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TRANSITIONS IN ENERGY COMMUNITIES

Ann M. Eisenberg*

Communities that have historically relied on the fossil fuel industry for the bulk of their economic activity are facing a reckoning.¹ Despite political obstacles and efforts to obfuscate the effects of climate change, stakeholders in the energy sector increasingly acknowledge that massive efforts to decarbonize the energy grid are coming, or at least, are needed, where those efforts have not already commenced.² Issues of cost also factor into the transition away from fossil fuels, as coal is no longer considered the cheap energy source it once was.³ Meanwhile, new communities face questions of how to manage joining the energy grid as solar installations, wind farms, and other low-carbon energy sources proliferate around the country.⁴

* Associate Professor of Law, University of South Carolina School of Law. I am very grateful for India Whaley's adept research assistance for this Essay.

1. Dustin Bleizeffer, *Transition in Coal Country: 2020 Hastens Reckoning*, ROCK-ETMINER.COM (Aug. 17, 2020), https://www.rocketminer.com/coronavirus/transition-in-coal-country-2020-hastens-reckoning/article_b0fccd5f3ecc-5367-8132-8ddd281eab7a.html [https://perma.cc/4HNS-38KR].
2. Alexandra B. Klass, *Expanding the U.S. Electric Transmission and Distribution Grid to Meet Deep Decarbonization Goals*, 47 ELR 10749, 10749 (Sept. 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3033829; Sheila McGuire, *State Has "Enormous Opportunity" to Transition From Coal*, UINTA CTY. HERALD (July 24, 2020), <https://beta.uintacountyherald.com/article/state-has-enormous-opportunity-to-transition-from-coal> [https://perma.cc/5XNF-GEYZ]; HANNAH WISEMAN, KLEINMAN CTR. FOR ENERGY POL'Y, *BALANCING RENEWABLE ENERGY GOALS WITH COMMUNITY INTERESTS 1* (2020), <https://kleinmanenergy.upenn.edu/wp-content/uploads/2020/08/KCEP-Balancing-Renewable-Energy-Singles-1.pdf>.
3. Silvio Marcacci, *The Coal Cost Crossover: 74% of US Coal Plants Now More Expensive Than New Renewables, 86% by 2025*, FORBES (Mar. 26, 2019), <https://www.forbes.com/sites/energyinnovation/2019/03/26/the-coal-cost-crossover-74-of-us-coal-plants-now-more-expensive-than-new-renewables-86-by-2025/#7dd9eccd22d9> [https://perma.cc/Q4F8-ZWQP]; Shelley Welton & Joel Eisen, *Clean Energy Justice: Charting an Emerging Agenda*, 43 HARV. ENV'T L. REV. 307, 330 (2019), <https://harvardelr.com/wp-content/uploads/sites/12/2019/08/43.2-Welton-Eisen.pdf> [https://perma.cc/G87U-ZV65]; WISEMAN, *supra* note 2.
4. Breffni Lennon et al., *Community Acceptability and the Energy Transition: A Citizens' Perspective*, ENERGY, SUSTAINABILITY & SOC'Y 9, 35 (2019) (noting that local opposition to renewable energy technology has been higher than expected); Jeremy G. Weber & Jason Brown, *Energy Development's Impacts on Rural Employment Growth*, USDA ECON. RSCH. SERV. (Dec. 16, 2013), <https://www.ers.usda.gov/amber-waves/2013/december/energy-development-s-impacts-on-rural-employment-growth/> [https://perma.cc/TB58-VS3W] (noting that net employment gains provide only limited view of how industry growth affects life in rural regions because they do not reflect other costs or benefits such as tax revenues or environmental effects); Shalanda H. Baker, *Fighting for a Just Transition*, 52 NACLA REP. ON AMERICAS 144, 144 (2020), <https://www.tandfonline.com/doi/full/10.1080/10714839.2020.1768732> [https://perma.cc/ZAB8-Y977]; Chrissy

High-volume shale gas extraction has also brought boom-bust conditions to energy communities both new and old over the past fifteen years.⁵

This Essay provides a snapshot of energy communities' current efforts to manage these transitions. It is not comprehensive, but is rather an attempt at a review of several prominent strategies at a particular moment in this rapidly evolving area, as well as of emergent theoretical frameworks that seek to address important distributional concerns. Part I provides an overview of how the energy grid works and the role communities have in either feeding that grid or transitioning off of it. Part II then discusses the idea of the "just transition" for fossil fuel communities alongside the idea of "clean energy justice" for communities involved in the green transition. Part III surveys current efforts in the spheres of law, policy, and activism to manage or mitigate transitions, both for communities that are losing their role as energy producers and for those who are becoming new energy producers.

I. Communities' Role in Energy Production

The energy grid is typically understood to include four main steps through which electricity moves: (1) power plants generate electricity; (2) transmission lines then move that electricity across regions at high voltages; (3) a distri-

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- Suttles, *Report: Pennsylvania Clean Energy "Major" Job Creator*, TIMES (Aug. 17, 2020), <https://www.timesonline.com/story/news/2020/08/17/report-reveals-green-energy-growth/3378166001/> [https://perma.cc/3TJL-JRL7]; Ryan P. Thombs, *When Democracy Meets Energy Transitions: A Typology of Social Power and Energy System Scale*, 52 ENERGY RSCH. & SOC. SCI. 159, 160 (2019), <https://www.sciencedirect.com/science/article/pii/S2214629618307692?via%3Dihub> [https://perma.cc/X4G2-UCLA]. Of course, some overlap exists between communities transitioning out of fossil fuel energy production and into renewable energy production. *See, e.g.*, Paul Golias, *EPCAMR Receives Grant to Explore Solar Energy on Coal Lands*, CITIZENS' VOICE (Aug. 30, 2020), https://www.citizensvoice.com/news/epcamr-receives-grant-to-explore-solar-energy-on-coal-lands/article_7a280e35-7001-536f-a9b4-5377fd054233.html [https://perma.cc/X922-S62E]. But it is sometimes assumed that "old" energy communities can or should become the "new" energy communities. This assumption overlooks a variety of important factors. *See* J. Mijin Cha, *A Just Transition: Why Transitioning Workers Into a New Clean Energy Economy Should Be at the Center of Climate Change Policies*, 29 FORDHAM ENV'T L. REV. 196, 205 (2017) (discussing barriers to entry for fossil fuel workers entering the energy sector, including "disconnect in time and place between where jobs are lost and where jobs will be created," differing skillsets, and policy barriers to sector growth).
5. Heather Richards, *Is U.S. Shale Facing an "Unmitigated Disaster"?*, ENERGYWIRE (Sept. 19, 2019), <https://www.eenews.net/stories/1061136849> [https://perma.cc/G383-EG3D].

bution network then delivers electricity to end-users at low voltages; and (4) the end-users receive and use the electricity that they pay for at their homes and businesses.⁶ As part of this grid, this discussion mostly contemplates step (0): communities, often in rural places, produce or process raw materials that are converted into electricity either immediately (as is the case with solar and wind-generated energy) or later, once those materials are received at power plants (as is the case with coal, oil, and natural gas).⁷ Communities are also substantially affected environmentally and economically at step (1) by hosting power plants, developing economic dependency on those plants, and bearing the pollution and other public health hazards associated with proximity to those plants.⁸

Altogether, the raw materials involved at step (0) include “coal, natural gas, oil, nuclear energy, hydropower, wind, solar, and other renewable energy resources,” such as biofuels and geothermal energy.⁹ As of 2019, approximately 23% of U.S. electricity came from coal, 38% from natural gas, 1% from petroleum (adding up to 62% of the energy mix coming from fossil fuels), 20% from nuclear power, and 17% from renewable sources including wind, hydro, solar, biomass, and geothermal.¹⁰ However, states and major cities are increasingly pledging to receive 100% of their energy from clean sources within the relatively near future, and President Joseph Biden's Administration seems likely to take aggressive steps toward decarbonization as well.¹¹

For the most part, private companies own and operate the facilities that produce or process raw materials used in energy creation, such as coal mines, natural gas wells, and wind farms.¹² A variety of entities own the power plants

that generate electricity, including the federal government, Investor-Owned Utilities (“IOUs”), Publicly Owned Utilities (“POUs”), and independent power producers.¹³ Vertical integration is also common in the energy sector, where, for example, one entity owns a coal mine and a nearby coal-fired power plant.¹⁴ Companies that generate electricity are regulated by state agencies called Public Utilities Commissions (“PUCs”) or Public Service Commissions (“PSCs”).¹⁵ Facilities that generate electricity include power plants that burn fossil fuels (including coal and natural gas), nuclear power plants, hydropower plants, wind turbines, and solar panels.¹⁶ In most states, the PUC or PSC must provide approval before utilities may build these facilities, and the PUC/PSC also oversees the rates utilities may charge to downstream users.¹⁷

Transmission lines transport electricity away from producing facilities at high voltages, which prevents electricity from being lost.¹⁸ The United States has three main transmission networks: the Western Interconnection, the Eastern Interconnection, and the Electric Reliability Council of Texas.¹⁹ In some places, public utilities manage these networks. In others, companies known as Independent System Operators (“ISOs”) or Regional Transmission Organizations (“RTOs”) manage them.²⁰ ISOs and RTOs “facilitate competition among electricity suppliers and provide access to transmission by scheduling and monitoring the use of transmission lines.”²¹ Transformers then reduce the voltage before distribution lines deliver electricity to end-users.²²

Regulatory oversight differs across these organizations based upon the regions in which they operate.²³ The energy grid is deregulated in the sense that the companies that produce electricity are generally entitled to sell it to downstream users (the “resellers” who distribute electricity to end-users), although the Federal Energy Regulatory Commission (“FERC”) oversees such sales.²⁴ Energy commu-

6. Steven C. Kohl & Scott M. Watson, *A Brief Introduction to Electricity Transmission*, MICH. BUS. J., Jan. 2011, at 22, 23. The transmission system includes “three interconnected grids comprised of approximately 3,500 utilities serving more than 250 million people.” *Id.* Approximately 7,000 power plants generate electricity that is then transmitted over 642,000 miles of high-voltage transmission lines, then distributed over 6.3 million miles of low-voltage distribution lines. Klass, *supra* note 2, at 10749.

7. Weber & Brown, *supra* note 4 (discussing rise in rural employment from 2000 to 2010 in wind, natural gas, and corn-based ethanol production); WISEMAN, *supra* note 2.

8. See, e.g., Sheena E. Martenies et al., *Health and Environmental Justice Implications of Retiring Two Coal-Fired Power Plants in the Southern Front Range Region of Colorado*, GEOHEALTH (Aug. 28, 2019), <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019GH000206> [<https://perma.cc/U5JR-XYJ2>]; Benjamin Storrow, *Navajo Imagine a Future Without Coal*, CLIMATEWIRE (Apr. 8, 2019), <https://www.eenews.net/stories/1060148179> [<https://perma.cc/LP43-5QSA>].

9. Klass, *supra* note 2, at 10749.

10. See *Electricity Explained*, U.S. ENERGY INFO. ADMIN. (“EIA”), <https://www.eia.gov/energyexplained/electricity/electricity-in-the-us.php> [<https://perma.cc/KSB8-5Z77>]. This reflects a slight drop in fossil fuel production and increase in renewable energy production since 2016, when approximately 64% of U.S. power generation came from fossil fuel plants powered by coal, oil, and natural gas, while nuclear power provided 20%, hydropower six percent, and renewable energy sources such as wind and solar powered nearly eight percent. See Klass, *supra* note 2, at 10749.

