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Environmental Law & Policy Annual Review

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- EPA proposes cost-benefit analysis procedure for CAA rules
- Congress passes Great American Outdoors Act to fund public lands

50th ANNIVERSARY
ENVIRONMENTAL LAW • INSTITUTE®

ENVIRONMENTAL LAW AND POLICY ANNUAL REVIEW

2019-2020

ELR

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About ELR® . . .

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

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

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

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

Submissions . . .

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

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

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ENVIRONMENTAL LAW AND POLICY ANNUAL REVIEW

Dear Readers:

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

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

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

To select candidate articles for inclusion, the ELPAR Editorial Board and Staff conducted a key word search for "environment!" in an electronic database. The search was limited to articles published from August 1, 2018 through July 31, 2019, 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 Vandenbergh, ELI Senior Attorney Linda Breggin, and *ELR* Editor-in-Chief Jay Austin also assisted in the final selection process. Four 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 April 3, 2020, ELI and Vanderbilt cosponsored a virtual conference where some of the authors of the articles and comments presented their ideas to an audience of business, government (federal, state, and local), think-tank, media, and nonprofit participants. The featured articles were *Markets, Externalities, and the Federal Power Act: The Federal Energy Regulatory Commission's Authority to Price Carbon Dioxide Emissions*; *Making Sustainability Disclosure Sustainable*; and *Energy Exactions*. The conference was structured to encourage dialogue among presenters and attendees.

In addition, a February 20 symposium at Vanderbilt featured *Roads to Nowhere in Four States: State and Local Governments in the Atlantic Southeast Facing Sea-Level Rise*.

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

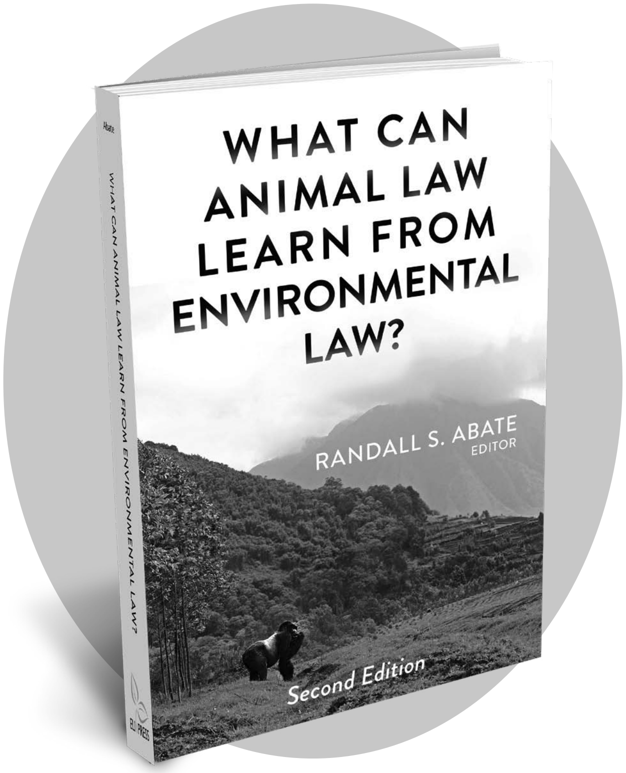
Jay E. Austin, Editor-in-Chief, *Environmental Law Reporter*

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

What Can Animal Law Learn From Environmental Law? 2d Ed.

By Randall S. Abate, Editor

With its intricate layers of international, federal, and state protections, environmental law is more established than animal law. Yet, animal law faces many of the same legal and strategic challenges that environmental law faced in seeking to establish a more secure foothold in the United States and abroad. As such, animal law stands to gain valuable insights from the lessons of the environmental law movement.



In the Second Edition of this book, Prof. Randall S. Abate, the inaugural Rechnitz Family and Urban Coast Institute Endowed Chair in Marine and Environmental Law and Policy at Monmouth University, has assembled an experienced team of 36 academics, advocates, and legal professionals from the environmental and animal law fields to examine the experiences of these two fields. Drawing on lessons from history, politics, and law, the 29-chapter book examines how environmental law's successes and shortcomings can inform animal law, and how the two fields can work together to secure mutual gains in the future.

Highlights from the Second Edition

- Three new chapters addressing how food law and policy can be a valuable mechanism for enhanced protection of animals. Coverage includes consumer protection litigation involving false advertising claims, industry challenges to plant-based meat and milk, and animal and environmental law and policy considerations concerning lab-grown meat.
- Expanded coverage of cutting-edge procedural topics with three new chapters on impact assessment, enforcement, and regulatory avoidance.
- Expanded coverage of climate change with two new chapters addressing innovative proposals for enhanced protection of animals in the face of this crisis.
- New chapters on a range of pressing themes at the intersection of animal and environmental law and policy including rights of nature, greenwashing and humane washing, animal testing, and an emerging area known as "animal socioequality."

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C O M M E N T

ANALYSIS OF ENVIRONMENTAL LAW SCHOLARSHIP 2018-2019

by Courtney A. Tibbetts, Linda K. Breggin, Elizabeth A. Holden, and Michael P. Vandenbergh

Linda K. Breggin is a Senior Attorney with the Environmental Law Institute and Lecturer in Law, Vanderbilt University Law School. Courtney A. Tibbetts and Elizabeth A. Holden are recent graduates of Vanderbilt University Law School. Michael P. Vandenbergh 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 article is to highlight the results of the ELPAR article selection process and to report on the environmental legal scholarship for the 2018-2019 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 article 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-

1. *Environmental Law and Policy Annual Review Publications*, Envtl. L. Inst., https://www.eli.org/environmental-law-policy-annual-review/publications [https://perma.cc/2TMW-8T5G] (last visited Apr. 6, 2020); *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 [https://perma.cc/7H5A-VVUN] (last visited Apr. 6, 2020).
2. *W&L Law Journal Rankins: Ranking Methodology*, Wash. & Lee Sch. of L., https://managementtools4.wlu.edu/LawJournals/Default3.aspx [https://perma.cc/PDL6-7ZM8] (last visited Apr. 6, 2020).
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, 2019, and the fall searches were performed in the 5th week of August, 2019. 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, 2019, and ran until September 1, 2019. An alert was set up for the fall search on September 4, 2019, and ran until September 11, 2019. 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.

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 journals imposes limitations on the value of our results. Nevertheless, this approach provides a useful glimpse of leading scholarship in the field.

For purposes of tracking trends in environmental scholarship, the next step is to cull the list generated from the initial search 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. This year, ELPAR students assigned each article a sub-category as well.[5] Figure 3 shows the breakdown of governance articles, which was the largest category this year.

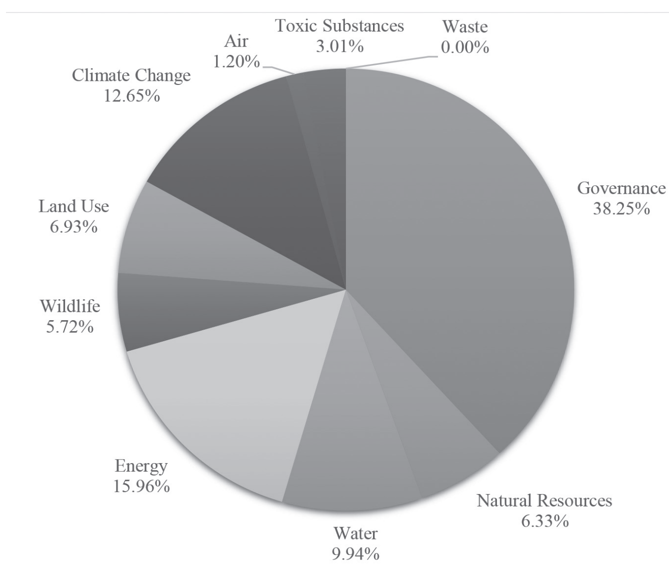
The ELPAR Editorial Board and Staff work in consultation with the course instructors, Prof. Michael P. Vandenbergh and ELI Senior Attorney Linda K. Breggin, to determine whether articles should be considered environmental law articles and how to categorize the article by environmental topic for purposes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

II. Data Analysis on Environmental Legal Scholarship

For the 2018-2019 ELPAR review period (August 1, 2018 to July 31, 2019), we identified 332 environmental articles published in top law reviews and environmental law journals. Two hundred and fifteen (64.76%) of these articles were published in journals that focus on environmental law, and 117 (35.24%) were published in general law reviews.

The primary topics of the 332 environmental articles published in 2018-2019 were as follows (see Figure 1): 127 governance articles (32.25%), 53 energy articles (15.96%), 42 climate change articles (12.65%), 33 water articles (9.94%), 23 land use articles (6.93%), 21 natural resource articles (6.33%), 19 wildlife articles (5.72%), 10 toxic substance articles (3.01%), 4 air articles (1.20%), and 0 waste articles (0.00%). Two hundred and three articles were also identified as including a secondary topic, categorized as follows (see Figure 2): 122 governance articles, 23 climate change articles, 15 land use articles, 12 natural resources articles, 9 energy articles, 10 water articles, 5 wildlife articles, 3 waste articles, 3 toxic substances articles, and 1 air article. Accordingly, the most common topic category was governance, followed by energy and climate change.

Figure 1. 2018-2019 Articles Categorized by Primary Topic



4. Subject Matter Index, Envtl. L. Rep., http://www.elr.info/subject-matter-index [https://perma.cc/9RWZ-2RXP] (last visited Apr. 6, 2020).
5. ELR subject matter index includes subtopics for each topic. For example, subtopics for the governance topic include: administrative law, Administrative Procedure Act, agencies, bankruptcy, civil procedure, comparative law, constitutional law, contracts, corporate law, courts, criminal law, enforcement and compliance, environmental justice, environmental law and policy, Equal Access to Justice Act, False Claims Act, Federal Advisory Committee Act, federal facilities, federal jurisdiction, Freedom of Information Act, human rights, indigenous people, infrastructure, institutional controls, insurance, international, public health, public participation, risk assessment, states, tax, tort law, trade, tribes, and U.S. government. For a list of all the subtopics in each topic, please see the following ELR link. Subject Matter Index, Envtl. L. Rep., http://www.elr.info/subject-matter-index [https://perma.cc/9RWZ-2RXP] (last visited Apr. 6, 2020).
6. *Environmental Law & Policy Annual Review Online Supplements*, Vand. L. Sch., http://law.vanderbilt.edu/academics/academic-programs/environmental-law/environmental-law-policy-annual-review/online-supplements.php [https://perma.cc/7H5A-VVUN] (last visited Apr. 6, 2020).

Figure 2. 2018-2019 Articles Categorized by Primary and Secondary Topic

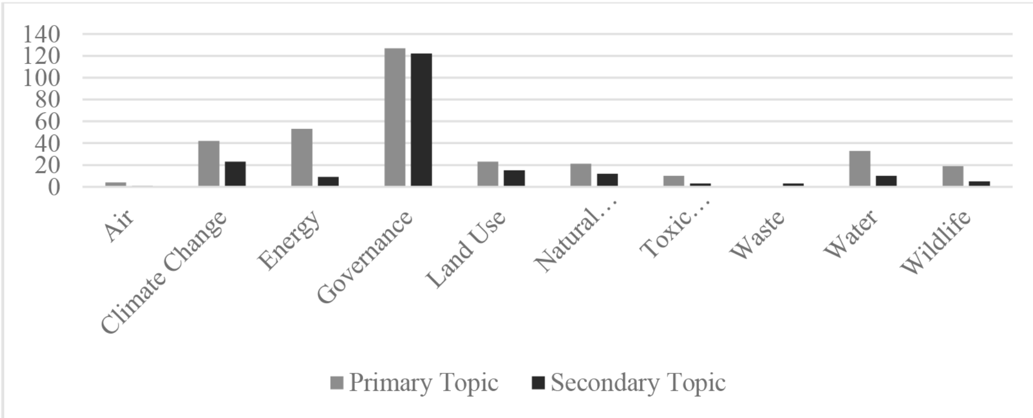
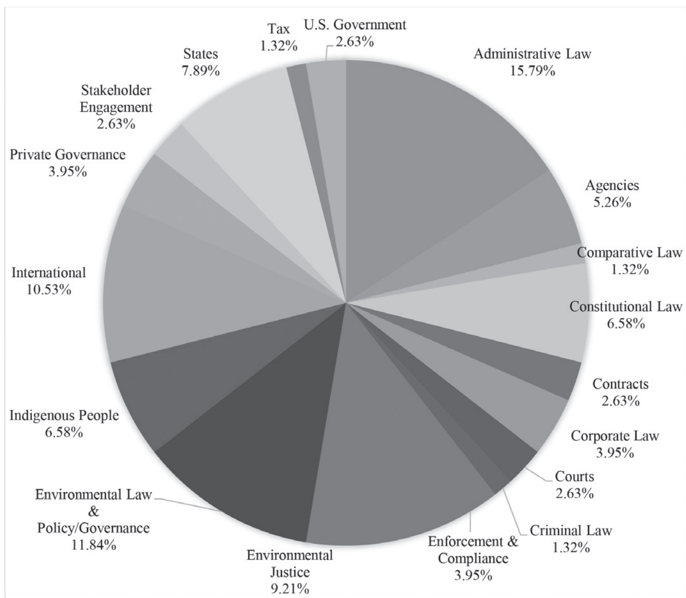


Figure 3. 2018-2019 Governance Articles Categorized by Sub-Category



III. Top 20 Articles Analysis

The top 20 articles chosen from the pool of eligible environmental law and policy-related articles published during the 2018-2019 academic year can be found in Table 1. Of the top 20 outlined below, four articles called for action by state and local governments as part of their proposal. Thirteen articles called for action by the federal government, whether executive agencies, the legislative branch, or the judicial branch. Six articles called for updates to federal or international law, and two articles advocated for private governance measures. Many article proposals incorporated federal, state and local, and private entity actions.

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

This year's pool of top articles came from both general and environmental law journals. Eight of the top 20 articles were published in environmental law journals. Twelve 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.

Author	Title	Citation and URL	Topic	The Big Idea
Bradshaw, Karen	*Agency Engagement With Stakeholder Collaborations, In Wildfire Policy and Beyond*	51 Ariz. St. L.J. 437 http://arizonastatelawjournal.org/wp-content/uploads/2019/08/01-Bradshaw-Final.pdf	Governance (Administrative Law)/Natural Resources	Implementing best practices for establishing and maintaining stakeholder collaborations will allow government agencies to maximize benefits such as substantively better decisions, greater social acceptance of decisions, a possible reduction in litigation, and further advancement of agency goals.
Britton-Purdy, Jedediah	*Whose Lands? Which Public? The Shape of Public-Lands Law and Trump's National Monument Proclamations*	45 Ecology L.Q. 921 https://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=2206&context=elq	Governance (Courts)/Public Lands	The president should not be able to remove protected lands under the Antiquities Act because the text establishes only a right to "declare" monuments and the larger structure and history of public-lands law supports an asymmetry between the president's power to create and Congress' power to open up public lands to privatization.
Cecot, Caroline	*Deregulatory Cost-Benefit Analysis and Regulatory Stability*	68 Duke L.J. 1593 http://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=3984&context=dlj	Governance (Administrative Law)	Cost-benefit analyses (CBAs) can stabilize environmental regulatory policy despite executive branch turnover; therefore, thorough CBA, as well as additional research into assessment accuracy, would reduce concerns of bias and increase accountability, efficiency, and predictability.
Davis Noll, Bethany A.; Unel, Burcin	*Markets, Externalities, and the Federal Power Act: The Federal Energy Regulatory Commission's Authority to Price Carbon Dioxide Emissions*	27 N.Y.U. Envtl. L.J. 1 https://policyintegrity.org/files/publications/Markets%2C_Externalities%2C_and_the_Federal_Power_Act.pdf	Energy	Consistent with its embrace of economic efficiency principles, Federal Energy Regulatory Commission should approve wholesale market operators' plans that internalize the costs of CO_2 emissions by setting a carbon price—an action which would be consistent with its authority under the Federal Power Act to correct market failures directly related to wholesale electricity rates.
Fisch, Jill E.	*Making Sustainability Disclosure Sustainable*	107 Geo. L.J. 923 https://georgetownlawjournal.org/articles/314/making-sustainability-disclosure-sustainable/pdf	Governance (Administrative Law)/Climate Change (Sustainability)	The Securities and Exchange Commission should require public companies to provide a sustainability disclosure and analysis section in their annual reports in which they identify the three sustainability issues most significant to their operations, as a first step method of improving the quality and comparability of sustainability disclosure by subjecting sustainability disclosure to the standards applicable to securities reporting and increasing board oversight of key sustainability concerns.
Infranca, John	*The New State Zoning: Land Use Preemption Amid a Housing Crisis*	60 B.C. L. Rev. 823 https://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=3756&context=bclr	Land Use (Smart Growth)	State preemption of overly restrictive local zoning, particularly permitting accessory dwelling units as-of-right and allowing denser development near transit, has the potential to increase affordable housing stock in higher opportunity neighborhoods, slowly encourage acceptance of suburban infill without dramatically affecting neighborhood character, and allow property owners to more easily develop their property to extract value.
Jones, Shana Campbell; Ruppert, Thomas	*Roads to Nowhere in Four States: State and Local Governments in the Atlantic Southeast Facing Sea-Level Rise*	44 Colum. J. Envtl. L. 67 https://www.flseagrant.org/wp-content/uploads/Jones-et-al_Roads-to-Nowhere_Vol.44.1.pdf	Climate Change	To respond to interpretations of existing governmental duties and growing climate adaptation challenges faced by localities, the duties, immunities, and authorities of state and local governments should be reconsidered and states should pass comprehensive statutes that implement: (1) increased sovereign immunity as encouragement for creative decision-making that fulfills a more flexible, "adaptive" duty to maintain considering future conditions and is judged by a resilience standard incorporating the capacity of the system to adapt, and (2) an adaptive authority to abandon.

Lin, Albert	*Carbon Dioxide Removal After Paris*	45 ECOLOGY L.Q. 533 https://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=2199&context=elq	Climate Change	Mitigation alone is unlikely to achieve the Paris Agreement goal of limiting the mean global temperature increase to 2°C and, therefore, policymakers should turn their attention to carbon dioxide removal (CDR) and development of governance approaches, including acknowledging the role of CDR in achieving the 2°C goal, supporting research and development of a range of CDR techniques, establishing interim status under climate regimes for CDR projects, investing in carbon storage, developing carbon accounting mechanisms, and instituting carbon pricing.
Lowenstein, Jody D.; Panarella, Samuel J.	*Troubled Water: Building a Bridge to Clean Energy Through Small Hydropower Regulatory Reform*	36 UCLA J. ENVTL. L. & POL'Y 231 https://escholarship.org/uc/item/6bv3h0xc	Energy/Natural Resources	Responsible development of low-impact small hydropower projects should be encouraged through regulatory reforms that: (1) distinguish low-impact methods of hydropower generation from more intrusive ones, and (2) streamline and expedite these projects' approval process.
Macey, Joshua C.; Salovaara, Jackson	*Bankruptcy as Bailout: Coal Company Insolvency and the Erosion of Federal Law*	71 STAN. L. REV. 879 https://review.law.stanford.edu/wp-content/uploads/sites/3/2019/04/Macey-Salovaara-71-Stan.-L.-Rev.-879.pdf	Governance (Bankruptcy; Enforcement & Compliance)	Coal companies have relied on the Bankruptcy Code to discharge or otherwise evade federally-mandated environmental liabilities designed to internalize coal mining externalities by spinning them off to underfunded subsidiaries, and in response legislative and judicial action should be taken to prevent creditors and debtors from negotiating around federal regulatory programs.
McGarity, Thomas O.; Wagner, Wendy	*Deregulation Using Stealth "Science" Strategies*	68 DUKE L.J. 1719 http://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=3986&context=dlj	Governance (Administrative Law)	To encourage the integrity of science in the administrative process and prevent the political manipulation of science, agency staff's scientific analysis should be: firewalled from the input of policymakers and political appointees, subjected to rigorous expert peer review, and published independently and in advance of an agency rule or rule proposal with attribution to the staff authors.
Monast, Jonas J.	*Governing Extinction in the Era of Gene Editing*	97 N.C. L. REV. 1329 https://scholarship.law.unc.edu/cgi/viewcontent.cgi?article=6741&context=nclr	Governance Wildlife (Biotechnology; Endangered Species; ESA)	Gene editing is a powerful tool to support public health and conservation goals, but the technique could allow scientists to bypass long-standing value choices underlying existing conservation laws and, therefore, a new governance framework should be established that would: (1) establish a presumption against the release of genetically modified organisms that could cause species extinction; (2) allow exemptions for specific public health and environmental goals; and (3) update the ESA to clarify oversight of gene editing.
Owen, Dave	*Cooperative Subfederalism*	9 UC IRVINE L. REV. 177 https://law.uci.edu/lawreview/vol9/Online_Owen.pdf	Governance (States)	"Cooperative subfederalism" can be a powerful state-local governance model if state and local governments are interactive, states actively support local governance, and the boundary between state and local government is flexible.
Paddock, LeRoy; Rao, Natasha	*Green Supply Chain Management: A Perspective on Best Practices in GSCM Design*	71 ARK. L. REV. 487 https://scholarworks.uark.edu/cgi/viewcontent.cgi?article=1051&context=alr	Governance (Private Governance)	In an effort to reduce greenhouse gas emissions, companies should implement uniform green supply chain management (GSCM) best practices (including encouraging senior management leadership, transparency, codes of conduct, as well as robust auditing and reporting efforts) and governments can further encourage GSCM through procurement and enforcement processes and public recognition programs.

Prum, Darren A.	*Commercial-Property Leases as a Means for Private Environmental Governance*	35 Ga. St. U. L. Rev. 727 https://readingroom.law.gsu.edu/cgi/viewcontent.cgi?article=2970&context=gsulr	Governance (Private Governance)/Land Use (Green Buildings	To increase the effectiveness of environmental terms in commercial property leases as a private environmental governance tool, the government and private organizations should incentivize landlords and tenants to negotiate for green building standards by offering both: (1) financial incentives, such as tax incentives, reduced construction fees, revolving loans, and sustainability grants; and (2) non-financial incentives, such as expedited permit processing and additional density bonuses.
Revesz, Richard L.	*Regulation and Distribution*	93 N.Y.U. L. Rev. 1489 https://policyintegrity.org/documents/Regulation_and_Distribution.pdf	Governance (Administrative Law)	Despite the influential claims in the academic literature to the contrary, tax policy is ill suited to provide compensation for significant environmental, health, and safety harm; instead, distributional consequences should become a core concern of the regulatory state and should be managed by an interagency working group in coordination with the Office of Information and Regulatory Affairs.
Rossi, Jim; Serkin, Christopher	*Energy Exactions*	104 Cornell L. Rev. 643 https://scholarship.law.cornell.edu/cgi/viewcontent.cgi?article=4792&context=clr	Energy/Land Use (Smart Growth)	Local governments can use energy exactions—or fees imposed on developers to offset the costs of development on the energy grid—to force developers to internalize the costs of development, incenting them to invest in low-carbon energy-supply and build more energy efficient residential and commercial structures, while also integrating better information about energy use and community values into energy planning.
Squillace, Mark	*Rethinking Public Land Use Planning*	43 Harv. Envtl. L. Rev. 415 https://harvardelr.com/wp-content/uploads/sites/12/2019/08/43.2-Squillace.pdf	Land Use (Public Lands)	To increase agency agility and responsiveness to stakeholders, public land use planning should be shifted to a layered planning approach, starting at a new landscape level plan, then moving to a simplified unit level plan, next shifting to an optional resource or activity level plan, and ending at a project level plan where, in contrast to the current approach, site-specific proposals would exclusively be addressed.
Walters, Daniel E.	*Animal Agriculture Liability For Climate Nuisance: A Path Forward for Climate Change Litigation?*	44 Colum. J. Envtl. L. 299 https://journals.library.columbia.edu/index.php/cjel/article/view/972	Climate Change/Land Use (Agriculture)	Public nuisance lawsuits against animal agricultural producers present an opportunity to reduce greenhouse gas emissions, because courts are unlikely to find that such suits are displaced by federal regulations and litigation may indirectly catalyze government, corporate, and consumer efforts to focus on the problem.
Wyeth, George et al.	*The Impact of Citizen Environmental Science in the United States*	49 ELR 10237 htttps://scholarship.law.gwu.edu/cgi/viewcontent.cgi?article=203&context=faculty_publications	Governance (Administrative Law)	The opportunities presented by citizen science will be more fully realized if: (1) agencies' top management formally embrace citizen science and "meet citizen scientists halfway" by establishing clear submission guidelines, developing protocols, and providing guidance; (2) citizen scientists adopt best practices such as partnering with academic researchers; (3) air programs use citizen-generated data to forward environmental justice by capturing neighborhood-level conditions and pinpointing proper monitor locations; (4) states address unnecessary legal barriers, such as restrictions on the use of certain technologies; and (5) citizen scientists develop a centralized process for validation and sharing of emerging technologies.

ARTICLE

MARKETS, EXTERNALITIES, AND THE FEDERAL POWER ACT: THE FEDERAL ENERGY REGULATORY COMMISSION'S AUTHORITY TO PRICE CARBON DIOXIDE EMISSIONS

by Bethany A. Davis Noll and Burcin Unel

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Electricity generation in the United States is one of the leading sources of greenhouse gas emissions.[1] Those emissions cause severe climate change-related harms. Despite the severity of those harms, the Federal Energy Regulatory Commission (FERC), which regulates the interstate transmission and wholesale electricity markets, has avoided addressing the issue.

FERC has historically shied away from environmental considerations in ratemaking.[2] But carbon dioxide (CO_2) emissions are not just an environmental consideration; they are a prime example of the market failure known as a negative "externality." A negative externality is cost that is incurred by third parties and thus not considered by market participants. And, unless it is addressed, it hinders the efficiency of competitive markets by causing external damages to society. To correct that failure, economists recommend that the external costs are internalized through a carbon price that reflects the external damage that CO_2 emissions cause.

In this Article, we provide a comprehensive economic framework to show that addressing the CO_2 externality through a carbon price falls within FERC's authority to ensure an efficient market. Even though FERC is not an "environmental" regulator, FERC has long-standing authority to fix this market failure under its traditional role as an "economic" regulator. Consideration of CO_2 emissions is not simply an environmental concern, but rather a core market concern that is integral to a functional and efficient market.

I. Statutory and Economic Framework

In this part, we first review the statutory framework of the Federal Power Act (FPA). Then, we discuss the basic economic principles related to perfectly competitive markets.

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1. *See Frequently Asked Questions*, U.S. Energy Info. Admin., https://www.eia.gov/tools/faqs/faq.php?id=77&t=11 (last visited Aug. 23, 2018).

2. *See, e.g.*, Grand Council of the Crees v. Fed. Energy Regulatory Comm'n, 198 F.3d 950, 957, 30 ELR 29271 (D.C. Cir. 2000).

A. The FPA

Historically, states and localities regulated most electricity generation, transmission, and distribution.[3] But in the 1930s, after the U.S. Supreme Court held that sates could not regulate interstate electricity transactions,[4] the U.S. Congress passed the FPA and created FERC's predecessor, the Federal Power Commission, to regulate wholesale interstate electricity transactions.[5]

1. Just and Reasonable and Undue Discrimination

Under the FPA, FERC must ensure that the rates that "public utilities"—generators or transmission owners trading in wholesale electricity[6]—charge on the interstate market are just and reasonable.[7] In order to ensure just and reasonable rates, FERC reviews and approves utility tariffs showing the "rates and charges . . . and the classifications, practices, and regulations affecting such rates and charges."[8] FERC also has authority to investigate whether a "rule, regulation, practice, or contract affecting such rate, charge, or classification is unjust, unreasonable, unduly discriminatory or preferential" and impose a substitute rate that is just and reasonable.[9]

FERC's "findings must be supported by 'substantial evidence.'"[10] This requires FERC to "specify the evidence on which it relied and . . . explain how that evidence support[s] the conclusion it reached."[11] FERC is not required to provide empirical evidence to support all of its findings; it may support them with "reasonable economic propositions."[12]

2. Direct Effect on Wholesale Rates

FERC has authority to regulate "interstate . . . wholesale rates and the panoply of rules and practices affecting them."[13] That authority, however, is limited to rules or practices that "directly affect the wholesale rate."[14]

3. *See* Fed. Energy Regulatory Comm'n v. Elec. Power Supply Ass'n, 136 S. Ct. 760, 767, 46 ELR 20021 (2016).
4. *See* Pub. Util. Comm'n of R.I. v. Attleboro Steam & Elec. Co., 273 U.S. 83, 89 (1927).
5. *See* New York v. Fed. Energy Regulatory Comm'n, 535 U.S. 1, 6 (2002). We use "wholesale" and "interstate" interchangeably to refer to electricity sales made over an interstate grid, which are subject to FERC's jurisdiction.
6. 16 U.S.C. §824(e).
7. *Id.* §824d(a).
8. *Id.* §824d(c).
9. *Id.* §824e(a); Atlantic City Elec. Co. v. Fed. Energy Regulatory Comm'n., 295 F.3d 1, 10 (D.C. Cir. 2002) ("[T]o make any change in an existing rate or practice, FERC must first prove that the existing rates or practices are 'unjust, unreasonable, unduly discriminatory or preferential.'").
10. S.C. Pub. Serv. Auth. v. Fed. Energy Regulatory Comm'n, 762 F.3d 41, 65 (D.C. Cir. 2014) (quoting 5 U.S.C. §706(2)(E)).
11. *Id.* at 54 (quoting Wis. Gas Co. v. Fed. Energy Regulatory Comm'n, 770 F.2d 1144, 1156 (1985)) (internal quotation marks omitted).
12. *Id.* at 65.
13. Fed. Energy Regulatory Comm'n v. Elec. Power Supply Ass'n, 136 S. Ct. 760, 773, 46 ELR 20021 (2016).
14. *Id.* (quotation marks omitted).

B. Markets and Economic Efficiency

An efficient market is one where "all the opportunities to make some people better off without making other people worse off have been exploited."[15] If all those transactions occur, the total welfare of consumers and producers—the social welfare—is maximized.[16]

In the language of economists, if markets are "perfectly competitive," they are usually efficient.[17] A perfectly competitive market features: (1) many sellers that compete to sell their identical goods to many buyers[18] and (2) free entry and exit of firms.[19]

With these features, there is a single market clearing price where the supply curve for the product intersects the demand curve.[20] This is the equilibrium price, which is equal to the marginal cost of production—the additional cost of producing one more unit of a particular good or service.[21]

In the electricity context, additional generation would continue to increase social welfare until the marginal benefit of one more megawatt-hour of electricity equals its marginal cost. With the right price signals, wholesale markets will incentivize the entry of new generation when it is economical to do so, and the exit of existing generation when it is uneconomical. If FERC can ensure that the wholesale markets match the characteristics of perfectly competitive markets, then the wholesale rates and the resulting allocation of resources would be economically efficient. FERC's actions over the past several decades show that it has indeed embraced these principles of perfectly competitive markets.

II. FERC's Shift Toward Competitive Wholesale Markets

A. Natural Monopolies and the Cost-of-Service Model

Until recently, vertically integrated utilities owned all levels of generation, transmission, and distribution and electricity was considered a natural monopoly.[22] In this setting, FERC considered rates just and reasonable if they allowed utilities to recover costs as well as "a reasonable profit," known as cost-based rates.[23]

15. *See* Paul Krugman & Robin Wells, Microeconomics 15 (2d ed. 2009).
16. *See id.* at 14-15, 111; Robert S. Pindyck & Daniel L. Rubinfeld, Microeconomics 315 (7th ed. 2009); Steven Stoft, Power System Economics: Designing Markets for Electricity 54 (2002); Emily Hammond & David B. Spence, *The Regulatory Contract in the Marketplace*, 69 Vand. L. Rev. 141, 169 (2016) (explaining that well-functioning competitive markets will maximize net benefits).
17. *See* Krugman & Wells, *supra* note 15, at 111.
18. *See* Pindyck & Rubinfeld, *supra* note 16, at 272.
19. *See id.*
20. *See id.*
21. *See* Krugman & Wells, *supra* note 15, at 231, 235-36; Stoft, *supra* note 16, at 57.
22. *See* Krugman & Wells, *supra* note 15, at 359.
23. *See* ISO New England, Inc. & New England Power Pool Participants Comm. Fed. Power Comm'n v. Hope Nat. Gas Co., 320 U.S. 591, 603 (1944) ("The rate-making process under the Act, i.e., the fixing of 'just and

B. Competition and FERC's Responses

Over the past several decades, smaller utilities have begun to compete with bigger utilities and transmission has become more economical.[24] As competition seeped into the electricity markets, FERC responded by embracing markets as a useful tool for ensuring just and reasonable rates.

1. Embracing Markets

As competition increased, FERC began allowing firms to use market-based rates to set wholesale prices, regularly upholding competition as a way to ensure just and reasonable rates.[25] As FERC has explained, if the price signals in competitive markets are accurate, they could be relied on to encourage efficient allocation of resources, adjust supply, promote expansion, and help determine where new generators should be located.[26]

If FERC can ensure that wholesale markets imitate perfectly competitive markets, then the realized market prices also imitate perfectly competitive market prices and are efficient.[27] In this way, FERC has used competition to achieve its "just and reasonable" mandate.[28]

2. Encouraging Markets

Besides embracing markets, FERC has also encouraged them. In 1996 and 2000, FERC issued two orders that encouraged the creation of Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs), wholesale market operators that are regulated as utilities and run wholesale electricity markets.[29] Those entities were set up to "operate the transmission system independently of, and foster competition for electricity generation among, wholesale market participants."[30]

RTOs and ISOs manage electricity sales between utilities and generators and work to ensure reliable transmission.[31] ISOs and RTOs set market prices by running auctions for energy, capacity, and ancillary services.[32] FERC ensures that the resulting rates are just and reasonable by reviewing the auction rules.[33]

Although wholesale markets are administrative constructs, their design is intended to mimic perfectly competitive markets.[34] The auction "sends critical information to market participants, improves transparency, and generally results in more efficient outcomes in RTO/ISO energy markets."[35]

3. Supervising Markets

Yet, despite a set-up that is designed to harness the benefits of a perfectly competitive market, as with most markets, market failures persist in electricity.

Competitive markets generally fail for four reasons: (1) market power, (2) asymmetric information, (3) public goods, and (4) externalities.[36] And each of those market failures have been found in the electricity market. In response, FERC has intervened at various times "to break down regulatory and economic barriers that hinder a free market in wholesale electricity"[37] and ensure competition.[38]

For example, in an effort to ensure just and reasonable rates, FERC has addressed market power. Market power is the ability of a consumer or a producer to affect the market price.[39] Market power usually arises when there is a limited number of buyers or sellers. A firm without any other sellers to compete with can charge a price higher than the marginal cost without worrying about losing market share to competitors.[40] But when the market price deviates from the competitive level, some mutually beneficial transactions do not take place. Therefore, the social welfare is lower than what it could be, and the market outcome is not economically efficient.

