sos.ri.gov/promulgations/part/650-20-05-11/10825>.

UTAH

WATER

The Utah Division of Water Rights proposed amendments to UTAH ADMIN. CODE r. 73-2-1(4)(d). The proposed amendments would simplify the process for obtaining approval by the state engineers for any project that proposes to alter a natural stream within the state of Utah. *See* https://rules.utah.gov/publicat/bull_pdf/2019/b20190615.pdf (pp. 74-79).

WASHINGTON

AIR

The Olympic Region Clean Air Agency proposed amendments to WASH. ADMIN. CODE §19-11-066. The proposed amendments would identify permitting requirements for proper operation, maintenance, testing, and recordkeeping for gasoline-dispensing facilities.

See <http://lawfilesexternal.leg.wa.gov/law/wsr/2019/11/19-11-066.htm>.

The Department of Ecology proposed amendments to WASH. ADMIN. CODE §§173-460-040, -080, and -150. The proposed amendments would, among other things, update the list of toxic air pollutants; recalculate acceptable source impact levels, small-quantity emission rates, and de minimis emission values; and specify the number of significant digits of emission rates and concentrations. See <http://lawfilesexternal.leg.wa.gov/law/wsr/2019/12/19-12-092.htm>.

TOXIC SUBSTANCES

The Department of Ecology proposed to amend WASH. ADMIN. CODE §§173-

186-010, -020, -040, -110, -120, -140, -210, -220, -230, -330, -370, -380, -500, -510, and -530, and adopt WASH. ADMIN. CODE §§173-186-160, -170, -180, -190, -601 to -605, -700, -710, -720, -800, -810, and -900, concerning oil spill contingency planning for railroads. The proposed amendments and adoptions would, among other things, establish requirements for citing spill management teams, including wildlife rehabilitation and recovery service; enhance requirements for readiness for spills of oils that may weather and sink; and update drill requirements to reflect legislative direction. See <http://lawfilesexternal.leg.wa.gov/law/wsr/2019/12/19-12-113.htm>.

WEST VIRGINIA

LAND USE

The State Conservation Committee proposed amendments to the State Conservation Committee Grant Program. The proposed amendments would create a grant program to provide funding for approved conservation projects across West Virginia. See <http://apps.sos.wv.gov/adlaw/registers/readpdf.aspx?did=39839>.

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

- Cruden, John C. et al., *Dieselgate: How the Investigation, Prosecution, and Settlement of Volkswagen’s Emissions Cheating Scandal Illustrates the Need for Robust Environmental Enforcement*, 36 VA. ENVTL. L.J. 118 (2018).
- Zander, Sophie, *How Effective a Weapon Is the New EPL in China’s “War Against Pollution”? The Past Triumphs and Future Challenges of Environmental Public Interest Litigation*, 50 N.Y.U. J. INT’L L. & POL’Y 605 (2018).
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CLIMATE CHANGE

- Berliner, Zachary L., *What About Uncle Sam? Carving a New Place for the Public Trust Doctrine in Federal Climate Litigation*, 21 U. PA. J.L. & SOC. CHANGE 339 (2018).
- Garrison, Bishop, *The President’s Constitutional Responsibility to Confront Climate Change and Invest in Renewable Energy for National Security*, 45 HASTINGS CONST. L.Q. 671 (2018).
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ENERGY