11. Welton & Eisen, *supra* note 3, at 308–09.

12. See S. TEGEN, NAT’L RENEWABLE ENERGY LAB’Y, NREL/TP-500-37720, COMPARING STATEWIDE ECONOMIC IMPACTS OF NEW GENERATION FROM WIND, COAL, AND NATURAL GAS IN ARIZONA, COLORADO, AND MICHIGAN 7 (May 2006), <https://www.nrel.gov/docs/fy06osti/37720.pdf> [<https://perma.cc/NY3H-8LQB>] (noting that the most common way for utilities to add wind to resource portfolios is to purchase generation from private companies instead of owning or operating wind farms); Pippa Stevens, *Murray Energy Joins Growing List of Coal Companies to Declare Bankruptcy*, CNBC (Oct. 29, 2019), [\[gy-joins-list-of-coal-companies-to-declare-bankruptcy.html\]\(https://perma.cc/C25G-LFN9\) \[<https://perma.cc/C25G-LFN9>\] \(discussing pattern of bankruptcies in privately owned companies that mine coal and own coal-fired power plants\).](https://www.cnbc.com/2019/10/29/murray-ener-</p>
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13. Off. of Electricity, *Electricity 101*, U.S. DEP’T OF ENERGY, <https://www.energy.gov/oe/information-center/educational-resources/electricity-101> [<https://perma.cc/9MPS-M8SV>].

14. Cf. Joshua C. Macey, *Zombie Energy Laws*, 73 VAND. L. REV. 1077, 1109 (2020).

15. Ari Peskoe, *A Challenge for Federalism: Achieving National Goals in the Electricity Industry*, 18 MO. ENV’T L. & POL’Y REV. 209, 216 (2011).

16. *Electricity Explained*, *supra* note 10.

17. U.S. EPA, AN OVERVIEW OF PUCs FOR STATE ENVIRONMENT AND ENERGY OFFICIALS 2 (2010); Public Utility Regulatory Policies Act of 1978 (“PURPA”), Pub. L. No. 95-617, § 111, 92 Stat. 3117 (codified as amended in scattered sections of Titles 15, 16, 42, and 43 U.S.C.).

18. *How the Electricity Grid Works*, UNION OF CONCERNED SCIENTISTS (Feb. 17, 2015), <https://www.ucsusa.org/resources/how-electricity-grid-works> [<https://perma.cc/82CP-QLXE>].

19. *Id.*

20. Joel B. Eisen, *FERC’s Expansive Authority to Transform the Electric Grid*, 49 U.C. DAVIS L. REV. 1783, 1793 (2016). “[S]even ISO/RTOs now serve over one-half of the nation and provide two-thirds of the nation’s electricity.” *Id.*

21. *How the Electricity Grid Works*, *supra* note 18.

22. *Id.*

23. *Electric Power Markets*, FERC, <https://www.ferc.gov/industries-data/market-assessments/overview/electric-power-markets> [<https://perma.cc/KPM4-XLJT>].

24. “Under the traditional model in place from the 1930s, when the U.S. Congress passed the Natural Gas Act and the Federal Power Act, until the 1990s,

nities' involvement in the grid is most substantial at the upstream stages, although the location of transmission lines can also create controversy.²⁵ For example, where wind turbines are to be built, there are people working on those turbines, living near them, potentially making money off of them, and potentially bearing burdens associated with the turbines' proximity to their communities.²⁶ People also live near and work in coal mines and other sites of extraction and production.²⁷ These residents' and workers' livelihoods are in turn either reflected in the greater economics of the grid, or not. In discussions over workplace safety for coal miners, for instance, employers may insist that excessive safety regulations will ultimately be reflected in higher electricity costs for end-users, and therefore should be resisted.²⁸

Many agree that communities involved in energy production at steps (0) and (1) have historically borne, and currently bear, profound externalized costs.²⁹ In other words, the rates that electricity users pay do not reflect the full social, environmental, and economic costs of energy production.³⁰ Many of these costs are imposed, or externalized, onto energy communities and workers—primarily low-income communities and communities of color.

The loss of energy jobs themselves is a form of externalized cost to which attention has recently turned.³¹ Coal communities, for example, have historically borne the

externalized costs of energy production in the form of environmental destruction, public health hazards, workplace safety issues, and economic non-development or stagnation.³² Today, yet another cost borne by coal communities and other fossil fuel producers is the loss of energy jobs themselves as the energy grid evolves toward more affordable energy sources with lower carbon emissions.³³

Yet, energy production with lower carbon emissions is not automatically going to be pursued more equitably.³⁴ So-called green energy sources can also involve externalities and diverse forms of ethical problems, such as communities' disproportionate exposure to environmental hazards, inequitable access to green job opportunities, and inadequate processes to ensure benefits to the communities that host energy sites.³⁵ These substantial energy transitions—including the loss of economic activity based on fossil fuel production and the gain of economic activity based on low-carbon energy production—have prompted heightened scrutiny of questions of justice for affected communities.

II. Just Transitions and Clean Energy Justice

The issues with both old and new forms of energy production have prompted calls for these transitions to be “just.” The idea of a “just transition” is a term of art that emerged in the labor movement when workers in the nuclear industry faced large-scale displacement in the 1970s.³⁶ The principle behind the idea was that workers in hazardous industries that contributed to societal growth were engaged in a form of work on behalf of the public.³⁷ Thus, when those workers lose their jobs in the interest of collective progress—such as when measures to curtail the hazards of the industry they were involved with result in industry contraction—those workers deserve some form of mitigation or compensation for their losses in the form of measures like direct payments for a period of time, education benefits, and job retraining.³⁸

The past and potential losses for communities losing fossil fuel-based jobs are quite severe. The transition away from coal brings substantial economic harm to coal communities, both directly and indirectly. Direct impacts include the loss of wages and other benefits associated with what are typically well-paying jobs.³⁹ The indirect ripple

FERC set rates and conditions for sales of electricity, natural gas, and associated transmission service between monopoly utilities. However, thirty years ago, changes in technology and regulatory philosophy led FERC to refashion its role to become a regulator of competitive markets, responsible for crafting rules that rely on market forces to reliably provide service at efficient prices, enable competition among diverse suppliers, limited market power, and place risk (and reward) with investors rather than captive customers.” Avi Zevin, *Regulating the Energy Transition: FERC and Cost-Benefit Analysis*, 45 COLUM. J. ENV'T L. 419, 423 (2020); *Market for Electricity*, PJM LEARNING CTR., <https://learn.pjm.com/electricity-basics/market-for-electricity>.

25. Michael Burger & Hillary Aidun, *Pipeline Decisions Do Not Spell Doom for Transmission*, SABIN CTR. FOR CLIMATE CHANGE L. CLIMATE L. BLOG (Sept. 15, 2020), <http://blogs.law.columbia.edu/climatechange/2020/09/15/pipeline-decisions-do-not-spell-doom-for-transmission/> [<https://perma.cc/9VD3-7M9K>]; Tara Benedetti, Note, *Running Roughshod? Extending Federal Siting Authority Over Interstate Electric Transmission Lines*, 47 HARV. J. ON LEGIS. 253, 257 (2010).
26. See, e.g., Scott McFetridge, *New Rebellion Against Wind Energy Stalls or Stops Projects*, SEATTLE TIMES (Feb. 21, 2018), <https://www.seattletimes.com/business/new-rebellion-against-wind-energy-stalls-or-stops-projects/> [<https://perma.cc/2F94-D82J>].
27. *Id.*
28. Cf. Welton & Eisen, *supra* note 3, at 313 (observing that energy law's economic focus has meant that energy law pays more attention to distributive concerns than U.S. environmental statutes).
29. Keith J. Zullig & Michael Hendryx, *Health-Related Quality of Life Among Central Appalachian Residents in Mountaintop Mining Communities*, 101 AM. J. PUB. HEALTH 848, 850 (2011); Julia Fox, *Mountaintop Removal in West Virginia: An Environmental Sacrifice Zone*, 12 ORG. & ENV'T 163, 168 (1999); Jared B. Fish, Note, *The Rise of Hydraulic Fracturing: A Behavioral Analysis of Landowner Decision-Making*, 19 BUFF. ENV'T L.J. 219, 238 (2012); Maninder P.S. Thind et al., *Fine Particulate Air Pollution from Electricity Generation in the US: Health Impacts by Race, Income, and Geography*, 53 ENV'T SCI. & TECH. 14010 (Nov. 20, 2019), <https://pubs.acs.org/doi/10.1021/acs.est.9b02527>.
30. Cf. Ferit Ucar, *The True Cost of Electricity: What We're Not Paying for Through Our Utility Bills*, ENV'T DEF. FUND BLOG (Apr. 28, 2016), <http://blogs.edf.org/energyexchange/2016/04/28/the-true-cost-of-electricity-what-were-not-paying-for-through-our-utility-bills/> [<https://perma.cc/X6NA-LDSS>].
31. Cf. Terry Anderson, *The Native American Coal War*, FORBES (May 18, 2016), <https://www.forbes.com/sites/realspin/2016/05/18/the-native-american-coal-war/#32d20f87fb40>.

32. See Ann M. Eisenberg, *Beyond Science and Hysteria: Reality and Perceptions of Environmental Justice Concerns Surrounding Marcellus and Utica Shale Gas Development*, 77 U. PITT. L. REV. 183, 191 (2015).

33. Cf. Ann M. Eisenberg, *Distributive Justice and Rural America*, 61 B.C. L. REV. 189, 197 (2020) (arguing that coal communities were sacrificed once in the name of cheap energy, then again in the name of clean energy).

34. Welton & Eisen, *supra* note 3, at 309 (“[A] cleaner energy economy does not ineluctably translate to a more just economy.”); Baker, *supra* note 4.

35. Baker, *supra* note 4.

36. See LES LEOPOLD, *THE MAN WHO HATED WORK AND LOVED LABOR: THE LIFE AND TIMES OF TONY MAZZOCCHI* 415 (2011).

37. See generally Ann M. Eisenberg, *Just Transitions*, 92 S. CAL. L. REV. 273, 278 (2019).

38. *Id.*

39. McGuire, *supra* note 2.

effects include reduced property and sales taxes, decreased regional economic vitality, and budgetary struggles for local governments.⁴⁰ Coal communities themselves can also be burdened with higher power bills because the costs of the transition are shifted to consumers.⁴¹ The idea of the just transition for coal and other fossil fuel communities whose livelihoods have trickled away would involve some form of intervention to offset these losses.

Clean energy justice offers a theoretical counterpart to just transitions, in the form of a parallel distributional framework for a different energy context. Where the just transitions concept focuses on questions of equity surrounding lost energy development, clean energy justice focuses on these questions surrounding new, low-carbon energy development.⁴² As one example, many communities who have already either borne burdens associated with energy production, or who have otherwise been excluded from equitable access to economic opportunity, could theoretically benefit from the prospect of economic opportunity based on the growth of green jobs.⁴³ Advocates fear, however, that the benefits of green energy production, without some form of intentional intervention, will continue to exclude or burden those communities in the way that the fossil fuel economy has.⁴⁴ For example, energy law experts Shelley Welton and Joel Eisen observe that women and people of color are already significantly underrepresented in green energy jobs compared to the workforce in general and overall population demographics.⁴⁵ Energy justice scholars are particularly concerned with developers' and policymakers' current patterns and obvious temptation to deprive new energy communities of autonomous involvement in energy siting decisions due to the urgency of decarbonizing the energy grid.⁴⁶

III. Current Efforts to Manage Transitions in Energy Communities

A. Initiatives to Offset and Counteract Losses in Fossil Fuel Communities

This section reviews some of the approaches policymakers and activists have attempted, proposed, or implemented to address economic losses in fossil fuel-reliant regions. A central challenge of such initiatives is that replacing a fundamental pillar of a regional economy is neither simple nor inexpensive.⁴⁷ Much of the conversation on this

40. *See id.*

41. *Id.*

42. Welton & Eisen, *supra* note 3.

43. *Id.* at 332 (stating that new jobs can bring enormous benefits for communities); *see also id.* at 333 (noting that there is no consistently accepted description of a "green job").

44. *See, e.g., id.*

45. *Id.* at 334.