As FERC moved toward market-based rates and allowed sellers to "enter into freely negotiated contracts with purchasers,"[41] it required sellers to demonstrate that they lack market power, thus ensuring that consumers

reasonable' rates, involves a balancing of the investor and the consumer interests."). For an economic critique of the cost-of-service framework, see Harvey Averch & Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 Am. Econ. Rev. 1052, 1052-69 (1962).

24. *See* Christopher J. Bateman & James T.B. Tripp, *Toward Greener FERC Regulation of the Power Industry*, 38 Harv. Envtl. L. Rev. 275, 289 (2014).
25. *See* Order Directing Submission of Information With Respect to Internal Processes for Reporting Trading Data, 103 FERC ¶ 61089, ¶ 11 (2003).
26. *See id.*
27. *See supra* Part I.B.
28. *See e.g.*, ISO New England, Inc. & New England Power Pool Participants Comm. New England Power Generators Ass'n, 135 FERC ¶ 61029, ¶ 254 (2011).
29. *See* Regional Transmission Organizations, 65 Fed. Reg. 810, 810 (Dec. 20, 1999) (to be codified at 18 C.F.R. pt. 35).
30. Fed. Energy Regulatory Comm'n, Energy Primer: A Handbook of Energy Market Basics 40 (2015), https://www.ferc.gov/market-oversight/guide/energy-primer.pdf (last visited Sept. 20, 2018) [hereinafter Energy Primer].
31. *See* Regional Transmission Organizations, 65 Fed. Reg. at 810; Energy Primer, *supra* note 30, at 40 (explaining that "two-thirds of the nation's electricity load is served in RTO regions"). There is very little substantive difference between RTOs and ISOs. N.J. Bd. of Pub. Utils. v. Fed. Energy Regulatory Comm'n, 744 F.3d 74, 82 (3d Cir. 2014).
32. *See* Energy Primer, *supra* note 30, at 59; *see also* Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1 of Snohomish Cty., 554 U.S. 527, 537 (2008).
33. *See* Hughes v. Talen Energy Mktg., LLC, 136 S. Ct. 1288, 1294, 46 ELR 20078 (2016).
34. *See supra* Part I.B.
35. Offer Caps in Markets Operated by Regional Transmission Organizations and Independent System Operators, 157 FERC ¶ 36 (2016) (to be codified at 18 C.F.R. pt. 35).
36. *See* Pindyck & Rubinfeld, *supra* note 16, at 612-13.
37. Fed. Energy Regulatory Comm'n v. Elec. Power Supply Ass'n, 136 S. Ct. 760, 768 (2016) (quoting Morgan Stanley Capital Grp. v. Pub. Util. Dist. No. 1 of Snohomish Cty., 554 U.S. 527, 536 (2008)); *see, e.g.*, Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21540, 21541 (May 10, 1996) (to be codified at 18 C.F.R. pts. 35 and 385) (breaking down the monopoly power of transmission line owners).
38. *See* Grid Reliability & Resilience Pricing, 162 FERC 61012, ¶ 9 (2018).
39. *See* Krugman & Wells, *supra* note 15, at 358; *see also* Citizens Power & Light Corp., 48 FERC ¶ 61210, 61777 (1989) ("Market power for a seller exists when the seller can significantly influence price in the market by withholding service and excluding competitors for a significant period of time.").
40. *See* Pindyck & Rubinfeld, *supra* note 16, at 349-50. Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1 of Snohomish Cty., 554 U.S. 527, 537 (2008).
41. *Morgan Stanley Capital Grp. Inc.*, 554 U.S. at 537.

have "genuine alternatives to buying the seller's product."[42] And in 1996, FERC issued Order 888, directing transmission owners to allow competitors to access their transmission lines and transmission providers to offer service to all customers equally.[43] The rule was designed to remove barriers to competition and improve efficiency in the electricity market.[44]

Similarly, though it has not addressed the CO_2 externality, FERC has addressed other externalities. An externality is the unaccounted-for cost or benefit imposed on third parties by a market transaction not borne by the parties engaged in the transaction.[45] A negative externality, like CO_2 emissions by fossil fuel-fired plants, imposes damages on society.[46] Because these costs are not incurred directly by the parties making market decisions, the good's price does not reflect its true social value.

Externalities must be fully "internalized" to reach economic efficiency.[47] The prices in this case "must reflect all the (marginal) costs of production and consumption—not only those borne directly by the transacting parties but also those that may be foisted on outsiders."[48] A regulator can impose a tax in the amount of the external damage, or a subsidy in the amount of the external benefit.[49]

FERC has addressed externalities in an effort to promote economic efficiency. For example, network congestion is an important externality that affects the justness and the reasonableness of wholesale rates.[50] With FERC's blessing, market operators have developed Locational Marginal Prices to address this externality and ensure that energy prices reflect the true cost of delivering electricity to a particular location, including the opportunity costs related to the physical limits of the transmission system and the cost of generating electricity.[51]

FERC has taken similar steps to correct the rest of the typical market failures in the electricity sector.[52] As a result of FERC's use of efficiency to achieve just and reasonable rates and prevent undue discrimination, FERC has set a precedent the agency could rely on to correct the CO_2 emission market failure.

III. Authority to Address Externalities Related to Carbon Dioxide Emissions

FERC's authority extends to regulating any rules or practices that "directly affect the wholesale rate."[53] Thus, FERC has the authority to address issues that directly affect the efficiency of rates and services, which includes the external cost of CO_2 emissions.[54]

Production decisions are made using a marginal analysis, where producers compare marginal costs to the price they receive for each megawatt-hour—the marginal benefit.[55] When generators emit CO_2 and cause damages to society, they do not incur any additional cost themselves, and they will make decisions based on their private costs. The resulting market price will only reflect the costs to generators and not the external cost of CO_2 emissions. Therefore, the market price will be lower than the social marginal cost of producing electricity.[56]

When there are external costs such as this, the generation mix will be decided based on this (low) market price, and fossil fuel-fired generators will be paid to generate electricity that is costlier to society than the market price. Further, some firms will not have the incentive to remain in the market, even though it would be more socially efficient for them to exit.[57] In addition, failing to recognize the external cost of CO_2 emissions poses a disadvantage to generation sources that do not entail a high external cost.[58]

As a way to address this problem, a carbon price would change the market price to reflect the social cost of generating electricity.[59] And, it would align markets so that they accurately account for this externality and remove a barrier to development of generation that is less costly.

Because the CO_2 externality is directly related to the social marginal cost of electricity generation, it is not relevant that CO_2 emissions are an environmental issue

42. Louisville Gas & Elec. Co., 62 FERC ¶ 61016, 61144 (1993). Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21540, 21560 (May 10, 1996).
43. Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21540, 21560 (May 10, 1996).
44. *See id.* at 21541.
45. *See* Krugman & Wells, *supra* note 15, at 437.
46. *See id*.
47. *See id.* at 438.
48. *Id.*
49. *See id.* at 442-44, 450. In the context of CO_2 emissions, this principle would prescribe an economywide carbon tax on all polluters.
50. *See* Pindyck & Rubinfeld, *supra* note 16, at 139; *see also* Krugman & Wells, *supra* note 15, at 437 (describing traffic congestion as an externality).
51. *See* Pa.-N.J.-Md. Interconnection Atl. City Elec. Co., 81 FERC ¶ 61257, 62253-56 (1997) (approving PJM's locational marginal pricing model); Sacramento Mun. Util. Dist. v. Fed. Energy Regulatory Comm'n, 616 F.3d 520, 524-26 (D.C. Cir. 2010) (discussing the history of California's implementation of locational marginal pricing).
52. *See* Burcin Unel & Bethany Davis Noll, *Markets, Externalities and the Federal Power Act: The Federal Energy Regulatory Commission's Authority to Price Carbon Dioxide*, 27 N.Y.U. Envtl. L.J. 1, 26-36 (2019).
53. Fed. Energy Regulatory Comm'n v. Elec. Power Supply Ass'n, 136 S. Ct 760, 774 (2016) (internal quotation marks omitted).
54. *See* Todd S. Aagaard, *Energy-Environment Policy Alignments*, 90 Wash. L. Rev. 1517, 1533 (2015) ("A rational regulatory approach . . . would pursue an efficient market that would be both competitive and would internalize externalities."); Joel B. Eisen, *FERC's Expansive Authority to Transform the Electric Grid*, 49 U.C. Davis L. Rev. 1783, 1783 (2016) (FERC's jurisdiction extends to the terms and conditions of the operation of wholesale markets that affect the markets directly and significantly); Miss. Indus. v. Fed. Energy Regulatory Comm'n, 808 F.2d 1525, 1553 (D.C. Cir. 1987), *vacated in part on other grounds*, 822 F.2d 1103 (D.C. Cir. 1987) (upholding FERC's jurisdiction over capacity that directly affects costs and thus rates); Municipalities of Groton v. Fed. Energy Regulatory Comm'n, 587 F.2d 1296, 1296 (D.C. Cir. 1978); Cal. Indep. Sys. Operator Corp., 119 FERC ¶ 61076, ¶¶ 540-56 (2007) (finding that maintaining adequate resources falls within Commission jurisdiction because it has a direct and significant effect on wholesale rates and services); ISO New England, Inc., 119 FERC ¶ 61161, ¶¶ 18-30 (2007) (same).
55. *See supra* Part I.B.
56. *See supra* Part I.B.
57. *See* Pindyck & Rubinfeld, *supra* note 16, at 648.
58. *See, e.g.*, Demand Response Compensation in Organized Wholesale Energy Markets, 76 Fed. Reg. 16658, 16664 (2011) (to be codified at 18 C.F.R. pt. 35) (describing concerns that fossil fuel-priced generation is mispriced).
59. *See* Catherine M.H. Keske et al., *Total Cost Electricity Pricing: A Market Solution for Increasingly Rigorous Environmental Standards*, 25 Electricity J. 7 (2012) (describing Colorado's experience with one type of "adder" program); *see also* Bateman & Tripp, *supra* note 24, at 329 (describing an approach that would internalize the cost of carbon in the wholesale markets).

as well.[60] Instead, the question is whether the practice directly affects rates. To illustrate, *FERC v. EPSA* approved demand response programs, which might also have an environmental benefit by decreasing the need for emission-intensive generators.[61] But, rather than focus on the question of whether FERC had authority to address the environmental aspects of the program, the Court focused on whether the program directly affects rates.[62] With CO_2 emissions too, the principle that should guide FERC's decision to regulate is whether the practice "directly affect[s] the wholesale rate" and not whether the decision has environmental implications.[63]

And it is clear that CO_2 emissions cause a market failure that is directly related to rates. The market failure is directly related to the social marginal cost of electricity generation and the efficient price that suppliers should receive for producing electricity as well as the "costs actually caused by the customer who must pay them."[64] Because the FPA gives authority to FERC to harness efficiency in pursuit of just and reasonable rates, it must also give FERC authority to correct externalities of this sort. In fact, barring FERC from regulating those externalities perpetuates an inefficiency and "would subvert the FPA."[65]

IV. The Limits on FERC's Authority to Address Externalities Related to Carbon Dioxide Emissions

FERC's authority to address CO_2 emissions is not without bounds. There are three important constraints to bear in mind.

A. Areas of Traditional State Control

The FPA grants FERC authority over wholesale sales only, "and thereby maintains a zone of exclusive state jurisdiction."[66] FERC does "not have jurisdiction . . . over facilities used in local distribution."[67] Indeed, states have "traditional authority over the need for additional generating capacity, the type of generating facilities to be licensed, land use, ratemaking, and the like"[68] and the FPA has preserved that authority.[69]

If FERC acts within its authority to regulate wholesale rates, the fact that a carbon price might affect state programs would not invalidate FERC's action, however.[70] States retain the authority to "develop whatever capacity resources they wish,"[71] and any incidental effect that those resources might have on wholesale markets is permissible.[72] But it would remain within FERC's authority to consider whether to adjust market rules in response.[73]

This is analogous to EPA's actions in issuing the Clean Power Plan,[74] which imposed national guidelines restricting CO_2 emissions. Those guidelines may affect state decisions, just like a carbon price. But because EPA was acting within its statutory authority, any impact on the states was permissible.[75] Under either statute, states have authority over their generation mix, and any effort to explicitly and directly interfere with that authority would require a clear statement from Congress. But if FERC were to set a carbon price in order to correct a market failure or approve a carbon pricing plan, that would be within FERC's statutory authority.[76]

Conversely, carbon pricing would not eliminate or "water down" any other non-carbon-related policies that states have.[77] Because as long as states do not directly supplant wholesale rates, states remain free to pursue policies that may affect rates.[78] But if FERC sets a price on CO_2 emissions to directly undermine state programs that promote certain generation types, it could face a significant challenge.

60. *See, e.g.*, John Moot, *Subsidies, Climate Change, Electric Markets and the FERC*, 35 Energy L.J. 345, 348 (2014) (arguing that action by FERC to price CO_2 emissions would "constitute a jurisdictional bridge too far"); Justin Gundlach & Romany Webb, Columbia Law Sch. Sabin Ctr. for Climate Change Law, Carbon Pricing in New York: ISO Markets 2 (2017), https://ssrn.com/abstract=2876895 ("Many view climate change as an environmental externality whose attendant costs lay beyond the scope of what ought to inform FERC's assessment of wholesale rates' justness and reasonableness."). *But see* Bateman & Tripp, *supra* note 24, at 279 (arguing that FERC has authority to "consider environmental factors in its rate regulation").
61. *See* Fed. Energy Regulatory Comm'n v. Elec. Power Supply Ass'n, 136 S. Ct. 760, 767, 46 ELR 20021 (2016); Aagaard, *supra* note 54, at 1557 (explaining that FERC found demand response programs to have "possible environmental benefits") (citing Fed. Energy Regulatory Comm'n, Assessment of Demand Response & Advanced Metering 5 (2008), http://www.ferc.gov/legal/staff-reports/demand-response.pdf).
62. *See Elec. Power Supply Ass'n*, 136 S. Ct. at 774.
63. *See id.*
64. Ill. Commerce Comm'n v. Fed. Energy Regulatory Comm'n, 576 F.3d 470, 476 (2009).
65. *Elec. Power Supply Ass'n*, 136 S. Ct. at 780.
66. *Id.* at 767.
67. 16 U.S.C. §824(b)(1) (2012). Similarly, FERC's jurisdiction over electric reliability is limited to the "bulk-power system" which explicitly excludes "facilities used in the local distribution of electric energy." §824o.
68. *Pac. Gas & Elec. Co.*, 461 U.S. at 212; *see also* Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393, 417, 43 ELR 20201 (2d Cir. 2013) (traditional state authority includes the ability to "direct the planning and resource decisions of utilities").
69. *See generally* 16 U.S.C. §824(b).
70. *See Elec. Power Supply Ass'n*, 136 S. Ct. at 760; *see also* Eisen, *supra* note 54, at 1839, 1844 (explaining that *Elec. Power Supply Ass'n*, 136 S. Ct. at 760, demonstrates that FERC can regulate reliability "even if that impacts the states").
71. N.J. Bd. of Pub. Utilities v. Fed. Energy Regulatory Comm'n, 744 F.3d 74, 98 (3d Cir. 2014).
72. *See* Coalition for Competitive Elec., Dynergy Inc. v. Zibelman, 906 F.3d 41, 57 (2d Cir. 2018).
73. *See* Elec. Power Supply Ass'n v. Star, 904 F.3d 518, 524 (7th Cir. 2018) (explaining that the dual federal-state system allows states to set policies and FERC to determine what changes to make when regulating wholesale markets).
74. *See* Carbon Pollution Emission Guidelines for Existing Stationary Sources, 80 Fed. Reg. 64662, 64666 (2015) (to be codified at 40 C.F.R. pt. 60).
75. *See* Respondent EPA's Final Brief at 101-06, West Virginia v. EPA, No. 15-1363 (D.C. Cir. Apr. 22, 2016), https://www.edf.org/sites/default/files/content/epa_final.pdf (last visited Sept. 14, 2018).
76. *But see infra* Parts IV.B.
77. *See* Shelley Welton, *Electricity Markets and the Social Project of Decarbonization*, 118 Col. L. Rev. 1067, 1074, 1115 (2018) (arguing that state preferences for particular types of clean energy, particular locations or scales, or broad-based inclusion or redistribution" could be watered down if decarbonization happens at the federal wholesale level).
78. *See* Coalition for Competitive Elec., Dynergy Inc. v. Zibelman, 906 F.3d 41, 53-54 (2d Cir. 2018).

B. FERC's Decisions Must Be Based on Substantial Evidence

In order to require public utilities to implement tariff changes, FERC must justify its findings with a record supported by substantial evidence.[79] If FERC's judgment is not based on empirical evidence, it must be based on "reasonable economic propositions."[80] FERC must "specify the evidence on which it relied" and "explain how that evidence supports the conclusion it reached."[81]

As FERC's authority to set a carbon price is based on its role in promoting economic efficiency, its solutions to internalize this externality must be grounded in economic theory. The best solution is to charge emitters a price based on the external cost emissions impose on society.

The Interagency Working Group's Social Cost of Carbon represents the best estimate for the external damages of CO_2 emissions.[82] And the significant vetting and analysis that have been done on the estimate would allow FERC or an ISO/RTO to make the required showing that carbon pricing based on the Interagency Working Group's Social Cost of Carbon is supported by substantial evidence.

C. Rates Must Be Just and Reasonable

FERC actions must result in just and reasonable rates. To make the required showing, FERC would need to consider factors including whether the additional charge is reasonable and whether it properly balances customer and generator interests. Benefits of a wholesale price on carbon could include "harmonizing fragmented implementation" of renewable mandates and diversifying supply.[83] Auctions have begun to take the external costs of CO_2 emissions into account as utilities include the cost of compliance with an emissions reduction program in their bids. And FERC has deemed the resulting rates just and reasonable.[84] Similarly, fully internalizing the external cost of CO_2 emissions would be just and reasonable as it would promote an efficient marketplace.

V. Conclusion

FERC has long sought to regulate the market for energy by promoting efficiency. In pursuit of an efficient market, FERC has regulated market power, asymmetric information, public goods, and certain externalities. CO_2 emissions are just another externality. Unless the cost of the the emissions is internalized by the generators, the market outcomes will not maximize social welfare. By failing to address this market failure, FERC falls short of satisfying its mandate to ensure just and reasonable rates.

79. *See* S.C. Pub. Serv. Auth. v. Fed. Energy Regulatory Comm'n, 762 F.3d 41, 65 (D.C. Cir. 2014).
80. *Id.*
81. *Id.* at 54.
82. *See* Richard Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 Science 655 (2017).
83. Ari Peskoe, *Easing Jurisdictional Tensions by Integrating Public Policy in Wholesale Electricity Markets*, 38 Energy L.J. 1, 14 (2017); *see also* ISO New England Inc., 158 FERC ¶ 61138, ¶ 9 (2017) (finding that ISO-NE's plans to exempt new renewable generators that had received state subsidies from the minimum offer price rule was reasonable); Bateman & Tripp, *supra* note 24, at 313 (FERC could play a useful role in reducing inefficiencies in scattershot state-federal regulation of greenhouse gases).
84. *See, e.g.*, Nat'l Grid Generation, LLC, 143 FERC ¶ 61,163, ¶¶ 5, 12 (2013).

C O M M E N T

TOO MUCH RISK, TOO LITTLE REWARD

by Kim Smaczniak

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The Federal Energy Regulatory Commission (FERC) is a little-known and too-often ignored federal authority with the power to block or rapidly accelerate the transition to a clean energy future, and is thus indispensable to addressing climate change. Institute for Policy Integrity scholars Bethany A. Davis Noll and Burcin Unel are to be applauded for bringing into focus a regulatory space that is essential to efforts to decarbonize the power sector. Unfortunately, their article focuses exclusively on a silver bullet approach that poses far too much risk for too little reward. Rather than focus on reforms to regional grid operations that undisputedly fall within FERC's regulatory domain and that would level the playing field for renewables and other clean energy technologies and enable them to outcompete polluting generation, the article calls upon FERC to assert authority to regulate carbon pricing in the wholesale markets directly. Internalizing the public harms of carbon pollution in the price of wholesale electricity is a laudable goal. But David Noll and Unel are too sanguine about the perils of FERC's assuming the mantle of carbon cost regulator.

This Comment offers three points of critique to the authors' argument that FERC possesses authority under the Federal Power Act to impose a carbon price in the same manner that it has the power to address other market failures. First, the article downplays the litigation risk. The risk of court reversal is significant, and the opportunity cost of pursuing an untested construction of the Federal Power Act when lower hanging, more certain reforms remain ripe for the picking should not be discounted. Second, the authors do not seriously weigh the threat that FERC's setting of a carbon price as a component of a just and reasonable wholesale rate poses to *state* authority to price carbon or adopt other policies based on the social cost of carbon. State policies have been a key driver of the adoption of clean energy technologies, and the chilling of states' policy innovation would undercut rapid progress toward decarbonization goals.

Finally, the article ignores a central question: Is FERC really the entity we want to take on the role of regulating carbon emission externalities? Carbon pricing, while widely admired by technocrats for its efficiency, leaves much to be desired on other dimensions. On its own, it cannot achieve decarbonization on the time scales necessary, nor does it accommodate concerns about the equitable or political aspects of climate policy. But as a rate-regulator, FERC's toolbox of regulatory authorities is limited and its hands are tied from more holistic policy considerations. FERC also faces criticism over the influence of incumbent utility interests in agenda-setting and decisionmaking, while the agency remains relatively insulated from accountability to the public. FERC is mismatched to the task of setting the public value of carbon reduction. In short, while the downside risks of this path are high, the rewards may be limited.

I. Will the Courts Buy It?

Davis Noll and Unel contend that FERC can incorporate the cost of carbon into a wholesale market rate because the failure of prices to incorporate the social cost of carbon is a market inefficiency. They further argue that the social cost of carbon is uniquely "tied to" the cost of production of electricity. The direct link between the externality and the cost of producing electricity is essential to their legal theory, because FERC's oversight under the Federal Power Act is limited to wholesale rates and practices "directly affecting" rates.[1] The authors distinguish between carbon externalities and what they term "indirect environmental considerations," which do not have the same direct effect on the marginal cost of production and therefore fall beyond the scope of FERC's regulation of rates. Unlike other environmental or societal harms caused by power plants, the authors explain, the failure to price carbon affects market outcomes on the margins, such as which generators are dispatched in the auction, which in turn directly affect market rates.

But there is nothing unique about carbon in this regard. Any externality that varies based on the output of the plant is equally "tied to" the cost of production of electricity. If that externality is large enough, it matters on the margin and, under the authors' logic, will also "directly affect" rates. All manner of air, water, or land pollution that results from operation of a power plant meets this test. If FERC can use its authority to require carbon pricing, it could also require wholesale markets to internalize, for example, the public costs of coal ash. Coal ash is a toxic waste product of

1. 16 U.S.C. §824d(a); F.E.R.C. v. Elec. Power Supply Ass'n, 136 S. Ct. 760, 774 (2016) (reading into the statute a limit on FERC jurisdiction to practices that "directly" affect rates).

coal combustion that imposes tremendous harm to human health and the environment.[2] It is one of the highest volume forms of industrial waste in the country,[3] and it is costly to store or dispose of in a manner that limits public risk.[4] To the extent that the U.S. Environmental Protection Agency (EPA) or state environmental agencies mandate handling or disposal requirements to minimize the risk of coal ash, these costs are reflected in a generators' operating costs and thus in market prices. But, much like carbon, regulation of coal ash varies widely in its stringency from state-to-state.[5] Coal plants operating in lax jurisdictions face lower costs, gain a competitive advantage, and will be dispatched more often compared to an operationally equivalent plant located in a stricter jurisdiction. Wholesale prices in this scenario, too, are not socially efficient.

Under Davis Noll and Unel's theory of jurisdiction, FERC rapidly becomes not only the carbon price regulator, but the overseer of any significant market externality. Moreover, in the name of correcting such market inefficiencies, FERC would stray far from its traditional role to take on the tasks of an environmental or public health agency. To determine if wholesale rates adequately internalize the social cost of electricity production and fall within the range of reasonableness, FERC must assess the public harms of the externality. Ultimately, FERC would be obligated to explain how its choice of an estimate of the social cost of an externality is a reasonable one, and to respond to challenges to the underlying methodology or science. While an estimate of the social cost of carbon boils down to a tidy dollar/ton of gas emitted, the figure derives from a deep, cross-disciplinary assessment of decades of scientific study estimating the physical impacts of rising greenhouse gas concentrations and their economic consequences. Likewise, determining whether the social costs of coal ash are adequately internalized would require challenging assessments of the public health risks of various methods of disposal or treatment, and judgments of the adequacy of different regulatory requirements in mitigating those risks.

Without a principled line to limit FERC's jurisdictional reach, federal courts are likely to be skeptical of a construction of the Federal Power Act that leads FERC to such a fundamentally new role.

II. If FERC Prices Carbon, Can States Continue to Do So?

The authors argue that in implementing its own carbon pricing regime, FERC "would need to tread carefully so as not to intrude on an area of traditional state control." As long as states do not seek to "directly supplant" wholesale rates, the imposition of FERC-administered carbon pricing would not eliminate or "water down" state prerogatives to pursue climate policies that may affect rates. While I would agree with the authors that the best reading of the Federal Power Act's jurisdictional divide is to allow for significant overlap in federal and state domains, with each regulator's choices remaining intact so long as it does not directly regulate, "aim at," or "target" a matter in the other's exclusive purview,[6] the article underestimates the flood of litigation, risk of court losses, and corresponding uncertainty generated for state decisionmakers that ensues from its proposal.

The most recent U.S. Supreme Court jurisprudence leaves latent uncertainty as to the scope of state actions that are impermissibly "tethered" to a wholesale rate, and therefore preempted by the Federal Power Act.[7] Although states have held authority over the mix of generation serving its residents for decades prior to the formation of federally regulated markets, many eastern grid operators proposed, and FERC approved, mandatory capacity markets that place under federal authority the setting of prices so as to ensure an adequate supply of electricity in a region.[8] Much like the authors' theory, FERC asserted authority over the operation of the capacity market as a "practice affecting" electricity rates—an inadequate supply of capacity links directly to the cost of wholesale power.[9] But in *Hughes v. Talen*, this federal encroachment into the adequacy of supply ultimately led to the holding that Maryland and New Jersey could not provide additional payments beyond the wholesale market clearing price to incent the development of desirable power sources because such actions constituted an invasion of FERC's regulatory turf.[10]

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2. *See* U.S. EPA, Hazardous & Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities, 80 Fed. Reg. 21303 (Apr. 17, 2015); Julia Kravchenko & H. Kim Lyerly, *The Impact of Coal-Powered Electrical Plants and Coal Ash Impoundments on the Health of Residential Communities*, 79 N.C. Med J. 289 (2018) (literature review of 113 peer-reviewed studies document that "people living in close proximity to coal-fired plants had higher rates of all-cause and premature mortality, increased risk of respiratory disease and lung cancer, cardiovascular disease, poorer child health, and higher infant mortality").
3. U.S. EPA *supra* note 2; *see also* U.S. EPA, *Coal Ash Basics*, https://www.epa.gov/coalash/coal-ash-basics.
4. *See, e.g.*, Dominion Energy, Coal Combustion Residuals Ash Pond Closure Assessment: Senate Bill 1398 Response (Nov. 2017), https://www.dominionenergy.com/library/domcom/media/about-us/electric-projects/coal-ash/sb-1398-full-report.pdf?la=en (costs to address coal ash at just four out of more than 500 ponds nationwide estimated to surpass $10 billion).
5. *Compare* Missouri's proposed program, which EPA found did not meet backdrop federal requirements, *see* Eli Chen, *EPA Says Missouri's Plan to Regulate Coal Ash Ponds and Landfills Is Too Weak*, St. Louis Public Radio, https://news.stlpublicradio.org/post/epa-says-missouri-s-plan-regulate-coal-ash-ponds-and-landfills-too-weak#stream/0, *with* North Carolina's order requiring Duke Energy to excavate all remaining coal ash impoundments in the state and store the coal ash in lined landfills, North Carolina Dep't of Envt'l Quality, *DEQ Orders Duke Energy to Excavate Coal Ash at Six Remaining Sites* (Apr. 1, 2019), https://deq.nc.gov/news/press-releases/2019/04/01/deq-orders-duke-energy-excavate-coal-ash-six-remaining-sites.
6. *See, e.g.*, Matthew Christiansen & Joshua Macey, *Long Live the Federal Power Act's Bright Line*, 134 Harv. L. Rev. (forthcoming 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3591412## (delineating the small set of categories of federal and state actions that impermissibly cross the Federal Power Act's bright-line jurisdictional limits).
7. *See* Hughes v. Talen Energy Marketing, LLC, 136 S. Ct. 1288, 46 ELR 20078 (2016); Emily Hammond, Hughes v. Talen Energy Marketing, LLC*: Energy Law's Jurisdictional Boundaries—Take Three*, Geo. Wash. L. Rev. Docket (2016).
8. Shelley Welton, *Electricity Markets and the Social Project of Decarbonization*, 118 Colum L. Rev. 1067, 1080-82 (2018).
9. *See* Connecticut Dep't of Pub. Util. Control v. F.E.R.C., 569 F.3d 477, 484 (D.C. Cir. 2009) (describing cases reviewing FERC authority to review and allocate capacity charges and set capacity purchase requirements).
10. *Hughes*, 136 S. Ct. at 1297.

Just as *Hughes* unleased a series of preemption suits against state policies seeking to incentivize zero emissions generation,[11] so too would an action by FERC to price carbon. Once the cost of carbon becomes a component of the wholesale rate subject to FERC regulation, litigious industry members will sharpen their knives and come after state policies as impermissibly augmenting the wholesale value of carbon reduction set by FERC. Any state policy aimed at addressing climate change and internalizing the social costs of carbon emissions could be targeted, not only explicit state or regional carbon pricing. Forcing states to guise their climate objectives and emphasize the other social values (jobs, other environmental benefits) advanced by these policies may be manageable, but constrains state policy space. After years of litigation, the dust may settle and state authorities may rightly be vindicated. But those lost years of state policy innovation and climate progress are not costless, particularly given the urgency of climate action.

III. Would FERC Make a Good Carbon Regulator?

FERC is a rate regulator that is limited by statute largely to reviewing rates proposed by public utilities, and only taking on a more proactive role in setting rates where it has the factual record to conclude existing rates are inconsistent with the statute.[12] FERC does not have the tools to do more than adjust rates—it cannot take into account or respond to the broader social, economic, and distributional opportunities and impacts of climate policy.[13] The response to climate change entails a massive shift in capital away from fossil fuel-based industry toward alternatives; it fundamentally changes job prospects, tax bases, and where fortunes are made. A growing consensus among advocates for climate action demands that climate policies embed equity and prioritize improving the health and well-being of communities disproportionately harmed by fossil fuel generation.[14] In a nutshell, climate policy is political, and the best and most sustainable policies will reflect and respond to that broader context.

Further, pricing carbon in wholesale markets is nowhere near sufficient to ensure the rapid pace of change in the power sector necessary to avoid dangerous global temperature rise. To show this concretely, consider the New York Independent System Operator (NYISO) proposal to incorporate the social cost of carbon into wholesale market prices within New York state. Analysis of the proposal reveals that, while such pricing produces substantial social welfare benefits, in a given year carbon pricing reduces dependence on gas in the power sector around three percent, and only rising to about seven percent by 2030.[15] That pace of decarbonization is just too slow, given that decarbonization of the transportation and building sectors largely depends on first achieving deep decarbonization of the power sector. Many other policies are needed, from reforms of grid operational rules, to emission standards and mobilization of large-scale public investments, to achieve ambitious decarbonization goals.

FERC cannot offer multi-dimensional climate policy. It cannot reinvest revenues from carbon prices into communities, infrastructure, or innovation. It cannot seek to shift where emissions reductions occur to account for historic injustices and environmental racism. The gains of anointing FERC as the federal carbon cost regulator are modest at best.

Nor is it clear that FERC is positioned to succeed as an ambitious implementer of carbon pricing. FERC lacks much of the expertise needed to independently assess the social costs of carbon or other environmental externalities. FERC tends to be an enclave of bulk power specialists, attracting industry insiders because that is the know-how needed for the job, but which creates challenges to cross-disciplinary collaboration. Further, FERC-regulated markets have been criticized as vulnerable to the influence of incumbent business interests and insulated from public accountability,[16] raising the question whether FERC-administered carbon prices will achieve the scale and ambition needed.

Climate change is urgent, and many and more creative solutions are called for. Yet in the realpolitik, where political administrations and agencies face limited resources and political capital, assessment of the risks and rewards of a path is vital. If setting FERC on the path to pricing carbon in wholesale markets ultimately does not make that cut, I'm not convinced we should be disappointed.

11. *See* Welton, *supra* note 8, at 1119-22 (describing cases filed in aftermath of *Hughes* and ongoing litigation risks).
12. NRG Power Mktg., LLC v. F.E.R.C., 862 F.3d 108, 114 (D.C. Cir. 2017) (FERC's role under §205 of the Federal Power Act is a "passive and reactive" one (citation omitted)).
13. This is not meant to impugn the power of the regulatory tools FERC does have at its disposal, which can greatly shape investments in transmission and generation that drive decarbonization.
14. *See, e.g.*, Equitable & Just National Climate Platform, *A Vision for an Equitable and Just Climate Future*, https://ajustclimate.org/index.html; David Roberts, *At Last, a Climate Policy Platform That Can Unite the Left*, Vox (May 27, 2020), https://www.vox.com/energy-and-environment/21252892/climate-change-democrats-joe-biden-renewable-energy-unions-environmental-justice.
15. *See* Sue Tierney & Paul J. Hibbard, *Clean Energy in New York State: The Role and Economic Impacts of Carbon Pricing in NYISO's Wholesale Markets*, Analysis Group 51 (Oct. 3, 2019), https://www.analysisgroup.com/news-and-events/news/energy-experts-from-analysis-group-document-impacts-of-a-groundbreaking-proposal-for-carbon-pricing-in-new-york/.
16. *See, e.g.*, Letter to Chairman Chatterjee and FERC Commissioners from trade groups, consumer advocates, and public interest organizations (June 12, 2019), https://www.nasuca.org/nwp/wp-content/uploads/2019/06/Multi-trade-electricity-consumer-letter-to-FERC-FINAL.pdf (Regional grid "decision-making processes do not always adequately consider the voices of customers, innovators, and other new entrants to wholesale electricity markets. The processes often favor incumbents, which have resulted in problems with transparency, accountability, and market performance.").