- Abels, Erin, *Government Taxation of Renewable Resources and Its Fatal Effects on Emerging Wind Energy Technology*, 43 U. DAYTON L. REV. 297 (2018).
- Bruce, J. Alexandra, *A Billion Dollar Investment: The Profitability of Modifying Current Energy Regulations to Secure the Nation’s Energy Supply*, 17 APPALACHIAN J.L. 59 (2017-2018).
- Bu, Nathan, *Taking Stock: Exploring Alternative Compensation in Eminent Domain*, 49 COLUM. HUM. RTS. L. REV. 213 (2018).
- Clay, Alex B., *FERC’s Small Hydropower Exemption: A Missed Opportunity*, 106 KY. L.J. 315 (2018).
- Fernandes, John, *Weighting the Risks and Benefits of Energy Storage on Fleet Emissions: Academics vs. Fundamentals*, 49 ELR 10783 (Aug. 2019).
- Gundlach, Justin & Romany Webb, *Carbon Pricing in New York ISO Markets: Federal and State Issues*, 35 PACE ENVTL. L. REV. 1 (2017).
- Hannan, Christopher M., *“Lost in Their Own Streets” and at Sea: The New Regulatory Reality After Macondo*, 92 TULANE L. REV. 991 (2018).
- Helman, Patricia, *Toxic Impact: The Regulation of Coal Ash and the Influence of Big Money on Small Communities*, 23 BARRY L. REV. 41 (2017).

- Miller, Carol J., *For a Lump of Coal and a Drop of Oil: An Environmentalist’s Critique of the Trump Administration’s First Year of Energy Policy*, 36 VA. ENVTL. L.J. 185 (2018).
- Revesz, Richard L., & Burcin Unel, *The Future of Energy Storage: Adopting Policies for a Cleaner Grid*, 49 ELR 10777 (Aug. 2019).
- Solimeno, David, *Armageddon: The Inevitable Death of Nuclear Power and Whether New York State Has the Legal Authority to Keep It on Life Support*, 35 PACE ENVTL. L. REV. 135 (2017).
- Stimpert, Melissa, *Chesapeake Exploration, LLC v. Buell: A Flawed Decision*, 46 CAP. U. L. REV. 287 (2018).
- Trahan, Ryan Thomas, *A Minimal Problem of Marginal Emissions*, 49 ELR 10786 (Aug. 2019).
- Ventocilla, Michael S., *Trade Energy Under the TTIP: Benefits of Allied Power*, 40 HOUS. J. INT’L L. 613 (2018).
- Symposium, *Bridging Divides: Energy, Environment, and Empowerment in a New Era*, 39 PUB. LAND & RESOURCES L. REV. 1 (2018).
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GOVERNANCE

- Adelman, David E. & Robert L. Glicksman, *Presidential and Judicial Politics in Environmental Litigation*, 50 ARIZ. ST. L.J. 3 (2018).
- Allen, Maura et al., *Analysis of Environmental Law Scholarship 2017-2018*, 49 ELR 10721 (Aug. 2019).
- Bower, Elizabeth, *Standing Together: How the Federal Government Can Protect the Tribal Cultural Resources of the Standing Rock Sioux Tribe*, 42 VT. L. REV. 605 (2018).
- Campbell, Jay C., *Selective Enforcement of Trade Laws: A Problem in Need of Fixing to Advance Environmental Goals?*, 49 ELR 10751 (Aug. 2019).
- Feder, Richie & Lewis Rosman, *State Preemption of Local Government: The Philadelphia Story*, 49 ELR 10772 (Aug. 2019).
- Haddow, Kim S., *Local Control Is Now “Loco” Control*, 49 ELR 10767 (Aug. 2019).
- Hickey, Ryan, *Highway Culverts, Salmon Runs, and the Stevens Treaties: A Century of Litigating Pacific Northwest Tribal Fishing Rights*, 39 PUB. LAND & RESOURCES L. REV. 253 (2018).
- Karassin, Orr & Oren Perez, *Shifting Between Public and Private: The Reconfiguration of Global Environmental Regulation*, 25 IND. J. GLOBAL LEGAL STUD. 97 (2018).
- Krakoff, Sarah, *Public Lands, Conservation, and the Possibility of Justice*, 53 HARV. C.R.-C.L. L. REV. 213 (2018).
- Lininger, Tom, *Reforming Judicial Ethics to Promote Environmental Protection*, 49 ELR 10789 (Aug. 2019).
- Meyer, Timothy, *Free Trade, Fair Trade, and Selective Enforcement*, 49 ELR 10745 (Aug. 2019).