46. Baker, *supra* note 4; Shelley Welton, *Decarbonization in Democracy*, 67 UCLA L. REV. 56, 106–07 (2020).

47. *See* ADELE MORRIS ET AL., COLUM. CTR. ON GLOB. ENERGY POL'Y & ECON. STUD. AT BROOKINGS, THE RISK OF FISCAL COLLAPSE IN COAL-RELIANT

topic focuses on job retraining for displaced miners. This is an important focal point; although many observe how few workers are employed directly by coal mines today, the fossil fuel industry as a whole is vast, and many more workers stand to be displaced.⁴⁸ The greater challenge, however, is the fiscal insolvency of local governments in formerly fossil fuel-reliant regions.⁴⁹ While training a coal miner to seek another vocation may at least sound relatively straightforward—although even job retraining is more complex than it tends to appear⁵⁰—attempting to replace regional tax revenue streams is a more complex story of multifaceted, resource-intensive, long-term economic development strategies.⁵¹

1. Federal Initiatives for Community Rebuilding

Over the years, congressional representatives have proposed various bills to address both environmental and economic issues in fossil fuel communities transitioning away from productivity, with mixed achievements. In 1990, Sen. Robert Byrd of West Virginia sought to amend the Clean Air Act to compensate coal miners who lost jobs as a result of increased environmental regulations of coal-fired power plants, including a provision to pay miners for six years between fifty and one hundred percent of their final salary.⁵² His proposal failed to pass the U.S. Senate in a vote of fifty to forty-nine.⁵³ A similar amendment made it through the U.S. Congress after its proposal in the U.S. House of Representatives.⁵⁴ But the subsequent Clean Air Employment and Training Act operated for only one year due to congressional failure to appropriate the necessary funds.⁵⁵ From 1992 to 1996, the U.S. Department of Labor used a discretionary fund under the Job Partnership Training Act to provide vocational training, job counseling, and need-based payments to displaced miners, but the program was repealed in 1998.⁵⁶

COMMUNITIES (July 15, 2019), <https://www.brookings.edu/research/the-risk-of-fiscal-collapse-in-coal-reliant-communities/> [<https://perma.cc/4P5V-5SF9>].

48. Cha, *supra* note 4, at 208 (according to just transition experts, transitioning workers need unemployment benefits, fully funded pensions, education and training assistance, and relocation assistance).

49. MORRIS ET AL., *supra* note 47; JUST TRANSITION FUND, NATIONAL ECONOMIC TRANSITION PLATFORM (2020) [hereinafter JTF PLATFORM]; *The Platform*, NAT'L ECON. TRANSITION PLATFORM, <https://nationaleconomic-transition.org/platform/> [<https://perma.cc/554E-QC65>] (noting that communities tend to have "little time to plan for the disappearance of their largest employer and the tax base that supports public services, local education, and health care systems").

50. *Cf.* Becca Schimmel, *Rethinking Retraining: Why Worker Training Programs Alone Won't Save Coal Country*, OHIO VALLEY ReSOURCE (Oct. 4, 2019), <https://ohiovalleyresource.org/2019/10/04/rethinking-retraining-why-worker-training-programs-alone-wont-save-coal-country/> [<https://perma.cc/64MS-L4DS>].

51. MORRIS ET AL., *supra* note 47. *But see* Cha, *supra* note 4, at 208 (noting that while an estimated federal budget of \$500 million per year for fossil fuel communities may sound expensive, fossil fuel industries have been subsidized at an average cost of \$4.7 billion per year).

52. Richard L. Revesz, *Regulation and Distribution*, 93 N.Y.U. L. REV. 1489, 1546 (2018).

53. *Id.* at 1548.

54. *Id.* at 1549.

55. *Id.*

56. *Id.* at 1550.

The Barack Obama Administration also attempted to intervene in declining coal communities. The 2015 Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Initiative involved a multi-agency effort to counteract job losses and community decline in Appalachia.⁵⁷ A parallel POWER+ Plan proposal was designed to pursue additional economic development projects, including expanded mine reclamation activities and providing retirement support to miners who lost benefits due to coal company bankruptcies.⁵⁸ In the years since POWER+ failed to pass Congress, other bills geared toward regional revitalization of coal communities have as well.⁵⁹ Funds appropriated through the POWER Initiative are still distributed through the Appalachian Regional Commission, with a particular focus on job retraining for displaced miners and community development projects.⁶⁰

Publicly supported mine reclamation activities have also received attention as opportunities to give struggling coal regions an economic boost. These tend to be activities pursued and implemented locally with federal support, primarily through partnerships between the U.S. Office of Surface Mining Reclamation and Enforcement (“OSMRE”) and state or regional agencies.⁶¹ For instance, the Reclaiming Appalachia Coalition received a grant from OSMRE to be distributed through state offices for local projects geared toward land re-use, involving redeveloping mine land for outdoor recreation, natural resource conservation, green energy production, or other regionally beneficial activities.⁶² As another example, the Wyoming Abandoned Mine Land Division, overseen by OSMRE, is estimated to have the potential to create almost 800 jobs and generate nearly \$200 million in revenue in 2020-2021.⁶³ In furtherance of overall efforts to transform mine areas into community assets rather than burdens, the types of projects falling under the umbrella of mine reclamation include subsidence mitigation, closing mine openings, and revegetating disturbed sites to create wildlife habitat and reduce health and safety hazards.⁶⁴ Advocates have called for more federal and state support for mine reclamation activities, particularly with the aim of employing displaced coal miners who are uniquely suited to this work.⁶⁵

57. *Id.* at 1551.

58. *Id.* at 1552.

59. *Id.* at 1553.

60. ARC’s *POWER Initiative*, APPALACHIAN REG’L COMM’N, <https://www.arc.gov/funding/POWER.asp> [https://perma.cc/9RCB-2JJ5].

61. *Who We Are*, OFF. OF SURFACE MINING RECLAMATION AND ENF’T, <https://www.osmre.gov/about.shtm> [https://perma.cc/Z8U2-WSEP].

62. *Coalition Makes Catalytic Investment in Appalachian Coal Mine Reuse Projects*, HARLAN ENTER. (Aug. 21, 2020), <https://www.harlanenterprise.net/2020/08/21/coalition-makes-catalytic-investment-in-appalachian-coal-mine-reuse-projects/> [https://perma.cc/9W5E-5ZTM].

63. Ellen Fike, *Wyoming’s Abandoned Mine Reclamation to Generate Millions in Economic Benefits This Year*, COWBOY STATE DAILY (Aug. 27, 2020), <https://cowboystatedaily.com/2020/08/27/wyomings-abandoned-mine-reclamation-to-generate-millions-in-economic-benefits-this-year/> [https://perma.cc/4DXT-QC3Q]; Ryan Lewallen, *Federal Government Praises Wyoming DEQ Abandoned Mine Division*, COUNTY 17 (Sept. 2017), <https://county17.com/2017/09/07/federal-government-praises-wyoming-deq-abandoned-mine-division/> [https://perma.cc/S7VU-AKRN].

64. Lewallen, *supra* note 63.

65. *Coal Mine Cleanup Works: A Look at the Potential Employment Needs for Mine Reclamation in the West*, W. ORG. RES. COUNCILS (Oct. 29, 2020),

Most recently as of this writing, U.S. Sen. Tammy Duckworth of Illinois introduced the Marshall Plan for Coal Country Act, endorsed by the United Mine Workers Association, which would make higher education tuition-free for coal workers and their families, extend Medicare coverage to all coal workers who have lost their jobs, and change U.S. bankruptcy rules to require coal companies to pay workers’ health care and pension costs.⁶⁶ It would create subsidies for carbon capture technology and require coal power plants’ decommissioning after operators stop using them.⁶⁷ Senator Duckworth’s proposed plan received praise as moving the dialogue past the common theme of retraining for technical skills and, instead, providing a social safety net for former coal workers.⁶⁸ House Democrats have also recently introduced a proposal to help coal communities through wage replacement, health care support, contributions to retirement funds or pension plans, paid retraining opportunities, and other targeted assistance for hard-hit places.⁶⁹ The outcome of these likely politically complex proposals remains to be seen.

2. State-Level Initiatives Toward Community Revitalization

Among the first of its kind, the Colorado Office of Just Transition will likely be a model for other state efforts.⁷⁰ The office was created by Colorado HB19-1314 in 2019 to be housed in the Colorado Department of Labor and Employment.⁷¹ The office itself was created alongside a Just Transition Advisory Committee, whose mandate is to develop a just transition plan and present it to the state executive and legislature by December 31, 2020.⁷² In early August 2020, the office released a draft of its plan, and

<https://www.worc.org/publication/reclamation-jobs-report/> [https://perma.cc/7XFW-HHQJ]; Press Release, Sweetwater NOW, Report Shows: Coal Mine Reclamation Could Create Hundreds of Jobs (Aug. 16, 2020), <https://www.sweetwaternow.com/report-shows-coal-mine-reclamation-could-create-hundreds-of-jobs/> [https://perma.cc/MV6X-9SS2].

66. Press Release, Tammy Duckworth, U.S. Sen. for Ill., Duckworth Introduces Bill to Invest in Coal Workers and Revitalize Coal Communities (July 23, 2020), <https://www.duckworth.senate.gov/news/press-releases/duckworth-introduces-bill-to-invest-in-coal-workers-and-revitalize-coal-communities> [https://perma.cc/8CY5-NUC5]; Scott Carpenter, *Duckworth Unveils Plan to Pay for Coal Workers’ Higher Education, Health Care*, FORBES (July 24, 2020), <https://www.forbes.com/sites/scottcarpenter/2020/07/24/duckworth-unveils-plan-to-pay-for-coal-workers-higher-education-health-care/#13a3ca914634> [https://perma.cc/F53M-EJNJ].

67. Press Release, Tammy Duckworth, *supra* note 66; Carpenter, *supra* note 66.

68. Carpenter, *supra* note 66.

69. MAJORITY STAFF OF H. SELECT COMM. ON THE CLIMATE CRISIS, 116TH CONG., SOLVING THE CLIMATE CRISIS 291 (2020), <https://climatecrisis.house.gov/sites/climatecrisis.house.gov/files/Climate%20Crisis%20Action%20Plan.pdf> [https://perma.cc/4TRQ-Q4W7].

70. New York State is at a similar early stage of developing its Just Transition Working Group. See Press Release, N.Y. State Energy Research & Dev. Auth., DEC and NYSERDA Announce Members of “Just Transition” Working Group to Support Implementation of State’s Nation-Leading Climate Law (Aug. 25, 2020), <https://www.nyserda.ny.gov/About/Newsroom/2020-Announcements/2020-08-25-dec-and-nyserda-announce-members-of-just-transition-working-group-to-support-implementation-of-states-nation-leading-climate-law> [https://perma.cc/T3VS-2FHS].

71. Press Release, State of Colo., CDLE Names Director of Office of Just Transition (Feb. 19, 2020), <https://www.colorado.gov/cdle-names-director-office-just-transition> [https://perma.cc/U7V4-76H8].