ARTICLE

MAKING SUSTAINABILITY DISCLOSURE SUSTAINABLE

by Jill E. Fisch

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The extent to which corporations should incorporate sustainability objectives into their operational decisionmaking is highly contested, as is the relationship between societal impact and economic value.[1] At the same time, issuers are incorporating sustainability considerations into their business operations in response both to investor demands and to the claim that sustainable business practices lead to improved economic performance.[2]

Although the focus on increasing sustainability disclosure is accelerating both in the United States and globally,[3] investors continue to report dissatisfaction with existing disclosures.[4] This Article proposes a solution—mandating a Sustainability Discussion and Analysis (SD&A) as part of an issuer's annual report to shareholders. The SD&A would be modeled after existing Management Discussion and Analysis (MD&A) and Compensation Discussion and Analysis (CD&A) and would reflect a similar principles-based approach to those provisions.[5]

The SD&A would require an issuer to disclose, at a minimum, the three sustainability issues that are most significant for the firm's operations, to explain the basis for that selection, and to explain the impact of those issues on firm performance. Implementing the SD&A would require that the SEC issue guidance by identifying sustainability issues that are likely to be material to investors and articulating the principles that issuers should apply in preparing their SD&As.[6] It would subject sustainability disclosure to SEC oversight through its review of issuer securities filings and, when applicable, liability exposure for fraudulent misrepresentations. To ensure the board's involvement in overseeing both the development of issuers' sustainability practices and the disclosure of those practices, this proposal would require directors to certify the accuracy of the disclosures contained in the SD&A.

I. Background and Existing Sustainability Disclosure Practices

A. The Concept of Sustainability Disclosure

The idea behind corporate sustainability is decisionmaking that incorporates social, political, and ethical concerns in addition to traditional financial performance.[7] Experts use a variety of terms to describe corporate sustainability, including CSR (Corporate Social Responsibility),[8] ESG (Environmental, Social, and Governance),[9] "triple bottom line,"[10]

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1. *See, e.g.*, Robert G. Eccles et al., *The Impact of Corporate Sustainability on Organizational Processes and Performance*, 60 Mgmt. Sci. 2835, 2836 (2014).
2. *See, e.g.*, KPMG, ESG, Strategy, and the Long View: A Framework for Board Oversight 7 (2017), https://assets.kpmg.com/content/dam/kpmg/lu/pdf/lu-en-esg-strategy-framework-for-board-oversight.pdf; *The UN Global Compact—Accenture Strategy CEO Study*, Accenture (2016), https://www.accenture.com/us-en/insight-un-global-compact-ceo-study [https://perma.cc/39W3-MHMN].
3. Adam Sulkowski & Sandra Waddock, *Beyond Sustainability Reporting: Integrated Reporting Is Practiced, Required and More Would Be Better*, 10 U. St. Thomas L.J. 1060, 1061 (2013).
4. PWC, Sustainability Goes Mainstream: Insights Into Investor Views 7 (2014), https://www.pwc.com/us/en/pwc-investor-resource-institute/publications/assets/pwc-sustainability-goes-mainstream-investor-views.pdf. Bloomberg, Impact Report Update 2015, at 2 (2016), https://data.bloomberglp.com/company/sites/39/2018/03/Impact_Report_2015.pdf.
5. *See, e.g.*, Business and Financial Disclosure Required by Regulation S-K, Securities Act Release No. 10064, Exchange Act Release No. 77599, 81 Fed. Reg. 23916, 23925 (proposed Apr. 22, 2016).
6. *See generally*, Business and Financial Disclosure Required by Regulation S-K, Securities Act Release No. 10064, Exchange Act Release No. 77599, 81 Fed. Reg. 23916, 23924-26 (proposed Apr. 22, 2016).
7. *See* Business and Financial Disclosure Required by Regulation S-K, Securities Act Release No. 10064, Exchange Act Release No. 77599, 81 Fed. Reg. 23916, 23970-71 (proposed Apr. 22, 2016).
8. *See, e.g.*, John M. Conley & Cynthia A. Williams, *Engage, Embed, and Embellish: Theory Versus Practice in the Corporate Social Responsibility Movement*, 31 J. Corp. L. 1, 1 (2005).
9. *See, e.g.*, NASDAQ, ESG Reporting Guide: A Support Program for Nasdaq Issuers Focus Area: Nordic & Baltic Markets 10 (2017), http://business.nasdaq.com/media/ESG-Reporting-Guide_tcm5044-41395.pdf.
10. *See, e.g.*, John Elkington, Cannibals With Forks: The Triple Bottom Line of 21st Century Business (photo reprint 1999) (1997); *see also About*, DBL Partners, http://www.dblpartners.vc/about/ (last visited Nov. 18, 2018).

and "societal impact."[11] Recently, interest in sustainability disclosure has spread from special-interest investors, such as ethical investment funds, to mainstream investors. Traditional investors use sustainability disclosures to evaluate business risk[12] and have suggested that sustainability disclosure provides insights into a board's level of engagement and oversight.[13]

These analyses identify a potential relationship between sustainability and economic performance. Several studies support the claim that sustainability factors are related to operating performance and share price.[14] However, the SEC has taken the view that sustainability disclosure is ordinarily not material and that mandatory disclosure should be limited to information that is useful to investors.[15]

B. The History of Sustainability Disclosure Under the Federal Securities Laws

With limited exceptions, described below, the SEC has not required issuers to disclose specific categories of sustainability information.[16] Instead, the SEC has taken the position that such information may need to be disclosed only to the extent it relates to an existing disclosure requirement or is necessary to prevent a required disclosure from being misleading.[17] The benchmark is whether the information is material to investors.[18] The SEC's usual position is that the materiality standard should be understood in terms of the information's economic or financial impact.[19]

On several occasions, the SEC has modified its approach to require more comprehensive disclosure with respect to specific sustainability issues. After regularly allowing corporations to exclude shareholder proposals seeking to address executive pay, for example,[20] the SEC changed its position and imposed extensive mandatory disclosure requirements.[21] The SEC's position similarly shifted with respect to climate change disclosure. In 2010, the SEC advised issuers that they were required to disclose material information about their exposure to risks resulting from climate change, explaining that this requirement was based in several existing provisions of Regulation S-K, including the MD&A, the required disclosure of legal proceedings, and the section on risk factors.[22] Climate change disclosure remains limited due in large part to the vagueness of the disclosure obligation and issuers' ability to determine, in their judgment, that a given issue is not material enough to warrant disclosure.[23]

C. Voluntary Sustainability Disclosure

In the absence of a uniform and universal mandatory regime, market forces continue to fuel the growth of voluntary sustainability disclosure.[24] Most sustainability information is disclosed not in issuer financial or securities filings, but in standalone sustainability reports. The dominance of voluntary disclosure has contributed to the proliferation of global standard-setters seeking to promulgate disclosure standards or guidelines or rate issuers on the quality of their disclosure or sustainability practices.

One way that private organizations contribute to the quality and usability of sustainability disclosure is by promulgating disclosure standards. The Global Reporting Initiative (GRI), an international organization founded 20 years ago as a U.S. nonprofit, is one of the best-known private standard-setting organizations. Companies around the world use the GRI's standards for sustainability reporting in whole or in part.[25] Another well-known standard-setting organization is the Sustainability Accounting Standards Board (SASB).[26] In contrast to the GRI, the SASB's focus has been to develop disclosure standards that are incorporated into SEC filings rather than separate sustainability reports. The volume of sustainability information disclosed in accordance with these and other standards complicates

11. *See, e.g.*, Shlomit Azgad-Tromer, *Corporations and the 99%: Team Production Revisited*, 21 Fordham J. Corp. & Fin. L. 163, 184 (2016).
12. *See, e.g.*, Jonas Kron, Senior Vice President, Trillium Asset Mgmt., No-Action Letter on the Middleby Corporation Exchange Act Rule 14a-8 (Mar. 23, 2018), https://www.sec.gov/divisions/corpfin/cf-noaction/14a-8/2018/trilliumassetetal032318-14a8.pdf (arguing that ESG reporting "allows companies to better integrate and capture value from existing sustainability efforts, identify gaps and opportunities in policies and practices, strengthen risk management programs, stimulate innovation, enhance company-wide communications, and recruit and retain employees").
13. *See, e.g.*, Ronald P. O'Hanley, *Long-Term Value Begins at the Board*, Harv. Law Sch. Forum on Corp. Gov. & Fin. Reg. (Mar. 20, 2017), https://corpgov.law.harvard.edu/2017/03/20/long-term-value-begins-at-the-board/.
14. *See, e.g.*, Savita Subramanian et al., Bank of Am. Merrill Lynch, Equity Strategy Focus Point-ESG Part II: A Deeper Dive 2 (2017), http://www.hubsustentabilidad.com/wp-content/uploads/2017/07/equityStrategyFocusPointADeeperDive.pdf.
15. *Cf.* Cynthia A. Williams, *The Securities and Exchange Commission and Corporate Social Transparency*, 112 Harv. L. Rev. 1197, 1247-63 (1999).
16. Outside of the United States, mandatory disclosure of sustainability information is increasingly required. *See, e.g.*, Wim Bartels et al., KPMG Int'l et al., Carrots & Sticks: Global Trends in Sustainability Reporting Regulation and Policy 9 (2016), https://www.globalreporting.org/resourcelibrary/Carrots%20and%20Sticks-2016.pdf (summarizing growth in sustainability reporting instruments) (documenting the trend toward mandatory disclosure requirements).
17. *See, e.g.*, Business and Financial Disclosure Required by Regulation S-K, Securities Act Release No. 10064, Exchange Act Release No. 77599, 81 Fed. Reg. 23916, 23970 (proposed Apr. 22, 2016).
18. *See id.*
19. Business and Financial Disclosure Required by Regulation S-K, Securities Act Release No. 10064, Exchange Act Release No. 77599, 81 Fed. Reg. 23916, 23971 n.687 (proposed Apr. 22, 2016).
20. *See, e.g.*, Jill E. Fisch, *From Legitimacy to Logic: Reconstructing Proxy Regulation*, 46 Vand. L. Rev. 1129, 1158-59, 1159 n.132 (1993).
21. *See* Executive Compensation Disclosure, Securities Act Release No. 6962, Exchange Act Release No. 31327, 57 Fed. Reg. 48126, 48126-59 (Oct. 21, 1992).
22. Commission Guidance Regarding Disclosure Related to Climate Change, Securities Act Release No. 9106, Exchange Act Release No. 61,469, 75 Fed. Reg. 6289, 6293-97 (Feb. 8, 2010).
23. *See* ExxonMobil Corp., Annual Report (Form 10-K) (Feb. 28, 2018).
24. *See* Elisse B. Walter, *The Future of Sustainability Disclosure: What Remains Unchanged in an Environment of Regulatory Uncertainty?*, Harv. L. Sch. F. on Corp. Governance & Fin. Reg. (Dec. 7, 2016), https://corpgov.law.harvard.edu/2016/12/07/the-future-of-sustainability-disclosure-what-remains-unchanged-in-an-environment-of-regulatory-uncertainty/ [https://perma.cc/QBH9-TWB6].
25. *GRI Standards*, GRI, https://www.globalreporting.org/standards [https://perma.cc/7GXM-QK54] (last visited Sept. 13, 2018); *see also* KMPG, The Road Ahead: The KPMG Survey of Corporate Responsibility Reporting 2017, at 29 (2017), https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2017/10/kpmg-survey-of-corporate-responsibility-reporting-2017.pdf.
26. *Standards Overview*, SASB, https://www.sasb.org/standards-overview/ [https://perma.cc/BEP2-E5R7] (last visited Oct. 25, 2018) (describing the development of the SASB's sustainability standards).

the task of evaluating a particular issuer's sustainability practices.[27] A number of organizations offer sustainability rankings or ratings to assist in this endeavor.[28]

II. Limitations of Existing Sustainability Disclosure

Under the current regime, sustainability disclosures are fragmented, of inconsistent quality, and often unreliable.[29] Issuers are incentivized to focus on the positive aspects of their business practices and to omit unfavorable information in a practice known as greenwashing.[30] This problem is compounded by a lack of standardization that makes it difficult for investors to compare information across issuers, in addition to the limited regulatory oversight of sustainability disclosure. Voluntary disclosure also tends to be vague, general, or boilerplate, rather than providing investors with the specific information that would enable comparison of companies' sustainability practices.[31] Other limitations include the absence of standardized disclosure requirements, which may lead issuers to disclose such a high quantity of information that it results in information overload.[32]Although third-party ratings and rankings attempt to address the comparability issue, they suffer from some of the same defects,[33] including limitations in coverage, differences in the information used, and heavy reliance on issuer-supplied information. In addition, rating agencies do not produce consistent results, presumably due in part to methodological differences.

Finally, sustainability reporting is not reliable. Such reporting mostly occurs in standalone reports that are not integrated with the issuer's securities filings. These reports are often prepared by public relations or marketing personnel and, as a result, contain disclosures that do not meet the standards applied to securities filings. Furthermore, they are not routinely prepared or reviewed by disclosure lawyers, reviewed or certified by the CEO or board of directors, or subject to the oversight of third-party auditors. Sustainability reports also are not filed with and reviewed by the SEC.

These limitations in the existing framework are behind investors' demands for an SEC rule that mandates sustainability reporting. However, the challenge in adopting a disclosure mandate for sustainability within the existing securities disclosure framework is in the implementation. Designing a line-item series of disclosures to address sustainability is likely unworkable, and a principles-based approach appears more appropriate.

III. SD&A: A Proposed Approach for Mandated Sustainability Disclosure

This Article proposes that the SEC implement a new disclosure requirement of sustainability discussion and analysis as part of Regulation S-K, thereby requiring issuers to include SD&A reporting as part of their annual reports.

A. MD&A and CD&A: The Models for an SD&A Requirement

The SD&A requirement is modeled on two existing narrative disclosure frameworks: MD&A and CD&A. The MD&A disclosure requirement—contained in Item 303 of Regulation S-K—was adopted specifically to supplement the line-item disclosures with more flexible and company-specific disclosures.[34] Importantly, Item 303 creates an affirmative and nonspecific duty to disclose material information when management knows of a trend, demand, commitment, or uncertainty.[35] In its 1989 Release, the SEC issued the following guidance: "A disclosure duty exists where a trend, demand, commitment, event or uncertainty is both presently known to management and reasonably likely to have material effects on the registrant's financial condition or results of operation."[36] The importance of MD&A disclosure continues to grow. As explained in one article, "[T]he MD&A is fast becoming the primary disclosure vehicle for management to relate its unique insider's critique of the registrant's financial performance and operations to help predict future performance."[37] On the other hand, the vague and flexible standard makes compliance difficult for issuers.[38]

The SEC adopted the CD&A, which is modeled on the MD&A, in 2006 as part of its executive compensation disclosure reforms.[39] The CD&A is intended "to provide to investors material information that is necessary to an understanding of the [company's] compensation policies

27. *See, e.g.*, *Rate the Raters: Understanding the Universe of Corporate Sustainability Rankings*, Sustainability, http://sustainability.com/rate-the-raters/(last visited Oct. 25, 2018).
28. *See, e.g.*, Barry B. Burr, *Global Initiative for Sustainability Ratings Launches Website for Comprehensive ESG Data*, Pensions & Invs. (Apr. 2, 2015, 2:49 PM), http://www.pionline.com/article/20150402/ONLINE/150409961/global-initiative-for-sustainability-ratings-launches-website-for-comprehensive-esg-data.
29. *See, e.g.*, Klaus Dingwerth & Margot Eichinger, *Tamed Transparency: How Information Disclosure Under the Global Reporting Initiative Fails to Empower*, 10 Global Envtl. Pol. 74, 88 (2010).
30. *See, e.g.*, Bryant Cannon, *A Plea for Efficiency: The Voluntary Environmental Obligations of International Corporations and the Benefits of Information Standardization*, 19 N.Y.U. Envtl. L.J. 454, 478 (2012).
31. *See, e.g.*, Robyn Bishop, *Investing in the Future: Why the SEC Should Require a Uniform Climate Change Disclosure Framework to Protect Investors and Mitigate U.S. Financial Instability*, 48 Envtl. L. 491, 500-01 (2018).
32. *See, e.g.*, Karen Bradshaw Schulz, *Information Flooding*, 48 Ind. L. Rev. 755, 756 (2015).
33. *See, e.g.*, Frank Partnoy, *What's (Still) Wrong With Credit Ratings?*, 92 Wash. L. Rev. 1407, 1410, 1412 (2017) (discussing the contribution of independent credit ratings to the financial crisis).
34. Management's Discussion and Analysis of Financial Condition and Results of Operations; Certain Investment Company Disclosures, Securities Act Release No. 6835, Exchange Act Release No. 26831, Investment Company Act Release No. 16961, 54 Fed. Reg. 22427, 22436 (May 24, 1989).
35. *Id*. at 22429.
36. *Id.*
37. John W. Bagby et al., *How Green Was My Balance Sheet?: Corporate Liability and Environmental Disclosure*, 14 Va. Envtl. L.J. 225, 299 (1995).
38. *See* Rick E. Hansen, *Climate Change Disclosure by SEC Registrants: Revisiting the SEC's 2010 Interpretive Release*, 6 Brook. J. Corp. Fin. & Com. L. 487, 495 (2012).
39. *See* Executive Compensation and Related Person Disclosure, Securities Act Release No. 8732A, Exchange Act Release No. 54302A, Investment Company Act Release No. 27444A, 71 Fed. Reg. 5358, 5364 (Sept. 8, 2006).

and decisions,"[40] focusing on "the most important factors relevant to analysis of those policies and decisions."[41]

Both the MD&A and CD&A disclosures are primarily principles-based. They offer flexibility that both permits tailoring the disclosures to the issuer's particular circumstances and allows the disclosures to evolve in response to changes in issuer and market conditions. The flexibility of the existing MD&A and CD&A disclosures is a primary reason to use them as the model for an SD&A requirement. At the same time, these disclosures suffer from several disadvantages relative to line-item disclosure requirements.[42] First, the disclosures offer management substantial discretion that is often exercised in favor of failing to disclose. Second, the disclosures are not as readily comparable as quantitative disclosure requirements. As a result, it is worth considering whether, in adopting the MD&A model for sustainability disclosure, that model can be refined to enhance its effectiveness.

B. *The SD&A Proposal*

The SD&A requirement proposed by this Article would require issuers to identify and explain the three sustainability issues most significant to their operations. The required disclosure would include a discussion of the potential impact of those sustainability issues on the issuer's economic performance and an explanation of the basis for the issuer's determination of significance.[43] Analogous to the MD&A, the SD&A would be framed in terms of known or reasonably knowable sustainability issues that, in the opinion of the board of directors, are material to the issuers' business plan or operations.

By requiring the SD&A to focus on the specific issues that are most important to a particular issuer's operations, the proposal addresses the difficulty of reconciling sustainability disclosure with existing standards of materiality. In addition, a requirement that issuers disclose the three most material issues reduces the potentially burdensome impact associated with a more ambitious disclosure requirement, while providing more objectivity than the generic but uncabined materiality standard currently reflected in the SEC's approach to MD&A disclosure. The SEC's adopting release would identify the range of topics that have been identified within the framework of sustainability, such as "climate change, resource scarcity, corporate social responsibility, and good corporate citizenship,"[44] but would note that the identification of material sustainability issues is industry- and issuer-specific.

The SD&A proposal would modify the guidelines of Item 303 to place responsibility for the determination of what sustainability issues require disclosure in the hands of the board of directors, rather than management.[45] This is consistent with one of the main reasons proffered by investors for requiring sustainability disclosure: that such disclosure provides them with valuable insight into the board's familiarity with and oversight of critical issues such as risk management. The board or a sustainability committee of the board[46] would also be required to sign the SD&A.[47] The certification requirement would encourage issuers to develop systems for collecting and communicating the information necessary for the board to meet this obligation.[48] The rationale for requiring both board responsibility and certification is to ensure that the process of preparing the SD&A enhances the board's role in understanding and overseeing the issuer's sustainability practices.

The SD&A requirement would be enforced through a combination of public and private enforcement. The SEC staff would review and comment on issuers' SD&A disclosures as part of its review of securities filings and would have the authority to bring enforcement actions against issuers and individual directors for failure to comply. In addition, fraudulent misrepresentations and omissions in an issuer's SD&A would be actionable under Rule 10b-5,[49] and shareholders could, in appropriate cases, pursue private litigation.[50]

IV. Advantages and Limitations of SD&A

A. *The SD&A Proposal Is a Workable First Step*

A key advantage to the SD&A proposal is its workability. One of the challenges in formulating a mandatory sustainability disclosure requirement is that the topic of sustainability is vast and open-ended. Increasing the number of issues addressed, requiring issuers to provide hard sustainability data, and formulating line-item disclosure requirements would potentially increase the informational content of sustainability disclosure, at a substantial cost both to issuers preparing the information and to investors

40. 17 C.F.R. §229.402, Instructions to Item 402(b), ¶ 1 (2018).
41. *Id.* ¶ 3.
42. *See generally* Brief of Professors at Law and Business Schools as Amicus Curiae in Support of Respondents, Leidos, Inc. v. Ind. Pub. Ret. Sys., 137 S. Ct. 1395 (2017) (No. 16-581), 2017 WL 8291737 [hereinafter *Leidos* Amicus Brief].
43. *See, e.g.*, Robert G. Eccles & Tim Youmans, *Materiality in Corporate Governance: The Statement of Significant Audiences and Materiality* 6 (Harvard Bus. Sch., Working Paper No. 16-023, 2015), https://www.hbs.edu/faculty/Publication%20Files/16-023_f29dce5d-cbac-4840-8d5f-32b21e6f644e.pdf.
44. Business and Financial Disclosure Required by Regulation S-K, Securities Act Release No. 10064, Exchange Act Release No. 77599, 81 Fed. Reg. 23916, 23970 (proposed Apr. 22, 2016).
45. *See* Afra Afsharipour, *Corporate Social Responsibility and the Corporate Board: Assessing the Indian Experiment*, *in* Globalisation of Corporate Social Responsibility and Its Impact on Corporate Governance 101-04 (Jean J. du Plessis et al. eds., 2018).
46. *See, e.g.*, Jayne W. Barnard, *At the Intersection of Corporate Governance and Environmental Sustainability*, 2 Wm. & Mary Bus. L. Rev. 207, 207 (2011).
47. This requirement was part of Jeffrey Gordon's proposal for CD&A but was not adopted. *See* Jeffrey N. Gordon, *Executive Compensation: If There's a Problem, What's the Remedy? The Case for "Compensation Discussion and Analysis,"* 30 J. Corp. L. 675, 695 (2005).
48. *See, e.g.*, Robert Charles Clark, *Corporate Governance Changes in the Wake of the Sarbanes-Oxley Act: A Morality Tale for Policymakers Too*, 22 Ga. St. U. L. Rev. 251, 266 (2005); *see also* Robert A. Prentice & David B. Spence, *Sarbanes-Oxley as Quack Corporate Governance: How Wise Is the Received Wisdom?*, 95 Geo. L.J. 1843, 1898-1907 (2007).
49. 17 C.F.R. §240.10b-5 (2018).
50. *See generally* Jill E. Fisch, *Confronting the Circularity Problem in Private Securities Litigation*, 2009 Wis. L. Rev. 333.

relying on it. Instead, the SD&A proposal offers a balance between informational value and workability. In particular, the requirement that issuers determine which sustainability issues are most important and explain the basis for their determination might reduce the propensity of issuers to engage in duplicative or boilerplate disclosure that is likely to be uninformative.[51] In addition, a more comprehensive disclosure requirement would force regulators to answer difficult questions about which sustainability issues warrant disclosure to create line-item disclosure requirements and evaluate contested claims about the economic materiality of the required information.

The SD&A requirement creates an explicit, although limited, affirmative reporting obligation rather than simply leaving sustainability issues within the ambiguous materiality assessment applicable to an issuer's overall MD&A and risk-factor disclosure. At the same time, the mandate would have the practical effect of requiring issuers to examine and evaluate the impact of a broader range of sustainability issues than those covered by the three most significant mandated disclosures, because this evaluation would be necessary to determine which issues to disclose.

The SEC's adoption of an SD&A requirement would reverse its prior position distinguishing sustainability issues from financial performance and encourage a norm in which issuers and their boards view sustainability considerations as part of their operational strategy. The SD&A would also manage investor expectations. Although a wide range of sustainability issues may be relevant to investors, formalizing the type and quantity of such disclosure that is required enhances predictability and investor confidence.

B. SD&A Reporting Will Promote Comparability

In addition, the SD&A proposal would promote the comparability of sustainability disclosure. Including sustainability disclosures within an issuer's securities filings and subjecting those disclosures to SEC staff review and comment is likely to have a significant effect on comparability. Although only a small percentage of 10-Ks receive staff comment letters, a variety of industry participants review the letters and report to issuers on trends in SEC policies and concerns with respect to 10-K disclosure.[52] These reports and the SEC reviews themselves lead to revisions and refinements of the narrative disclosures in the MD&A and CD&A.[53] This review process is likely to generate common disclosure policies among issuers, particularly for those in the same or related industries.[54]

C. SD&A Will Improve Sustainability Disclosure Reliability

Finally, SD&A would improve the reliability of sustainability disclosure over the current system. Under this proposal, sustainability disclosures would be prepared by disclosure attorneys rather than marketing personnel and subjected to the same verification requirements as traditional financial disclosures. Furthermore, the SD&A proposal would impose accountability on the board of directors for sustainability disclosures. The board's role in overseeing and certifying the sustainability disclosures would require that it set up reporting systems to receive information regularly about the issues addressed in the SD&A and their impact on operations. In addition, it would enable the board to incorporate sustainability considerations into its analysis of strategic issues and operational risk management.

Even if some firms make high-quality sustainability disclosures under the existing voluntary system, a mandatory system is likely to improve the quality of sustainability disclosure more broadly. An analogous examination of the shift from voluntary to mandatory disclosure of risk factors found that, although those firms facing significant litigation risk made substantial disclosures under a voluntary regime, mandatory disclosure improved the quality of disclosure for other firms.[55]

If the goal of the SD&A is to improve the reliability of sustainability disclosures, it is necessary to give attention not just to the disclosure requirement itself, but to the way it is enforced. An issuer's failure to disclose a known trend in violation of Item 303 can only be enforced by the SEC.[56] On the other hand, the federal courts have universally recognized a private right-of-action for federal securities fraud under Rule 10b-5.[57] Courts have typically held both that Regulation S-K creates an affirmative obligation to disclose and that failure to comply with that requirement can provide the basis for a private securities fraud suit.[58] As a result, inclusion of SD&A within securities filings would subject issuers' sustainability disclosures to SEC oversight and enforcement and clarify that fraudulent misrepresentations and omissions are actionable as securities fraud. Issuers cannot greenwash their SD&As to avoid addressing issues likely to cause the market concern because, to the extent those issues are potentially among the three most signifi-

51. *But see* Inv'r Responsibility Res. Ctr. Inst., The Corporate Risk Factor Disclosure Landscape 3 (2016), https://www.weinberg.udel.edu/IIRCiResearchDocuments/2016/01/FINAL-EY-Risk-Disclosure-Study.pdf (criticizing the narrative format of the risk-factor disclosure requirement).

52. *See, e.g.*, *id.*; Deloitte, SEC Comment Letters—Including Industry Insights: What "Gar" Told Us, at viii (9th ed. 2015), https://www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/us-aers-sec-comment-letters-including-industry-insights-what-edgar-told-us-102015.pdf.

53. *See* Elizabeth A. Ising et al., Donnelley Fin. Sols., Executive Compensation Disclosure Handbook: A Practical Guide to the SEC'S Executive Compensation Disclosure Rules 12 (rev. ed. 2016), https://www.gibsondunn.com/wp-content/uploads/documents/publications/Ising-Mueller-Hanvey-Executive-Compensation-Disclosure-Handbook-Donnelley-Financial-Solutions-Oct-2016.pdf.

54. *See generally* Stephen V. Brown et al., *The Spillover Effect of SEC Comment Letters on Qualitative Corporate Disclosure: Evidence From the Risk Factor Disclosure*, 35 Contemp. Acct. Res. 622 (2018).

55. *See generally* Karen K. Nelson & Adam C. Pritchard, *Carrot or Stick? The Shift From Voluntary to Mandatory Disclosure of Risk Factors*, 13 J. Empirical Legal Stud. 266, 287-95 (2016).

56. *Cf.* Oran v. Stafford, 226 F.3d 275, 287 (3d Cir. 2000).

57. *See, e.g.*, Jill E. Fisch, *Cause for Concern: Causation and Federal Securities Fraud*, 94 Iowa L. Rev. 811, 815 (2009).

58. *See, e.g.*, Ind. Pub. Ret. Sys. v. SAIC, Inc., 818 F.3d 85, 94 n.7 (2d Cir. 2016) (quoting Stratte-McClure v. Morgan Stanley, 776 F.3d 94, 101 (2d Cir. 2015)).

cant, an issuer's decision to omit them would constitute not an omission, but a fraudulent misrepresentation.

This Article contemplates that implementation and enforcement of the SD&A would take place primarily through SEC oversight and, when appropriate, enforcement action. There are advantages to relying on the SEC to undertake most SD&A enforcement. First, the SEC has greater expertise, enabling it to choose more accurately the cases in which enforcement is most consistent with the purposes of federal regulation.[59] Second, public enforcement may be more efficient.[60] Third, public enforcement is unlikely to be affected by the incentives that potentially could produce abusive and excessive litigation.[61] Finally, the government can often send a message by bringing a limited number of high-profile cases. There are problems, however, with limiting enforcement to the SEC. The government has limited resources available to address wrongdoing. In addition, SEC enforcement efforts are vulnerable to both political pressures and shifting administrative priorities.[62] The risk of underenforcement is illustrated by the SEC's track record with respect to MD&A disclosure; it has brought less than 100 enforcement cases alleging violations since Regulation S-K's adoption.[63]

Accordingly, private enforcement is likely to serve as a valuable supplement to public enforcement. Although concerns have been raised about the potential for excessive or burdensome securities fraud litigation, that risk is likely to be especially limited under the SD&A proposal. First, the SD&A requirement is explicit and limited—issuers are only required to disclose the three most significant sustainability issues. As a result, the requirement does not open the door to efforts to characterize additional sustainability issues as fraudulent omissions.

Second, to succeed in a securities fraud lawsuit, private litigants must establish loss causation and damages.[64] As interpreted by the courts, the loss causation requirement requires affirmative proof that the fraud impacted stock price.[65] Thus, only the most economically significant of sustainability disclosure-related failures could trigger private litigation.[66] Third, to bring a securities fraud suit, a private litigant must be a purchaser or seller of the securities.[67] As a result, private litigation could not be used by environmental groups or other non-shareholder stakeholders to promote noneconomic objectives.

Conclusion

In light of the worldwide debate over sustainability practices and investor claims regarding the necessity of quality sustainability disclosures, the SEC should reverse its position that sustainability disclosure is not properly included within financial reporting. The SD&A is a cost-justified and pragmatic first step for mandating sustainability disclosure. SD&A, enhanced by a liability and enforcement structure with direct incentives for board involvement and oversight is well-suited to improve the availability and quality of corporate sustainability information for investors.

59. *See, e.g.*, James J. Park, *Rules, Principles, and the Competition to Enforce the Securities Laws*, 100 Cal. L. Rev. 115, 124 (2012); *see also* Joseph A. Grundfest, *Disimplying Private Rights of Action Under the Federal Securities Laws: The Commission's Authority*, 107 Harv. L. Rev. 961, 1023-24 (1994).
60. *See* William W. Bratton & Michael L. Wachter, *The Political Economy of Fraud on the Market*, 160 U. Pa. L. Rev. 69, 118 (2011).
61. *See, e.g.*, Jill E. Fisch, *Class Action Reform: Lessons From Securities Litigation*, 39 Ariz. L. Rev. 533, 535-36 (1997).
62. *See* Harvey L. Pitt & Karen L. Shapiro, *Securities Regulation by Enforcement: A Look Ahead at the Next Decade*, 7 Yale J. Reg. 149, 279 (1990).
63. *Leidos* Amicus Brief, *supra* note 42, at 26-27.
64. Jill E. Fisch, *The Trouble With* Basic*: Price Distortion After* Halliburton, 90 Wash. U. L. Rev. 895, 914-16 (2013).
65. *See id.* at 915.
66. *See, e.g.*, Barbara Novick et al., Blackrock, Exploring ESG: A Practitioner's Perspective 9 (2016), https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-exploring-esg-a-practitioners-perspective-june-2016.pdf.
67. Blue Chip Stamps v. Manor Drug Stores, 421 U.S. 723, 735-36 (1975).

C O M M E N T

SUSTAINABILITY RISK IS INVESTMENT RISK

by Sally R.K. Fisk and Nikki Adame-Winningham

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In her *Making Sustainability Disclosures Sustainable* article, Prof. Jill E. Fisch proposes creating a Sustainability Discussion and Analysis (SD&A) section to expressly obligate reporting companies to disclose their three most significant sustainability issues in annual reports to the U.S. Securities and Exchange Commission (SEC). Professor Fisch posits that the proposed SD&A, as a workable *first* step in mandating sustainability disclosures,[1] would provide comparability and reliability to reports that are currently difficult to compare and which may vary in reliability. Professor Fisch correctly recognizes the challenges of both reporting on sustainability issues from the issuer perspective, as well as using such disclosures from the investor perspective. But what if the that obligation to adequately disclose sustainability issues already exists within extant SEC reporting requirements?

This Comment acknowledges the need for accuracy, reliability, and comparability in sustainability disclosures and agrees that piecemeal regulation of individual sustainability issues is inefficient and undesirable. We are unconvinced, however, that new mandatory disclosure requirements—even principle-based requirements—are necessary to achieve those goals. Under existing SEC regulations and guidance, issuers are already obligated to understand their sustainability risks, assess the materiality of those risks, and disclose material risks in their annual reports even if those risks are difficult to quantify. And as environmental, social, and governance (ESG) issues continue to gain importance to investors, customers, employees, and other stakeholders, all issuers will need to provide the ESG-informed disclosures or risk backlash from the investment community and potentially other stakeholders. Indeed, some investors are not only calling for ESG disclosures, but are also identifying the format for those disclosures.[2] One pathway to more accurate, reliable, and comparable sustainability disclosures is for companies to ensure ESG issues are incorporated into Enterprise Risk Management (ERM) processes. Doing so may help companies better assess issues that are often difficult to quantify, which may in turn clarify the materiality of these risks and opportunities and ultimately lead to better disclosures.

I. The Existing Framework Covers Sustainability

Professor Fisch proposes that the primary obstacle to incorporating sustainability disclosures into annual reports is the discretionary component of materiality. As noted in the full article, the best articulation of the materiality standard is that of the U.S. Supreme Court of the United States, which states that: information is material "if there is a substantial likelihood that a reasonable shareholder would consider it important in deciding how to vote," and, in other words, if there is a "substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available."[3] The Court also advised that while doubts about the materiality of the information would be common, given the prophylactic purpose of securities laws and that disclosure is controlled by management, "it is appropriate that these doubts be resolved in favor of those the statute is designed to protect," i.e., in favor of the investor.[4]

Authors' Note: The opinions stated herein are the personal opinions of the authors and do not necessarily represent official positions of Pfizer Inc.

1. This Comment adopts the interchangeable use of sustainability with environment, social, and governance (ESG) referenced by Professor Fisch. *See* Jill E. Fisch, *Making Sustainability Disclosure Sustainable*, 170 Geo. L.J. 923, 931 (2019).

2. Larry Fink, Blackrock Dear CEO Letter 2020, *A Fundamental Reshaping of Finance*, https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter.