- Radley, Maxwell C., *Mega-Trade Agreements: Could They Become the Foremost Vehicle to Unify Global and Regional Environmental Law?*, 81 ALB. L. REV. 649 (2017-2018).
- Roberts, Cassie D., *The Gap-Filling Role of Private Environmental Governance: A Case Study of Semiconductor Supply Chain Contracting*, 51 VAND. J. TRANSNAT'L L. 591 (2018).
- Scanlan, Melissa K., *The Role of Courts in Guarding Against Privatization of Important Public Environmental Resources*, 7 MICH. J. ENVTL. & ADMIN. L. 237 (2018).
- Schrager, Richard C., *The Attack on American Cities*, 49 ELR 10761 (Aug. 2019).
- Treat, Sharon Anglin, *Fixing a Broken System That Promotes Climate Change and Depletion of Global Fisheries: WTO Subsidy Reform Is Just the Tip of the (Melting) Iceberg*, 49 ELR 10755 (Aug. 2019).
- Wang, Echo Kaixi, *Financing Green: Reforming Green Bond Regulation in the United States*, 12 BROOK. J. CORP. FIN. & COM. L. 467 (2018).
- Symposium, *Ethics in Environmental and Energy Law*, 58 S. TEX. L. REV. 447 (2017).

LAND USE

- Bartolomeo, Allyson, *A Proposal for FDA Label Regulations and Uniform Certifications for Organic Non-Food and "Natural" Products*, 23 BARRY L. REV. 65 (2017).
- Beaudreau, Tommy et al., *The Public's Interest and Durable Management of Energy Development on Public Lands*, 49 ELR 10735 (Aug. 2019).
- Darling, Michael Rothbum, *A Baptism by Incentives: Curing Wildfire Law at the Font of Oil and Gas Regulation*, 96 TEX. L. REV. 1235 (2018).
- Duruigbo, Emeka, *Fracking and the NIMBY Syndrome*, 26 N.Y.U. ENVTL. L.J. 227 (2018).
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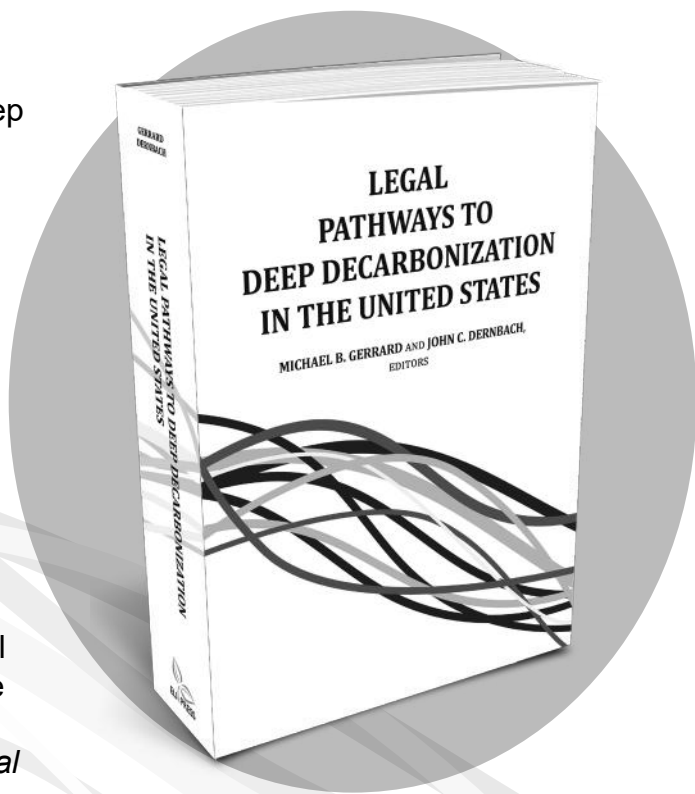
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