72. *Id.*

the Committee fulfilled its mandate by delivering the final version on the deadline.⁷³ The plan's recommendations focus on providing diverse forms of assistance to individual workers to pursue career transitions, and assisting affected communities through infrastructure investments, planning, and fiscal support for essential services.⁷⁴ New Mexico and Washington have also recently passed similar laws.⁷⁵

Utah's Coal Country Strike Team offers another potential model. The Strike Team is a "multi-disciplinary team of experts" at the University of Utah working with public support, including a \$500,000 state appropriation, and partnerships with the private sector, including two dozen large employers, with a mandate to help Utah's most distressed counties as they transition away from coal.⁷⁶ Through these partnerships, the Strike Team seems well-positioned to spearhead its planning initiative and begin interventions into those counties with the goal of diversifying their economies and raising incomes by ten percent.⁷⁷ The planning process to date has involved an assessment of strengths and challenges in order to develop an intervention strategy.⁷⁸ For instance, the Team identified regional strengths to include broadband availability, educational opportunities, and the beauty of the natural environment.⁷⁹ These strengths have informed the Team's focus in its draft plan, released in August 2020, to gear investments toward remote work in the tech industry, outdoor recreation, and facilitating increased tourism, with parallel efforts focused on affordable housing and other initiatives to attract new employers.⁸⁰

In addition to the efforts of states and multilateral partnerships, other potential law and policy tools have received attention as possibilities to ease the transition away from fossil fuels at the state and local level. For instance, Rocky Mountain Institute economist Uday Varadarajan and University of Utah researcher Max Backlund have proposed utility securitization as one way to help Wyoming coal communities mitigate the losses associated with early retirements of coal-fired power plants.⁸¹ The cleaner power plants that communities are transitioning to will eventually have lower costs, but during the transition, end-users (including coal communities) have to continue to pay for the old plant while also paying for the transition. In other

words, communities are paying off debt for retired plants and for new plants at the same time. Utility securitization would allow communities to refinance that debt, in a sense, by using the new utility as a marketable financial instrument.⁸² Securitization would "basically bring[] forward some of the benefits of lower-cost power in the future back to today to help those who currently would be negatively impacted by a transition like this."⁸³ The utility itself would issue a bond to recover costs and save consumers money.⁸⁴ Creating pathways for utility securitization requires state legislative action.⁸⁵ Some states have already created these pathways in an effort to help utilities recover stranded costs from obsolete investments, but the tool may have unique implications for just transitions in energy communities and for ratepayers as well.⁸⁶

3. Additional Ideas From Just Transitions Advocates

One of the most ambitious proposals in the conversation on just transitions for fossil fuel communities is the recommendation by the philanthropic Just Transition Fund ("JTF") to establish a federal Office of Economic Transition.⁸⁷ JTF has taken the lead role in a coalition of just transitions advocates—including organizations like the Blue-Green Alliance, the Union of Concerned Scientists, the Center for Coalfield Justice, and Native Renewables—to create a National Economic Transition Platform that could inform the path forward for diverse fossil fuel communities across the country grappling with economic displacement.⁸⁸ The proposed Office of Economic Transition would oversee the implementation of a National Community Transition Action Plan, which would use a national Just Transition Task Force to identify priorities and needs across affected communities, including assessing "the financial and social costs of the energy and economic transition, identify[ing] solutions, and mak[ing] recommendations about a path forward."⁸⁹

At the national level, JTF's proposed plan to guide transitions away from coal includes seven pillars: (1) involving local leaders and long-term economic development planning; (2) expanding investments in entrepreneurship and small businesses in new sectors; (3) providing bridge support and pathways to quality, in-demand, family-sustaining jobs for workers; (4) reclaiming and remediating coal sites to create jobs while cleaning up the environment;

73. Joshua Carney & Craig Press, *Just Transition Committee Releases Rough Draft to Community on Plan to Transition From Coal*, STEAMBOAT PILOT & TODAY (Aug. 21, 2020), <https://www.steamboatpilot.com/news/just-transition-committee-releases-rough-draft-to-community-on-plan-to-transition-from-coal/> [<https://perma.cc/6UZD-EYDM>]; COLO. DEP'T OF LAB. & EMP., COLORADO JUST TRANSITION ACTION PLAN 1 (2020), <https://cdle.colorado.gov/sites/cdle/files/documents/Colorado%20Just%20Transition%20Action%20Plan.pdf>.

74. See COLO. DEP'T OF LAB. & EMP., *supra* note 73 at 1–2.

75. Energy Transitions Act, S.B. 489, 54th Leg., 1st Sess. (N.M. 2019); Washington Clean Energy Transformation Act (CETA), S.B. 5116, 66th Leg., Reg. Sess. (Wash. 2019).

76. KEM C. GARDNER POL'Y INST., UTAH COAL COUNTRY STRIKE TEAM (June 14, 2019), <https://gardner.utah.edu/wp-content/uploads/CC-2pager-June-2019.pdf> [<https://perma.cc/4XGS-AH7A>].

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. McGuire, *supra* note 2.

82. Seth Gillen, Comment, *Great Expectations: Stranded Cost Recovery and the Interplay of the Electricity Industry, Consumers, and the Public Utility Commission of Texas*, 7 TEX. TECH ADMIN. L.J. 345, 358 (2006) ("Securitization capitalizes a future flow of funds, where utilities may receive a sum of money up-front, that will in turn be reimbursed by the public over several years."); see Walter R. Hall II, *Securitization and Stranded Cost Recovery*, 18 ENERGY L.J. 363 (1997).

83. McGuire, *supra* note 2.

84. See, e.g., *Nuclear Plant Closures*, 4252 PUR Util. Reg. News 6.

85. McGuire, *supra* note 2.

86. See Gillen, *supra* note 82, at 357.

87. JTF PLATFORM, *supra* note 49, at 3.

88. *Id.* at 1.

89. *Id.* at 5.

(5) improving infrastructure; (6) addressing the impact of coal company bankruptcies on workers, communities, and the environment; and (7) coordinating across programs to meet community needs.⁹⁰

JTF has also developed resources for coal communities in transition, geared toward local governments. For example, JTF's guide on "How to Get Started" in its Blueprint for a Just Transition recommends six key steps for communities to work toward a "responsible" transition: (1) engaging early; (2) engaging diverse stakeholder perspectives; (3) finding out the facts; (4) finding funding; (5) bringing the community together; and (6) planning for the long term.⁹¹ JTF also provides a list of federal programs that support communities in economic transition, including grants and loans from the U.S. Departments of Agriculture, Housing and Urban Development, Health and Human Services, Economic Development Administration, Environmental Protection Agency, and Department of the Treasury, as well as the POWER Initiative mentioned above.⁹²

JTF will provide "direct technical assistance" to communities and local government leaders in ways to transition from the old to the new.⁹³ JTF's action plan advises advocates and leaders to be proactive and accept the fact of the transition, learning as much as they can about it in order to begin the process of redevelopment and mobilize the community to act.⁹⁴ The federal funding streams that they highlight support various types of projects, such as entrepreneurship and workforce development, mine land reclamation, and infrastructure development.⁹⁵ The guide emphasizes that each solution will be community-specific, but that communities should prioritize creative thought processes, workforce development programs, benefits, tax incentives, and other potential solutions to facilitate the transition away from coal.⁹⁶

B. Initiatives to Promote Equitable Distributions of Burdens and Benefits in Green-Energy Communities

While fossil fuel communities are mostly concerned with recovery and rebuilding, communities gaining green-energy jobs and industries are concerned with how to manage new development, mitigate potential hazards, and ensure equitable distributions of burdens and benefits.⁹⁷ As energy law expert Hannah Wiseman articulates, "[m] any local governments and their constituents—even those that strongly support renewably energy in theory—vehe-

mentally oppose individual renewable projects sited within their communities."⁹⁸ This is not surprising, Wiseman suggests, because these projects "require large amounts of land and bring industrial development into previously sleepy, often rural communities," and introduce other community irritants like "[l]arge trucks rumb[ing] over local roads," increased dust and air pollution, and long-term changes to the local environment, like deforestation and blinking lights on wind turbines.⁹⁹

Given the pattern in the context of fossil fuel development of state governments preempting local control, communities are at risk of losing local autonomy in making these decisions altogether.¹⁰⁰ But tools that better account for distributive justice principles in renewable energy development could help forestall the temptation to take away community control and input by making clean energy development more appealing for hosting communities. Scholars call the need to account for the many potential inequities in the rapid transition to green energy "an emerging agenda" for clean energy justice.¹⁰¹ This section looks at three approaches that have potential to account for distributional concerns in green energy development.

1. Community Benefits Agreements

The Community Benefits Agreement ("CBA") is a relatively new tool created to bring community groups together with developers to shape energy development projects.¹⁰² They have been used in the context of other forms of development, and are potentially relevant anytime there is a potentially intrusive proposed land use within a community.¹⁰³ CBAs are "enforceable private contracts between developers and a coalition of community representatives."¹⁰⁴ In them, communities "commit developers to particular benchmarks and mandates, for example, investing in a local park or green space or committing to hire some fraction of its workers from the local community where the development is located."¹⁰⁵

Compared to traditional processes of development, CBAs add "broader social and economic issues to the bar-

90. *Introducing the National Economic Transition Platform*, JUST TRANSITION FUND, <https://www.justtransitionfund.org/blog/introducing-the-national-economic-transition-platform> [https://perma.cc/J9SP-KRTM].

91. *Get Started*, JUST TRANSITION FUND, <https://www.justtransitionfund.org/resources/getting-started> [https://perma.cc/WAZ6-HUS2].

92. *Find Funding*, JUST TRANSITION FUND, <https://www.justtransitionfund.org/resources/finding-funding> [https://perma.cc/9SY7-Q8BQ].

93. *Get Started*, *supra* note 91.

94. *Id.*

95. *Id.*

96. *Id.*

97. See Welton & Eisen, *supra* note 3, at 331, 360.

98. WISEMAN, *supra* note 2, at 2.

99. *Id.*

100. *Id.*; Welton, *supra* note 46, at 112–14.

101. Welton & Eisen, *supra* note 3.

102. Thomas A. Musil, *The Sleeping Giant: Community Benefit Agreements and Urban Development*, 44 URB. LAW. 827, 830 (2012); Chadé Severin, *We Built This City: The Legality of Community Benefit Agreements for Big Box Construction Under Title VII and the Equal Protection Clause*, 3 COLUM. J. RACE & L. 215, 217 (2013) (discussing the various forms CBAs take).

103. David A. Dana & Hannah J. Wiseman, *Fracking as a Test of the Demsetz Property Rights Thesis*, 71 HASTINGS L.J. 845, 871 (2020); Etienne C. Toussein, *Dismantling the Master's House: Toward A Justice-Based Theory of Community Economic Development*, 53 U. MICH. J. L. REFORM 337, 398 (2019); Vicki Been, *Community Benefits Agreements: A New Local Government Tool or Another Variation on the Exactions Theme?*, 77 U. CHI. L. REV. 5, 5 (2010).

104. Sariyah S. Buchanan, *Why Marginalized Communities Should Use Community Benefit Agreements as a Tool for Environmental Justice: Urban Renewal and Brownfield Redevelopment in Philadelphia, Pennsylvania*, 29 TEMP. J. SCI. TECH. & ENV'T L. 31, 48 (2010).

105. K. Sabeel Rahman & Jocelyn Simonson, *The Institutional Design of Community Control*, 108 CALIF. L. REV. 679, 715 (2020).

gaining process.¹⁰⁶ These agreements can address community concerns during transitions relating to job creation, living wages, education, and health services. Typically, in order for CBAs to be incorporated into energy developments, communities have to demand them.¹⁰⁷ Thus, a community has generally needed to have enough legal or political power to oppose new developments or leverage its position.¹⁰⁸

The process of a community attempting to negotiate a CBA with a developer alone can have benefits. The bargaining process can mobilize a community, strengthening its position as the process unfolds.¹⁰⁹ CBAs can also sensitize developers and local governments to the adverse effects of their developments.¹¹⁰ Stakeholders have negotiated CBAs in an ad hoc fashion in dozens of energy development projects throughout the United States.¹¹¹ For example, New York City created its Smart Growth Movement through the use of a CBA.¹¹²

CBAs are, of course, not without complexity and controversy.¹¹³ Their track record has been “decidedly mixed,” and they have the potential for co-optation by groups purporting to represent a community, when in fact they do not.¹¹⁴ Given that many energy projects are also sited in rural communities, it may also be more challenging for rural communities to organize, mobilize, demand, and negotiate a CBA.¹¹⁵

2. Community-Centric Regulatory Frameworks

Green energy regulatory frameworks offer an opportunity to incorporate community considerations centrally into energy development. As an example of such an effort, in July 2020, the New Mexico Public Regulation Commission voted unanimously in favor of “a plan for the state’s largest electric utility to use solar and battery storage to replace capacity from a coal-fueled power plant.”¹¹⁶ The commission rejected the utility’s proposal to use a natural gas-fired power plant in the mix of replacement resources.¹¹⁷ Further, alongside the switch to all-renewable energy, the plan involved \$447 million of investment

in a school district near the decommissioned plant.¹¹⁸ Local tribal representatives praised the plan as creating green jobs for tribal families, improving local educational opportunities, and helping with a fair economic transition both out of fossil fuel energy production and into renewable energy production.¹¹⁹

Another option could be to simply pay communities to host renewable energy projects, or at least, build incentives into regulatory frameworks for developments to benefit communities.¹²⁰ For example, New York State has created a framework to provide discounts on electricity bills for residents in communities that host renewable energy development, in part as a trade off to offset potential losses to communities in streamlined renewable energy permitting.¹²¹ Regulatory frameworks that prioritize community buy-in and welfare can also “require or strongly incentivize developers to negotiate with communities for agreements . . . in which the energy project moves forward but developers commit to mitigating local impacts, donating land or money to offset the impacts, or otherwise addressing community concerns.”¹²²

A related approach is for regulatory frameworks to mandate the creation of CBAs. For instance, Maine has established frameworks that require CBAs to be a part of any new wind energy developments.¹²³ As one example of this framework’s impacts, the Highland Wind Farm in Somerset County, Maine, negotiated and created a CBA that included a one-time \$6,000 payment to all full-time residents for installation of fossil-fuel reduction technologies as well as seasonal cash payments to offset electricity bills.¹²⁴ The agreement also stipulated that surplus flows would be deposited into a community fund.¹²⁵

Lastly, the prospect of local control over the energy grid can be taken a step further, moving beyond questions of siting and development to the purchase of energy. As Welton explains, community choice aggregation is “the most potent tool that communities have for reclaiming control over their electricity grid.”¹²⁶ Nine states have authorized community choice aggregation, which involves a community “announc[ing] its intention to take over its energy purchasing decisions from the local utility.”¹²⁷ Thus, rather than merely negotiating or securing better terms in siting decisions, communities could be empowered to determine the mix of energy sources altogether.