3. TSC Indus., Inc. v. Northway Inc., 426 U.S. 438, 449 (1976); *see also* Fisch, *supra* note 1, at 936.

4. *TSC Indus.*, 426 U.S. at 448.

Since then, SEC has issued at least two guidance documents that outline how sustainability issues could—and should—fit into the existing disclosure framework, including the Management's Discussion & Analysis (MD&A) on which the SD&A is modeled. The 2010 Commission Guidance Regarding Disclosure Related to Climate Change provides not only specific information about climate change disclosures, but provides a roadmap for how other sustainability issues could be assessed for materiality and where those disclosures might fit within the annual report.[5] The guidance notes that a distinctive characteristic of MD&A is that "the flexible nature of this requirement has resulted in disclosures that keep pace with the evolving nature of business trends without the need to continuously amend the text of the rule."[6] Moreover, the guidance reminds issuers that there is a process for assessing issues that are difficult to quantify: once a trend, demand, commitment, event or uncertainty is known, management must assess whether it is likely to come to fruition and

> [i]f management cannot make that determination, it must evaluate objectively the consequences of the known trend, demand, commitment, event or uncertainty, on the assumption that it will come to fruition. Disclosure is then required unless management determines that a material effect on the registrant's financial condition or results of operations is not reasonably likely to occur.[7]

More recently, SEC issued its Commission Guidance on Management's Discussion and Analysis of Financial Condition and Results of Operations to guide disclosure of key performance indicators and metrics in MD&A.[8] In this guidance, SEC highlighted that MD&A is used by some companies to disclose non-financial and financial metrics "when describing the performance or the status of their business" including environmental metrics, such as "metrics regarding observed effect of prior events on their operations."[9] In other words, while SEC did not specifically use "sustainability" or "ESG" in this guidance, it is additional guidance for companies to use MD&A to qualitatively discuss issues that are material to management and strategic planning of the business. This guidance also reminds companies that they are required to have effective controls and procedures to support the accuracy and consistency of the data.[10]

There has been a marked increase in the importance of ESG issues (climate change being chief among them) to investors, customers, employees, and the general public in the past 10 years, with an incredible increase in focus over just the past year. This can be seen in the focus of the 2019 UN General Assembly, World Economic Forum,[11] the frequency of media headlines, and stakeholder activity. The external environment has indicated an increased urgency regarding corporate response to climate change and other ESG risks and expectations for corporate-led solutions on complex environmental and social issues. No longer confined to a small group of socially responsible investors, ESG issues have become a trend that "a reasonable shareholder would [likely] consider . . . important in deciding how to vote."[12]

Professor Fisch further notes that only about one-half of reporting companies disclosed climate change information in their annual filings, most of this information was boilerplate, and SEC's enforcement of this insufficient reporting is lacking.[13] SEC's enforcement is beyond the scope of this Comment, but the occurrence and quality of sustainability-related disclosures issues will likely evolve, if not in recognition of the flexible nature of SEC's MD&A, then in response to investor demands for climate and other ESG risks to be more deeply considered to aid investors in their decisionmaking.

II. Demand for Sustainability Disclosures Should Improve Quality

Professor Fisch opens the full article with the "'watershed moment'" quote from Larry Fink's 2018 letter to CEOs: "[A] company's ability to manage environmental, social, and governance matters demonstrates the leadership and good governance that is so essential to sustainable growth, which is why we are increasingly integrating these issues into

5. *See* Commission Guidance Regarding Disclosure Related to Climate Change, Securities Act Release No. 9106, Exchange Act Release No. 61469, 75 Fed. Reg. 6289, 6290 (Feb. 8, 2010) [hereinafter 2010 Release] ("This release outlines [SEC's] views with respect to [SEC's] existing disclosure requirements as they apply to climate change matters.").
6. *Id.* at 6294; *see also* Shari H. Littan, *Executive Perspective: The Evolution of SEC Regulation for Sustainability Disclosure,* Thomson Reuters (May 10, 2016), https://blogs.thomsonreuters.com/sustainability/2016/05/10/executive-perspective-laying-the-groundwork-for-sec-regulation-on-sustainability/:

   > MD&A and related disclosures tend to change and evolve over time, based on investor interest, availability and usefulness of information, as well as access to relevant and meaningful disclosure or accounting standards, such as those developed by SASB. SASB standards are designed to help companies meet the changing information needs of today's reasonable investor.
7. 2010 Release, *supra* note 5, at 6295 (citing SEC Interpretation: Management's Discussion and Analysis of Financial Condition and Results of Operations; Certain Investment Company Disclosures, Exchange Act Release Nos. 33-6835, 34-26831, 54 Fed. Reg. 22427 (May 18, 1989)).
8. *See* Commission Guidance on Management's Discussion and Analysis of Financial Condition and Results of Operations, Securities Act Release Nos. 33-10751, 34-88094, 85 Fed. Reg. 10568, 10569 (Feb. 25, 2020).
9. *Id.* The term "non-financial" is one of many used by experts to describe sustainability disclosure. *See* Fisch, *supra* note 1, at 931-32, n.40 (referencing a comment letter to SEC that referred to "non-financial factors" as being increasingly considered by investors in assessing companies' long-term performance.); *see also* 2010 Release, *supra* note 5, at 6293 (tying "non-financial" to climate change).
10. Commission Guidance on Management's Discussion and Analysis of Financial Condition and Results of Operations, 85 Fed. Reg. at 10570.
11. In addition to the attention climate change and other ESG issues received at the January 2020 World Economic Forum Annual Meeting, the World Economic Forum recently issued a white paper that acknowledges the current materiality of ESG issues and encourages companies to begin developing systems to identify these factors *before* they arise as an indicator of a company's long-term strength. World Economic Forum, Embracing the New Age of Materiality: Harnessing the Pace of Change in ESG (Mar. 2020), http://www3.weforum.org/docs/WEF_Embracing_the_New_Age_of_Materiality_2020.pdf.
12. TSC Indus., Inc. v. Northway Inc., 426 U.S. 438, 449 (1976).
13. *See* Fisch, *supra* note 1, at 937, n.81-82; *see also* Littan, *supra* note 6 ("The disclosure of material sustainability information is already required under Regulation S-K. Our research shows that information regarding 74 percent of SASB disclosure topics is already being disclosed in the Form 10-K, but 40 percent is boilerplate.").

our investment process."[14] This year, Mr. Fink expanded on his firm's expectations of companies by proclaiming that "climate risk is investment risk" and clarifying that companies' data describing how they are managing sustainability-related questions "should extend beyond climate to questions around how each company serves its full set of stakeholders, such as the diversity of its workforce [and] the sustainability of its supply chain . . . . Each company's prospects for growth are inextricable from its ability to operate sustainably and serve [all] stakeholders."[15] Indeed, Blackrock is now specifically asking companies that have not done so already to publish disclosures consistent with industry-specific Sustainability Accounting Standards Board (SASB) guidelines and disclose climate-related risks consistent with the Task Force on Climate-Related Financial Disclosures (TCFD) framework.[16] "In the absence of robust disclosures, investors, including BlackRock, will increasingly conclude that companies are not adequately managing risk."[17]

As investors coalesce around their preferred standards, more companies will need to disclose their sustainability issues and the resulting disclosures will be more accurate, comparable, and reliable.

III. Leveraging Enterprise Risk Management for ESG Disclosures

Even if adopted, Professor Fisch's SD&A would require an organization to appropriately assess its ESG risks in order to enable it to determine which three would be most significant. One barrier to the use of the existing MD&A for reporting ESG risks may be how companies assess these risks at the enterprise level.

The World Business Council for Sustainable Development[18] defines a sustainability risk as "an uncertain social or environmental event or condition that, if it occurs, can cause a significant negative [operational, financial and reputational] impact on the company."[19] Sustainability risks also include opportunities that may be available to a company because of changing environmental or social factors.[20] These risks and opportunities are often difficult to assess because of the complexity of the environmental and social issues involved, their long timeframes, which make determining probability and likelihood difficult, and because it is often difficult to precisely quantify impact, including financial impact.[21]

Even when these risks are recognized by a company, in many cases, they may seem dwarfed by risks that are more immediate and directly related to the company's business. Thus, companies often overlook them when considering enterprise-level risk management[22] and these risks may be potentially further overlooked when considering "materiality"-based disclosures.

ESG disclosures under the existing SEC rules might be enhanced by companies including ESG issues, such as climate change, in their review of enterprise-level risks. Once included in a company's ERM system, assessing impact may become more systematic and focused[23] and may enable companies to better translate the impact of these risks and opportunities into the "materiality" thresholds applicable to SEC filings, which should result in better disclosures.

IV. Conclusion

On the whole, more consistent and reliable sustainability reporting is needed. All stakeholders benefit from having decision-useful information and companies benefit from having a clear set of instructions for how to deliver that information whether in SEC filings or voluntary disclosures. But new regulation of sustainability disclosures is not necessary. SEC regulations already require disclosure of material sustainability risks and incorporating those risks into a company's ERM system could help companies better assess materiality. As investors continue to call for sustainability disclosures and align around specific reporting frameworks, companies will be required by their stakeholders to disclose the information needed to demonstrate that they are adequately managing sustainability risks regardless of SEC regulation.

14. Fisch, *supra* note 1, at 924-25, n.3.
15. Fink, *supra* note 2. Just a few months prior to Mr. Fink's letter issuing, multiple large companies committed to the same vision of delivering value to all stakeholders. *See* Business Roundtable, Statement on the Purpose of a Corporation (Aug. 19, 2019), https://opportunity.businessroundtable.org/wp-content/uploads/2020/03/BRT-Statement-on-the-Purpose-of-a-Corporation-with-Signatures.pdf:

> While each of our individual companies serves its own corporate purpose, we share a fundamental commitment to all of our stakeholders [including customers, employees, suppliers, communities, and shareholders]. Each of our stakeholders is essential. We commit to deliver value to all of them, for the future success of our companies, our communities and our country.

16. *See* Fink, *supra* note 2.
17. *Id.*
18. The World Business Council for Sustainable Development (WBCSD) was established in 1995 to help businesses respond to sustainability challenges and currently works to accelerate the transition to a sustainable world by helping sustainable businesses become more successful. *See* WBCSD, *About Us*, https://www.wbcsd.org/Overview/About-us (last visited Mar. 20, 2020).
19. WBCSD, *Sustainability and Enterprise Risk Management: The First Step Towards Integration* 7 (Jan. 17, 2017), https://www.wbcsd.org/Programs/Redefining-Value/Business-Decision-Making/Assess-and-Manage-Performance/Resources/Sustainability-and-enterprise-risk-management-The-first-step-towards-integration.
20. *See id.*
21. *See id.* at 25.
22. *See id.* at 21.
23. *See id.* at 38.

C O M M E N T

MAKING MANDATORY SUSTAINABILITY DISCLOSURE A REALITY

by Rick A. Fleming and Alexandra M. Ledbetter

Rick A. Fleming is the Investor Advocate at the U.S. Securities and Exchange Commission (SEC). Alexandra M. Ledbetter is the Senior Corporation Finance Counsel in the SEC's Office of the Investor Advocate, where she serves as Mr. Fleming's principal advisor on issues related to corporate governance and disclosure.

As we have come to expect from Prof. Jill Fisch, her recent article entitled *Making Sustainability Disclosure Sustainable*[1] introduces a novel and thoughtful policy proposal on a matter of critical importance to investors. In short, she suggests a new sustainability discussion and analysis (SD&A) section within the corporate annual report. In their SD&A, companies would be required to identify and explain the three sustainability issues most significant to their operations.[2] She describes her proposal as a "modest starting point" and "first step" for sustainability disclosure.[3]

The appeal of Professor Fisch's SD&A proposal is that it could get more companies to speak to ESG topics in a way that is meaningful to investors while accommodating the prerogative of boards of directors and executives to manage the business as they see fit. It also allows for a plurality of views on the significance of sustainability topics. Having companies identify and explain the three sustainability issues most significant to their operations is consistent with an important objective of the Commission's disclosure framework, as well as the Commission's Disclosure Effectiveness Initiative, which is to allow investors to see the company through the eyes of management.[4] Under this proposal, if a company did not address a topic in its SD&A, it might be reasonable to infer that the topic was not front-of-mind for the company's management.[5]

That said, a limitation of the SD&A proposal is that it might not get a company to speak directly to a particular issue that is the most significant to investors as opposed to management. An SD&A disclosure requirement could also be difficult to enforce because, as a practical matter, the SEC might be disinclined to challenge a company's subjective determination as to the most significant issues if that determination were facially plausible.

We agree that Professor Fisch's proposal represents a reasonable middle ground between those who favor mandatory disclosure of environmental, social, and governance (ESG) information and those who remain skeptical about whether such information is decision-useful for investors. Unfortunately, however, investor demand for ESG information has become such a polarized political issue that a middle-ground solution strikes us as unlikely to gain traction. In this environment, a "half-loaf" compromise is no more likely to be embraced than a "full-loaf" solution that investors may prefer. In other words, if we ever reach a point at which the Commission becomes willing to adopt an SD&A disclosure requirement, by then the Commission may be willing to go further and mandate ESG disclosures that are more fulsome, reliable, and comparable.

In general, we favor policy solutions that are pragmatic and reflect consensus among various stakeholders, such as the one offered by Professor Fisch. Sweeping changes can bring unintended consequences, and a wildly swinging

Authors' Note: The Securities and Exchange Commission disclaims responsibility for any private publication or statement of any SEC employee or Commissioner. The views expressed herein are our own and do not reflect those of the Commission, the Commissioners, or other members of the staff.

1. *See* Jill E. Fisch, *Making Sustainability Disclosure Sustainable*, 107 Geo. L.J. 923 (2019) [hereinafter Fisch].
2. *Id.* at 929, 956-58.
3. *Id.* at 959.
4. *See* William Hinman, Director, Division of Corporation Finance, SEC, Applying a Principles-Based Approach to Disclosure Complex, Uncertain and Evolving Risks, Remarks at the 18th Annual Institute on Securities Regulation in Europe (Mar. 15, 2019), https://www.sec.gov/news/speech/hinman-applying-principles-based-approach-disclosure-031519 (describing the utility of flexible, principles-based disclosure requirements for addressing informational needs that may be rapidly evolving).
5. *See* Larry Fink, BlackRock Dear CEO Letter 2020, *A Fundamental Reshaping of Finance*, https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter [hereinafter BlackRock Dear CEO Letter] ("In the absence of robust disclosures, investors, including BlackRock, will increasingly conclude that companies are not adequately managing risk.").

policy pendulum creates a difficult environment for market participants of all stripes. However, in our view, investors should anticipate and begin to prepare for the possibility that U.S. policymakers in the future pivot to a wholehearted embrace of ESG disclosure. Most importantly, investors need to continue coalescing around a preferred set of private-sector standards they would like the Commission to recognize and incorporate into ESG reporting requirements. Adoption and implementation of prescriptive ESG-related disclosure requirements is extremely challenging when there is so much variation among the private-sector frameworks because the SEC may be reluctant to choose one model over the others in the absence of a clear consensus surrounding any particular framework. Without a critical mass of support for a particular model, it may require an act of the U.S. Congress to determine which standards should become the official metrics for ESG disclosure in the United States.

I. Materiality of ESG Information

In the year that has passed since the publication of Professor Fisch's article, the case for ESG disclosure has become only stronger. We have seen more institutional investors and asset managers stressing the importance of comparable and decision-useful ESG disclosure by their portfolio companies. BlackRock, the world's largest asset manager, with assets under management of $7.4 trillion as of December 31, 2019,[6] announced recently that it would be asking the companies that it invests in on behalf of its clients to (1) publish disclosure in line with industry-specific Sustainability Accounting Standards Board (SASB) guidelines, or disclose a similar set of data in a way that is relevant to the particular business, and (2) disclose climate-related risks in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).[7] State Street, with assets under management of $3.1 trillion as of December 31, 2019,[8] announced the launch of a system for evaluating the performance of a company's business operations and governance vis-à-vis what State Street had identified as financially material and sector-specific ESG issues, based on the SASB materiality framework and data from third-party providers.[9] State Street explained that it uses this system to help clients understand their portfolio exposures, as well as inform its own investment and voting decisions.[10]

To be sure, some investors disfavor asset managers who utilize ESG information to make investment and voting decisions. They may be skeptical of putative correlations between sustainability practices and economic performance, or they may simply disagree with the prioritization of values that, in their view, distort the proper role of a corporation. However, it seems apparent that BlackRock and State Street are as emphatic as they are because of client demand.[11] We agree with Professor Fisch that the demand for disclosure of ESG information can no longer be dismissed as the political agenda of special-interest groups and peripheral to the proverbial reasonable investor who is concerned about long-term value creation.[12] The statements of BlackRock, State Street, and numerous other investment advisers and asset managers demonstrate that for a critical mass of investors, ESG considerations can alter the total mix of information available for investment and voting decisions.

II. Moving Forward in the Current Environment

Although the Commission has expressed openness to some elements of ESG disclosure,[13] it has not yet embraced anything approaching the scope of what Professor Fisch suggests. More broadly, there has been an apparent backlash from certain sectors against adherents of ESG investing who are perceived to have gained a toehold in matters of corporate governance. We note, for example, the characterization of shared views on ESG matters as "groupthink" and the draconian specter of an antitrust enforcement action against asset managers merely for voting the same way.[14] Within the SEC's jurisdictional sphere, some have suggested that advisers may be violating their fiduciary duties by putting their own sociopolitical views ahead of the financial interests of their clients on ESG matters,[15]

6. BlackRock, Inc., 2019 Q4 Earnings Release, https://ir.blackrock.com/financials/quarterly-results/default.aspx.
7. *See* Blackrock Dear CEO Letter, *supra* note 5.
8. State Street Corporation, 4Q19 Earnings Presentation, http://investors.statestreet.com/.
9. *See* Cyrus Taraporevala, President and CEO of State Street Global Advisors, *CEO's Letter on Our 2020 Proxy Voting Agenda,* https://www.ssga.com/us/en/individual/etfs/insights/informing-better-decisions-with-esg [hereinafter SSGA Dear Board Member Letter].
10. *See id*.
11. *See*, *e.g*., BlackRock Dear CEO Letter, *supra* note 5:

    > Indeed, climate change is almost invariably the top issue that clients around the world raise with BlackRock. From Europe to Australia, South America to China, Florida to Oregon, investors are asking how they should modify their portfolios. They are seeking to understand both the physical risks associated with climate change as well as the ways that climate policy will impact prices, costs, and demand across the entire economy.
12. *See* Fisch, *supra* note 1, at 931-32.
13. In August 2019, the Commission voted to propose rule amendments to modernize the description of business, legal proceedings, and risk factor disclosures that registrants are required to make pursuant to Regulation S-K. The proposed amendment of Item 101(c) of Regulation S-K would require registrants to include in the description of business "[a] description of the registrant's human capital resources, including in such description any human capital measures or objectives that management focuses on in managing the business (such as, depending on the nature of the registrant's business and workforce, measures or objectives that address the attraction, development, and retention of personnel)." Registrants need only provide this information "to the extent such information is material to an understanding of the business taken as a whole." *See* Modernization of Regulation S-K Items 101, 103, and 105, Securities Act Release No. 10668, 84 Fed. Reg. 44358, 44388 (Aug. 23, 2019).
14. *See* Editorial Board, *The BlackRock Backlash*, Wall St. J. Online (Feb. 27, 2020), https://www.wsj.com/articles/the-blackrock-backlash-11582849130.
15. *See* Editorial Board, *Larry Fink's Latest Sermon*, Wall St. J. Online (Jan. 17, 2020), https://www.wsj.com/articles/larry-finks-latest-sermon-11579305418 (referring to BlackRock's attention to ESG disclosures by its portfolio companies: "We can't help but wonder if Mr. Fink, after a profitable life in business, is auditioning to be Treasury Secretary in, say, the Warren Presidency."); *see also* Christopher A. Iacovella, Chief Executive Officer, American Securities Association, Comment on Amendments to Exemptions From the Proxy Rules for Proxy Voting Advice and Procedural Requirements and Resubmission Thresholds Under Exchange Act Rule 14a-8

despite the lack of evidence such as SEC enforcement cases arising from examinations specifically focused on this question. We note that some commenters on the Commission's recent proxy voting rulemaking proposals[16]—both in favor of and opposed to the proposals—seem to view those proposals as an effort by the Commission to quash the expression of ESG-related concerns that go against the interests of management, although the Commission itself expressed no such intent in the rulemakings.[17]

Perhaps most damagingly, adherents of ESG investing suffer from the perception that their areas of interest are continually shifting and that existing reporting frameworks, metrics, and scoring methodologies are ill-conceived.[18] Even among adherents of ESG investing, while there is general agreement that the "G" factors in ESG tend to be material, and that "E" is gaining momentum, there seems to be less consensus about the materiality of the "S" factors. Encouragingly, we have seen movement toward refinement and harmonization. A task force sponsored by the International Business Council of the World Economic Forum released a consultation draft proposing a baseline set of universally applicable ESG metrics and recommended disclosure topics for all companies, across sectors and geographies, to report on in primary corporate reports to investors (such as annual reports and proxy statements).[19] The task force sought to consolidate, to the extent possible, themes from existing reporting frameworks and standards in order to catalyze faster progress toward standardization.[20] The professional stature of the task force's participants[21] is likely to make that particular initiative influential and reflects a building momentum for consensus, even though the ultimate product of that consensus remains an important open question. We note also the work of the Corporate Reporting Dialogue, an initiative convened by the International Integrated Reporting Council in which participants have sought to align existing reporting frameworks and standards in areas of overlap.[22] In our opinion, these initiatives represent a viable path forward.

(Feb. 3, 2020), SEC File Nos. S7-22-19 and S7-23-19, at 2, https://www.sec.gov/comments/s7-22-19/s72219.htm [hereinafter American Securities Association Comment]:

> Regrettably, in recent years federal securities laws have been co-opted by activists and CEOs of large asset managers who believe pushing political agendas with other people's money will endear them to politicians and potential clients in the public pension system…. [Most Americans] have absolutely no interest in fighting political or social battles through their 401k or other savings plans where entrusted fiduciaries are supposed to act in their best interest to grow and preserve their nest egg.

16. *See* Amendments to Exemptions From the Proxy Rules for Proxy Voting Advice, Exchange Act Release No. 87457, 84 Fed. Reg. 66518 (Dec. 4, 2019); Procedural Requirements and Resubmission Thresholds Under Exchange Act Rule 14a-8, Exchange Act Release No. 87458, 84 Fed. Reg. 66458 (Dec. 4, 2019).
17. *See*, *e.g.*, American Securities Association Comment, *supra* note 15 (supporting both proposals, which the commenter sees as reining in an elitist ESG agenda); Chris Netram, Vice President, Tax & Domestic Economic Policy, National Association of Manufacturers, Comment on Procedural Requirements and Resubmission Thresholds under Exchange Act Rule 14a-8 (Feb. 3, 2020), File No. S7-23-19, at 2, https://www.sec.gov/comments/s7-23-19/s72319.htm (supporting the proposed amendments to Rule 14a-8, which the commenter sees as necessary because "the proxy process has in recent years been hijacked by activists that seek to force companies to act according to their own narrow interests"); Mindy S. Lubber, CEO and President, Ceres, Comment on Procedural Requirements and Resubmission Thresholds Under Exchange Act Rule 14a-8 (Feb. 3, 2020), File No. S7-23-19, at 7, https://www.sec.gov/comments/s7-23-19/s72319.htm (opposing the proposed amendments to Rule 14a-8, which the commenter sees as inhibiting private ordering to address systemic and company-specific ESG risks).
18. *See*, *e.g.*, Allysia Finley, *Bloomberg Sells "Sustainability," but Buyer Beware*, Wall St. J. Online (Mar. 2, 2020), https://www.wsj.com/articles/bloomberg-sells-sustainability-but-buyer-beware-11583193439.
19. *See* World Economic Forum, *Toward Common Metrics and Consistent Reporting of Sustainable Value Creation*, Consultation Draft 5, 11 (Jan. 2020), https://www.weforum.org/whitepapers/toward-common-metrics-and-consistent-reporting-of-sustainable-value-creation.
20. *Id*. at 10-11. Standardization is the end goal because investors want transparency and comparability and companies want to address investors' informational needs in a more efficient fashion.
21. The task force was chaired by Brian Moynihan, Chairman and CEO of Bank of America and Chairman of the IBC and included dedicated staff from each of the Big Four accounting firms—Deloitte, EY, KPMG and PwC. *See Id*. at 5.
22. *Better Alignment Project*, Corporate Reporting Dialogue, https://corporatereportingdialogue.com/better-alignment-project/ (last visited Mar. 8, 2020).

COMMENT

THE NEED FOR SEC RULES ON ESG RISK DISCLOSURE

by Veena Ramani and Jim Coburn

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Sustainability disclosure is at an impasse. Today's environmental, social and governance (ESG) disclosure is not delivering the decision-useful information financial markets need, yet the U.S. Securities and Exchange Commission (SEC) so far has not taken steps to formalize sustainability disclosure.

Prof. Jill E. Fisch proposes an innovative and constructive approach to breaking this stalemate by implementing an SEC mandate that would require public companies to provide a sustainability disclosure and analysis section in their annual reports where they disclose the three sustainability issues most significant to their operations. In modeling the SD&A on existing Management's Discussion and Analysis segments in financial filings, Professor Fisch favors adopting the MD&A's principles-based approach, requiring SEC to issue guidance on identifying sustainability issues that are likely to be material to investors.

I. Framing the ESG Disclosure Issue

We strongly agree with Dr. Fisch that SEC needs to provide more information to issuers on improving ESG disclosure. Her proposal addresses the significant financial risks posed by sustainability issues. It has become increasingly clear to issuers, investors, and regulators that ESG issues, especially climate change and water scarcity, pose financial risks and impacts to businesses. A growing number of global financial regulators are coalescing around the notion that issues like climate change are so pervasive and far-reaching that they are in fact systemic risks—and pose threats to the very stability of our financial markets.[1]

Recognizing this risk, thousands of companies have adopted voluntary disclosure standards, including the Global Reporting Initiative and other valuable disclosure standards such as the Sustainability Accounting Standards Board's (SASB's) industry-specific metrics and the CDP's detailed annual questionnaires for climate change and other issues.

Yet, while the volume of disclosure has grown tremendously, the amount of decision-useful disclosure that is comparable, consistent, and robust remains limited, particularly to investors in financial filings. In an analysis of 637 SEC filings, SASB found that while 75% of registrants acknowledged the risks posed by climate change, more than 40% use boilerplate language, and only 17% use metrics.[2]

Over the years, investors have urged SEC to improve the quality of ESG disclosure. A decade ago, at the request of investors, SEC introduced interpretive guidance on climate risk disclosure to try to bridge the gap between investors' needs and company disclosures. The results were initially promising, with 56% of companies in the S&P 500 reporting climate risks in their SEC filings in 2010 compared to 45% in 2009. And in 2010 and 2011, SEC staff issued 49 comment letters to companies in cases where their disclosure was inadequate.[3]

However, the focus of SEC leadership on ensuring that issuers follow the guidance lessened over time. Today, SEC is doing very little to encourage companies to disclose material climate risks and opportunities. A search for SEC comment letters asking issuers to improve their climate-related disclosure in Commission filings, for instance, reveals only one such letter from January 2017 to the present, to the company FLEX LNG Ltd.[4]

Even as the effectiveness of the SEC guidance declined in recent years, support for robust climate risk disclosure has grown dramatically among companies, investors, and other capital market actors seeking to make smart decisions to keep their businesses and investments resilient in the face of these risks. In December 2019, 631 investors

1. *Addressing Climate as a Systemic Risk: A Call to Action for U.S. Financial Regulators*, Ceres (June 1, 2020), https://www.ceres.org/resources/reports/addressing-climate-systemic-risk.
2. *Supporting the Work of the TCFD*, SASB, https://www.sasb.org/blog/supporting-work-tcfd/ (last visited June 14, 2020).
3. *Cool Response: The SEC & Corporate Climate Change Reporting*, Ceres (Jan. 30, 2014), https://www.ceres.org/resources/reports/cool-response-sec-corporate-climate-change-reporting.
4. *Building a Sustainable and Competitive Economy: An Examination of Proposals to Improve Environmental, Social and Governance Disclosures* 11 (2019) (written testimony of Mindy S. Lubber, CEO & President, Ceres, U.S. House of Reps., Comm. on Fin. Servs.), https://www.ceres.org/sites/default/files/files/FINAL/MSL/WRITTEN/TESTIMONY/HFSC/July/10/2019.pdf.

managing over $37 trillion signed the Global Investor Statement to Governments on Climate Change, calling on world governments to improve climate-related financial reporting.[5] In 2018, investors representing $5 trillion in assets and other stakeholders petitioned SEC to initiate rulemaking to develop a comprehensive framework for ESG disclosure.[6]

II. Pros and Cons of the Sustainability Discussion and Analysis Proposal

Because investors are still not receiving decision-useful information from most companies on climate risks, we agree with Professor Fisch's assumptions that material ESG disclosures belong in financial filings, and that SEC action on this issue would help remedy this. However, we see pros and cons in her proposal to require a sustainability discussion and analysis (SD&A) section in annual reports, in which companies follow a principles-based approach for identifying their three most significant sustainability issues.

A critical advantage of the SD&A proposal over the current SEC approach is that, if properly implemented by SEC, it would improve the quality and quantity of disclosure that companies provide. Currently, many companies provide more qualitative than quantitative ESG information in their SEC filings. If they explain how they determined an issue is significant, such as through a materiality matrix, they usually do so in voluntary disclosure. An SD&A disclosure of the potential impacts of ESG issues on economic performance, which explains why these issues are significant to a company, would result in better information for investors.

The SD&A's focus on the board of directors is also important. Under Professor Fisch's proposal, the board would be responsible for determining which sustainability issues the company must disclose and for certifying that disclosure. This aims to enhance the board's role in understanding and overseeing the company's sustainability practices. However, companies may need to add directors with ESG expertise, or train directors on ESG issues, to take up this responsibility in an informed manner. Based on our work with corporate boards, we have come to understand that many directors at U.S. companies do not see ESG as something that belongs on their agenda.

Despite these advantages, we believe that the SD&A proposal will not be sufficient to meet investors' needs for decision-useful information. The proposal leaves it to companies to identify and explain three sustainability issues most significant to their operations. That discounts the varying capabilities of companies, where some have extensive experience analyzing ESG risks but many do not. The proposal would also benefit from using standardized disclosure metrics, a growing trend in voluntary disclosure. That would reduce the opportunities for corporate greenwashing, in which companies choose those metrics that reflect their work in the best light.

The proposal also lacks industry-specific disclosure metrics, another important trend in voluntary disclosure. Because ESG risks manifest themselves differently in each industry, these types of metrics would greatly improve comparability. Finally, the SD&A approach would also silo sustainability issues in a new section in SEC filings. This undermines the argument that sustainability issues are no different from other material financial issues that must be disclosed as robustly as those other risks.

III. Ceres' Proposal

Ceres' position is that voluntary and mandatory disclosure systems are both invaluable, and that SEC should issue rules mandating ESG risk disclosure. Last year, Ceres' CEO Mindy Lubber testified in support of the Climate Risk Disclosure Act, which would require issuers to disclose physical and transition risks related to climate change.[7]

After 10 years' experience with the SEC's interpretive guidance on climate risk disclosure, Ceres and many of our investor partners now support SEC rulemaking, an approach that would provide comparable disclosure of ESG issues. Petitioners to SEC have called for SEC rules that "encompass a mix of required elements based on industry and sector; information about firms' governance of sustainability issues across industries; and principles based elements to act as a materiality backstop."[8] Given that ESG risks and ESG disclosure metrics continue to evolve, this approach to SEC rulemaking could balance mandatory metrics with principles-based elements, to allow for comparability as well as flexibility for instances in which metrics are evolving.

With regard to climate risks, Ceres' position is that SEC should consider (1) information that is needed from all companies to enable financial regulators to assess systemic climate risks; (2) industry-specific risks that, if properly disclosed, enable investors to compare companies within an industry, and (3) governance, risk management, and scenario planning information that demonstrate how well companies are situated for a clean energy transition.

To allow more flexibility to issuers, SEC could incorporate a comply or explain framework into parts of the rule. Where a company does not identify a metric as financially material to their circumstances, they would be required to provide their rationale for this decision. This would encourage more robust corporate analyses of ESG risks, given that many companies do not yet fully incorporate such risks into their risk management functions.

5. Nonie Reyes, *COP25: Global Investors Urge Countries to Meet Climate Action Goals*, UN News (Dec. 9, 2019), https://news.un.org/en/story/2019/12/1053081.
6. Cynthia A. Williams & Jill E. Fisch, Request for Rulemaking on Environmental, Social, & Governance (ESG) Disclosure (Oct. 1, 2018), https://www.sec.gov/rules/petitions/2018/petn4-730.pdf.
7. Written testimony of Lubber, *supra* note 4.
8. Williams & Fisch, *supra* note 6, at 13.

IV. Conclusion

Professor Fisch does a great service in advancing the argument for incorporating SEC-mandated ESG disclosure in financial reporting and explaining why it is critical now more than ever. Based on our experience, we prefer an approach that treats disclosure of ESG risks the same as any other material financial risk. Using climate risk as a model for other ESG issues, we recommend that SEC consider industry-specific risks, governance, risk management, and scenario planning disclosure when beginning a rulemaking.

C O M M E N T

PRINCIPLES PLUS SASB STANDARDS

by Thomas L. Riesenberg

Thomas L. Riesenberg is Director of Legal and Regulatory Policy at SASB.

Prof. Jill E. Fisch has authored an excellent piece about sustainability disclosure. Her proposal to mandate a new Sustainability Disclosure and Analysis section of SEC filings is an interesting idea for improving the disclosures that investors currently receive regarding such important matters as climate change, human capital, and a range of other issues. She also proposes that company management certify as to the accuracy of these disclosures, another step toward improved disclosure.

But it is likely the case that without significant tweaks, her suggestion would not improve the consistency and comparability of disclosures. This is because her proposal is principles-based, that is, issuers would decide for themselves the three most significant sustainability issues and then decide what to disclose about these issues.

Thus, for example, Company X, in the hotel industry, might disclose information about water use efficiency. Company Y, a competitor, might disclose data relating to employee retention. Company Z might address climate change. And even when two companies in the same industry disclose information on the same issue or topic, they might use different metrics in doing so.

This type of information would not result in comparability and consistency in disclosures. As Professor Fisch discusses, companies currently disclose considerable information about ESG matters, typically in documents known as corporate social responsibility reports. But numerous surveys and studies have shown, and outreach by the Sustainability Accounting Standards Board (SASB) has confirmed, that investors are dissatisfied with these disclosures because they are generally inconsistent and non-comparable between companies. SASB's researchers have found that most ESG disclosures consist of boilerplate disclosures—generic statements that are not specifically tailored to the individual company, the risks it faces, and the opportunities it might have. SASB found that vague, non-specific information was used more than 50 percent of the time when companies addressed a SASB topic in 2017.[1] Professor Fisch also acknowledges this problem; she describes "a lack of standardization that makes it difficult for investors to compare information across issuers."