106. Musil, *supra* note 102, at 831; Diana Stanley, *Hatching A Plan for Local Communities: Environmental Justice in Poultry Siting Decisions*, 10 WASH. J. ENV’T L. & POL’Y 32, 57 (2020) (discussing CBAs in context of poultry plant siting decisions).

107. Been, *supra* note 103, at 6–7.

108. *Id.*

109. Jeanne Marie Zokovitch Paben, *Green Power & Environmental Justice—Does Green Discriminate?*, 46 TEX. TECH. L. REV. 1067, 1109–10 (2014).

110. *Id.*

111. Patricia E. Salkin, *Understanding Community Benefit Agreements: Opportunities and Traps for Developers, Municipalities and Community Organizations 1–2* (Oct. 29, 2007) (unpublished manuscript), <http://dx.doi.org/10.2139/ssrn.1025724> [<https://perma.cc/FSV6-PBHM>].

112. *Id.* at 7.

113. *Cf.* Edward W. De Barbieri, *Do Community Benefits Agreements Benefit Communities?*, 37 CARDOZO L. REV. 1773, 1787–91 (2016).

114. Rahman & Simonson, *supra* note 105, at 714.

115. *Cf. id.*

116. Edward Klump, *N.M. Shuns Gas, Chooses Renewables to Replace Coal*, E&E NEWS (July 30, 2020), <https://www.eenews.net/stories/1063652863> [<https://perma.cc/W39A-XHBR>].

117. *Id.*

118. *Id.*

119. *Id.*

120. WISEMAN, *supra* note 2.

121. *Id.*; *New York State Announces Passage of Accelerated Renewable Energy Growth and Community Benefit Act as Part of 2020-2021 Enacted State Budget*, N.Y. STATE ENERGY RES. & DEV. AUTH. (Apr. 3, 2020), <https://www.nyserda.ny.gov/About/Newsroom/2020-Announcements/2020-04-03-New-York-State-Announces-Passage-Of-Accelerated-Renewable-Energy-Growth-And-Community-Benefit-Act-As-Part-Of-2020-2021-Enacted-State-Budget> [<https://perma.cc/VR5Z-S44F>].

122. WISEMAN, *supra* note 2.

123. PATRICK FIELD ET AL., *RESOLVING LAND AND ENERGY CONFLICTS* 30 (2018).

124. *Id.* at 31.

125. *Id.*

126. Welton, *supra* note 47, at 107.

127. *Id.* at 107–08.

3. Public Green Jobs Programs

Much attention has turned to “green jobs” in this era of widespread interest in decarbonizing the energy grid. In particular, excitement surrounds the potential for a robust green jobs “boom” that can bring more opportunities to more people.¹²⁸ The clean energy sector has already seen rapid growth in recent years.¹²⁹ However, scholars have raised several cautionary notes about the prospect of the growth of green jobs.¹³⁰ First, employment opportunities in renewable energy are not necessarily “good” jobs—meaning lasting, well-paying, nontoxic, or otherwise quality career opportunities. Even if those jobs are safe and pay well, they do not necessarily last beyond short-term construction projects. This is the case, for example, with wind farms, which are labor-intensive during the construction phase, but which create few long-term jobs. Further, these jobs (whether long- or short-term) are unlikely to be accessible on equal bases to marginalized communities due to a variety of barriers ranging from disparities in access to education and training, to prospective employees’ limited geographic mobility, to the potential for discriminatory practices in hiring.¹³¹ These job opportunities will not grow without the proper policy supports, given that decarbonization—and the associated economic opportunities it creates—requires a friendly legislative and policy environment to gain momentum.¹³²

Several of these points can be addressed through policies that intentionally seek to create green jobs, ensure that they are high-quality jobs, and promote equitable access to green jobs. J. Mijin Cha points to New York State’s Clean Climate Careers Initiative as a possible model for ensuring that expanded work opportunities in renewable energy can also be directed toward addressing the pressing problem of economic inequality.¹³³ The Initiative was launched in 2017 with the objective of creating 40,000 new jobs in the clean energy sector by 2020.¹³⁴ Today, these efforts continue through Climate Jobs NY, “a growing coalition of labor unions—representing more than 2.6 million working New Yorkers—united to combat climate change and reverse inequality” in New York State, through partnerships with the governor and Cornell University’s School of Industrial and Labor Relations.¹³⁵ In an annual report of

its activities, Climate Jobs New York said that it “drove significant progress on climate action and good jobs” in 2019 “in partnership with [its] allies in the environmental and environmental justice movements” by expanding wind and solar developments and requiring offshore wind procurement contracts to include Project Labor Agreements that ensure that projects “create high-quality union jobs and expand training opportunities.”¹³⁶ In July 2019, New York State entered into an agreement for offshore wind development that reflected “the largest renewable energy procurement of any state in U.S. history, expected to create more than 1,600 jobs and \$3.2 billion in economic activity.”¹³⁷ Climate Jobs NY has also developed a curriculum to train union members on the science of climate change.¹³⁸

Numerous programs exist around the country, and more seem likely to come, that seek to train and prepare a workforce in order to create pipelines into the clean energy sector.¹³⁹ For example, Illinois has seen strong advocacy to pass the proposed Clean Energy Jobs Act to provide support for retraining, wrap-around services, entrepreneurship, and education.¹⁴⁰ Green Training in Los Angeles provides a model for how state and city policies can create markets for renewable energy and opportunities to drive green job and workforce development to address issues of economic and racial equity.¹⁴¹ Such programs could play a role in striving for egalitarian approaches to preparing this workforce and promoting access to the pipeline for historically underrepresented groups.

A more aggressive approach that some advocates point to would involve state- or federal-level public green jobs programs with direct government oversight. Such programs could be explicitly crafted with the aim and procedural mechanisms to ensure that historically underrepresented groups were adequately represented. The federal Civilian Conservation Corps (CCC) of the New Deal era would be one model for such a program. The CCC and other New Deal programs were notoriously racially exclusive, however, “reinforcing racism through the main engines of the American economy, with devastating impacts on the economic mobility and security of black communities for the long-term.”¹⁴² A modern iteration seeking not to repeat these mistakes, and even to help counteract them—perhaps to be seen in an initiative such as the Green New Deal¹⁴³—could take the New Deal’s model, but more aggressively incorporate principles of anti-racism.

128. See Welton & Eisen, *supra* note 3, at 311.

129. *Electricity Explained*, *supra* note 10.

130. See, e.g., Andrew Morriss et al., *Green Jobs Myths* (Univ. of Ill. L. & Econ. Rsch. Paper Series No. LE09-001, 2009), <https://www.instituteeforenergyresearch.org/wp-content/uploads/2009/03/morriss-green-jobs-myths.pdf>; ORG. FOR ECON. COOP. & DEV., EMPLOYMENT IMPLICATIONS OF GREEN GROWTH: LINKING JOBS, GROWTH, AND GREEN POLICIES (2017), <https://www.oecd.org/environment/Employment-Implications-of-Green-Growth-OECD-Report-G7-Environment-Ministers.pdf>.

131. Welton & Eisen, *supra* note 3, at 311.

132. See generally ENV’T L. INST., LEGAL PATHWAYS TO DEEP DECARBONIZATION IN THE UNITED STATES (Michael B. Gerrard & John C. Dernbach eds., 2019).

133. Cha, *supra* note 4, at 205, 216, 218.

134. *Id.* at 197, 216.

135. CLIMATE JOBS N.Y., CLIMATE JOBS NEW YORK ANNUAL REPORT 2019: ADVANCING A PRO-CLIMATE, PRO-WORKER AGENDA IN NEW YORK 1–2 (2019), <https://static1.squarespace.com/static/5919d4bb46c3c45c5c8e33d1/t/5ed15aab8dc7749a19d8921/1590778576084/CJNY+Annual+Report.pdf>.

136. *Id.* at 4.

137. *Id.* at 1.

138. *Id.*

139. SARAH WHITE & JASON WALSH, CTR. ON WIS. STRATEGY, GREENER PATHWAYS: JOBS AND WORKFORCE DEVELOPMENT IN THE CLEAN ENERGY ECONOMY 3 (2008) (examples include Building Greener Construction Careers in California, Iowa’s Bio-Fuels Job-Training Bonds, Training Turbine Techs in Oregon, and Pennsylvania’s Green Reindustrialization).

140. *What Is the Clean Energy Jobs Act?*, CITIZENS UTIL. BD., <https://www.citizen-utilityboard.org/clean-energy-jobs-act/> [<https://perma.cc/S73S-3FRQ>].

141. See WHITE & WALSH, *supra* note 139.

142. Andrea Flynn & Susan R. Holmberg, *The Green New Deal’s Supporters Should Take a Crucial Lesson From FDR’s Original New Deal*, TIME (Feb. 26, 2019), <https://time.com/5538022/green-new-deal-warning/> [<https://perma.cc/MB2X-GLJG>].

143. See KATE ARONOFF, A PLANET TO WIN: WHY WE NEED A GREEN NEW DEAL (2019).

IV. Conclusion

Energy production has often both exploited and exacerbated various forms of societal inequality. Transitions in energy communities, while potentially destabilizing and risky, are also opportunities to weaken that dynamic. The diverse examples above from federal agencies, state governments, and the private sector illustrate paths forward for reconciling energy production with the priorities of just transitions (ensuring that former fossil fuel communities do not bear a disproportionate burden of economic loss in the clean energy transition) and clean energy justice (ensur-

ing that the rapid transition to renewable energy involves equitable distributions of burdens and benefits, including that communities maintain their autonomy). With adequate intervention to redirect regional economic fates, fossil fuel communities' sacrifice need not be prolonged. If energy policies prioritize and implement the goals of clean energy justice, green energy communities need not be sacrificed for the sake of decarbonization. The clean energy transition stems from the urgency of crisis, but it also offers an important opportunity to rectify, and not repeat, the mistakes of the past.

MAKING A HOUSE A HOME: CHALLENGING DISCRIMINATORY UTILITY POLICIES UNDER THE FAIR HOUSING ACT

Rebecca Ringler*

ABSTRACT

This Note explores the connection between access to utility services and housing, and how the Fair Housing Act can be used to challenge discriminatory utility policies. Specifically, it concludes that because regulation of utility providers varies so much between the states, federal oversight is needed to ensure that consumers are protected from discriminatory policies. This Note argues that the protections afforded by the Fair Housing Act extend to conduct that occurs after housing is acquired, and therefore the Fair Housing Act can be the federal oversight that is currently lacking in the regulation of the provision of residential utility services. Finally, this Note proposes that the United States Department of Housing and Urban Development, which administers the Fair Housing Act, issue a formal rule clarifying that the Fair Housing Act applies to post-acquisition conduct in order to mend a current circuit split on the scope of the Fair Housing Act.

I. Introduction

Once buried in Title 20, Chapter 20-1, §7(h) of the LaGrange, Georgia, Code of Ordinances was a seemingly innocuous provision stating that unpaid utility bills or other debts to the city must be paid before obtaining utility service.¹ For residents of LaGrange who were involved in the criminal legal system, this provision, also called the “court debt policy,” created a barrier to essential utility services.² In practice, the court debt policy worked as follows. If an individual pleads guilty or is found guilty of a misdemeanor, a court may order the individual to pay a fine and

serve probation.³ During probation, that individual must pay off the fine, either in full or in installments, as well as monthly probation supervision fees.⁴ If that individual’s probation ends before they have paid off the fine and the probation fees in full, those remaining debts are converted into a civil judgment by the city court.⁵ Under the court debt policy, the city, which operates its own municipal utility system and is the area’s sole utility provider, would then use the individual’s Social Security Number to find all utility accounts associated with that number and assign the civil judgment’s debts to the utility account.⁶ That meant that the city forced individuals to pay their civil judgment through their utility accounts and a failure to pay off the civil judgment could possibly result in utility disconnection.⁷ In LaGrange, the court debt policy disproportionately affected African-American residents.⁸ While just 49% of the population of LaGrange is African American, approximately 90% of the people threatened

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1. The provision specifically stated:

[a]ny applicant for utility service who owes an unpaid utility bill or other debt to the city, including but not limited to court judgments and fines, shall pay such unpaid bill or debt prior to obtaining utility service. Additionally, customers who owe debts to the city of any type shall be subject to having utility services terminated for failure to pay said debts without any prior notice for the city.

LAGRANGE, GA., MUN. CODE § 20-1-7(h) (2004).

2. Plaintiffs’ Complaint for Declaratory & Injunctive Relief and for Damages at ¶¶ 2–3, Ga. State Conf. of the NAACP v. City of Lagrange, No. 17-CV-00067 (N.D. Ga. Dec. 7, 2017) [hereinafter Complaint].

3. Tyler H. Jones, *NAACP, Residents Call for End to City’s Fine-Collection Process*, LAGRANGE DAILY NEWS (Feb. 26, 2016, 12:00 AM), <https://www.lagrangenews.com/2016/02/26/naacp-residents-call-for-end-to-citys-fine-collection-process> [https://perma.cc/WZ4Z-NBEK].

4. *Id.*

5. *Id.*

6. *See id.*

7. *See* LAGRANGE, GA., MUNICIPAL CODE § 20-1-7(h) (2019).

8. Complaint, *supra* note 2, at 22.

by utility disconnection due to the court debt policy were African American.⁹

In 2017, the Georgia State Conference of the NAACP and partners brought suit against the city of LaGrange on behalf of residents affected by the court debt policy on the grounds that the policy violated § 804(b) of the Fair Housing Act (“FHA”) by discriminating against African-American residents in LaGrange in the provision of utilities.¹⁰ Plaintiffs argued that LaGrange “could pursue any legitimate interest it has in ensuring that court-related debts are paid through other, less discriminatory measures than utility disconnection.”¹¹ The court initially dismissed the case for failure to state a claim, ruling that the FHA, specifically FHA § 804(b), does not apply to conduct that took place after the initial sale or rental of a dwelling.¹² On appeal, the U.S. Court of Appeals for the Eleventh Circuit joined the majority of a circuit split in holding that FHA § 804(b) can apply to conduct that took place after the initial acquisition of housing—referred to as “post-acquisition” conduct.¹³ The case was then remanded, but before returning to trial, the parties reached a settlement agreement where the city of LaGrange repealed the court debt policy and agreed to remove all non-utility debt from all municipal utility bills beginning in September 2020.¹⁴

This Note will explain that § 804(b) of the FHA applies to post-acquisition conduct and how § 804(b) can act as a vehicle to challenge discriminatory policies that block access to utilities like electricity, gas, and water, as those policies in turn threaten access to housing. This Note also recommends that the United States Department of Housing and Urban Development (“HUD”), which administers the FHA, issue a rule clarifying the scope of FHA § 804(b) to include post-acquisition conduct. First, this Note will discuss how utility rates and policies are devised, what oversight exists to prevent the creation of discriminatory utility policies, and the nexus between utilities and housing. Next, this Note will discuss the history of the FHA, its mechanisms, and the current circuit split between whether or not FHA § 804(b) applies to post-acquisition conduct. Last, this Note will argue why FHA § 804(b) applies to post-acquisition conduct and why the provision of utility services falls within FHA § 804(b)’s definition of “services,” and will urge HUD to issue a rule that makes explicit that FHA § 804(b) applies to post-acquisition con-

duct in order to accomplish the FHA’s ultimate goal of reversing housing segregation.

II. Factual Background

A. Cost and Provision of Utility Services

The regulation of utilities is a complex tapestry of federal and state authority. The Federal Energy Regulatory Commission (“FERC”) regulates the interstate transmission and wholesale sale of electricity and natural gas.¹⁵ Retail sales of electricity and gas—the sale of the energy to the “end-use consumer”—may be regulated by states.¹⁶ Retail utility services are provided by either Investor Owned Utilities (“IOU”) or Publicly Owned Utilities (“POU”).¹⁷ IOUs are privately owned companies.¹⁸ POUs are owned by consumers, either through local government or private nonprofit entities, and generally fall into one of three categories: municipal utilities, public utility districts, or cooperatives.¹⁹ IOUs are regulated by state public service commissions, which oversee the creation of utility retail rates.²⁰ POUs, at least in some states, are not regulated by state public service commissions. For instance, in Georgia, POUs are not regulated by the Georgia Public Service Commission, though they are required to submit their rates, service rules, and regulations annually to the Georgia Public Service Commission.²¹ Instead, Georgia’s POUs are self-regulated and their rates are set by their respective decisionmaking bodies.²² An essential function of state public service commissions is to establish rates—the cost of energy per unit—for consumers.²³ Some state public service commissions may also oversee consumer protection regulations related to the provision of utility service like billing procedures or utility shutoffs.²⁴ Each state’s Consumer Bill of Rights may also provide additional protections against the way utilities conduct business, such as regulating payment structures for the provision of utilities.²⁵ Therefore, the answer of what entity, if any, regulates the cost and provi-

9. *Id.*

10. Order, Ga. State Conf. of the NAACP v. City of LaGrange, No. 17-CV-067 (N.D. Ga. Dec. 7, 2017), 2017 U.S. Dist. LEXIS 220044 at *1; § 804(b) of the FHA, provides that

[a]s made applicable by section 3603 of this title and except as exempted by sections 3603(b) and 3607 of this title, it shall be unlawful . . . (b) To discriminate against any person in the terms, conditions, or privileges of sale or rental of a dwelling, or in the provision of services or facilities in connection therewith, because of race, color, religion, sex, familial status, or national origin.

Fair Housing Act § 804(b), 42 U.S.C. § 3604(b).

11. Complaint, *supra* note 2, at 4.

12. Ga. State Conf. of the NAACP v. City of LaGrange, 940 F.3d 627, 630 (11th Cir. 2019).

13. *Id.* at 633–34.

14. See *id.* at 630; Settlement Agreement at 2, Ga. State Conf. of the NAACP v. City of Lagrange, No. 17-CV-00067 (N.D. Ga. May 18, 2017) (signed Oct. 27, 2020).

15. 42 U.S.C. § 7172 (2018); 16 U.S.C. § 824 (2018).

16. JIM LAZAR, ELECTRICITY REGULATION IN THE US: A GUIDE 14 (2d ed. 2016), <http://www.raonline.org/wp-content/uploads/2016/07/rap-lazar-electricity-regulation-US-june-2016.pdf>.

17. NAACP, ENV’T & CLIMATE JUST. PROGRAM, JUST ENERGY POLICIES AND PRACTICES: ACTION TOOLKIT, MODULE 3, 4 (2014). Publicly Owned Utilities (POUs) can be structured in a variety of ways, such as municipally owned utilities, Rural Electric Co-ops, or Public Utility Districts (PUDs). *Id.*

18. LAZAR, *supra* note 16, at 11.

19. NAACP, *supra* note 17.

20. See NAACP, *supra* note 17, at 4. The U.S. Supreme Court first ruled that a state may regulate providers of services “affected with the public interest” in *Munn v. Illinois*, 94 U.S. 113, 126 (1876). State public service commissions arose in the early 1900s after the Supreme Court, in *Smyth v. Ames*, established that public services “may not fix its rates with a view solely to its own interests, and ignore the rights of the public . . .” and rates must be based on “the fair value of the property used by it for the convenience of the public.” 169 U.S. 466, 467, 547 (1898).

21. GA. CODE ANN. § 46-3-12.

22. Georgia’s Electric Industry, GA. PUB. SERV. COMM’N, <http://www.psc.state.ga.us/electricindust/structure.htm> [https://perma.cc/BF52-P42J].

23. LAZAR, *supra* note 16, at 30.

24. See generally MD. CODE REGS. § 20.30.02–04.

25. See generally NEV. ADMIN. CODE § 704.302–.421.

sion of utilities to an end-use residential consumer varies from state to state, utility to utility.

B. *The Connection Between Housing and Access to Utilities*

Because regulation of housing standards is traditionally vested in state or local governments, what makes a house a home, so to speak, varies by jurisdiction. Therefore, housing codes (either state or local) or landlord/tenant laws generally regulate the minimum requirements for a premise to be fit for residential occupation.²⁶ Many jurisdictions consider electricity, gas, and water to be essential services that are predicate to the habitability of a dwelling.²⁷ The FHA defines a dwelling as “any building, structure, or portion thereof which is occupied as, or designed or intended for occupancy as, a residence by one or more families,” but provides no uniform standard for conditions of residential dwellings.²⁸ Regulations from HUD, which administers the FHA, provide some insight into what minimum conditions of residential dwellings might be. Take, for example, HUD’s Housing Choice Voucher (“HCV”) program, also referred to as the Section 8 voucher program. The HCV program’s stated purpose is to provide rental subsidies “so eligible families can afford decent, safe, and sanitary housing.”²⁹ HUD has implemented housing quality standards that all units receiving assistance under the HCV program must meet.³⁰ These standards include a thermal environment standard, an illumination and electricity standard, and a water supply standard.³¹ These standards, when combined with HUD’s stated purpose of the HCV program, signal that temperature regulation, electricity, and water are essential to a “decent, safe, and sanitary” home.³² Because electricity, water, and natural gas are provided by utilities, it follows that, in the words of a former HUD Assistant Secretary for Fair Housing and Equal Opportunity, “[e]qual access to utility services is fundamental to fair housing.”³³

C. *The Fair Housing Act*

1. *The Enactment of the Fair Housing Act*

July 1967 was the Summer of Love in San Francisco and the summer that police brutality, notably in Newark and Detroit, culminated in protests leaving over 50 dead in the

span of three weeks.³⁴ By the end of July, President Lyndon B. Johnson established the National Advisory Commission on Civil Disorders, commonly known as the Kerner Commission, to address the violence breaking out in American cities.³⁵ The goal of the final report of the Commission was to answer three questions: (1) what happened, (2) why did it happen, and (3) what can prevent it from happening again?³⁶ The Kerner Commission published its final report on March 1, 1968, stating, “This is our basic conclusion: Our Nation is moving toward two societies, one black, one white—separate and unequal.”³⁷

The Kerner Commission found that the root of this inequality was the exclusion of and discrimination against African Americans in employment, education, and housing.³⁸ It concluded that in order to redirect society’s trajectory toward one of increased equality, there must be federal housing policies that combat racial segregation, “making it an offense to discriminate in the sale or rental of any housing—including single family homes—on the basis of race, creed, color, or national origin.”³⁹ The Commission was unequivocal that a federal housing policy was the only way to effectuate universal protection from housing discrimination.⁴⁰ One month later, on April 4, 1968, Martin Luther King Jr. was assassinated while standing on the balcony of the Lorraine Motel in Memphis Tennessee.⁴¹ The following

34. Jess Engebretson, *The Summer of Rage: Lessons From the Riots in Detroit and Newark 50 Years Ago*, KQED NEWS (July 24, 2017), <https://www.kqed.org/lowdown/22779/uprising-lessons-from-the-race-riots-of-1967> [<https://perma.cc/L688-Z7QY>]; Martin Luther King Jr., *The Other America*, Speech at Stanford University (Apr. 14, 1967) (transcript available at <https://www.crmvet.org/docs/otheram.htm> [<https://perma.cc/N95P-4VDS>]):

A riot is the language of the unheard. And what is it that America has failed to hear? It has failed to hear that the plight of the Negro poor has worsened over the last few years. It has failed to hear that the promises of freedom and justice have not been met. It has failed to hear that large segments of white society are more concerned about tranquility and the status quo than about justice, equality, and humanity.