Investors and corporate issuers both have expressed dissatisfaction with the current state. For example, a recent McKinsey study found that 85% of investors either agreed or strongly agreed that "more standardization of sustainability reporting" would help them allocate capital more effectively, and 68% of corporate executives either agreed or strongly agreed that standardization would enhance their company's ability to create value or mitigate risk.[2]

The lack of comparable, decision-useful information has also been shown to have negative long-term societal and economic impacts. For example, a company's investments in employee training, or health, or direct compensation can lead to lower dividends or reduction in short-term profitability, so companies might avoid making such expenditures. This is unfortunate, since those types of costs can create long-term value for shareholders and broader societal benefits. As Professor Fisch notes, ESG disclosures in the United States lag behind those made in Europe and elsewhere, largely because such disclosures are mandated in many non-U.S. countries. This means that the economic benefits accruing from more comprehensive and better disclosure also lag in the United States.

Professor Fisch concedes that a principles-based approach will likely lead to unsatisfactory results. She states: "Because each issuer's board determines the most significant sustainability issues independent, there is likely to be substantial variation among the issues addressed."

Why, then, does she opt for this approach? She believes that there is no adequate alternative, stating: "the applicability of any specific issue varies by issuer and industry" and that "the issues that arguably warrant disclosure and their importance continue to evolve." Thus, "designing a line-item series of disclosures to address sustainability is likely unworkable, and a principles-based approach appears more appropriate." Further, Professor Fisch believes that the problem will correct itself over time because of the SEC review process and reviews by industry participants: "This

1. SASB, *The State of Disclosure: An Analysis of the Effectiveness of Sustainability Disclosure in SEC Filings* (2018), https://www.sasb.org/wp-content/uploads/2019/08/StateofDisclosure-Report-web112717-1.pdf?__hstc=105637852.135a89045bd6ea85f68591478e99eb09.1553809423920.1570492048390.1570494269935.17&__hssc=105637852.1.1570494269935.

2. McKinsey & Company, *More Than Values: The Value-Based Sustainability Reporting That Investors Want* (Aug. 2019). Likewise, a 2016 PwC survey on ESG found that only 29 percent of investors polled were confident in the quality of ESG information they were receiving and only eight percent of investors thought that existing ESG disclosures allow for comparison across companies and peers. PricewaterhouseCoopers, *Older and Wiser: Is Responsible Investment Coming of Age?* (2016), https://www.pwc.com/gx/en/sustainability/publications/assets/pe-survey-report.pdf. Numerous other reports and studies have discussed the general topic of the growing interest in better ESG disclosure. *See, e.g.*, Deloitte, *Heads Up: Sustainability Disclosure Goes Mainstream* (Sept. 24, 2019).

review process is likely to generate common disclosure policies among issuers, particularly for those in the same or related industries," and "issuers will learn from and be able to emulate the disclosures made by their peers."

There is a much better answer to this problem. It is an answer addressed in some detail in a comment letter that SASB submitted to SEC in connection with its August 2019 proposed Regulation S-K amendment that would require issuers to include in their Form 10-Ks a "description of the registrant's human capital resources, including in such description any human capital measures or objectives that management focuses on in managing the business (such as, depending on the nature of the registrant's business and workforce, measures or objectives that address the attraction, development, and retention of personnel)." Rather than complying with specific human capital line item disclosure requirements, the issuer would make its own determination of material human capital issues that require disclosure—that is, the same sort of principles-based approach as that urged by Professor Fisch.

SASB's position is that a principles-based approach can work if it is coupled with a requirement that issuers use a common disclosure framework. Such frameworks have been developed by nonprofit organizations, in particular SASB and the Global Reporting Initiative (GRI). Professor Fisch mentions the existence of both organizations but does not link them to the success of her proposal.

SASB is an independent nonprofit organization established in 2011 to set standards for companies to use when disclosing ESG information to investors. SASB standards relate to climate change, natural resource constraints, technological innovation, human capital, and other matters that may have a material impact on the company's financial condition.

SASB takes an industry-specific approach to sustainability accounting, establishing standardized performance metrics for sustainability factors most relevant to companies in a given industry, driven by the concept of financial materiality. Generally speaking, financially material information is that which is important to a person making an investment or voting decision and which impacts the financial condition or operating performance of the company.

SASB published sustainability accounting standards for 77 industries in November 2018. Because not all matters of potential interest to investors are financially material, the average SASB standard contains six industry-specific topics and 14 associated performance metrics. A company that opts to use the SASB standards then decides whether the disclosure items contained in the SASB standards are in fact material for its particular business and, hence, warrant disclosure.

There are two aspects of SASB's work that merit emphasis. First, SASB is the only comprehensive, industry-specific set of ESG standards based on financial materiality. As Professor Fisch notes, SASB is focused on materiality as that term is understood by investors, that is, information that is important to an investor in making his or her investment or voting decision. There are some other private-sector standard setters that use this approach but do so only for a narrow range of issues, such as climate change. A broader set of standards has been developed by GRI, which has widespread global use but uses a broader definition of materiality and seeks to serve a set of interested parties beyond investors.[3]

Second, the industry-specific approach has been widely affirmed. With respect to SEC's human capital management disclosure proposal, SEC's Investor Advisor Committee recommended that "any [human capital disclosure] requirements should be crafted so as to reflect the varied circumstances of different businesses, and to eschew simple 'one-size-fits-all' approaches that obscure more than they add."[4] Similarly, in discussing human capital disclosures at the March 2019 Investor Advisory Committee meeting, Chairman Clayton stated: "Each industry, and even each company within a specific industry, has its own human capital circumstances. For example, I would expect that the material human capital information for a manufacturing company will be different from that of a biotech startup, and different from that of a large healthcare provider."[5] SASB's industry-specific standards correspond precisely to this aspect of human capital disclosures.

And SASB is receiving extraordinary acceptance. As of this writing, approximately 250 public companies are using the standards. And this is likely to increase rapidly over coming months and years. One reason is that investors are increasingly demanding more ESG information. A particularly significant event occurred in January 2020. In his widely-read annual letter to CEOs,[6] the chairman and CEO of BlackRock, Larry Fink, said that investors and others need a "clearer picture" of a wide range of sustainability-related matters and that "while no framework is perfect, BlackRock believes that the Sustainability Accounting Standards Board (SASB) provides a clear set of standards for reporting sustainability information across a wide range of issues, from labor practices to data privacy to business ethics." He said that BlackRock, the world's largest asset manager, wants companies it invests in on behalf of clients to publish disclosure in line with SASB's industry-specific guidelines before the end of 2020. BlackRock will use these disclosures to evaluate how well its investees are managing and overseeing ESG risks and planning for the future. "In the absence of robust disclosures, investors, including

3. GRI developed the first corporate sustainability reporting framework and its standards are used by the majority of companies reporting sustainability information. GRI's approach and that of SASB are complementary. As explained in an article authored by the heads of both organizations, "[t]he GRI standards are designed to provide information to a wide variety of stakeholders and consequently, include a very broad array of topics. SASB's are designed to provide information to investors and consequently, focus on the subset of sustainability issues that are financially material." Tim Mohin & Jean Rogers, *How to Approach Corporate Sustainability Reporting in 2017*, Greenbiz (Mar. 16, 2017), https://www.greenbiz.com/article/how-approach-corporate-sustainability-reporting-2017.

4. SEC Investor Advisory Committee, *Recommendation From the Investor-as-Owner Subcommittee on Human Capital Management Disclosure* 3, (Mar. 19, 2019), https://www.sec.gov/spotlight/investor-advisory-committee-2012/iac032819-investor-as-owner-subcommittee-recommendation.pdf.

5. Jay Clayton, *Remarks for Telephone Call With SEC Investor Advisory Committee Members* (Feb. 6, 2019).

6. Larry Fink, Blackrock Dear CEO Letter 2020, *A Fundamental Reshaping of Finance*, https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter.

BlackRock, will increasingly conclude that companies are not adequately managing risk." In those cases, BlackRock will seek to hold directors accountable. "Given the groundwork we have already laid engaging on disclosure, and the growing investment risks surrounding sustainability, we will be increasingly disposed to vote against management and board directors when companies are not making sufficient progress on sustainability-related disclosures and the business practices and plans underlying them."[7]

SASB's view, expressed in its comment letter on the human capital proposal, is that SEC should either strongly encourage or require companies to use a recognized framework for disclosure. This would improve Professor Fisch's proposal in at least three ways. First, corporate executives' discretion in what and how to disclose would be limited. This is because SASB's guidelines provide that a company using the SASB framework should use all the metrics applicable to that company's industry or, alternatively, to explain why it is omitting certain metrics.[8] This approach ensures makes it less likely companies might pick and choose disclosure items depending on what might make them look good.

Second, this approach would lead to more disclosure. Professor Fisch proposes that companies be required to disclose three topics. SASB standards typically include 10 to 15 metrics.

Third, it seems likely that companies would actually prefer this sort of approach. With a principles-based approach, it can be difficult for corporations and their disclosure counsel to decide what they should disclose, that is, what is most material. Having a set of standards that they can rely upon facilitates decisionmaking.

Having the SEC rely on a private set of standards would hardly be unprecedented. As SASB's comment letter discussed in some detail,[9] a close analogy is the action taken by the Commission in 2003 when it adopted an internal control reporting rule as required by Section 404 of the Sarbanes-Oxley Act. In the Adopting Release, the Commission stated that commenters supported the establishment of "specific evaluative criteria" for internal control reports "in order to improve comparability among the standards used by companies to conduct their annual internal control evaluations." The Commission determined not to "establish" specific criteria, but instead to refer issuers to the work of Committee of Sponsoring Organizations as an acceptable approach framework.[10]

There are other precedents as well. SEC took a similar approach in its conflict-minerals rule adopted pursuant to Section 1502 of the Dodd-Frank Act. The rule requires that an issuer's due diligence with respect to conflict mineral determinations "follow a nationally or internationally recognized due diligence framework" so as to "enhance the quality" and "promote comparability" of conflict mineral reports.[11]

There have also been occasions when the Commission has actually required companies to use a private-sector set of standards. The most prominent of such instance is, of course, with respect to the FASB, whose standards must be followed by U.S. public companies.[12] Another less well-known example is SEC's adoption in 1999 of revised disclosure requirements for foreign private issuers to conform to the disclosure requirements endorsed by a nongovernmental body, the International Organization of Securities Commissions (of which SEC is a member).[13] Additionally, in 2018, SEC adopted amendments to modernize the property disclosure requirements for mining registrants; in doing so, the Commission relied upon a set of standards called the Committee for Reserves International Reporting Standards.[14] Further, use of a private-sector set of standards is common throughout the government. For example, in 1996, the U.S. Congress passed the National Technology Transfer and Advancement Act, which stated in part that "all federal agencies and departments shall use standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives determined by the agencies and departments."[15]

This is a rapidly developing area, with new proposals and ideas emerging almost daily from legislators, regulators, NGOs, trade groups, and others—although much more of this is happening in Europe than in the United States. In my view, securities law professors have not spent as much time addressing the topic as is warranted. Professor Fisch's article is a thoughtful contribution to the literature in this area.

7. It should be noted in this regard that in a 2017 letter to public company directors William McNabb, then Chairman and CEO of Vanguard, the world's second largest asset manager with $5.6 trillion under management, also referred to SASB's work. He said: "Our participation in the Investor Advisory Group to the Sustainability Accounting Standards Board (SASB) reflects our belief that materiality-driven, sector-specific disclosures will better illuminate risks in a way that aids market efficiency and price discovery."
8. SASB, Standards Application Guidance Version 2018-10 (2018), https://www.sasb.org/wp-content/uploads/2018/11/SASB-Standards-Application-Guidance-2018-10.pdf:

   > An entity that omits one or more disclosure topics and/or accounting metrics should disclose the omission(s), as well as the rationale for the omission(s). For example, if a disclosure topic does not apply to an entity's business model, the entity should disclose that the topic and its associated metrics were omitted on the lack of applicability. If an entity believes it necessary to modify a metric, the entity shall disclose the fact that the metric was changed, as well as the rational for that change.
9. Other stakeholders have expressed support for this position. For example, the CFA Institute surveyed its members and found that "[s]ome 63% believe securities regulators should either develop ESG disclosure standards or support an independent standard setter to develop such standards." Mohini Singh, *Embracing the Inevitable: ESG Disclosures*, Market Integrity Institute CFA Institute (July 23, 2019), https://blogs.cfainstitute.org/marketintegrity/2019/07/23/embracing-the-inevitable-esg-disclosures/. CFA members stated, among other things that "[t]he Sustainability Accounting Standards Board standards should be strongly considered by regulators as forming the basis of a standard." *Id.*
10. Management's Report on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, Exchange Act Release Nos. 33-8238, 34-47986, IC-26068, File Nos. S7-40-02, S7-06-03 (June 5, 2003), https://www.sec.gov/rules/final/33-8238.htm.
11. Conflict Minerals, Exchange Act Release No. 34-67716 (Aug. 22, 2012) at 207.
12. *See generally* Policy Statement: Reaffirming the Status of the FASB as a Designated Private-Sector Standard Setter, Exchange Act Release Nos. 33-822, 34-47743, IC-26028, FR-70 (Apr. 25, 2003).
13. *See* International Disclosure Standards, Exchange Act Release Nos. 33-7745, 34-41936; International Series Release No. 1205 (Sept. 28, 1999).
14. *See* Exchange Act Release Nos. 33-10570, 34-84509 (Oct. 31, 2018).
15. Pub. L. No. 104-113, Mar. 7, 1996, 110 Stat. 775 §12(d)(1) (1996).

A R T I C L E

ROADS TO NOWHERE IN FOUR STATES: STATE AND LOCAL GOVERNMENTS IN THE ATLANTIC SOUTHEAST FACING SEA-LEVEL RISE

by Shana Campbell Jones, Thomas Ruppert, Erin L. Deady, Heather Payne, J. Scott Pippin, Ling-Yee Huang, and Jason M. Evans

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Local governments in the coastal zone play a key role in adapting to the changing climate.[1] This Article presents an analysis of coastal communities in four states, Florida, Georgia, South Carolina, and North Carolina, and provides three proposals for local governments that take action to address climate impacts: (1) redefining the scope of the duties that define reasonable conduct for governments making decisions about public infrastructure in an era of rising sea levels; (2) defining the scope of sovereign immunity protections in a way that encourages innovative and creative decisionmaking in an era of climate uncertainty; and (3) calling for consistent adaptation duties and authorities at the state level as a crucial first step in mending the legal-standards patchwork that currently exists at the state, county, and city levels in our four-state study area.

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1. Maxine Burkett, *Duty and Breach in an Era of Uncertainty: Local Government Liability for Failure to Adapt to Climate Change*, 20 Geo. Mason L. Rev. 775, 777 (2013).

I. Background on Sea-Level Rise, Coastal Science, and Transportation Infrastructure

A. Four Southeastern States Facing Sea-Level Rise

Coastal communities and ecosystems are vulnerable to sea-level rise.[2] Addressing sea-level rise and its impact on infrastructure presents itself as a paramount concern due to the physical impacts and costs of sea-level rise. Coastal roads subject to sea-level rise have shorter functional lifespans and require more frequent and costly repairs and maintenance.

2. Donald J. Wuebbles et al., U.S. Glob. Change Research Program, Climate Science Special Report: Fourth National Climate Assessment 164, 167, 222, 294 (2017), https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf [https://perma.cc/MPT6-8P4W] [hereinafter National Climate Assessment].

Table 1. Public Road Miles by Ownership (2015)

		State	County	Municipality	Other	Federal	Total Rural/ Urban Mileage	Total Mileage
FL	Rural	5,643	26,454	2,578	81	1,733	36,489	122,659
	Urban	6,473	43,981	35,251	5	459	86,170	
GA	Rural	12,588	58,257	4,078	90	2,775	77,788	128,134
	Urban	5,361	29,156	15,757	31	41	50,346	
NC	Rural	59,229	-	2,375	1,017	2,881	65,502	106,334
	Urban	20,330	-	20,310	22	170	40,832	
SC	Rural	29,792	25,583	523	194	1,589	57,681	76,250
	Urban	11,567	4,345	2,654	1	3	18,569	

B. *State and Local Government Adaptation—Roads Are Ground Zero*

Climate change will affect the entirety of our transportation infrastructure. The U.S. Department of Transportation (USDOT) identified three vulnerabilities that require "resiliencies" to climate change:

(1) *Existing Infrastructure Resilience:* Existing transportation infrastructure varies in age, service life, and sophistication. Decisions about replacement or abandonment should take into account changing future risks.

(2) *New Infrastructure Resilience:* New infrastructure should be designed in recognition of the best understanding of environmental risks. Public and private entities need to incorporate an understanding of projected climate changes into their infrastructure planning.

(3) *System Resilience:* Selectively adding redundant infrastructure may be necessary to increase system resilience.[3]

Figure 1. Total Percentages of Public Road Ownership Across the Four-State Study Area

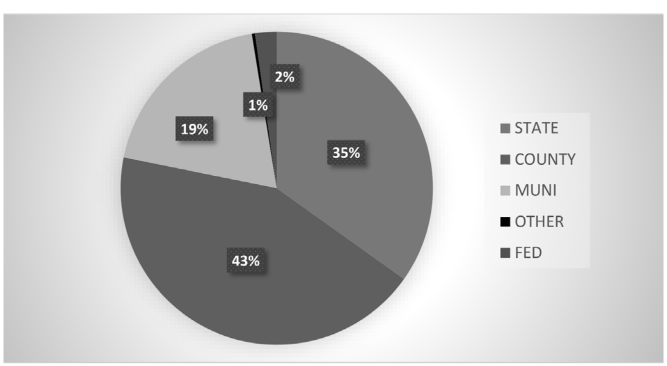

Table 2. Annual Vehicle Miles by Functional System (in Millions)

	Rural	Urban	Total
Florida	20,289	88,856	109,145
Georgia	14,816	45,608	60,424
North Carolina	15,258	38,935	54,193
South Carolina	12,782	16,733	29,515

The overarching vulnerabilities identified by USDOT are closely intertwined with state and local transportation responsibilities—and action at the state and local levels directly affects our nation's overall transportation system resilience.

In our four-state study, the vast majority of roads are either state or locally owned. Tables 1 and 2 list each state and its road miles by ownership, dividing the states between rural and urban road miles. Inventorying high traffic areas will be critical for addressing climate impacts on road infrastructure.[4]

II. Repair, Upgrade, or Abandon the Roadway: Hard Choices for Governments

Adaptation planning is often described in three categories: protect/defend, accommodate/adapt, or relocate. Even if a governmental entity wanted to make an adaptive choice, current laws make such choices difficult.

3. U.S. Dep't of Transp., Climate Change Adaptation Plan: Ensuring Transportation Infrastructure and System Resilience 6 (2014), https://www.transportation.gov/sites/dot.dev/files/docs/DOT%20Adaptation%20Plan.pdf [https://perma.cc/KEP4-5S7K].
4. Transp. Research Bd., Nat'l Research Council of the Nat'l Acads., Potential Impacts of Climate Change on U.S. Transportation 8-9 (2008), http://onlinepubs.trb.org/onlinepubs/sr/sr290.pdf [https://perma.cc/X6JF-PU3E].

Table 3. Comparing Duties to Maintain Roads

	State	County	Municipality
Florida	The Florida Department of Transportation ("FDOT") has a duty to maintain roads under its control.	A county has a duty to keep roads in good order and provide a reasonable level of maintenance that affords meaningful access.	A municipality has a duty to maintain roads in a reasonably safe condition.
Georgia	The Georgia Department of Transportation ("GDOT") has a duty to improve, manage, and maintain the state highway system.	A county has a duty to maintain county roads in a condition such that they can be continuously used for ordinary loads with ordinary ease and faculty.	A municipality has a duty to keep roads in repair and reasonably safe from dangerous conditions.
North Carolina	The North Carolina Department of Transportation ("NCDOT") has a duty to establish, construct, and maintain a statewide system of hard-surfaced and other dependable highways running to all county seats and to all principal towns.	Counties do not have maintenance duties. A county may enter into an agreement with NCDOT to repair, maintain, or improve a road.	A municipality has an affirmative duty for municipalities to keep roads in proper repair and open for travel and free from unnecessary obstructions.
South Carolina	The South Carolina Department of Transportation ("SCDOT") has a duty to maintain the state highway system in a safe and serviceable condition.	A county has a duty to repair roads in unincorporated areas of the county.	A municipality with a population greater than 1,000 has a duty to keep streets open, in good repair, and in reasonably safe condition for public travel. Towns with populations less than 1,000 must keep open and in good repair all streets and ways which may be necessary for public use within the limits of the town.

A. *Roads and Duties in Four States: A Doctrinal Stew*

States, counties, and municipalities have primary responsibility for most roads in the United States. When they fail to maintain or design these roads adequately, they may face tort liability, such as negligence. Each state may define this duty differently, and the scope may differ depending on the entity. Even when negligence by a government entity is demonstrated, sovereign immunity may bar claims.

Duties of care appear to be the most consistent at the state level, with arguably only Georgia presenting an affirmative duty to "improve" roads alongside the more standard duties for repair and maintenance. Duties vary more at the county and municipal levels. For example, in Florida, counties must provide reasonable maintenance that results in meaningful access, but it is unclear from case law interpreting duties if this standard might include upgrades needed to address sea-level rise or other environmental challenges. Counties in Georgia must maintain county roads so that "ordinary loads, with ordinary ease and facility, can be continuously hauled over" them. South Carolina counties have a duty to repair roads in unincorporated areas, but the duty is not defined, while North Carolina counties have no road maintenance duties unless they choose to do maintenance through agreement with the state. The variations continue at the municipal level in each state, adding further confusion. Despite the lack of incentive, some local governments are undertaking responses to sea-level rise due to political pressure or to protect their communities.[5] Careful consideration of the many distinctions between maintenance duties leads to the question of when the need to "maintain" and keep roads reasonably safe could lead to conflict with the general legal rule in all four states that governments are not usually required to "upgrade" existing infrastructure. In other words, sea-level rise and increased erosion might make it impossible to meet standards such as "reasonably safe" or "available for normal use" without significant upgrades that usually fall outside the scope of mandatory government duties.

5. *See, e.g.*, Jason M. Evans et al., Nat'l Sea Grant Program, Tybee Island Sea Level Rise Adaptation Plan 33-34, 45 (2016); Erin L. Deady et al., Monroe County Pilot Roads Project: The Sands and Twin Lakes Communities (2017).

1. Comparing Immunities

Distinctions in sovereign immunity protections raise challenges for adaptation at the local level. In Florida and North Carolina, immunity does not apply to road maintenance.[6] Georgia counties are protected by sovereign immunity for failing to maintain roads, but municipalities are not. In South Carolina, immunity applies to road maintenance.

Sea-level rise will push governments to take actions that are arguably upgrades and not repairs. This could mean that maintenance failures that were once actionable may become barred by sovereign immunity.[7] Sovereign immunity can also discourage adaptation planning. For example, Georgia distinguishes between discretionary actions, where immunity applies, and ministerial duties, where no immunity applies.[8] If a decisionmaking body develops a policy on how it utilizes its discretion, courts have interpreted the policy as now creating duties for which sovereign immunity is waived, meaning a lawsuit may go forward. This creates a perverse incentive to decline to adopt policies so that waiver of sovereign immunity is avoided.

2. Governmental Inaction When Failing to Maintain a Road: Economic Damages

An unsafe road raises liability concerns, but closing such a road could adversely affect landowners.[9] At the same time, at least once court in North Carolina has been sympathetic to the dilemma in which local governments can find themselves: a road that the local government cannot afford to repair to keep safe or close and abandon without potential liability for damages to abutting landowners. Climate change and sea-level rise will force courts to consider whether the state has a duty under such circumstances to provide a road at all.

B. Nuisance and Mandamus Actions: Compelling Governments to Repair and Maintain Roads

In Florida, Georgia, and North Carolina, if a government fails to maintain a road, a plaintiff could allege that the entity is maintaining a nuisance and seek an injunction.[10] Governments in South Carolina are not liable for nuisances.[11] In all four states, a citizen may petition for a writ of mandamus to compel a government to fulfill its duty to repair a road.[12] However, mandamus actions are reserved for extraordinary circumstances.

C. Road Abandonment and Takings Claims

1. Comparing Abandonment Authority

Abandonment comes at a price as "takings" claims often successfully maintain that property owners abutting abandoned roads are owed compensation. When deciding whether abandonment is proper, courts consider a variety of factors, including the burden of maintaining the road, the public's dependence on the road, and what caused a decrease in the public's use of the road.[13] Having the authority to abandon roads even when they abut private property is likely to be a critical tool for adaptation. In Florida, rights-of-way are held in trust for the public, but this does not preclude abandoning streets "when done in the interest of the general welfare."[14] In North Carolina, closing the street may not be "contrary to the public interest" and no adjacent landowner should be "deprived of reasonable means of ingress and egress" to her property.[15] In South Carolina, a court will determine whether abandoning the street is in the best interest of all parties.[16]

2. Eliminating a Property Owner's Access to a Road: Issues and Distinctions

If an entity abandons a public road that abuts a landowner's property, and such abandonment substantially interferes with the landowner's ability to enter and exit his property, a compensable taking of private property may have occurred. In Florida, interfering with the right to access constitutes a taking if the property owner's right of access was *substantially diminished*. In Georgia and South Carolina, if the easement of access is substantially interfered with, the property owner is entitled to compensation, even if an alternative route exists.[17] In North Carolina, eliminating *direct access* to property can trigger a takings claim, but such claims may be mitigated by providing reasonable alternative access.

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6. Commercial Carrier Corp. v. Indian River Cty., 371 So. 2d 1010 (Fla. 1979); Trianon Park Condominium Assoc. v. City of Hialeah, 468 So. 2d 912 (Fla. 1985).
7. *See* Thomas Ruppert, *Castles—and Roads—in the Sand: Do All Roads Lead to a "Taking"?*, 48 ELR 10914 (Oct. 2018). *See also* Thomas Ruppert & Carly Grimm, *Drowning in Place: Local Government Costs and Liabilities for Flooding Due to Sea-Level Rise*, 87 Fla. B.J., Nov. 2013, at 29.
8. Banks v. Happoldt, 608 S.E.2d 741, 744-45 (Ga. Ct. App. 2004).
9. Kirkpatrick v. Town of Nags Head, 713 S.E.2d 151, 153 (N.C. Ct. App. 2011).
10. Florida courts define a nuisance as, in part, omitting to perform a duty that injures or endangers the safety of a person or that interferes with or otherwise renders unsafe another's use of his property. Prior v. White, 180 So. 347, 355 (Fla. 1938). Georgia law defines nuisance as "anything that causes hurt, inconvenience, or damage to another . . . ." Ga. Code Ann. §41-1-1 (2018).
11. S.C. Code Ann. §15-78-60(7) (2018).
12. S.C. Code Ann. §§14-8-290, 14-3-310 (2018); Fla. Const. art. V, §3; Ga. Code Ann. §§9-6-20, 9-6-21(b) (2018); N.C. Gen. Stat. Ann. §7A-32 (2018).
13. In *Scarborough et al. v. Hunter et al.*, 746 S.E.2d 119, 125 (Ga. 2013), the court held that evidence that the county would need to rebuild the road at a cost of $600,000 to $800,000, and that plaintiff's less expensive proposal would not make the road stable, supported the board's decision.
14. Sun Oil Co. v. Gerstein, 206 So. 2d 439, 441 (Fla. Dist. Ct. App. 1968).
15. N.C. Gen. Stat. §160A-299(a) (2018).
16. First Baptist Church of Mauldin v. City of Mauldin, 417 S.E.2d 592 (S.C. 1992).
17. Circle K General, Inc. v. Ga. Dep't of Transp., 396 S.E.2d 522, 524-25 (1990).

Table 4. Comparing the Authority to Abandon Roads

	State	County	Municipality
Florida	FDOT may redesignate or relocate a road or undertake a project that closes or modifies existing access to a road.	A county may vacate, abandon, discontinue, or close a road but may not act to harm the public welfare.	A municipality may abandon or vacate a public road under its powers to perform municipal functions but may not act to harm the public welfare.
Georgia	GDOT may abandon a road if the agency determines that the road no longer serves a substantial public purpose or abandoning the road is in the best public interest.	A county may abandon a road if the county board of commissioners determines that the road no longer serves a substantial public purpose or abandoning the road is in the best public interest.	A municipality may abandon a road if the governing board determines that the road no longer serves a substantial public purpose or abandoning the road is in the best public interest.
North Carolina	NCDOT may abandon a road when the agency determines that the public good requires the road to be abandoned.	A county may permanently close any public road if it is not contrary to public interest and if no adjacent landowner would be deprived of reasonable means of access.	A municipality may close a public road if closing the road is not contrary to public interest and if no adjacent landowner would be deprived of reasonable means of access.
South Carolina	SCDOT may abandon a public road if it is in the best interest of all parties.	A county governing body may discontinue a public road found to be useless and if it is in the best interest of all parties.	A municipal council may close a street when, in its judgment, it may be necessary for the improvement of the municipality and if it is in the best interest of all parties.

3. Governmental Inaction When Failing to Maintain a Road: Takings

Two states in our study area—Florida and South Carolina—have considered issues involving whether insufficient maintenance results in abandonment. A Florida court found that failing to maintain a road to certain standards despite extreme erosion might be sufficient to support a compensable taking, even when the local government continued to expend funds for maintenance; the court found that the local government's failure to take action that resulted in meaningful access for property owners abutting the road could support a "takings" claim based on local government inaction. This Florida case is an outlier, representing a more fringe view by allowing inaction to support a takings claim. For example, South Carolina has made clear that only an "affirmative . . . act" can serve as the basis for an inverse condemnation claim.[18] Similarly, federal case law has made it clear that an authorized government action represents a prerequisite to a valid taking claim.[19] Thus, other than possibly in Florida, it appears that a government could not be held liable under a takings claim for failure to maintain a road, even if, as noted above, a tort case might still be possible.

18. Hawkins v. City of Greenville, 594 S.E.2d 557, 562-63 (S.C. Ct. App. 2004) (emphasis added).
19. St. Bernard Parish Gov't v. United States, 887 F.3d 1354, 1357, 48 ELR 20065 (Fed. Cir. 2018).

III. Roads Less Traveled: Toward Adaptive Duties and Abandonment Authorities for State and Local Governments Facing Sea-Level Rise

A. *Toward an Adaptive Duty to Maintain Road Systems: Adopting a Resilience Standard*

We propose modifying the scope of the duty to maintain roadways to incorporate an "adaptive" component that views the road network as an interconnected system rather than as individual segments. As increased flooding is readily foreseeable in coastal communities,[20] and uncertainty about the timing and severity of local impacts is not the same as low probability,[21] we see a need for the duty to maintain to include sovereign immunity that protects governments that will have to make risky decisions, unless they act with gross negligence. It is time to emphasize the public trust nature of government road ownership so that the public's collective interests inform the scope of government's duty to maintain a roadway, mitigating viewing

20. Foreseeability of the harm also often plays a role, although the extent of risk usually depends on the specific facts of the case. Restatement (Third) of Torts: Physical and Emotional Harm §7 (Am. Law Inst. 2010).
21. R. Henry Weaver & Douglas A. Kysar, *Courting Disaster: Climate Change and the Adjudication of Catastrophe*, 93 Notre Dame L. Rev. 295, 307 (2017).

access as a property right connected to individual parcels. An adaptive duty to maintain would allow for an alteration of the concept of "reasonable means of access." Such an approach is in line with some cases. Florida courts have emphasized how streets are held in trust for the benefit of the public, and abandoning such streets is allowable "when done in the interest of the general welfare."[22]

1. Minimum Maintenance Standard

Deteriorating road conditions coupled with prohibitive maintenance costs have long been an issue for many rural areas. Several states allow special designation of roads as "low volume" or "minimum maintenance,"[23] decreasing maintenance costs and reducing liability. Just as rural states have statutes to allow communities to balance costs and resources, coastal communities need the same ability.

2. Vulnerability Assessments

An adaptive duty to maintain should reflect short- and long-term vulnerability assessments, characterizing the potential impacts from climate change. An adaptive duty to maintain should be fulfilled by formal process with community-defined time lines and risk thresholds to ensure that decisionmaking occurs objectively and equitably.

3. Evaluating the Adaptive Duty to Maintain: Resilience Standard

We propose "resilience" as a legal standard to judge local government actions. Resilience generally describes "the capacity of a system to withstand or adapt to disturbance while maintaining the same basic structures and functions."[24] How a local community defines resilience should be determined at the local level through the adaptation planning process.

A resilience standard would evaluate government action in light of whether it is likely to promote community resilience and whether the community's adaptation goals are reasonable.[25] Those actions that promote resilience would promote the public interest, even where private interests are adversely affected. Thus, such actions should be protected under sovereign immunity. Management practices that best illustrate resilience goals include incorporating best available science into decisionmaking; assessing vulnerabilities; and evaluating the effectiveness of actions taken. A system's resilience can degrade or even collapse. When this occurs, a reasonable resilience standard would allow actions such as road abandonment.[26]

4. Sovereign Immunity

Expanding a duty while simultaneously weakening sovereign immunity protections would paralyze most local governments. If we want to encourage local leaders to invest significant time, money, and staff resources to assess their communities' vulnerabilities, these communities need to have the protection of sovereign immunity for making adaptation planning decisions with inherently uncertain data. As is currently true generally in tort law, immunity for an adaptive duty to maintain can and should include exceptions for gross negligence, such as allowing the development of roadways in repeatedly flooded areas or ignoring the best available science.

5. Adaptive Duty to Maintain

Sovereign immunity should not turn on whether a government's action is a "repair" or an "upgrade." An adaptive duty to maintain would include both repairs and upgrades as long as the reasonable resilience standard is met and would allow for more appropriate maintenance actions. An adaptive duty to maintain would also encourage jurisdictions to set priorities and put property owners on notice about the likely future conditions of roads.

In Georgia, an adaptive duty to maintain with associated sovereign immunity would address the current conundrum regarding discretionary and ministerial duties: that the presence of a policy that directs a government to repair or maintain results in a waiver of sovereign immunity.[27] Governments should develop adaptation plans that trigger direct action when certain thresholds are met, but flexibility may be necessary. In South Carolina, an adaptive duty of care might incorporate the already-existing tiers of duties that recognize the fiscal limits of some communities. An adaptive duty to maintain could spur governments to take more proactive approaches to maintaining South Carolina's overall roadway system. In North Carolina, an adaptive duty to maintain falls within the definition of governmental functions and would result in sovereign immunity; however, road maintenance remains a proprietary function for which sovereign immunity is not available. With rising sea levels, road maintenance will no longer be routine making it within the traditional conception of a governmental function.