35. Exec. Order No. 11,365, 32 Fed. Reg. 11,111 (Aug. 1, 1967).

36. The National Advisory Commission on Civil Disorders was created by Executive Order 11365. THE NAT’L ADVISORY COMM’N ON CIVIL DISORDERS, REPORT OF THE NATIONAL ADVISORY COMMISSION ON CIVIL ORDERS 1 (1968).

37. *Id.*

38. *Id.* at 91.

39. *Id.* at 263.

40. The Commission wrote the following in the report:

We have canvassed the various alternatives and have come to the firm opinion that there is no substitute for enactment of a Federal fair housing law. The key to breaking down housing discrimination is universal and uniform coverage, and such coverage is obtainable only through Federal legislation. We urge that such a statute be enacted at the earliest possible date.

Id. It should be noted that housing discrimination is largely a problem of the federal government’s own making, and since the mid-20th century the federal government has enacted housing policies that created and perpetuated residential segregation. Richard Rothstein, *The Neighborhoods We Will Not Share*, N.Y. TIMES (Jan. 20, 2020), <https://www.nytimes.com/2020/01/20/opinion/fair-housing-act-trump.html> [<https://perma.cc/LJS7-8LGY>].

41. The Lorraine Motel rose to prominence in segregated Memphis, Tennessee, by providing much needed lodging for African-American travelers during the Jim Crow era. Holland Cotter, *50 Years After Dr. King’s Death, New Lessons for Today*, N.Y. TIMES, Mar. 28, 2018, <https://www.nytimes.com/2018/03/28/arts/design/martin-luther-king-jr-national-civil-rights-museum.html> [<https://perma.cc/GR8A-4QEJ>]; The Famous Lorraine Motel, NAT’L CIVIL RIGHTS MUSEUM, <https://www.civilrights-museum.org/news/posts/the-famous-lorraine-motel> [<https://perma.cc/PJG4-LQJ7>].

26. See generally DEL. CODE ANN. tit. 31 §§ 4101–4110; OHIO REV. CODE ANN. § 5321 (2019).

27. See generally 2017 OR. REV. STAT. § 90.365.

28. 42 U.S.C. § 3602(b) (2018); for the purposes of the FHA, “‘family’ includes a single individual.” 42 U.S.C. § 3602(c) (2018).

29. *Id.* § 982.1(a)(1).

30. 24 C.F.R. § 982.401 (2019).

31. 24 C.F.R. § 982.401(c), (f), (i) (2019).

32. 24 C.F.R. § 982.1 (2019).

33. Press Release, U.S. Dept of Hous. & Urb. Dev., HUD and Huntsville Utilities Reach Agreement Settling an Allegation of Discrimination Against Prospective Hispanic Residential Customers (Aug. 9, 2012), <https://archives.hud.gov/news/2012/pr12-123.cfm> [<https://perma.cc/WT3J-MR4P>].

week, the U.S. Congress passed the FHA with the passage of the Civil Rights Act of 1968.⁴²

The FHA declares that “[i]t is the policy of the United States to provide, within constitutional limitations, for fair housing throughout the United States” and holds unlawful discrimination in the sale or rental of housing, discrimination in residential real estate-related transactions, and discrimination in the provision of brokerage services based on race, color, religion, sex, disability, familial status, or national origin.⁴³ The Secretary of HUD administers the FHA and possesses the authority to issue rules implementing the FHA.⁴⁴ The Secretary also has the authority to file complaints alleging discriminatory housing practices, either on the Secretary’s own initiative or on behalf of an aggrieved party.⁴⁵ Private parties may also directly file civil suits challenging discriminatory housing practices under the FHA.⁴⁶

Section 804(b) of the FHA specifically provides that “it shall be unlawful . . . (b) To discriminate against any person in the terms, conditions, or privileges of sale or rental of a dwelling, or in the provision of services or facilities in connection therewith, because of race, color, religion, sex, familial status, or national origin.”⁴⁷ Discrimination, for the purposes of FHA § 804(b), can either be an intentional practice or a practice that has the effect of discriminating against a protected class.⁴⁸ HUD defines a practice as having a discriminatory effect “where it actually or predictably results in a disparate impact on a group of persons or creates, increases, reinforces, or perpetuates segregated housing patterns because of race, color, religion, sex, handicap, familial status, or national origin.”⁴⁹

In 2013, HUD promulgated regulations that created a three-step burden shifting rule for plaintiffs making “disparate impact” FHA claims.⁵⁰ First, a plaintiff had to prove that the allegedly discriminatory practice caused or predictably would cause a discriminatory effect.⁵¹ A prima

facie showing of discrimination could be made by introducing statistical evidence.⁵² Next, the defendant had the chance to prove that the allegedly discriminatory practice had a legally sufficient justification.⁵³ The only legally sufficient justification was that a practice “is necessary to achieve one or more substantial, legitimate, nondiscriminatory interests of the . . . defendant; and (ii) [t]hose interests could not be served by another practice that has a less discriminatory effect.”⁵⁴ The defendant had to provide evidence that was neither hypothetical nor speculative.⁵⁵ Even if the defendant was able to prove that there was a legally sufficient justification for an allegedly discriminatory practice, the plaintiff could still prevail if they could prove “that the substantial, legitimate, nondiscriminatory interests supporting the challenged practice could be served by another practice that has a less discriminatory effect.”⁵⁶ The U.S. Supreme Court affirmed the use of this three-step burden-shifting disparate impacts claim rule under the FHA in *Texas Department of Housing and Community Affairs v. Inclusive Communities Project, Inc.*⁵⁷ Justice Anthony Kennedy, however, writing for the majority, cautioned that “disparate-impact liability must be limited so employers and other regulated entities are able to make the practical business choices and profit-related decisions that sustain a vibrant and dynamic free-enterprise system.”⁵⁸

In response, HUD issued a new final rule in September 2020, entitled *HUD’s Implementation of the Fair Housing Act’s Discriminatory Effects Standard*, eliminating the three-step burden-shifting rule and requiring plaintiffs to make a prima facie case of discrimination at the pleading stage to show a disparate impact claim under the FHA.⁵⁹ HUD justified the rule as a mechanism to address Justice Kennedy’s concerns on the scope of disparate impact claims in *Texas Department of Housing and Community Affairs*

42. The FHA is contained in Titles VIII-IX of the Civil Rights Act of 1968. It was first passed by the U.S. House of Representatives in 1966 but never made it past the U.S. Senate. President Lyndon B. Johnson, in the wake of the tragedy of Martin Luther King Jr.’s assassination, pressured then-Speaker of the House John W. McCormack to pass the FHA, which was finally passed the day after Martin Luther King Jr.’s funeral. DeNeen L. Brown, *The Fair Housing Act Was Languishing in Congress. Then Martin Luther King Jr. Was Killed*, WASH. POST (Apr. 11, 2018, 10:28 AM), <https://www.washingtonpost.com/news/retropolis/wp/2018/04/11/the-fair-housing-act-was-languishing-in-congress-then-martin-luther-king-jr-was-killed> [https://perma.cc/LF4Z-KJHB].

43. Fair Housing Act §§ 801, 804–06, 42 U.S.C. §§ 3601, 3604–06 (2018).

44. Fair Housing Act § 808(a), 42 U.S.C. § 3608(a) (2018).

45. Fair Housing Act § 810(a)(1)(A)(i), 42 U.S.C. § 3610(a)(1)(A)(i) (2018).

46. Fair Housing Act § 813(a)(1)(A), 42 U.S.C. § 3613(a)(1)(A) (2018). For types of relief that may be granted, see Fair Housing Act § 813(c), 42 U.S.C. § 3613(c) (2018).

47. Fair Housing Act § 804(b), 42 U.S.C. § 3604(b) (2018). The phrase “provision of services or facilities in connection” with the sale or rental of a dwelling is not defined in the FHA.

48. 24 C.F.R. § 100.500(a) (2019). “Liability may be established under the Fair Housing Act based on a practice’s discriminatory effect, as defined in paragraph (a) of this section, even if the practice was not motivated by a discriminatory intent.”

49. *Id.* § 100.500(a) (2019). Note that this definition is in flux and has been amended in the new disparate impact rule issued by HUD in September 2020. See discussion *infra* Section I.C.iii.

50. *Id.* § 100.500 (2013).

51. *Id.* § 100.500(c)(1) (2013).

52. See *Texas Dep’t of Hous. & Cmty. Affairs v. Inclusive Cmty. Project, Inc.*, 576 U.S. 519, 543 (2015).

53. 24 C.F.R. § 100.500(c)(2) (2013).

54. 24 C.F.R. §§ 100.500(b)(1)(i)–(ii) (2013).

55. 24 C.F.R. §§ 100.500(b)(2) (2013).

56. 24 C.F.R. § 100.500(c)(3) (2013).

57. See *Texas Dep’t of Hous. & Cmty. Affairs*, 576 U.S. at 524–27. In *Texas Department of Housing and Community Affairs*, Inclusive Communities Project, Inc. (ICP) brought a FHA suit against the Texas Department of Housing and Community Affairs (“the Department”) alleging that the Department granted more Federal low-income housing tax credits to housing developments in predominately African-American inner-city neighborhoods relative to housing developments in predominately white suburban neighborhoods within the Dallas metro area, curtailing the development of low-income housing in white suburban neighborhoods and perpetuating patterns of racial segregation between the city and the suburbs of Dallas. *Id.*

58. *Id.* at 533.