If we want governments to make their communities more resilient, it is time to clarify the scope of their duty to do so. Adaptation decisions will cost a lot of money and cre-

22. Sun Oil Co. v. Gerstein, 206 So. 2d 439, 441 (Fla. Dist. Ct. App. 1968).
23. *See, e.g.,* N.Y. State Tug Hill Comm'n, Technical Paper: Questions and Answers About Low-Volume Road Designation (2014), http://www.tughill.org/wp-content/uploads/2011/09/Questions-and-Ans.-Low-Volume-Road-Design-03-14.pdf [https://perma.cc/MHQ3-MNMG].
24. Craig Anthony (Tony) Arnold, *Resilient Cities and Adaptive Law*, 50 Idaho L. Rev. 245, 261-62 (2014).
25. Maxine Burkett, *Duty and Breach in an Era of Uncertainty: Local Government Liability for Failure to Adapt to Climate Change*, 20 Geo. Mason L. Rev. 775, 790 (2013).
26. *See, e.g.,* Deady et al., *supra* note 5, at 50-58; Thomas Ruppert, John Fergus & Alex Stewart, Environmentally Compromised Road Segments—A Model Ordinance 8-9 (2015), https://www.flseagrant.org/wp-content/uploads/Envirntly-Comp-Rds-FINAL_10.20.15.pdf [https://perma.cc/8S6A-Z7NM].
27. *See* Georgia Dep't of Transp. v. Crooms, 729 S.E.2d 660, 662 (Ga. Ct. App. 2012) (*overruled on different grounds by* Rivera v. Washington, 784 S.E.2d 775 (Ga. 2016)); Georgia Dep't of Transp. v. Balamo, 806 S.E.2d 622, 624 (2017), *cert. denied* (May 7, 2018).

ate controversy. While the science is very good, adaptation decisions will be made with some degree of uncertainty. This duty is designed to avoid bad development in dangerous places, potentially putting them into the category of gross negligence. Anticipating future risks is different from managing risks based on the past. An adaptive duty of care draws a framework to manage this reality.

B. Toward an Adaptive Authority to Abandon: Property Rights and Roads

We also recognize that there will be situations where road abandonment is the most prudent course of action. An adaptive authority to abandon should reflect values of holding roadways in the public trust, decisionmaking with overall system functionality as a priority, and principles of adaptive management. Adaptive abandonment decisions should be made in the context of short- and long-term thresholds as well as the overall public interest.

We advocate for an abandonment standard that allows abandonment when a road no longer serves "a substantial public purpose"[28] and explicitly incorporates resilience into the determination of the public interest. Additional factors could include whether vulnerability assessments and adaptation planning has occurred; whether a step-by-step policy for managing road maintenance and abandonment has been established; and whether public notice has been provided to residents.

While takings claims are likely to remain a concern, developing an adaptive authority to abandon presents an opportunity to mitigate such claims, shaping future expectations. An adaptive authority to abandon under Georgia's current jurisprudence would be affirmed, even in situations where a road abuts private property. In Florida, where counties and municipalities have wide authority to abandon roads but must not harm the public welfare,[29] consideration of the public interest would allow the entire road system to be taken into account.[30] North Carolina, on the other hand, would be directed away from individual and toward community concerns. South Carolina's approach of allowing abandonment at the county level when roads are "useless" would pivot toward considering the necessity of a road as well as the overall "improvement" of the city.

C. Mending the Patchwork: States Must Lead

Our preference would be for an adaptive duty to maintain to be adopted by statute and applied consistently across state, county, and municipal jurisdictions. It would send a consistent policy signal that adaptation planning is expected—and that governments will be protected from liability. Sea-level rise will not follow jurisdictional boundaries. Therefore, an adaptive duty to maintain that applies across all jurisdictions, affirms a holistic approach to road maintenance, and emphasizes the public trust nature of government ownership and maintenance of the road *system*. A statewide adaptive authority to abandon would improve coordination in adaptation planning. While takings claims will remain a concern, an adaptive authority to abandon would mitigate takings liability by putting property owners on notice.

IV. Conclusion

Decisions regarding infrastructure development will continue to be critical to successful climate adaptation. Local governments are on the frontline of adaptation action, yet have limited resources. Determining duties and obligations based on a static environment is increasingly untenable. Conflicting standards already exist between jurisdictions. Sea-level rise will exacerbate these tensions and will likely reward government inaction and short-term compromises.

Our proposals address these tensions and inform local planning for climate change impacts. An adaptive duty to maintain furthers necessary action while acknowledging risks. Statewide standards would facilitate state and local coordination. If community resilience is our goal, then we must develop new duties and authorities to facilitate forward-looking, creative, and difficult decisionmaking. While the Talking Head's song "The Road to Nowhere" is an absolute classic, it cannot be our anthem for local adaptation. We are not on a road to paradise, and time is not on our side.

28. *See, e.g.,* Ga. Code Ann. §32-2-2 (2018).
29. *See* Fla. Stat. §§335.02, 335.199 (2018).
30. City of Naples v. Miller, 243 So. 2d 608, 611 (Fla. Dist. Ct. App. 1971).

A R T I C L E

ENERGY EXACTIONS

by Jim Rossi and Christopher Serkin

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New residential and commercial developments often create costs in the form of congestion and burdens on municipal infrastructure. Citizens typically pay for infrastructure expansion associated with growth through their property taxes, but local governments sometimes use cost-shifting tools to force developers to pay for—or provide—new infrastructure themselves.[1] These tools are forms of "exactions"—demands levied on developers to force them to pay for the burdens new projects impose.[2]

But local governments often ignore an additional cost: the burdens growth presents for energy infrastructure. Energy demand growth requires new supply but expanding power generation is costly. It requires land, access to transmission lines, and presents a range of potential environmental harms. Forcing developers to internalize costs they impose on energy infrastructure would encourage them to incorporate greater consideration of the impacts of energy supply and energy efficiency ex ante.

This Article argues that energy exactions are normatively desirable, evaluates how they can help improve land use and energy regulation, and assesses the legal implications and limits of their use. We detail two different forms of energy exactions: one that imposes pre-set prices on anticipated kilowatt energy demand and one that is focused on how the timing of a development affects energy infrastructure development (often called "concurrency").[3]

I. The Existing Landscape

A. Land Use Exactions

Zoning and land use controls have become important tools for financing municipal infrastructure.[4] Sophisticated municipalities treat zoning regulations as opportunities to compel developers to bear some of the public costs of development through exactions.[5]

Exactions include fees in lieu of dedications of land as well as impact fees to upgrade transportation infrastructure, fund public school expansions, build or finance an expansion of emergency services, and even pay for beautification. Sometimes they are imposed through ad hoc dealmaking; other times they are established through municipal legislation as pre-set "prices" for obtaining permission to build.

Exactions raise complex policy issues because they shift the costs of infrastructure improvements from the jurisdiction's tax base as a whole to developers who, in turn, often pass those costs on to consumers of new housing or new commercial space.[6] Nevertheless, exac-

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1. *See* Julian Conrad Juergensmeyer & Thomas E. Roberts, Land Use Planning and Development Regulation Law 318-19 (3d ed. 2013).
2. *See, e.g.*, Mark Fenster, *Takings Formalism and Regulatory Formulas: Exactions and the Consequences of Clarity*, 92 Cal. L. Rev. 609, 611 (2004).
3. *See, e.g.*, Timothy S. Chapin, *Local Governments as Policy Entrepreneurs: Evaluating Florida's "Concurrency Experiment,"* 42 Urb. Aff. Rev. 505, 507, 519-27 (2007); Robert M. Rhodes, *Florida Growth Management: Past, Present, Future*, 9 Fla. Coastal L. Rev. 107, 119 (2007).
4. *See, e.g.*, Robert C. Ellickson Et Al., Land Use Controls 670 (4th ed. 2013).
5. *See, e.g.*, Mark Fenster, *Regulating Land Use in a Constitutional Shadow: The Institutional Contexts of Exactions*, 58 Hastings L.J. 729, 730 n.7 (2007).
6. *Cf.* Molly S. McUsic, *Looking Inside Out: Institutional Analysis and the Problem of Takings*, 92 NW. U. L. Rev. 591, 626 (1998).

tions are an important part of the municipal finance landscape. By and large, however, municipalities have not used them to shift the costs of developing energy infrastructure to meet the demands of new development. This is a missed opportunity.

B. Traditional Energy Planning

Traditional energy planning spreads the costs of growth broadly among all of utility's retail customers.[7] The conventional energy planning process relies on a private utility presenting demand forecasts to regulators. Utility regulators then evaluate options for expanding supply infrastructure to meet the utility's forecasted customer load.[8]

1. Top-Down Energy Resource Capacity Planning

The traditional approach has proved ineffective, especially in addressing the broad range of concerns that expanding energy use present for climate change. Cost-of-service regulation incentivizes utilities to overstate their need for centralized, capital-intensive power generation assets[9] and rarely penalizes errors in forecasting of demand growth.[10] This approach forces a utility's investors and its customers—not necessarily the local community that benefits from growth—to bear the burden of any change in power supply resources.

2. Customer Savings as an Energy Resource

The failure to recognize the potential of customers as energy resources is a major omission in traditional utility-scale energy planning. Particularly with new technologies that allow better-informed consumer decisions, customer behaviors can considerably impact the need for new energy supply.[11]

In recent years, both energy markets and regulators are increasingly recognizing customers as forms of energy resources. The Federal Energy Regulatory Commission (FERC) has adopted pricing for demand response in organized wholesale power markets.[12] Some states, including California and Oregon, have made efforts to integrate local land use planning into state-level energy planning with an emphasis on customer energy savings and new power supply options.[13] Several states have also begun to experiment with "community choice aggregation"—a new kind of retail electricity provider enabling customers in certain communities to choose different (sometimes low-carbon) energy supply options than a utility's default.[14]

Energy exactions would complement these recent market and regulatory approaches. Local regulators are particularly well-positioned to adopt these requirements, especially where state regulators have failed to anticipate the state's future energy needs in the utility planning process or fall short of evaluating energy needs based on a full social cost approach.[15]

II. Exactions as a New Point of Entry for Energy Planning

A. The Mechanics of Energy Exactions

We envision a set price per kilowatt hour (kWh) of anticipated annual energy usage as a one-time exaction charged to the developer as a condition on development.[16] A developer could reduce that impact fee by shrinking house sizes or by deploying building techniques and technologies that would reduce the anticipated annual energy demand of new buildings. The local government can use money collected from exactions to minimize energy impacts in other places within the municipality. Properly priced, new development will ultimately not increase energy demand for the municipality.

But the primary objective is not to collect additional money. Instead, by pricing the marginal increase in energy demand, developers will have an incentive to reduce energy consumption to the extent that it is cost-effective. New

7. We use the term "utility" broadly, to include both municipally owned utilities and investor-owned utilities. For purposes of simplification, we assume that either form of a utility is primarily motivated by covering the costs of its operations, which for the investor-owned utility includes a profit margin.
8. We also use the term "energy regulators" broadly. For investor-owned utilities, the regulator is typically a state public utility commission. We assume regulators are primarily motivated to pursue the public interest in making decisions about energy supply, which includes providing customers low-cost, reliable energy.
9. *See* Harvey Averch & Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 Am. Econ. Rev. 1052, 1066-67 (1962).
10. For a discussion of how state prudency review of customer rates contributed to a serious overcapacity problem with coal and nuclear baseload plants, see Richard J. Pierce Jr., *The Regulatory Treatment of Mistakes in Retrospect: Canceled Plants and Excess Capacity*, 132 U. Pa. L. Rev. 497, 502 (1984).
11. *See* Michael P. Vandenbergh & Jim Rossi, *Good for You, Bad for Us: The Financial Disincentive for Net Demand Reduction*, 65 Vand. L. Rev. 1527, 1538-44 (2012).
12. *See* Demand Response Competition in Organized Wholesale Energy Markets, 76 Fed. Reg. 16658 (FERC Mar. 24, 2011) (codified at 18 C.F.R. pt. 35). As the U.S. Supreme Court noted in upholding FERC's regulations, demand response is "a market-generated innovation for more optimally balancing" the supply and demand of energy. FERC v. Elec. Power Supply Ass'n, 136 S. Ct. 760, 779 (2016).
13. *See, e.g.*, Cal. Energy Comm'n, The Role of Land Use in Meeting California's Energy and Climate Change Goals 27 (Aug. 2007), http://www.energy.ca.gov/2007publications/CEC-600-2007-008/CEC-600-2007-008-SF.PDF [https://perma.cc/H92Q-FV8B]; Or. Dep't of Land Conservation and Dev., *Oregon Statewide Planning Goals* (Mar. 2, 2010), https://www.oregon.gov/LCD/docs/goals/compilation_of_statewide_planning_goals.pdf [https://perma.cc/TA2S-24QL].
14. *See, e.g.*, Kelly Trumbull et al., UCLA Luskin Ctr. for Innovation, Evaluating Community Choice Aggregation Alternatives for the City of Santa Monica 3 (Dec. 2017), http://innovation.luskin.ucla.edu/sites/default/files/Evaluating%20CCA%20alternatives%20for%20the%20City%20of%20Santa%20Monica%201214171408.pdf [https://perma.cc/7GBD-D94P]. Seven states currently allow forms of community choice aggregation. *See* http://www.leanenergyus.org/cca-by-state/ [https://perma.cc/RY72-BBUN]. While expanding in popularity over the past several years, this approach also has not been without controversy. *See* Ivan Penn, *Some of California's Major Utilities Are Trying to Block the Growth of Government-Owned Electricity Programs*, L.A. Times (Sept. 8, 2017, 5:00 AM), http://www.latimes.com/business/la-fi-community-choice-utilities-20170908-story.html [https://perma.cc/7TU2-CWC7].
15. *See* Scott F. Bertschi, *Integrated Resource Planning and Demand-Side Management in Electric Utility Regulation: Public Utility Panacea or a Waste of Energy?*, 43 Emory L.J. 815, 823-29 (1994).
16. That number, comes from the combined cost of supplying new energy in the relevant local market and the anticipated energy impact of the new construction.

business and commercial activities would not be allowed to "externalize" energy resource costs to the larger footprint of a utility's full customer resource base.

An alternative form of exaction can be implemented through a "concurrency" regime, which seeks to align the timing of development and infrastructure expansion.[17] Concurrency applied to energy would see a municipality first plan for some increase in energy demand, and then limit new development to ensure that net demand does not exceed this capacity. A developer wanting to accelerate a project could pay to accelerate the expansion of energy capacity, or could reduce the energy demand associated with the project.

Concurrency adds flexibility by anticipating increases in energy demand not subject to exactions. It only requires fees for growth beyond the pre-specified limits. A municipality can decide what is a reasonable expansion of energy demand instead of treating demand as entirely exogenous.

One advantage of such an approach would be to place a burden on developers of following through on energy savings commitments related to growth. For example, if a developer proposes to adopt energy savings technologies, it should be required to demonstrate the expected energy savings with some evidence-based justifications for these expected reductions in energy usage.[18] And if some of the approaches to energy savings included in its new projects have a lifespan—like the use of energy-efficient appliances that will ultimately be replaced—developers might be required to place restrictive declarations on the deeds requiring that replacements meet certain energy benchmarks.[19]

One of the most important benefits of our proposal may be the least obvious. One way of thinking of energy savings is as a "negawatt"—a unit of energy that no longer needs to be produced due to a reduction in demand represented by conservation.[20] Energy exactions can create new forms of economic value surrounding energy conservation. In many areas of the country, energy intermediaries already bundle and sell into interstate energy markets the energy savings produced by pools of customers.[21] Developers or municipalities could operate in precisely the same way, potentially selling the energy resources resulting from increased conservation to utilities. Alternatively, municipal regulators or city governments may be positioned to aggregate individual customer savings and sell these resources to others.

Municipal ownership of a utility is a decision by a community to avoid "contracting out" decisions about energy supply.[22] This kind of utility municipalization has many benefits, but is costly and often faces political obstacles: Energy exactions would enable developers, neighborhood alliances, and localities to become players in energy supply markets, without requiring ownership of a large-scale energy supply system or the burdensome cost a locality needs to incur to become a municipal utility.[23]

B. Informational Benefits for Regulators and Markets

Energy exactions can also produce valuable new information to improve existing approaches to energy planning and pricing. The full social costs associated with energy are absent from most competitive energy prices.[24] If genuinely competitive, interstate markets should price energy at its marginal cost of production and investment in energy infrastructure should reflect this pricing criterion.

In rate-setting, regulators often fail to set prices that produce the information necessary for efficient energy consumption. Regulators typically calculate market rates based on full operational costs, averaged across all customers. This means that utility rates are more likely to reflect a utility's average cost of production, rather than the marginal costs associated with each new customer.

Utilities have also done a poor job of making investments that address the negative environmental attributes of various energy sources associated with climate change.[25] To the extent the utility planning and ratemaking process does not require utilities to quantify the social cost impacts of customer activities that require energy, it will tend systematically to favor the investment that increases a utility's sales—not the investment that produces more diffuse benefits for society.[26]

Municipal exactions aim directly at the marginal energy impacts of each new land use, so they can produce valuable information about the various options new customers face, including how much energy they will consume, when they will need it, and whether they can commit to reducing demand for it or investing in distributed energy resources.

17. "Concurrency" refers to the notion that several simultaneous computations can have interactive costs and benefits for an information processing system. *See* Xuan Shi & Miaoqing Huang, *Cyberinfrastructure and High Performance Computing*, *in* Comprehensive Geographic Info. Sys. 341, 349 (Bo Huang, ed. 2017).
18. One notable aspect of this proposal is how it shifts the traditional burden of establishing the pricing for exactions. John D. Echeverria, Koontz*: The Very Worst Takings Decision Ever?*, 22 N.Y.U. Envtl. L.J. 1, 53 (2014).
19. *See* N.Y.C. Bldgs. Dep't, Buildings Bull. 2015-008 (Apr. 3, 2015), https://www1.nyc.gov/assets/buildings/bldgs_bulletins/bb_2015-008.pdf [https://perma.cc/8WHT-25WM]. Enforcement of such restrictive declarations can be complicated, so the imposition of such declarations may not be worth the candle. Regardless, the anticipated energy savings over the course of the average appliance's lifespan will likely be significant enough to justify including in the calculation of annual energy savings.
20. *See* Amory B. Lovins, *The Negawatt Revolution*, 27 Across the Board, Sept. 1990, at 18, 22 (1990), https://www.rmi.org/wp-content/uploads/2017/06/RMI_Negawatt_Revolution_1990.pdf [https://perma.cc/69SG-UZRX].
21. *See* Fed. Energy Regulatory Comm'n, Staff Report, Assessment of Demand Response and Advanced Metering (2016), https://www.ferc.gov/legal/staff-reports/2016/DR-AM-Report2016.pdf [https://perma.cc/GC9V-FYAS].
22. *See* Shelley Welton, *Public Energy*, 92 N.Y.U. L. Rev. 267 (2017).
23. *See* Am. Pub. Power Ass'n, U.S. Electric Utility Industry Statistics 50 (2014), http://appanet.files.cms-plus.com/PDFs/Directory%20-%20Statistical%20Report.pdf [https://perma.cc/7D78-9U5D] (describing public utility landscape).
24. For discussion of the general issue, see Emily Hammond & David B. Spence, *The Regulatory Contract in the Marketplace*, 69 Vand. L. Rev. 141, 192-214 (2016).
25. Remedying this problem is one of the motivating intuitions behind J. Peter Byrne and Kathryn A. Zyla's work. *See* J. Peter Byrne & Kathryn A. Zyla, *Climate Exactions*, 75 Md. L. Rev. 758 (2016).
26. Many states authorize utilities to allocate the costs of expanding distribution lines to new customers; such charges, however, typically do not allocate the energy supply costs associated with new customers to them.

They will thus help to induce more efficient energy investment decisions than relying entirely on inaccurate investment signals produced by cost-of-service regulation.

C. Risk Diversification and Regulatory Competition

Energy exactions will favor decentralized cost allocation by forcing energy customers to bear costs of new energy supply resources. Distributing the risks of new investments can help break through some of the asset lock-in related to centrally planned utility energy supply. Diversifying the financial risks of energy infrastructure investment is also likely to improve the energy resource balance in the power supply portfolio and improve reliability through greater grid resiliency.

Local governments adopting energy exactions would spark greater horizontal competition between local communities too. Our approach should see energy prices for incumbent users decline as systemwide improvements will be borne more by newcomers. If those costs take the form of "negawatts," then everyone in the municipality or service area should benefit, providing a competitive advantage.

Finally, local energy exactions should increase vertical intergovernmental competition between municipal governments and state utility regulators. Any fees a municipality collects can be used to produce energy savings elsewhere in the municipality. If a utility wishes to keep these rents, it will lobby regulators to adopt exactions in utility rates or in statewide requirements. To the extent that state regulators receive new information, this can improve the quality of centralized planning and make it less likely that regulators will adhere to ratemaking approaches that fail to recognize the benefits of customer energy resources.

D. The Local Case for Energy Exactions

An exaction is the functional equivalent of a tax on development,[27] raising the costs of construction in a municipality that adopts energy exactions vis-à-vis a neighboring municipality that does not.[28]

Nevertheless, exactions remain a common part of the development landscape, and local governments use them despite (or sometimes because of)[29] the fact that they increase costs of development. Some number of local governments are likely to find our proposal appealing. Many local governments today are keenly interested in promoting an environmental identity.[30] Exactions could prove especially attractive to local governments seeking to promote clean energy, spur local economic growth in clean energy, and attract new industries.[31] There is admittedly some tension between our proposal and issues of exclusion and affordability. Exactions have the potential to effect exclusionary policies because they can shift costs to newcomers.[32] This makes them troubling to affordable housing advocates and prospective residents.[33] Nevertheless, we think the benefits of forcing developers to internalize burdens of new development on energy infrastructure are worth the costs.

Exactions' appeal will depend in large part on who actually bears their ultimate cost. Local economic conditions and the availability of substitute municipalities with different pricing will determine where the costs of energy exactions ultimately fall.[34]

III. Legal Obstacles to Energy Exactions

We see three potential legal obstacles to energy exactions, though none present a serious threat to their adoption by local governments.

A. State Authorization

Twenty-one states have no express enabling legislation allowing development fees, nor any prohibitions on such fees. In home-rule jurisdictions in these states, there would be no statutory constraint on the use of energy exactions, and municipalities would have the authority to implement our proposal today.[35]

As of 2015, 29 states had adopted enabling acts for local development fees.[36] Of these, both California and Utah explicitly allow the use of exactions for the impact on power

27. *Compare, e.g.*, Home Builders Ass'n of Lincoln v. City of Lincoln, 711 N.W.2d 871, 876-79 (Neb. 2006) (holding that impact fees are not taxes requiring state approval), *with* Mayor & Bd. of Aldermen of Ocean Springs v. Homebuilders Ass'n of Miss., 932 So. 2d 44, 53 (Miss. 2006) (rejecting power of local government to impose impact fees without express authorization). For a helpful overview of the issue, see W. Andrew Gowder Jr. & Bryan W. Wenter, *Exactions and Impact Fees 2007: The Limits of Local Authority*, 39 Urb. Law. 645, 646-53 (2007).
28. This is a substantial political constraint on local governments imposing exactions. For a detailed account, see Vicki Been, *"Exit" as a Constraint on Land Use Exactions: Rethinking the Unconstitutional Conditions Doctrine,* 91 Colum. L. Rev. 473, 506-28 (1991).
29. Driving *up* the cost of development can be appealing to local governments seeking to restrict growth and limit the supply of new housing, often in the service of Not-in-My-Backyard (NIMBY) pressures toward exclusionary zoning. *See, e.g.*, Christopher Serkin & Leslie Wellington, *Putting Exclusionary Zoning in Its Place: Affordable Housing and Geographical Scale*, 40 Fordham Urb. L.J. 1667, 1669-73 (2013).
30. *See* Michael Burger, *"It's Not Easy Being Green": Local Initiatives, Preemption Problems, and the Market Participant Exception*, 78 U. Cin. L. Rev. 835, 865-67 (2010); Hari M. Osofsky & Janet Koven Levit, *The Scale of Networks?: Local Climate Change Coalitions*, 8 Chi. J. Int'l L. 409, 414-27 (2008); U.S. Conference of Mayors, *Mayors Climate Protection Center*, https://www.usmayors.org/mayors-climate-protection-center/ [https://perma.cc/T3JX-7Y32]; U.S. Green Bldg. Council, *LEED Public Policies* (May 2010), http://www.usgbc.org/Docs/Archive/General/Docs691.pdf [https://perma.cc/4965-LXDQ].
31. *See* World Wildlife Federation et al., Power Forward 3.0: How the Largest U.S. Companies Are Capturing Business Value While Addressing Climate Change (2017), https://c402277.ssl.cf1.rackcdn.com/publications/1049/files/original/Power_Forward_3.0_-_April_2017_-_Digital_Second_Final.pdf?1493325339 [https://perma.cc/RC57-3AFD].
32. *See, e.g.*, Steven J. Eagle, Koontz *in the Mansion and the Gatehouse*, 46 Urb. Law. 1, 11 (2014); *see also* Robert C. Ellickson, *Suburban Growth Controls: An Economic and Legal Analysis*, 86 Yale L.J. 385, 392-402 (1977).
33. *See id.*; *see also* Vicki Been, *Impact Fees and Housing Affordability*, 8 Cityscape 139, 148-49 (2005).
34. *See id*. at 149.
35. *See generally* David J. Barron, *Reclaiming Home Rule*, 116 Harv. L. Rev. 2255, 2261-383 (2003).
36. Clancy Mullen, *State Impact Fee Enabling Acts* 1 (Duncan Associates, 2015), http://www.impactfees.com/publications%20pdf/state_enabling_acts.pdf [https://perma.cc/RJF3-ELWG]. For an older, but more scholarly, treatment, see Martin L. Leitner & Susan P. Schoettle, *A Survey of State Impact Fee Enabling Legislation*, 25 Urb. Law. 491, 497-503 (1993).

generation and distribution.[37] In the remaining states with enabling legislation, most provide that exactions can only be used to address pre-specified public service needs, facilities, or capital improvements related to development. This would probably exclude energy exactions. In other states, enabling statutes place restrictions on the *use* of the exactions and not on the nature of the burdens themselves, but the effect is the same.

Thus, municipalities relying on these statutes to authorize local impact fees may require clarifying legislation that extends exactions to energy-related activities.

B. Intrastate Preemption

State public utility commissions might present potential "intrastate" preemption challenges to local government-imposed energy exactions, but these too do not present a barrier to their adoption.[38]

To begin, some state laws expressly preempt local governments from making some energy supply decisions. For example, to the extent that an energy siting statute contains an "express" preemption clause, a local government's *refusal* to issue land use approvals would be preempted. However, nothing in such statutes would prohibit a local government from limiting customer demand growth, collecting new forms of revenue from customers, or using this revenue to promote investments in distributed energy supply or services.[39]

The implied dimension of intrastate preemption includes field, obstacle, and conflict preemption. However the field is defined, the mere existence of state utility regulation—including rate regulation—does not categorically prohibit municipal governments from using taxes, fees, or regulation to address energy incentives related to energy consumption and supply. Energy exactions merely regulate development to minimize new energy demand.

If state rate regulation were construed as field preemption of energy exactions, it would also threaten existing local government renewable power goals, energy-efficiency standards, and economic development programs. Yet, no one suggests that these initiatives are preempted by state law.

Local energy exactions initiatives thus need to be evaluated under the more nuanced analysis of obstacle and conflict preemption.

Consider "obstacle" preemption. Assessing whether state utility regulation presents an obstacle to energy exactions requires articulating the regulatory objectives behind state franchise regulation and retail rate-setting laws. Utility franchise regulation protects customers against distribution franchise battles that produce unnecessary investments. Energy exactions offer local governments a more modest option.

Rate regulation could also potentially be invoked to challenge exaction fees. By imposing an exaction on a subset of customers, some might object that local land use regulators supplementing rates with a fee that applies only to newcomers could interfere with uniform utility rates. Energy exactions supplement rate regulation, however, and hence do not present an obstacle to a utility recovering reasonable costs from customers. That one customer incurs greater ultimate costs than others should not, in itself, be determinative of the kind of rate discrimination that requires local government preemption.[40]

In terms of conflict preemption, rate regulation could present a clear conflict if a local government capped state-approved rates for the sale of energy or prohibited a private utility from recovering costs. But energy exactions do neither of these things: Since they do not impose any additional financial cost on the utility or other customers, energy exactions simply do not conflict with state regulation of utility rates.

In another framing, intrastate preemption, at most, would constitute conflict preemption where state law creates a floor for setting energy rates but does not impose a ceiling that would prohibit the use of energy exactions to encourage new forms of energy efficiency or decentralized power supply.[41] Treating state utility law as a regulatory floor encourages local governments to partner with state regulators to promote energy conservation and clean energy supply.

C. Takings and Unconstitutional Conditions

For state utility regulators setting customer rates, the U.S. Constitution's Takings Clause provides few constraints. Courts have consistently subjected utility rate-setting decisions to a fairly deferential standard of review.[42]

By contrast, energy exactions implicate a distinct doctrinal line of case law involving the unconstitutional condi-

37. Cal. Gov't Code §66002 (West 2007) (defining "facility" or "improvement" to include "[f]acilities for the generation of electricity and the distribution of gas and electricity"); Utah Code Ann. §11-36a-102 (West 2014) (defining "public facilities" for which exactions are permissible to include "municipal power facilities").

38. *See* Paul Diller, *Intrastate Preemption*, 87 B.U. L. Rev. 1113, 1113-17 (2007).

39. Some state siting statutes are expansive in scope, limiting who can produce energy regardless of size and sometimes prohibiting third parties from developing new projects that produce and sell energy, so it is certainly conceivable that some customers or local governments would need to seek state approval for certain power generation activities. For a particularly troubling recent case applying a state utility law to keep a church from placing solar panels on its roof, see *State ex rel. Utilities Commission v. North Carolina Waste Awareness & Reduction Network*, 805 S.E.2d 712, 714 (N.C. Ct. App. 2017) (finding third-party solar provider was illegally acting as a "public utility" by agreeing to provide and maintain solar panels to a church), *aff'd*, 812 S.E.2d 804 (N.C. 2018). These state-law barriers to new entrants can be a significant drag on renewable power development, but promoting more small-scale, decentralized solar deployment is one way to overcome some of these legal barriers to renewable power.

40. *See* Jim Rossi, *Lowering the Filed Tariff Shield: Judicial Enforcement for a Deregulatory Era*, 56 Vand. L. Rev. 1591, 1598-1601 (2003).

41. *Cf.* Jim Rossi, *The Brave New Path of Energy Federalism*, 95 Tex. L. Rev. 399, 451-54 (2016); Jim Rossi & Thomas Hutton, *Federal Preemption and Clean Energy Floors*, 91 N.C. L. Rev. 1283, 1287 (2013).

42. In a landmark 1944 decision, the Supreme Court adopted a deferential approach to reviewing utility rates under the Constitution. *See* Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591, 602-03, 615-19 (1944). The Supreme Court's most recent decision on this issue continued with a deferential approach to reviewing a takings challenge to rates, upholding a regulator's utility rate determinations so long as the end result is just and reasonable and the firm remains viable for future investors. *See* Duquesne Light Co. v. Barasch, 488 U.S. 299, 315-16 (1989).

tions doctrine. The application of this doctrine to exactions is governed by a trio of cases: *Nollan v. California Coastal Commission*,[43] *Dolan v. City of Tigard*,[44] and *Koontz v. St. Johns River Water Management District*.[45] Together, these cases establish that any development exactions must be sufficiently related to, and proportional to, the underlying justification for the exaction.

It is an open question whether the *Nollan/Dolan/Koontz* trio even applies to legislated exactions.[46] Several courts have held that the *Nollan/Dolan* framework does not apply to legislative exactions at all.[47]

If they do apply to legislated exactions, the requirements of *Nollan*, *Dolan*, and *Koontz* are relatively rigorous.[48] Analogous state laws sometimes make them even more so.[49] Still, these doctrines leave plenty of room for the traditional use of exactions. Exactions that require developers to compensate for marginal effects of their development on municipal infrastructure will withstand constitutional scrutiny so long as the government can make an adequate showing of proportionality.[50]

IV. Conclusion

At bottom, energy exactions present land use regulators with an important opportunity to capture a portion of the rents that traditional state utility regulation bestows upon a private investor-owned utility. Local energy exactions can produce valuable information about customer energy demand and its alternatives, diversify risks in energy infrastructure investment, and promote intergovernmental competition for the provision of underfunded public goods related to a community's energy future.

The conventional state utility-planning and rate-setting process is often said to produce concentrated benefits for the few at the expense of the many. It has done a poor job of encouraging demand reduction, distributed energy supply, and a resilient energy grid. Energy law should encourage every locality to focus on how its own management and uses of land impact the energy system, not leave municipal governments as bystanders in policy decisions related to energy infrastructure. Energy exactions provide a unique, pragmatic, and valuable opportunity to integrate local community values into planning discussions concerning the energy grid, promoting demand reduction and inviting new investments in low-carbon energy infrastructure.

43. 483 U.S. 825, 17 ELR 20918 (1987).
44. 512 U.S. 374, 24 ELR 21083 (1994).
45. 570 U.S. 595, 43 ELR 20140 (2013).
46. David L. Callies, *Through a Glass Clearly: Predicting the Future in Land Use Takings Law*, 54 Washburn L.J. 43, 48 (2014).
47. *See, e.g.*, St. Clair Cty. Home Builders Ass'n v. City of Pell City, 61 So. 3d 992, 1007 (Ala. 2010) (finding that *Dolan* is not applicable to legislative enactments); Home Builders Ass'n of Cent. Ariz. v. City of Scottsdale, 930 P.2d 993, 1000 (Ariz. 1997) (distinguishing *Nollan/Dolan*); Greater Atlanta Homebuilders Ass'n v. DeKalb Cty., 588 S.E.2d 694, 697 (Ga. 2003) (finding the appellants' use of *Dolan* unpersuasive).
48. For discussion of the contrast between judicial approaches to constitutional review of utility ratemaking versus local land use regulation, see Susan Rose-Ackerman & Jim Rossi, *Disentangling Deregulatory Takings*, 86 Va. L. Rev. 1435, 1441-57 (2000).
49. *See, e.g.*, Fenster, *supra* note 5, at 736.
50. *See, e.g.*, Herron v. Mayor & City Council of Annapolis, 388 F. Supp. 2d 565, 570-71 (D. Md. 2005), *aff'd sub nom.* Herron v. Mayor & City Council, 198 F. App'x 301 (4th Cir. 2006) (upholding as proportional an impact fee ordinance that collected and distributed funds on a districtwide basis).

C O M M E N T

ENERGY EXACTIONS: SUPPLEMENTING THE LOCAL AND STATE ENERGY POLICY TOOLKIT

by Deron Lovaas

Deron Lovaas is the co-director of the Energy Efficiency for All program, and the Resilient Communities, Healthy People & Thriving Communities program at the Natural Resources Defense Counsel.

The authors make a compelling case for the use of energy exactions as a local policy tool that could complement important state policies. However, it must be designed carefully and tailored to different land uses and locations so it effectively supplements state and utility policy and does not become a barrier to housing affordability and enabler of suburban sprawl.

First—Let's Not Exacerbate Our Affordable Housing Crisis

The authors of the paper make only passing note to a central crisis faced in the United States now: A chasm between supply and need for affordable housing. This is most compellingly described by the National Low-Income Housing Coalition in their March 2020 report *The Gap: A Shortage of Affordable Homes*:

> Over 10.9 million of the nation's 43.7 million renter households have extremely low incomes. Only 7.3 million rental homes are affordable to extremely low-income renters, assuming households should spend no more than 30% of their incomes on housing. *This supply leaves an absolute shortage of 3.6 million affordable rental homes.*[1]

This figure is unacceptably high, and it excludes hundreds of thousands of homeless people as well as millions currently at risk of eviction in the wake of the economic crash of 2020.[2]

Stable, healthy housing is a key determinant of a thriving economy and society. There is plentiful evidence of the importance of reliable shelter as a platform for good economic, educational, and health outcomes.[3] Preservation of the existing affordable housing stock is therefore crucial. And we must also reduce barriers to construction of new affordable housing. This includes the energy cost burden for building owners and managers, which can in turn keep rents affordable. And utility costs—especially in multifamily housing—is a larger part of these buildings' cost structures than most people realize.[4]

New public policies aimed at saving energy must not exacerbate our housing affordability crisis, meaning such policies must be designed to preserve existing and accommodate new affordable housing. However, a stringent energy code in place as well as green building requirements can increase costs and extend the time line for construction, adding to costs. An affordable housing advocacy group—Up for Growth—produced a calculator for figuring out the effects of helpful incentives versus burdensome fees and requirements on housing construction and consequent rents in housing-challenged Seattle, which is useful for understanding the challenge to policymakers considering new measures such as energy exactions.[5]

In sum, given its importance to society, affordable housing warrants special treatment when considering design of new public policies, especially fees such as an energy exaction.

1. Andrew Aurand et al., The Gap: A Shortage of Affordable Homes, National Low Income Housing Coalition 2 (Mar. 2020), https://reports.nlihc.org/sites/default/files/gap/Gap-Report_2020.pdf (emphasis added).
2. Renae Merle, *Evictions Are Likely to Skyrocket This Summer as Jobs Remain Scarce. Black Renters Will Be Hard Hit*, Wash. Post (July 6, 2020), https://www.washingtonpost.com/business/2020/07/06/eviction-moratoriums-starwood/.
3. *See, e.g.*, Elizabeth J. Mueller & J. Rosie Tighe, *Making the Case for Affordable Housing: Connecting Housing With Health and Education Outcomes*, J. Plan. Literature (May 2007); Keith Wardrip et al., The Role of Affordable Housing in Creating Jobs and Stimulating Local Economic Development: A Review of the Literature, Center for Affordable Housing (Jan. 2011); Alex Schwartz, Housing Policy in the United States (2d ed. 2010).
4. Charlie Harak et al., Partnering for Success: An Action Guide for Advancing Utility Energy Efficiency Funding for Multifamily Rental Housing, National Housing Trust 7 (Mar. 2013), https://assets.ctfassets.net/ntcn17ss1ow9/3yH6ZiuTeNIrjX9QS3wjza/47c14aeb86bc8b2ceef87e4b27346d61/partnering-for-success-action-guide-2013.pdf.
5. *Seattle Housing Policy and Affordability Calculator*, Up For Growth, https://www.upforgrowth.org/housing-calculator.

An Illustrative Contrast: Wasteful Subsidies for Data Centers

On the other hand, some energy-consuming developments underscore the need for a new energy exaction tool, and the potentially virtuous policymaker competition mentioned as a benefit in the paper. Data centers generate few jobs and house machines not people. They consume huge amounts of energy. Yet, local and state jurisdictions offer them special favorable treatment.

Specifically, the nonprofit analytical group Good Jobs First analyzed policy benefiting these developments in a 2016 study, and found they receive enormous public subsidies, including reduced utility costs.[6] To quote from their study:

> Google, Microsoft, Facebook, Apple and Amazon Web Services alone have been awarded more than $2 billion in subsidies. The average cost of their 11 "megadeals" profiled here is astronomical: $1.95 million per job. At that price, taxpayers will always lose, because a worker will never pay $1.95 million more in state and local taxes than public services she and her dependents consume.[7]

Their study describes substantial subsidy policies for data centers in 27 states. Such subsidies should obviously be eliminated.

And more relevant to the topic at hand, one can picture development's societal benefits on a continuum with data centers at one end and affordable housing at the other. If energy exactions are used as effectively as a tool by local governments, they should be designed on a sliding scale. It might even be possible—i.e., revenue-neutral with the cost internalization advantages described in the article—to design them so developments offering multiple societal benefits are cross-subsidized by exactions charged to those with fewer such benefits.

Second—Let's Not Exacerbate Suburban Sprawl

Ideally, affordable housing is energy efficient, powered by renewables, and *location-efficient*.

That last criterion could be easily overlooked, but it explains why another nonprofit, the Sightline Institute, is harshly critical of impact fees that are similar to energy exactions.[8] Cities and other location-efficient sites (such as transit-oriented land) desperately need more affordable housing. Housing built in such sites requires less infrastructure and has a lower long-term environmental footprint given reduced transportation, housing, and utility needs.[9]

Energy exactions must also be designed to favor location-efficient development as opposed to disadvantaging smart growth in states and metropolitan areas. This can also be achieved if the tool is designed flexibly depending on context.

Third—Choosing Smart Investments for Revenue From New Exactions Matters—A Lot

While a primary objective of energy exactions is cost internalization to better inform development and investment decisions, uses of revenue generated from the use of this tool is just as important as a consideration. This question is relatively unexplored in the article.

And yet it's a crucial question. As described above, for example, revenue could help to offset subsidies for worthy new development such as affordable housing. Alternatively, revenue could go toward improving affordable housing, making it more energy efficient. This is exactly the mission of the project I co-direct, Energy Efficiency for All, and I can attest to the great need for funding and financing for such improvements in our existing affordable housing stock. In fact, a report we commissioned in 2015 found that for multifamily affordable housing:

> *[E]nergy efficiency programs in multifamily affordable housing could cut electricity usage by as much as 32 percent* and natural gas by 24 percent. The study includes specific findings for Georgia, Illinois, Maryland, Michigan, Missouri, New York, Pennsylvania, and Virginia.[10] (emphasis added)

Fourth—Local Jurisdictions Must Coordinate/Collaborate Closely With State Regulators and Utilities

One last crucial issue needs to be considered carefully. I note the authors hope that use of energy exactions will "Stimulate useful forms of regulatory competition between local communities and state utility regulators." Such competition can create useful pressure on utilities and regulators, which are admittedly seldom centers of innovation or leadership.

As the authors also note, there also needs to be close cooperation between localities and states. This is especially the case vis-à-vis revenue investment decisions, especially in the 26 states with Energy Efficiency Resource Standards (EERS).[11] The authors' claim that energy exactions are clearly enabled in 24 states currently. The subset of states where those two sets intersect would provide a good list of places where an energy exaction could be piloted as a new tool.

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6. Kasia Tarsczynska, Money Lost to the Cloud: How Data Centers Benefit From State and Local Government Subsidies, Good Jobs First (Oct. 2016).
7. *Id.* at 2.
8. Dan Bertolet, *Impact Fees: An Urban Planning Zombie in Need of Slaying*, Sightline Institute (Sept. 28, 2017), https://www.sightline.org/2017/09/28/impact-fees-an-urban-planning-zombie-in-need-of-slaying/.
9. See, e.g., research and reports on location efficiency on the Center for Neighborhood Technology website at http://locationefficiency.cnt.org/research-and-reports/.
10. Phil Mosenthal & Matt Socks (Optimal Energy), *Potential for Energy Savings in Affordable Multifamily Housing*, EEFA (May 2015).
11. As of May 2019, according to the American Council for an Energy-Efficient Economy (ACEEE), https://www.aceee.org/sites/default/files/state-eers-0519.pdf.

Local jurisdictions piloting it in such states would likely find more willing and able partners at the state level. EERSs are a key indicator of a state that is serious about saving energy as a policy priority. As the American Council for an Energy-Efficient Economy (ACEEE) notes after describing a broad suite of efficiency policy tools available to states, "The EERS represents the core of these policies, providing a foundation upon which the other polices may be layered to achieve the greatest savings."[12]

State-local collaboration and coordination is important. While the authors make a compelling argument that energy exactions are a precise tool for targeting actors who impose new costs, i.e., developers of new buildings, it is important to incorporate this information explicitly into state utility planning to improve its effectiveness.

One of the most persuasive arguments for this new tool is that statewide utility regulation's focus is diffuse and imprecise. Its overwhelming focus is on systemwide issues. This diffuse policymaking is necessary but insufficient for the 21st century as we face increasingly important and urgent issues including mounting consequences for our climate system as well as economic and racial inequities vis-à-vis system costs and benefits for consumers.[13]Such emerging problems will require more sophisticated policy tools such as energy exactions.

Additionally, increasing state and utility investments in energy efficiency must be closely coordinated with investments from local energy exaction revenues. According to ACEEE, utility energy-efficiency portfolios alone drove $8 billion of investment in electric and gas efficiency measures as of 2018. Building stock is with us for decades, and improvement and new construction projects are relatively rare events. Therefore, every retrofit and new construction project must leverage as many efficiency design features as possible. Energy exaction revenue uses must be braided with investments by state regulators and utility program administrators, especially in states with EERSs where such building projects are being implemented at a respectable annual clip.

Conclusion: A Promising New Tool

I find the case for this new tool compelling and persuasive. And there is room for more analysis, as well as for piloting the tool in select, promising geographies. Overall, to ensure this is an effective supplement to existing policy toolkits, energy exactions must be tailored to their context in order to avoid unintended consequences including suboptimal state, utility, and local policymaking; decreased housing affordability; and increased suburban sprawl.

12. Laura Furrey & Sarah Black, *Energy Efficiency Resource Standards: A State Model*, ACEEE (Nov. 2019).
13. *See, e.g.*, Dan Catchpole, *Utility Sector Can Help Advance Racial Equity*, https://www.newsdata.com/clearing_up/opinion_and_perspectives/utility-sector-can-help-advance-racial-equity/article_8dadbecc-b7f9-11ea-b84b-b3a650175bcb.html.

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

DEREGULATION USING STEALTH "SCIENCE" STRATEGIES

by Thomas O. McGarity and Wendy E. Wagner

In this Article, the authors explore the "stealth" use of science by the Executive Branch to advance deregulation and highlight the limited, existing legal and institutional constraints in place to discipline and discourage these practices. Political appointees have employed dozens of strategies over the years, in both Democratic and Republican administrations, to manipulate science in ends-oriented ways that advance the goal of deregulation. Despite this bald manipulation of science, however, the officials frequently present these strategies as necessary to bring "sound science" to bear on regulatory decisions. To begin to address this problem, it is important to reconceptualize how the administrative state addresses science-intensive decisions. Rather than allow agencies and the White House to operate as a cohesive unit, institutional bounds should be drawn around the scientific expertise lodged within the agencies. We propose that the background scientific work prepared by agency staff should be firewalled from the evaluative, policymaking input of the remaining officials, including politically appointed officials, in the agency.

This abstract is adapted from Thomas O. McGarity & Wendy E. Wagner, *Deregulation Using Stealth "Science" Strategies*, 68 Duke L.J. 1719 (2020), *and is reprinted with permission.*

HONORABLE MENTION

REGULATION AND DISTRIBUTION

by Richard L. Revesz

This Article tackles a question that has vexed the administrative state for the last half-century: how to seriously take account of the distributional consequences of regulation. The academic literature has largely accepted the view that distributional concerns should be moved out of the regulatory domain and into Congress' tax policy portfolio. In doing so, it has overlooked the fact that tax policy is ill-suited to provide compensation for significant environmental, health, and safety harms. And the congressional gridlock that has bedeviled us for several decades makes this enterprise even more of a non-starter.

The focus on negative distributional consequences has become particularly salient recently, playing a significant role in the 2016 presidential election and threatening important, socially beneficial regulatory measures. For example, on opposite sides of the political spectrum, environmental justice groups and coal miner interests have forcefully opposed the regulation of greenhouse gases through flexible regulatory tools, in California and at the federal level, respectively.

The time has come to make distributional consequences a core concern of the regulatory state; otherwise, future socially beneficial regulations could well encounter significant roadblocks. The success of this enterprise requires significant institutional changes in the way in which distributional issues are handled within the executive branch. Every president from Ronald Reagan to Barack Obama has made cost-benefit analysis a key feature of the regulatory state as a result of the role played by the Office of Information and Regulatory Affairs, and the Donald Trump Administration is keeping that structure in place. In contrast, Executive Orders addressing distributional concerns have languished because of the lack of a similar enforcement structure within the executive branch. This Article provides the blueprint for the establishment of a standing, broadly constituted interagency body charged with addressing serious negative consequences of regulatory measures on particular groups. Poor or minority communities already disproportionally burdened by environmental harms and communities that lose a significant portion of their employment base are paradigmatic candidates for such action.

This abstract is adapted from Richard L. Revesz, *Regulation and Distribution,* 93 N.Y.U. L. Rev. 1489 (2018), *and is reprinted with permission.*

HONORABLE MENTION

THE IMPACT OF CITIZEN ENVIRONMENTAL SCIENCE IN THE UNITED STATES

by George Wyeth, Lee C. Paddock, Alison Parker, Robert L. Glicksman, and Jecoliah Williams

An increasingly sophisticated public, rapid changes in monitoring technology, the ability to process large volumes of data, and social media are increasing the capacity for members of the public and advocacy groups to gather, interpret, and exchange environmental data. This development has the potential to alter the government-centric approach to environmental governance; however, citizen science has had a mixed record in influencing government decisions and actions. This Article reviews the rapid changes that are going on in the field of citizen science and examines what makes citizen science initiatives impactful, as well as the barriers to greater impact. It reports on 10 case studies, and evaluates these to provide findings about the state of citizen science and recommendations on what might be done to increase its influence on environmental decisionmaking. The Article specifically recommends that: (1) agencies take specific steps to encourage the use of citizen science; (2) citizen scientists learn from others' successes; (3) air programs use citizen-generated data to address pollution in low-income and minority communities; (4) unnecessary legal barriers be removed; and (5) a centralized process for the validation of emerging technologies be implemented.

This abstract is adapted from George Wyeth et al., *The Impact of Citizen Environmental Science in the United States,* 49 ELR 10237 (Mar. 2019).

IN CASE YOU MISSED IT . . .

In the Courts

"In the Courts" contains full summaries of court cases reported in *ELR Update* during the month of June 2020. They are listed under the following categories: Air, Climate Change, Governance, Land Use, Natural Resources, Toxic Substances, Waste, Water, and Wildlife. The summaries are then arranged alphabetically by case name within each category. To access *ELR*'s entire collection of court cases and summaries, visit https://www.elr.info/judicial.

AIR

Environmental Integrity Project v. United States Environmental Protection Agency, No. 18-60384, 50 ELR 20137 (5th Cir. May 29, 2020). The Fifth Circuit upheld EPA's decision to reject a challenge to a CAA Title V permit it issued for expansion of a plant in Baytown, Texas. Environmental groups requested that EPA reject the permit on the grounds that the underlying Title I preconstruction permit allowing the expansion was invalid. EPA rejected the groups' request, explaining that the Title V permitting process was not the appropriate vehicle for re-examining the substantive validity of underlying Title I preconstruction permits. The groups then petitioned for review of EPA's decision. The court concluded that EPA's interpretation of the Title V program was independently persuasive and thus entitled to deference, and therefore denied the group's petition.

Environmental Protection Commission of Hillsborough County v. Volkswagen Group of America, Inc., No. 18-15937, 50 ELR 20138 (9th Cir. June 1, 2020). The Ninth Circuit affirmed in part and reversed in part a district court's dismissal of a suit challenging an automobile company's use of diesel-cheat devices to evade compliance with federally mandated emission standards. Two counties argued the company's installation of and modification to the devices violated their states' anti-tampering regulations. The district court dismissed the suit, holding that the counties' claims as applied to new vehicles and post-sale vehicles were preempted by the CAA, because the Act precluded state and local governments from adopting or attempting to enforce any standard related to the control of emissions from new vehicles and because the company made post-sale software changes on a model-wide basis and Congress intended for model-wide tampering to be regulated exclusively by EPA. The appellate court agreed that the CAA expressly preempted the counties from applying anti-tampering laws to pre-sale vehicles, but held that the Act preserved the counties' authority over post-sale vehicles. The court therefore affirmed dismissal of the counties' claims to the extent they sought to apply anti-tampering rules to new vehicles, but reversed dismissal of their claims regarding post-sale tampering.

Maryland v. Environmental Protection Agency, No. 18-1285, 50 ELR 20121 (D.C. Cir. May 19, 2020). The D.C. Circuit granted in part and denied in part Delaware's and Maryland's challenges to EPA's denial of their CAA §126(b) petitions requesting that the Agency impose additional limitations on certain upwind sources contributing to the states' nonattainment of ozone NAAQS. Maryland's petition argued that four coal-fired power plants that did not have catalytic controls should be required to operate their non-catalytic controls to curb releases of nitrogen dioxide. The court agreed, finding that the Agency could not claim that such controls were not cost-effective in light of the court's decision in Wisconsin v. Environmental Protection Agency. Delaware's petitions argued that three plants were not optimizing their existing controls, and requested a finding that the plants were violating the CAA's "good neighbor" provision with respect to both the 2008 and 2015 NAAQS. The court agreed with EPA that Delaware's own analysis showed the state was already meeting and maintaining the 2008 standard and would meet the 2015 standard by 2023 without requiring an additional upwind emissions limit, but acknowledged that the Agency impermissibly found that the state could not rely on out-of-state monitors to show a violation of ozone limits within its borders. It therefore granted and remanded to EPA the part of Maryland's petition to review that sought the use of non-catalytic controls on four power plants, but denied all other petitions.

Weymouth, Town of v. Massachusetts Department of Environmental Protection, No. 19-1794, 50 ELR 20140 (1st Cir. June 3, 2020). The First Circuit vacated an air permit issued by the Massachusetts Department of Environmental Protection (MDEP) for a proposed natural gas compressor station that is part of a natural gas pipeline connecting the northeastern United States and Canada. Nearby municipalities and citizens argued that MDEP improperly excluded from its best available control technology (BACT) analysis consideration of using an electric motor instead of a natural gas-fired turbine for the station. The court found that MDEP did not follow its own established BACT protocol, which required a cost-effectiveness analysis before eliminating a technology, and thus that its decision to exclude the motor was arbitrary and capricious. It therefore vacated the permit and remanded to MDEP to redo its analysis.

CLIMATE CHANGE

Massachusetts, Commonwealth of v. Exxon Mobil Corp., No. 19-12430-WGY, 50 ELR 20136 (D. Mass. May 28, 2020). A district court remanded back to state court Massachusetts' consumer protection lawsuit concerning an oil company's accounting of climate change risks. The state argued that the company misled and deceived its investors and consumers about the climate risks of fossil fuel products, and moved to remand the suit back to state court. The company asserted four potential grounds for federal jurisdiction: complete preemption, embedded federal question, federal officer removal, and the Class Action Fairness Act (CAFA). The court found the state's complaint pled state-law claims that were not completely preempted because nothing about them implicated uniquely federal interests, and that did not harbor an embedded federal question because Massachusetts relied exclusively on mundane theories of fraud without seeking to hold the company liable for any actual impacts of global warming. Further, the federal officer removal statute and the CAFA did not apply because the company's marketing and sales tactics were not plausibly related to the drilling and production activities allegedly done under the direction of the federal government and the state's complaint was not a class action under the CAFA. It therefore allowed the state's motion to remand the suit back to state court.

Oakland, City of v. BP PLC, No. 18-16663, 50 ELR 20124 (9th Cir. May 26, 2020). The Ninth Circuit vacated and remanded a district court ruling denying San Francisco's and Oakland's motion to remand to state court a lawsuit alleging that oil companies make and sell products that create a public nuisance—sea-level rise—when combusted. The cities argued the district court erred in concluding that it had jurisdiction over the cities' complaints. The appellate court found the cities' public nuisance claim failed to raise a substantial federal question because it neither required an interpretation of a federal statute nor challenged a federal statute's constitutionality, and that the claim was not completely preempted by the CAA. It therefore held the district court erred in concluding that it had jurisdiction over the cities' claim and remanded to the district court to determine whether there was an alternative basis for federal jurisdiction.

San Mateo, County of v. Chevron Corp., Nos. 18-15499, 18-15502, 18-15503, and 18-16376, 50 ELR 20125 (9th Cir. May 26, 2020). The Ninth Circuit affirmed in part a district court ruling granting California counties' and cities' motions to remand to state court a lawsuit against oil companies alleging nuisance and other causes of action arising from the role of fossil fuel products in global warming. The companies argued the district court erred in holding that there was no subject matter jurisdiction under the federal officer removal statute, because they were "persons acting under" a federal officer based on three contractual agreements with the U.S. government and there was a causal nexus between their actions under those agreements and plaintiffs' claims. The appellate court concluded the companies failed to establish that they were "acting under" a federal officer's direction based on the three agreements, and thus that the district court did not err in holding there was no subject matter jurisdiction under the federal officer removal statute. It therefore affirmed the district court's ruling with respect to removal under the federal officer removal statute, and dismissed the remainder of the companies' appeal for lack of jurisdiction.

GOVERNANCE

Oakland Bulk & Oversized Terminal, LLC v. Oakland, City of, Nos. 18-16105 and 18-16141, 50 ELR 20123 (9th Cir. May 26, 2020). The Ninth Circuit upheld a district court ruling that Oakland, California, breached its contract with a company to develop a commercial rail-to-ship terminal on a former U.S. Army base near the San Francisco Bay. The company argued that Oakland breached the contract by barring coal operations at the facility and that the resolution it passed violated the Commerce Clause and was preempted by federal law. The district court found that Oakland lacked the showing needed—that the proposed coal operations would be substantially dangerous to health and safety—to allow it to impose new regulations under the terms of the contract, and thus held that the city breached the contract and declared the resolution invalid. The appellate court determined that it would review the case as a breach-of-contract dispute rather than an administrative law proceeding, and held that the district court did not err in finding that the city's estimates of dust emission from transported coal were unreliable, that the report showing the proposed coal operation would exceed particulate matter standards was flawed, that the city's evidence that any volume of coal emission was harmful did not credibly establish a substantial danger, and that its evidence pertaining to the risk of coal fire was speculative and contradicted by the record. It therefore affirmed, 2-1, the district court's ruling that Oakland breached its contract.

Waid v. Earley, Nos. 19-1425, 19-1472, 19-1477, and 19-1533, 50 ELR 20127 (6th Cir. May 22, 2020). The Sixth Circuit affirmed a district court ruling that denied city and state officials' motions to dismiss residents' bodily integrity claim stemming from the water contamination crisis in Flint, Michigan. City officials argued they were entitled to qualified immunity because they acted on professional opinions from Michigan Department of Environmental Quality officials and private engineering firms. State officials also argued they were entitled to qualified immunity because their decisions were based on a mistaken but reasonable interpretation of EPA's Lead and Copper Rule. The court found that the officials' alleged actions—rushing to switch to the Flint River, repeatedly refusing to reconnect to Detroit's water system, distorting water quality tests, etc.—despite being aware that Flint River water was contaminated plausibly demonstrated deliberate indifference to the crisis. The city argued it was entitled to Eleventh Amendment sovereign immunity because it was under state emergency management during the events leading up to and during the crisis. The court found that the city was not acting as an arm of the state when under state emergency management and thus that the district court correctly concluded the city was not entitled to sovereign immunity. The current governor also argued she was entitled to Eleventh Amendment immunity because the alleged unconstitutional conduct occurred solely in the past and she personally did not commit the initial violations. The court found it did not matter what the governor did or did not do in the past because the past deliberate indifference has continuing effects, and thus concluded that the district court rightly rejected the governor's claim. It therefore affirmed the denial of the motions to dismiss with respect to every defendant except one city official, and remanded for the district court to decide whether that official should be dismissed.

LAND USE

Friends of Alaska National Wildlife Refuges v. Bernhardt, No. 3:19-CV-00216 JWS, 50 ELR 20135 (D. Alaska June 1, 2020). A district court vacated DOI's decision to enter into a land exchange agreement to facilitate construction of a road through Izembek National Wildlife Refuge in Alaska. Environmental groups argued that the agreement, which DOI acknowledged represented a change in the agency's policy, failed to provide reasons for the exchange that adequately justified the change. The court found that DOI failed to provide a reasoned explanation for overturning its previous conclusion that a road would "lead to significant degradation of irreplaceable ecological resources," or to provide any new information to justify a contrary finding to its previous conclusion, and thus that its decision to enter into the agreement was arbitrary and capricious. The groups also argued that DOI's change in policy was not permissible under the Alaska National Interest Lands Conservation Act because the agreement did not further the purposes of the Act, which aimed to preserve natural landscapes while protecting subsistence uses. The court found that the agreement also failed to advance these purposes, and thus concluded that the agreement and the change in policy it represented constituted unlawful agency action in violation of the APA. It therefore vacated DOI's decision to enter into the agreement.

Friends of Rapid River v. Probert, No. 19-36063, 50 ELR 20120 (9th Cir. May 20, 2020). In an unpublished opinion, the Ninth Circuit affirmed in part and dismissed in part a challenge to the Forest Service's decision to authorize logging in Idaho's Nez Perce-Clearwater National Forests. Environmental groups argued the decision violated the National Forest Management Act (NFMA) and the Healthy Forest Restoration Act (HFRA) by failing to comply with the governing forest plan. The court found that neither the Service's reliance on legacy stand exams and photographs in lieu of site visits to verify old grown, nor its shifting of the location of an area designed to be managed for old growth habitat and authorization of logging in some parts of the forest within the former boundaries violated the forest plan, and thus did not violate the NFMA or the HFRA. The groups also argued the decision violated the HFRA by including authorization for expansion of a gravel pit to supply road aggregate for roadwork related to the logging, but the Service later withdrew its authorization of the expansion. The court therefore affirmed the district court's grant of summary judgment for the Forest Service with respect to the groups' forest plan challenge, and dismissed as moot the group's challenge to the pit authorization.

Montana Wildlife Federation v. Bernhardt, No. CV-18-69-GF-BMM, 50 ELR 20130 (D. Mont. May 22, 2020). A district court vacated BLM's 2018 instruction memorandum (IM) and oil and gas lease sales in Montana and Wyoming issued in reliance on the IM for failing to maintain federal protections for the greater sage-grouse. Environmental groups challenged the IM and lease sales, arguing that they violated FLPMA. BLM argued the IM did not constitute final agency action because it merely set forth procedural guidelines. The court found the IM did qualify as final agency action because it constituted the consummation of BLM's decision on how to apply the objective in its 2015 land management plans of prioritizing future oil and gas leasing and development outside of sage-grouse habitat. It further found that the IM violated FLPMA by reinterpreting the prioritization requirement to only apply to situations when BLM faced a backlog of potential leasing sites to review and by failing to actively encourage the prioritization of oil and gas leasing in non-sage-grouse habitat as the 2015 plans required. Because all the challenged lease sales either explicitly or in effect followed the IM, the court concluded they also violated FLPMA. It therefore vacated the 2018 IM and the lease sales in their entirety except for parcels that did not contain sage-grouse habitat.

NATURAL RESOURCES

Citizens for Clean Energy v. U.S. Department of the Interior, No. CV-17-30-GF-BMM, 50 ELR 20122 (D. Mont. May 22, 2020). A district court denied a request to vacate the Trump Administration's decision to lift the Obama Administration's moratorium on new coal leasing on public lands. Environmental groups, tribes, and states argued that BLM's issuance of a final EA and FONSI were insufficient to meet the court's previous order that found the decision to lift the moratorium constituted a major federal action requiring the agency to comply with NEPA, and thus sought to have the decision vacated. The court held that its order required BLM to initiate a NEPA analysis but did not specify the type of analysis required, and that the agency's decision to conduct an EA and issue a FONSI rather than release a more rigorous EIS sufficiently remedied the violation. It therefore denied plaintiffs' request to vacate the Trump Administration's decision, but held that they were free to file a new complaint if they wished to challenge the sufficiency of the EA and FONSI.

E&B Natural Resources Management Corp. v. Alameda, County of, No. 18-cv-05857-YGR, 50 ELR 20144 (N.D. Cal. June 8, 2020). A district court denied partial summary judgment in a challenge to a county board's decision not to renew two conditional use permits (CUPs) for continued operation of an oil extraction and production facility in Livermore, California. The facility operator argued it had a fundamental vested right in continuing operations there because the county had approved such operations since 1966, and the operator relied on those approvals to make significant investments in the land. The court found that a CUP did not bestow on the permit holder a fundamental vested right and that the operator could not claim that past permit renewals were equivalent to a guarantee that the permits would be renewed in perpetuity. It further found the operator failed to demonstrate that denial of the CUPs would result in anything more than economic loss. The court therefore denied the operator's motion for partial summary judgment.

Grand Canyon Trust v. Provencio, No. CV-13-8045-PCT-DGC, 50 ELR 20126 (D. Ariz. May 22, 2020). A district court granted summary judgment for the Forest Service in a challenge against its determination that a mining company had "valid existing rights" (VER) at a uranium mine in the Kaibab National Forest when DOI withdrew public lands around the Grand Canyon from new mining claims. A Native American tribe and environmental groups argued the VER determination was invalid because the Forest Service failed to consider all relevant costs—for monitoring radiation, surface water, and groundwater; for wildlife conservation; and sunken costs—in its profitability analysis of the mine, and sought to have the determination set aside. The court could not find that the VER determination included all environmental monitoring and wildlife conservation costs, but concluded that even if those costs were not considered, plaintiffs failed to show the omission was harmful given the mine's more than $29 million in conservatively estimated profits. It further found that the exclusion of sunken costs was not error, and that even if it was, plaintiffs failed to show that it was harmful. It therefore granted summary judgment for the Forest Service.

Mountain Communities for Fire Safety v. Elliott, No. 2:19-cv-6539-CAS-AFMx, 50 ELR 20129 (C.D. Cal. May 26, 2020). A district court granted summary judgment for the Forest Service in a challenge to its approval of a tree-thinning and fire mitigation project in the Los Padres National Forest. Conservation groups and nearby residents argued the Service's decision to authorize the project with a categorical exclusion violated NEPA because the project was not eligible for the exclusion applied—timber stand improvement activities that do not include the use of herbicides or do not require more than one mile of low-standard road construction—and the Service failed to consider the presence of extraordinary circumstances. The court found the Service reasonably interpreted and applied the categorical exclusion to the tree stand thinning activities proposed by the project, and thus concluded that its determination was neither arbitrary nor capricious. It further found the Service analyzed the relevant factors with respect to any extraordinary circumstances and reached a conclusion without any clear error of judgment. Plaintiffs also argued the Service violated the National Forest Management Act by failing to consider aesthetic management standards and the desired conditions guidance set forth in its forest plan, but the court found the Service reasonably concluded the project complied with both the standards and the guidance. It therefore granted summary judgment for the Forest Service.

Stand Up for California! v. U.S. Department of the Interior, No. 18-16830, 50 ELR 20131 (9th Cir. May 27, 2020). The Ninth Circuit affirmed in part and vacated in part summary judgment for DOI in a challenge to its issuance of secretarial procedures authorizing a Native American tribe to operate a hotel and casino in Madera, California. Nonprofit groups argued that issuance of the procedures violated NEPA and the CAA. The district court held that DOI lacked discretion under the Indian Gaming Regulatory Act (IGRA) to consider any applicable federal laws besides IGRA and thus was categorically excluded from completing an EIS under NEPA and a conformity determination under the CAA. On appeal, the court found that the district court erred because the IGRA does not categorically bar application of NEPA or the CAA. The groups also argued the procedures violated the APA because they were inconsistent with the Johnson Act's prohibition of certain gaming devices on Indian lands, but the court concluded that gaming conducted pursuant to the procedure was not subject to the Johnson Act. It therefore affirmed summary judgment for DOI with respect to the groups' Johnson Act claim, but vacated and remanded with respect to their environmental claims.

St. Johns Riverkeeper, Inc. v. United States Army Corps of Engineers, No. 3:17-cv-398-J-34MCR, 50 ELR 20128 (M.D. Fla. May 26, 2020). A district court granted summary judgment for the Army Corps of Engineers in a challenge to its proposal to dredge a portion of a harbor located in the Lower St. Johns River. An environmental group argued that the Corps violated NEPA by failing to analyze the present effects of past dredging activities in the river with respect to salinity impacts on wetlands, and failing to prepare a supplemental EIS to address new information stemming from Hurricane Irma. The court found that while the Corps could have done more to examine the dredging's effects, the group did not provide any basis for a finding that the agency failed to take the required "hard look" at the potential cumulative effects. It further found that the group failed to show what new information about dredging impacts could be gained from further study in light of Hurricane Irma. The court therefore granted summary judgment for the Corps.

TOXIC SUBSTANCES

National Family Farm Coalition v. U.S. Environmental Protection Agency, No. 19-70115, 50 ELR 20139 (9th Cir. June 3, 2020). The Ninth Circuit vacated EPA's 2018 decision to conditionally register three dicamba-based herbicides designed to be sprayed on genetically engineered soybeans and cotton. Nonprofit groups argued the decision violated the Federal

Insecticide, Fungicide, and Rodenticide Act (FIFRA). The court found that EPA substantially understated the risks it acknowledged—substantially understating the amount of dicamba that had been sprayed on post-emergent crops, record evidence showing that dicamba damage was substantially underreported, and record evidence showing that dicamba had caused substantial and undisputed damage—and failed entirely to acknowledge other risks—record evidence showing the high likelihood that restrictions on over-the-top dicamba application would not be followed, the risk that the registrations would have anti-competitive economic effects in the soybean and cotton industries, and the risk that over-the-top dicamba use would tear the social fabric of farming communities—and that EPA's decision violated FIFRA. It therefore vacated the registrations.

Natural Resources Defense Council, Inc. v. United States Environmental Protection Agency, Nos. 18-2121-ag and 18-2670-ag, 50 ELR 20142 (2d Cir. June 5, 2020). The Second Circuit granted in part and denied in part a challenge to provisions of EPA's Mercury Reporting Rule that exempted certain manufacturers of mercury or mercury-added products from reporting requirements. An environmental group and the state of Vermont argued that three provisions of the rule, under which importers and manufacturers of products containing a mercury-added component were exempt from all reporting requirements, and importers and manufacturers of elemental mercury or mercury compounds in significantly large amounts were exempt from certain reporting requirements, constituted unlawful agency action. The court found that the exemption for importers of products containing mercury-added components was an unlawful interpretation of TSCA because it lacked a reasoned explanation, but that the exemption for manufacturers of products with mercury-added components and the exemption for high-volume manufacturers were lawful in light of Congress' directive to "not require reporting which is unnecessary or duplicative." It therefore vacated the exemption concerning importers of products containing mercury-added components, but denied review of the other exemptions.

WASTE

West Virginia State University Board of Governors v. Dow Chemical Co., No. 2:17-cv-3558, 50 ELR 20141 (S.D.W. Va. June 1, 2020). A district court granted a university board of governors' motion to remand to state court a lawsuit concerning groundwater contamination beneath university land from a nearby facility. The board filed suit in state court, arguing that the facility released volatile and semivolatile organic compounds that caused groundwater contamination beneath the land and seeking remedial measures under state law. The facility owner removed the suit to federal court, invoking federal question jurisdiction on grounds that the board's claims represented a direct challenge to an ongoing EPA-directed cleanup at the facility, diversity jurisdiction on grounds that the university was not an agency or alter ego of the state, and federal officer removal on grounds that it was acting under the direction of federal officers who were supervising the environmental remedial activities. The board contested all three of the owner's bases for removal and moved to remand the suit back to state court. The court found that none of the bases for federal jurisdiction asserted by the owner applied, and granted the board's motion to remand.

WATER

Earth Island Institute v. Wheeler, No. 20-cv-00670-WHO, 50 ELR 20132 (N.D. Cal. June 2, 2020). A district court denied EPA's motion to dismiss a lawsuit concerning its duty to update its national contingency plan (NCP) for addressing oil and hazardous substance contamination. Environmental groups argued that the current NCP is dangerous because it continues to permit the use of chemical dispersants known to be harmful to humans and the environment to break up oil spills, and that EPA's failure to update the plan in over a quarter-century violated its obligations under the CWA. EPA argued its duty to amend the NCP was discretionary, and moved to dismiss. The court found that the policies set forth in the CWA reflect an ongoing intent to prohibit discharge of toxic substances and maintain the integrity of the nation's waters, and that in this context, the NCP provision was properly interpreted to create a non-discretionary duty for EPA to revise or amend the plan. It therefore denied EPA's motion to dismiss.

National Wildlife Federation v. Secretary of the United States Department of Transportation, Nos. 19-1609 and 19-1610, 50 ELR 20143 (6th Cir. June 5, 2020). The Sixth Circuit reversed, 2-1, a district court ruling that required the Pipeline and Hazardous Materials Safety Administration (PHMSA) to comply with the ESA and NEPA before approving an oil pipeline operator's response plans for addressing the risk of a potential oil spill. A conservation group had argued that the response plans failed to satisfy the enumerated criteria under the CWA, and that PHMSA should have assessed whether the plans complied with the ESA's consultation requirement and NEPA's EIS requirement before approving them. The district court found the plans satisfied the enumerated criteria under the CWA, but granted summary judgment on the grounds that PHMSA did not comply with the ESA and NEPA before approving them. The appellate court found that PHMSA's approval of the plans was non-discretionary because it was required by statute once a plan satisfied the six enumerated criteria, and thus concluded that the agency did not need to comply with either the ESA's consultation requirement or NEPA's EIS requirement. It therefore reversed the district court's judgment and remanded for further proceedings.

WILDLIFE

American Stewards of Liberty v. Department of Interior, No. 19-50321, 50 ELR 20134 (5th Cir. May 29, 2020). The Fifth Circuit dismissed a challenge to FWS' constitutional authority to regulate activities affecting the Bone Cave harvestman, a small arachnid known to live only in caves in central Texas that is currently listed as endangered under the ESA. A county and an individual, intervening plaintiffs in a challenge to FWS' negative 90-day finding to delist the arachnid, argued that federal regulation of the intrastate species exceeded Congress' power under the Commerce and Necessary and Proper Clauses. The district court rejected these constitutional arguments, but vacated and remanded FWS' negative 90-day finding. The intervening plaintiffs appealed denial of their motion for summary judgment, arguing that the appellate court had jurisdiction to hear their separate constitutional arguments for delisting the species. The appellate court found that if the appeal was construed as a challenge to the denial of the delisting petition, it was moot because the denial had already been vacated and thus could no longer be the cause of their alleged injuries; or that if the appeal was construed as a challenge to FWS' original listing of the species in 1988, it was barred by sovereign immunity because it was not brought within the six-year statute of limitations. It therefore dismissed the appeal for lack of jurisdiction.

California v. Bernhardt, No. 19-cv-06013-JST, 50 ELR 20119 (N.D. Cal. May 18, 2020). A district court denied FWS' and NMFS' motion to dismiss a challenge to the agencies' issuance of rules that revised key requirements of the ESA's implementing regulations. States and conservation groups argued that the agencies exceeded their statutory authority in issuing the rules in violation of the ESA and the APA, that they failed to take a hard look at the environmental impacts of the rules in violation of NEPA, and that issuing the rules was arbitrary and capricious. The agencies argued the groups lacked standing and moved to dismiss. The court found that the groups' complaint provided detailed allegations that demonstrated injury-in-fact, causation, and redressability with respect to all of their claims. It therefore denied the agencies' motion to dismiss.

Center for Biological Diversity v. Bernhardt, No. 19-cv-05206-JST, 50 ELR 20118 (N.D. Cal. May 18, 2020). A district court dismissed for lack of standing a challenge to FWS' and NMFS' issuance of rules that revised key requirements of ESA's implementing regulations. Conservation groups argued that the rules failed to provide an adequate EIS in violation of NEPA, failed to provide adequate notice and comment in violation of the APA, and failed to make rational decisions with respect to ESA §7 regulatory revisions and repeal of the blanket §4(d) rule in violation of the ESA. The agencies argued the groups lacked standing and moved to dismiss. The court found that the groups' complaint failed to establish a concrete and particularized injury-in-fact with respect to their members and their organizations, and thus failed to demonstrate organizational standing or standing on behalf of their members. It therefore dismissed the suit.

Yurok Tribe v. U.S. Bureau of Reclamation, No. 19-cv-04405-WHO, 50 ELR 20133 (N.D. Cal. May 29, 2020). A district court denied a Native American tribe's request to lift a stay in a lawsuit against the Bureau of Reclamation seeking to protect endangered coho salmon from the impacts of an irrigation project in the Klamath River Basin. The tribe asserted that the Bureau failed to comply with the terms of the parties' agreement to stay the suit—that the Bureau operate the project in accordance with an agreed-upon interim operations plan—by deviating from the plan to reduce water flow in response to dry conditions, and thus moved to lift the stay. The court found the Bureau was reasonable in its deviation from the plan given the dry conditions and in its conservative response to future water condition forecasts given the need to protect other endangered species like endangered suckers in the river. It therefore denied the tribe's request to lift the stay.

In the Federal Agencies

"In the Federal Agencies" contains summaries of notable agency activity during the month of June 2020. Citations are to the *Federal Register* (FR). Entries below are organized by Final Rules, Proposed Rules, and Notices. Within each section, entries are further subdivided by the subject matter area, with entries listed chronologically. To see *ELR*'s entire collection, visit http://elr.info/daily-update/archives.

FINAL RULES

GOVERNANCE

USDA added procedural regulations for the review and issuance of agency guidance documents in accordance with Exec. Order No. 13891. 85 FR 34085 (6/3/20).

PROPOSED RULES

AIR

EPA proposed processes that it would be required to undertake in promulgating regulations under the CAA; specifically, the Agency proposed to establish procedural requirements governing the development and presentation of benefit-cost analyses, including risk assessments used in the analyses, for significant rulemakings conducted under the CAA. 85 FR 35612 (6/11/20)

GOVERNANCE

The Pipeline and Hazardous Materials Safety Administration proposed amendments to the federal pipeline safety regulations on the construction, maintenance, and operation of gas transmission, distribution, and gathering pipeline systems. 85 FR 35240 (6/9/20).

TOXIC SUBSTANCES

EPA proposed to lower the dust-lead clearance levels, defined as the maximum amount of lead permitted in dust on a surface following completion of an abatement project, from 40 micrograms per square foot (µg/ft2) and 250 µg/ft2 to 10 µg/ft2 and 100 µg/ft2 for floors and window sills, respectively. 85 FR 37810 (6/24/20).

WILDLIFE

FWS proposed to remove the San Benito evening-primrose from the list of endangered and threatened plants based on a review indicating that the threats to the species have been reduced or eliminated so that the plant no longer meets the definition of an endangered or threatened species under the ESA. 85 FR 33060 (6/1/20).

NOTICES

AIR

EPA granted petitions to add n-propyl bromide to the list of hazardous air pollutants contained in the CAA. 85 FR 36851 (6/18/20).

GOVERNANCE

The president issued Exec. Order No. 13927, Accelerating the Nation's Economic Recovery From the COVID-19 Emergency by Expediting Infrastructure Investments and Other Activities, on June 4, 2020; the order directs agencies to take all reasonable measures to speed infrastructure investments and other actions, while providing appropriate protection for public health and safety, natural resources, and the environment as required by law. 85 FR 35165 (6/9/20).

FERC provided guidance regarding the Commission's response to the effects of the national emergency caused by COVID-19 on oil pipelines. 85 FR 36321 (6/16/20).

FDA announced the availability of guidance documents related to the COVID-19 public health emergency. 85 FR 38372 (6/26/20).

NATURAL RESOURCES

DOI announced its proposal to revise NEPA implementing procedures for BLM by adding a new categorical exclusion for authorization of the salvage harvest of dead or dying trees. 85 FR 33697 (6/2/20).

TOXIC SUBSTANCES

EPA announced the availability of the final TSCA risk evaluation of methylene chloride; the evaluation determined that specific conditions of use of methylene chloride present an unreasonable risk of injury to health that EPA must move to address through risk management measures enumerated in TSCA, and determined that other specific conditions of use do not present unreasonable risk of injury to health or the environment. 85 FR 37942 (6/24/20).

WILDLIFE

The president issued Proclamation 10049, Modifying the Northeast Canyons and Seamounts Marine National Monument, on June 5, 2020, to amend Proclamation 9496 by removing restrictions on commercial fishing in the marine national monument. 85 FR 35793 (6/11/20).

In the Congress

"In the Congress" covers notable environment-related activities reported in the *Congressional Record* during the month of June 2020. Entries are arranged by bill number, with Senate bills listed first. To see all environment-related bills that are introduced, reported out of committee, passed by either house, or signed by the president, including environmental treaties ratified by the Senate, visit *ELR*'s website at https://elr.info/legislative/congressional-update.

CHAMBER ACTION

GOVERNANCE

H.R. 1957 (Great American Outdoors Act), introduced by Rep. John Lewis (D-Ga.) on March 28, 2019, was passed by the Senate on June 17, 2020. The bill would amend Title 54, U.S. Code, to establish, fund, and provide for the use of amounts in a National Parks and Public Land Legacy Restoration Fund to address the maintenance backlog of the National Park Service, FWS, BLM, the U.S. Forest Service, and the Bureau of Indian Education, and provide permanent, dedicated funding for the Land and Water Conservation Fund. 166 Cong. Rec. S3027-38 (daily ed. June 17, 2020).

NATURAL RESOURCES

S. 886 (Indian Water Rights Settlement Extension Act), introduced by Sen. Tom Udall (D-N.M.) on March 27, 2019, was passed by the Senate on June 4, 2020. The bill would amend the Omnibus Public Land Management Act of 2009 to make the Reclamation Water Settlements Fund permanent. 166 Cong. Rec. S2743-45 (daily ed. June 4, 2020).

BILLS INTRODUCED

GOVERNANCE

H.R. 7069 (WATER Act of 2020) was introduced by Rep. Jason Crow (D-Colo.) on June 1, 2020. The bill would direct the Secretary of Defense to assess and report on the water scarcity evaluation practices of DOD. It was referred to the Committee on Armed Services. 166 Cong. Rec. H2362 (daily ed. June 1, 2020).

H.R. 7092 (Great American Outdoors Act) was introduced by Rep. Joe Cunningham (D-S.C.) on June 4, 2020. The bill would amend Title 54, U.S. Code, to establish, fund, and provide for the use of amounts in a National Parks and Public Land Legacy Restoration Fund to address the maintenance backlog of the National Park Service, FWS, BLM, the U.S. Forest Service, and the Bureau of Indian Education, and provide permanent, dedicated funding for the Land and Water Conservation Fund. It was referred to the Committees on Natural Resources, Agriculture, and the Budget. 166 Cong. Rec. H2366 (daily ed. June 4, 2020).

H.R. 7130 (One Federal Decision Act of 2020) was introduced by Rep. Rodney Davis (R-Ill.) on June 8, 2020. The bill would amend Title 23, U.S. Code, to streamline the environmental review process for major projects. It was referred to the Committee on Transportation and Infrastructure. 166 Cong. Rec. H2376 (daily ed. June 8, 2020).

H.R. 7258 was introduced by Rep. Andy Levin (D-Mich.) on June 18, 2020. The bill would amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act to ensure that FEMA provides access to potable water for individuals during a public health emergency. It was referred to the Committee on Transportation and Infrastructure. 166 Cong. Rec. H2404 (daily ed. June 18, 2020).

LAND USE

S. 4057 was introduced by Sen. Steve Daines (R-Mont.) on June 24, 2020. The bill would amend the Forest and Rangeland Renewable Resources Planning Act of 1974 and FLPMA to provide that the Secretary of Agriculture and the Secretary of the Interior are not required to reinitiate consultation on a land management plan or land use plan under certain circumstances. It was referred to the Committee on Environment and Public Works. 166 Cong. Rec. S3206 (daily ed. June 24, 2020).

NATURAL RESOURCES

S. 3971 was introduced by Sen. John Barrasso (R-Wyo.) on June 17, 2020. The bill would amend the Surface Mining Control and Reclamation Act of 1977 to make modifications to the Abandoned Mine Reclamation Fund. It was referred to the Committee on Energy and Natural Resources. 166 Cong. Rec. S3063 (daily ed. June 17, 2020).

WASTE

S. 3944 was introduced by Sen. Tom Udall (D-N.M.) on June 11, 2020. The bill would amend the Solid Waste Disposal Act to reduce the production and use of certain single-use plastic products and packaging, improve the responsibility of producers in the design, collection, reuse, recycling, and disposal of their consumer products and packaging, and prevent pollution from consumer products and packaging from entering into animal and human food chains and waterways. It was referred to the Committee on Environment and Public Works. 166 Cong. Rec. S2932 (daily ed. June 11, 2020).

In the State Agencies

"In the State Agencies" contains summaries of notable state regulatory developments reported during the month of June 2020. The entries are arranged by state, and within each section, entries are further subdivided by subject matter. To access *ELR*'s entire collection of state regulatory developments, visit https://elr.info/administrative/state-updates.

ALASKA

AIR

The Alaska Department of Environmental Conservation (ADEC) seeks comment on its 2020 Annual Ambient Air Monitoring Network Plan, which provides a description of all ADEC network air quality monitoring sites and discusses any current or planned modifications. *See* https://aws.state.ak.us/OnlinePublicNotices/Notices/View.aspx?id=198282 (May 20, 2020).

DISTRICT OF COLUMBIA

CLIMATE CHANGE

The District Department of Energy and Environment proposed to adopt D.C. Mun. Regs. tit. 20, §807. The adoption would extend the deadline for existing sources to comply with the maximum carbon dioxide intensity threshold of 180 lbs/mm British thermal units for fuel burned either for electricity or heating to March 31, 2023, with an option to request an extension until March 31, 2025. *See* 67 D.C. Reg. 005389 (May 22, 2020).

ILLINOIS

WASTE

The Illinois Pollution Control Board proposed to amend Ill. Admin. Code tit. 35, Parts 703, 720, 721, 722, 724, 725, 726, 728, and 733. The amendments would incorporate segments of EPA's Hazardous Waste Pharmaceutical Rule and Universal Waste Aerosol Cans Rule. *See* 44 Ill. Reg. 9368, 9654 (June 5, 2020).

IOWA

WATER

The Iowa Environmental Protection Commission proposed to amend Iowa Admin. Code r. 61. The amendments would convert the aquatic life water quality criteria from total recoverable metals to dissolved metals based on available conversion factors for arsenic, cadmium, chromium, lead, mercury, nickel, silver, and zinc. *See* XLII Iowa Admin. Bull. 2708 (June 3, 2020).

MINNESOTA

WATER

The Minnesota Pollution Control Agency proposed to reissue an NPDES general permit for the construction, expansion, modification, or operation of animal feedlots in the state. *See* 44 Minn. Reg. 1478 (June 8, 2020).

NEW HAMPSHIRE

WATER

The New Hampshire Department of Environmental Services proposed amendments to its wetlands rules. The amendments would, among other things, exempt certified wetlands scientists from identifying the resource functions of every wetland that is impacted by a proposed project, and automatically authorize projects whose sole aim is to remove exotic aquatic weeds provided certain conditions are met. *See* XL N.H. Rulemaking Reg. 3 (May 28, 2020).

The New Hampshire Department of Environmental Services proposed to amend its drinking water state revolving loan fund program. The amendments would, among other things, expand the categories of eligible infrastructure projects and clarify the process for review of draft EAs. *See* XL N.H. Rulemaking Reg. 1 (June 11, 2020).

NEW MEXICO

NATURAL RESOURCES

The New Mexico Oil Conservation Division proposed to amend N.M. Code R. §§19.15.2.7, 19.15.16, and 19.15.34. The amendments would, among other things, conform the definition of "produced water" with the definition found under the Oil and Gas Act, and add a section requiring the filing of a water use report for a hydraulically fractured well that provides the portion of the water used in fracturing, which is potable, nonpotable, or recycled produced water. *See* http://164.64.110.134/nmac/nmregister/xxxi/EMNRD_OCCnotice_xxxi11.html (June 9, 2020).

TEXAS

WASTE

The Texas Commission on Environmental Quality proposed to amend 30 Tex. Admin. Code §§325.1-325.4. The amendments would, among other things, provide consistency with EPCRA, develop clear guidance pertaining to submitting hazardous substances inventories, and reduce the number of reports that can be consolidated within a submission. *See* 45 Tex. Reg. 3740 (June 5, 2020).

WATER

The Texas Commission on Environmental Quality proposed to amend 30 Tex. Admin. Code §§319.1, 319.2, 319.4-.9, 319.11, 319.12, 319.22, 319.23, 319.25, 319.28, and 319.29. The amendments would clarify the procedure for alternative test procedure approval in accordance with EPA's 2017 CWA Methods Update Rule. *See* 45 Tex. Reg. 3735 (June 5, 2020).

VERMONT

TOXIC SUBSTANCES

The Vermont Department of Health proposed to adopt regulations for lead control. *See* https://www.healthvermont.gov/sites/default/files/documents/pdf/Lead_Control_Rule_2020.pdf (June 3, 2020).

In the World

"In the World" features notable developments reported in the international secton of *ELR Update* during the month of June 2020. Current and archived materials, and links to primary news sources, can be found on *ELR*'s website at https://elr.info/international/international-update.

AIR

GLOBAL CO_2 LEVELS REACH RECORD HIGH, DESPITE PANDEMIC LOCKDOWNS

Levels of carbon dioxide in the atmosphere rose once again to the highest values ever recorded, despite global emissions drops due to the coronavirus pandemic. Carbon dioxide (CO_2) concentrations recorded at the Mauna Loa Observatory in Hawaii reached 417.2 parts per million (ppm) in May, 2.4 ppm higher than last year's peak of 414.8 ppm (Reuters).

"People may be surprised to hear that the response to the coronavirus outbreak hasn't done more to influence CO_2 levels. But the buildup of CO_2 is a bit like trash in a landfill. As we keep emitting, it keeps piling up," said Ralph Keeling, a professor at the Scripps Institution of Oceanography (The Guardian).

Carbon emissions fell by an average of 17% in early April due to the impacts of the coronavirus outbreak, with some countries experiencing a decrease of up to 26 percent (The Washington Post, Reuters). However, scientists estimate that emissions would need to drop by 20-30% for six months or longer in order to slow the rate of growth of atmospheric carbon (New York Times).

CO_2 levels are compared from year-to-year each May, when atmospheric carbon peaks before vegetation growth in the Northern Hemisphere removes some of the carbon through photosynthesis (New York Times, The Guardian). Annual rates of increase in CO_2 levels have been speeding up, with an average annual growth rate of 2.4 ppm this past decade, compared to 0.8 ppm in the 1960s (The Guardian).

TOXIC SUBSTANCES

RUSSIA INVESTIGATES CAUSES OF MAJOR OIL SPILL IN ARCTIC CIRCLE

On June 11, the Russian government charged the mayor of Norilsk, a remote Arctic city, with criminal negligence over a bungled response to a major oil spill (Reuters). On May 29, a fuel tank at a power station in Norilsk lost pressure and collapsed, leaking more than 20,000 tons of diesel into rivers and subsoil. Greenpeace Russia compared the incident to the 1989 *Exxon Valdez* oil spill (New York Times).

Norilsk is built around Norilsk Nickel, the company responsible for the oil spill and the world's leading nickel and palladium producer. On June 10, Russian investigators detained three managers of the Norilsk Nickel power station, claiming they had used an unsafe storage tank that had needed major repairs since 2018 (Reuters). Meanwhile, Norilsk Nickel stated that the accident was due to melting permafrost that had weakened the foundations of the storage tank (Reuters).\

About 55% of Russia's territory contains permafrost. This includes Siberia, which houses many of the country's main oil and gas fields. A 2017 report by the Arctic Council found that due to climate change, foundations in permafrost regions can no longer bear the loads they did as recently as the 1980s (BBC). An Intergovernmental Panel on Climate Change report released last year on oceans and the cryosphere also noted that changes in permafrost threaten the "structural stability and functional capacities" of oil industry infrastructure (Bloomberg). The oil spill "will have a negative effect on the water resources, on the animals that drink that water, on the plants growing on the banks," said Vasily Yablokov of Greenpeace Russia (BBC).

WASTE

COUNTRIES GRAPPLE WITH SURGE IN PLASTIC WASTE POLLUTION DUE TO COVID-19

The coronavirus pandemic has dramatically increased reliance on single-use plastics, resulting in a plastics pollution crisis faced by many countries around the world. A French environmental nongovernmental organization recently released a video showing masks and gloves littering the seabed of the Mediterranean Sea. Discarded masks and gloves in city streets have been reported in Canada and France, with many concerned that the litter will only worsen as countries reopen (BBC, Bloomberg).

In China, discarded packaging from a booming delivery economy has posed another waste problem. Package deliveries increased even after the easing of lockdown orders—up 27% in April compared to last year. The Chinese government plans to initiate a mandatory waste-sorting system in 46 cities by the end of this year, based on a pilot program launched in Shanghai in 2019 (Bloomberg). In Mexico, officials have discovered large-scale illegal dumping of medical waste and discarded coffins due to the surge in infectious waste (AP News). Organizers in Chile feared that as the country's drop-off recycling centers closed amid lockdown orders, residents will stop recycling. According to the World Bank, less than 1% of Chile's waste is recycled or composted (Reuters).

Plastics' new role in coronavirus prevention also delayed or halted single-use plastic bans in places like California, New York, and Thailand (Reuters, New York Times). The future of Canada's single-use plastic ban, intended to take effect in 2021, remains uncertain (Bloomberg).

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.

CLIMATE CHANGE

Davis Noll, Bethany A. & Burcin Unel, *Markets, Externalities, and the Federal Power Act: The Federal Energy Regulatory Commission's Authority to Price Carbon Dioxide Emissions*, 50 ELR 10629 (Aug. 2020).

Gregor, Ashley M., *Toward a Legal Standard of Tolerable Heat*, 44 Colum. J. Envtl. L. 479 (2019).

Johnson, Andrew, *Life, Liberty, and a Stable Climate: The Potential of the State-Created Danger Doctrine in Climate Change Litigation*, 27 Am. U. J. Gender Soc. Pol'y & L. 585 (2019).

Jones, Shana Campbell et al., *Roads to Nowhere in Four States: State and Local Governments in the Atlantic Southeast Facing Sea-Level Rise*, 50 ELR 10657 (Aug. 2020).

Niiro, Samuel, *An Injury to the Inheritance: Locating an Affirmative Obligation to Climate Adaptation in the Law of Waste*, 52 Colum. J.L. & Soc. Probs. 653 (2019).

Patashnik, Jeremy, *The Trolley Problem of Climate Change: Should Governments Face Takings Liability if Adaptive Strategies Cause Property Damage?*, 119 Colum. L. Rev. 1273 (2019).

Rausch, Joseph, *The Necessity Defense and Climate Change: A Climate Change Litigant's Guide*, 44 Colum. J. Envtl. L. 553 (2019).

Smaczniak, Kim, *Too Much Risk, Too Little Reward*, 50 ELR 10635 (Aug. 2020).

Wasim, Roshaan, *Corporate (Non)Disclosure of Climate Change Information*, 119 Colum. L. Rev. 1311 (2019).

Symposium, *Corporations and Climate Change: How Businesses Are Changing the Environmental Landscape*, 43 Vt. L. Rev. 629 (2019).

ENERGY

Arroyo, Vicki, *From Paris to Pittsburgh: U.S. State and Local Leadership in an Era of Trump*, 31 Geo. Envtl. L. Rev. 433 (2019).

Carmack, Summer L., *Loyalties and Royalties: The Osage Nation's Energy Sovereignty Plan and Wind Farm Opposition*, 40 Pub. Land & Resources L. Rev. 145 (2019).

Lovaas, Deron, *Energy Exactions: Supplementing the Local and State Energy Policy Toolkit*, 50 ELR 10669 (Aug. 2020).

Murphy, Braden, *Financial Assurance for Hardrock Mining: EPA and CERCLA*, 94 Notre Dame L. Rev. 1855 (2019).

Oxenham, Ian, *Charging Onwards: Removing Barriers to Energy Storage in Restructured New England States*, 43 Vt. L. Rev. 575 (2019).

Rossi, Jim & Christopher Serkin, *Energy Exactions*, 50 ELR 10663 (Aug. 2020).

West, Michelle, *How Deepwater Offshore Drillers Have Failed to Uphold Their End of the Bargain: The Policy Infirmities of BSEE's Current Oil Spill Response Framework*, 31 Geo. Envtl. L. Rev. 605 (2019).

GOVERNANCE

Caroccia, Tom, *Rescuing the International Criminal Court: Crimes Against Humanity and Environmental Destruction*, 70 Rutgers U. L. Rev. 1167 (2018).

de Wolff, Daisy, *Hiding Behind the Flag: Jurisdictional Impediments Imposed by the Law of the Flag on the Enforcement of Violations of Annex I of Marpol 73/78 Pursuant to the Act to Prevent Pollution From Ships*, 42 Fordham Int'l L.J. 1475 (2019).

Fisch, Jill E., *Making Sustainability Disclosure Sustainable*, 50 ELR 10638 (Aug. 2020).

Fisk, Sally R.K. & Nikki Adame-Winningham, *Sustainability Risk Is Investment Risk*, 50 ELR 10644 (Aug. 2020).

Fleming, Rick A. & Alexandra M. Ledbetter, *Making Mandatory Sustainability Disclosure a Reality*, 50 ELR 10647 (Aug. 2020).

Houck, Oliver A., *Shintech: Environmental Justice at Ground Zero*, 31 Geo. Envtl. L. Rev. 455 (2019).

Leshy, John D., *The Interaction of U.S. Public Lands, Water, and State Sovereignty in the West: A Reassessment and Celebration*, 41 Pub. Land & Resources L. Rev. 1 (2019).

Outka, Uma & Elizabeth Kronk Warner, *Reversing Course on Environmental Justice Under the Trump Administration*, 54 Wake Forest L. Rev. 393 (2019).

Palmer, Alexander N., *A Prophecy Misread That Could Have Been: Regulatory Adjudications and a Weakening of the Environmental Rights Amendment in* Logan v. Department of Environmental Protection, 30 Vill. Envtl. L.J. 269 (2019).

Ramani, Veena & Jim Coburn, *The Need for SEC Rules on ESG Risk Disclosure*, 50 ELR 10650 (Aug. 2020).

Riesenberg, Thomas L., *Principles Plus SASB Standards*, 50 ELR 10653 (Aug. 2020).

Tibbetts, Courtney A. et al., *Analysis of Environmental Law Scholarship 2018-2019*, 50 ELR 10623 (Aug. 2020).

Trimble, Travis M., *Environmental Law*, 70 Mercer L. Rev. 1007 (2019).

Symposium, *From Environmental to Ecological Law: The Future Lies Ahead*, 43 Vt. L. Rev. 415 (2019).

LAND USE

Eggel, Matthias & Rebecca L. Walker, *Replacement or Reduction of Gene-Edited Animals in Biomedical Research: A Comparative Ethics and Policy Analysis*, 97 N.C. L. Rev. 1241 (2019).

Fitzgerald-Mumford, Mairead J., *Shells of the Stores They Once Were: Returning Vacant Retail Property to Productive Use in the Midst of the "Retail Apocalypse,"* 94 Notre Dame L. Rev. 1797 (2019).

Mahoney, Sara Ellen, *Owning the World's Seed Supply: How Seed Industry Mergers Threaten Global Food Security*, 31 Geo. Envtl. L. Rev. 563 (2019).

Meagher, Karen M. & Paul B. Thompson, *Before We Make a Pig's Ear of It: How North Carolina Hog-Farming Nuisance Suits Provide Context for the Ethics of Gene Editing Livestock*, 97 N.C. L. Rev. 1273 (2019).

Owley, Jessica & Amy Wilson Morris, *The New Agriculture: From Food Farms to Solar Farms*, 44 Colum. J. Envtl. L. 409 (2019).

Rios, Jodi, *Racial States of Municipal Governance: Policing Bodies and Space for Revenue in North St. Louis County, Mo.*, 37 Law & Ineq. 235 (2019).

Sanders, Shaakirrah R., *Ag-Gag Free Nation*, 54 Wake Forest L. Rev. 491 (2019).

Sullivan, Edward J., *Land Use Conflict Management in Beaches and Dunes Areas*, 55 Willamette L. Rev. 93 (2018).

NATURAL RESOURCES

Ferrey, Steven, *Against the Wind—Sustainability, Migration, Presidential Discretion*, 44 Colum. J. Envtl. L. 341 (2019).

Monast, Jonas J., *Governing Extinction in the Era of Gene Editing*, 97 N.C. L. Rev. 1329 (2019).

Taylor, Peter B., *The Good, the Bad, and the Unnecessary: Forest Fire Suppression Funding and Forest Management Provisions of the Consolidated Appropriations Act of 2018*, 41 Pub. Land & Resources L. Rev. 79 (2019).

Zellmer, Sandra B., *Mitigating Malheur's Misfortunes: The Public Interest in the Public's Public Lands*, 31 Geo. Envtl. L. Rev. 509 (2019).

TOXIC SUBSTANCES

Harris, Lauren, *Mooove Over Cow's Milk: Why the FDA Should Amend Their Guidelines to Include for Plant-Based Alternatives to Conventional Animal-Based Foods*, 39 N. Ill. U. L. Rev. 301 (2019).

WASTE

Shahrasbi, Sanya, *Consumers, Plastic, and What It Means to Be "Biodegradable,"* 31 Geo. Envtl. L. Rev. 381 (2019).

WATER

Huffman, James L. et al., *Constitutional Protections of Property Interests in Western Water*, 41 Pub. Land & Resources L. Rev. 27 (2019).

Raboin, Bradley J., *Treacherous Waters: Jurisdiction in E-Commerce and on the High Seas*, 21 Tul. J. Tech. & Intell. Prop. 1 (2019).

Regan, Christopher, *Violations Abound: The Control of Water Pollution Liability in* EQT Production Company v. Department of Environmental Protection of the Commonwealth, 30 Vill. Envtl. L.J. 295 (2019).

White, Allison R., *Bridge Over Troubled Waters? Ninth Circuit Makes Waves Refusing to Narrow Clean Water Act in* Hawaii Wildlife Fund v. County of Maui, 30 Vill. Envtl. L.J. 351 (2019).

WILDLIFE

Jacewicz, Natalie, *Protecting Evolutionary Potential: Can the Endangered Species Act Save Species Before They Exist?*, 94 N.Y.U. L. Rev. 472 (2019).

Pritchett, Matthew, *Risks and Recovery: A Multifaceted Outlook Towards Conservation of the Southern Resident Orca Population*, 30 Vill. Envtl. L.J. 223 (2019).

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Below are all Articles, Comments, and Dialogues published in *ELR—The Environmental Law Reporter* in 2020. To access the entire *ELR* archive online, visit https://elr.info/articles.

CLIMATE

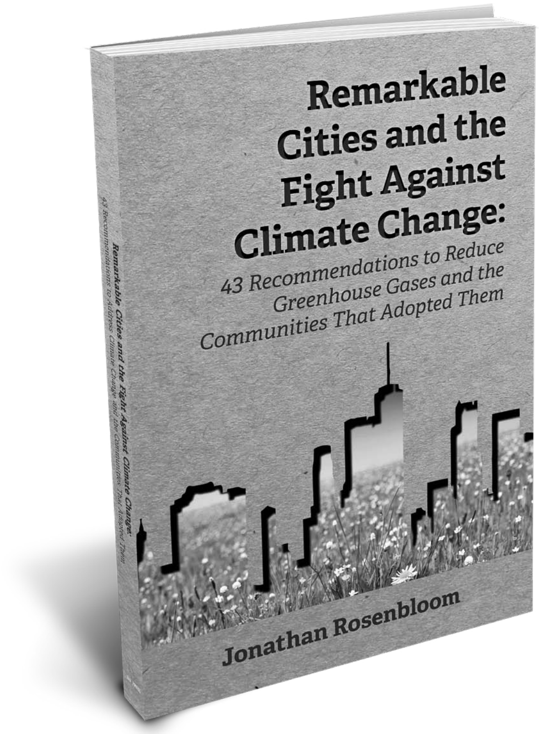
ENERGY

GOVERNANCE

Remarkable Cities and the Fight Against Climate Change

43 Recommendations to Reduce Greenhouse Gases and the Communities That Adopted Them

By Jonathan Rosenbloom



Our cities and communities face an uncertain and daunting future. Diverse challenges, including an increasingly warmer and erratic climate, losses of biodiversity, disparities in economic equality, and state and federal hostility to local action, test the survival of many communities. Paralleling these challenges is an explosion of development that will rival post-World War II land use expansion. Yet, most development codes are decades old and not prepared to confront today's changes, and many local governments do not have the time or resources to research and address the myriad of changes and uncertainty they face.

The Sustainability Development Code (SDC) project provides concrete ways for communities to amend development codes and adapt to new challenges as they occur. The SDC aims to help all local governments, regardless of size and budget, build more resilient, environmentally conscious, economically secure, and socially equitable communities. In tandem with the SDC project, this book arms local governments with a diversity of approaches to meet the climate change challenge, focusing on actions that are traditionally within local governments' land use and development authority.

About the Author
Jonathan Rosenbloom is the Dwight D. Opperman Distinguished Professor of Law at Drake Law School. His scholarship explores issues relevant to local governments and sustainability, with a particular focus on land use. He is a former U.S. Circuit Court clerk, attorney for the federal government and a large law firm, and commissioner on the Des Moines Plan and Zoning Commission. He is also the founding director of the Sustainable Development Code, a model land use code providing local governments with the best sustainability practices in land use. Jonathan has degrees from the Rhode Island School of Design, New York Law School, and Harvard Law School.

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