59. In the new rule, to make a prima facie case of discrimination, plaintiffs must show by a preponderance of the evidence the following five elements: (1) That the challenged policy or practice is arbitrary, artificial, and unnecessary to achieve a valid interest or legitimate objective such as a practical business, profit, policy consideration, or requirement of law; (2) That the challenged policy or practice has a disproportionately adverse effect on members of a protected class; (3) That there is a robust causal link between the challenged policy or practice and the adverse effect on members of a protected class, meaning that the specific policy or practice is the direct cause of the discriminatory effect; (4) That the alleged disparity caused by the policy or practice is significant; and (5) That there is a direct relation between the injury asserted and the injurious conduct alleged. 24 C.F.R. § 100.500(b) (2020).

v. Inclusive Communities Project, Inc. by creating a higher burden of proof for plaintiffs and providing additional justifications for discriminatory policies to defendants.⁶⁰ For instance, in the former rule, defendants had the burden of proving that a discriminatory practice was supported by a “legally sufficient justification” but in the new rule, plaintiffs now have the burden of proving by a preponderance of the evidence that a discriminatory policy or practice is “arbitrary, artificial, and unnecessary to achieve a valid interest or legitimate objective such as a practical business, profit, policy consideration, or requirement of law.”⁶¹ Parties in favor of the proposed rule highlight how the new rule protects the autonomy of businesses to make decisions without fear of legal action if the decision results in unintentional, insignificant, or unrelated discrimination.⁶² But those opposing the new rule point out that by shifting the burden of proof from the defendant to the plaintiff while also increasing plaintiff’s burden of proof, this new rule creates even larger barriers for plaintiffs trying to challenge discriminatory housing policies while insulating housing and other service providers from liability, contrary to the FHA’s goals of preventing housing discrimination.⁶³ The National Fair Housing Alliance (NFHA), the NAACP Legal Defense and Education Fund, Inc. (LDF), Fair Housing Advocates of Northern California, and BLDS, LLC filed a joint lawsuit challenging the new HUD regulations in October 2020.⁶⁴ In January 2021, President Joseph Biden issued a memorandum calling for the Secretary of HUD to examine the effect of HUD’s *Implementation of the Fair Housing Act’s Discriminatory Effects Standard* and “take any necessary steps” to ensure that HUD regulations are consistent with the FHA’s goal of promoting fair housing.⁶⁵

60. 84 Fed. Reg. 42854, 42855–56 (Aug. 19, 2019).
 61. 24 C.F.R. §§ 100.500(b)(1)(i)–(ii) (2013); 24 C.F.R. § 100.500(b)(1) (2019).
 62. See, e.g., Letter from Alice Ehn, Executive Officer, Washtenaw Area Apartment Association, to Sec’y, HUD, RE: FR-6111-P-02, HUD’s Implementation of the Fair Housing Act’s Disparate Impact Standard (Sept. 30, 2019), <https://www.regulations.gov/document?D=HUD-2019-0067-0743> [<https://perma.cc/G6WA-EN2K>].
 63. See, e.g., U.S. Comm’n on Civil Rights, Comment Letter in Opposition to Notice of Proposed Rulemaking re HUD’s Implementation of the Fair Housing Act’s Disparate Impact Standard (Oct. 18, 2019), <https://www.usccr.gov/press/2019/10-18-HUD-Disparate-Impact-Proposed-Rule.pdf> [<https://perma.cc/6XDS-YV8R>]. The United States Commission on Civil Rights [“Commission on Civil Rights”], an independent, bi-partisan federal agency, strongly opposed the proposed rule because it imposed “substantial new obstacles for victims of discrimination and will undermine the protections of the Fair Housing Act, thereby substantially undermining necessary civil rights protection in an area about which the Commission and its state advisory committees continue to receive compelling evidence of need for meaningful federal corrective action.” Additionally, the Commission on Civil Rights points out that this new rule makes it harder for plaintiffs to challenge housing based on one’s prior involvement with the criminal legal system, such as the restrictions seen in LaGrange, Georgia. *Id.*; see discussion *supra* Part I.
 64. Specifically, the plaintiffs allege that HUD’s new disparate impact regulations violate the Administrative Procedure Act (“APA”): “HUD’s action violates the APA for multiple reasons, including because it is arbitrary and capricious, an abuse of discretion, not in accordance with law, and in excess of HUD’s statutory grant of authority, and was taken without observance of procedures required by law.” Complaint at 5, National Fair Housing Alliance, Inc. v. Carson, No. 20-CV-07388 (N.D. Cal. Oct. 22, 2020).
 65. *Memorandum on Redressing Our Nation’s and the Federal Government’s History of Discriminatory Housing Practices and Policies*, 86 Fed. Reg. 7487 (Jan.

2. The Scope of Fair Housing Act § 804(b) and HUD’s Authority to Interpret the FHA

Congress passed the FHA pursuant to its power under the Commerce Clause and § 5 of the Fourteenth Amendment, and so the scope of FHA § 804(b) is limited by those constitutional authorities.⁶⁶ However, the Secretary of HUD has the authority to promulgate rules interpreting the FHA, including interpreting the FHA’s jurisdiction, within constitutional boundaries.⁶⁷ The scope of an agency’s jurisdiction is limited by the authority granted by the statute that the agency administers.⁶⁸ However, sometimes the scope of an agency’s jurisdiction is unclear due to gaps in the language of a statute.⁶⁹

An administrative agency has the power to make rules that fill gaps in the statutes that it administers.⁷⁰ When a rule interpreting statutory ambiguity pertains to the scope of an agency’s jurisdiction, the agency’s rule is entitled to a degree of deference first articulated in *Chevron, U.S.A., Inc. v. NRDC, Inc.* (“*Chevron* deference”).⁷¹ In *Chevron*, the Court held that gaps in statutes left explicitly by Congress for the administering agency to fill are express delegations of authority to the agency.⁷² An agency’s interpretation of those gaps should thus be given deference unless a reviewing court finds the interpretation to be “arbitrary, capricious, or manifestly contrary to the statute.”⁷³ If a statutory gap is implicit, then an agency’s interpretation is given deference so long as the interpretation is a “permissible construction of the statute.”⁷⁴ To determine whether Congress has explicitly or implicitly left gaps in a statute, the reviewing court looks to the statutory language, the statute’s legislative history, and policy

29, 2021).
 66. Then-Senator Walter Mondale reasoned:
 A Federal fair housing measure is within the Constitution, supportable under either the equal protection clause of the 14th amendment or the commerce clause. Congress[s] power to enforce the equal protection clause by appropriate legislation includes a law to remove obstacles in the way of persons’ securing the equal benefits of Government. Such a law is one preventing racial discrimination in housing because discrimination in housing forces persons to live in segregated areas where the benefits of Government are less available.
 114 CONG. REC. 3419, 3422 (1968); see generally 114 CONG. REC. 9,527 (1968).
 67. Fair Housing Act § 808(a), 42 U.S.C. § 3608(a) (2018).
 68. See *City of Arlington v. FCC*, 569 U.S. 290, 296–97 (2013).
 69. See generally *id.*
 70. See *Morton v. Ruiz*, 415 U.S. 199, 231 (1974).
 71. In *City of Arlington*, the city of Arlington challenged the FCC’s ability to impose a time frame on local zoning authorities to make zoning decisions about cell tower sites when the language of the Communications Act of 1996, U.S.C. 332(c)(7)(B)(ii) said that zoning decisions must be made “within a reasonable period of time.” *City of Arlington*, 569 U.S. at 294. The city of Arlington contended that by imposing the time frame, the FCC impermissibly asserted jurisdiction over land use and zoning, which is a traditional state authority. *Id.* at 305. The Court found no usurpation of traditional state authority, reasoning that FCC was simply acting within its congressionally bestowed authority when it clarified the time line that local zoning authorities needed to comply with. *Id.* at 307. Therefore, the Court said that the FCC’s interpretation of its jurisdiction was subject to *Chevron* deference. *Id.*; see generally *Chevron, U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984).
 72. *Chevron*, 467 U.S. at 842–43.
 73. *Id.* at 843.
 74. *Id.*

considerations.⁷⁵ As the administrator of the FHA, HUD has the authority to, and often does, promulgate rules pertaining to the administration of the FHA.⁷⁶ Therefore, if HUD were to promulgate a rule clarifying the scope of FHA § 804(b), the rule would be entitled to *Chevron* deference and would be upheld if it is consistent with the statute, as written and passed by Congress.⁷⁷

While HUD has not issued a formal rule on the scope of the FHA, it has spoken to the scope of FHA § 804(b) through less formal channels.⁷⁸ For instance, in 2016, HUD issued a notice of a final rule, the Quid Pro Quo and Hostile Environment Harassment and Liability for Discriminatory Housing Practices Under the FHA rule (“Quid Pro Quo Rule”), in the *Federal Register*.⁷⁹ The Quid Pro Quo Rule was proposed to codify the definition for “quid pro quo” and “hostile environment harassment,” as well as the standards for evaluating those types of harassment under the Fair Housing Act, including § 804.⁸⁰ In the notice of the final rule, HUD addressed issues that arose during the rulemaking’s notice-and-comment period, including commenters’ concern that the Quid Pro Quo rule did not “expressly state” that § 804(b) of the FHA applied to “discrimination that occurs after the complainant or plaintiff acquires the dwelling”.⁸¹

D. Current Application of Fair Housing Act § 804(b) to Post-Acquisition Conduct

Because HUD has not codified the scope of when FHA § 804(b) applies, circuits are split as to whether FHA § 804(b) applies to discriminatory conduct after housing is acquired. Half of the circuits are either silent or ambiguous as to whether FHA § 804(b) applies to post-acquisition conduct. The U.S. Court of Appeals for the District of Columbia (D.C.) Circuit and the U.S. Court of Appeals for the Fourth Circuit have not extended FHA § 804(b) to post-acquisition conduct. The U.S. Court of Appeals for the Fifth Circuit, the U.S. Court of Appeals for the Seventh Circuit, the U.S. Court of Appeals for the Ninth Circuit, and the Eleventh Circuit, however, have extended FHA § 804(b) to post-acquisition conduct.

1. Circuits That Hold That Fair Housing Act § 804(b) Applies Only to Conduct Related to the Acquisition of Housing

The D.C. Circuit and the Fourth Circuit have both declined to extend FHA § 804(b) to post-acquisition conduct.⁸² Specifically, the D.C. Circuit in *Clifton Terrace Associates, Ltd. v. United Technologies Corporation*, held that FHA § 804(b) does not apply to the post-acquisition conduct of service providers.⁸³ In *Clifton Terrace*, the owner of Clifton Terrace Apartments, a federally subsidized low-income apartment complex, sued Otis Elevator Company and its parent company, United Technologies Corporation, for violating FHA § 804(b) when Otis refused to service elevators at Clifton Terrace, alleging that Otis’s refusal was because the residents were predominately African American, disabled, and elderly.⁸⁴ The court ultimately ruled that because the elevator supply company was not the “sole source” of elevator repair services, the company’s decision not to contract with Clifton Terrace did not amount to discrimination under the FHA.⁸⁵ However, the court signaled in dicta that it interpreted FHA § 804(b)’s prohibition on discrimination as “limited to services and facilities provided in connection with the sale or rental of a dwelling” as a prohibition only on a housing provider’s discriminatory provision of services or facilities.⁸⁶ Therefore, the FHA offered no redress even in the case of discriminatory provision of post-acquisition services from “sole source” providers, such as municipal utilities.⁸⁷

The Fourth Circuit has held that FHA § 804(b) does not apply to post-acquisition services unless the service is related to a municipal service in connection with the sale or rental of a dwelling.⁸⁸ In *Mackey v. Nationwide Insurance Company*, the Fourth Circuit held that FHA § 804(b) does not apply to post-acquisition conduct when the plaintiff, a former employee of Nationwide Insurance Company, sued the defendant insurance company under the FHA for refusing to insure residents in a predominately African-American neighborhood, a practice known as “redlining.”⁸⁹ The court did not directly address whether FHA § 804(b) reaches post-acquisition conduct.⁹⁰ However, the court did determine that FHA § 804(b)’s prohibition of discrimination in the provision of services or facilities in connection to a dwelling encompasses “such things as garbage collection and other services of the kind usually provided by municipalities.”⁹¹ Based on that characterization, the court

75. *Id.* at 859–66.

76. Fair Housing Act § 808(a), 42 U.S.C. § 3608(a) (2018); *see, e.g.*, 24 C.F.R. § 100.65 (2019).

77. Brief for the United States as Amicus Curiae at 36, *Bloch v. Frischholz*, 587 F.3d 771, No. 06-03376 (7th Cir. 2009).

78. *See, e.g.*, Quid Pro Quo and Hostile Environment Harassment and Liability for Discriminatory Housing Practices Under the FHA, 81 Fed. Reg. 63,054 (Sept. 14, 2016).

79. *Id.*

80. *Id.* at 63,057.

81. *Id.* at 63,054, 63,059.

82. *See Mackey v. Nationwide Ins. Co.*, 724 F.2d 419, 420, 425 (4th Cir. 1984); *Clifton Terrace Assocs. v. United Techs. Corp.*, 929 F.2d 714, 716–18, 720 (D.C. Cir. 1991); *Jersey Heights Neighborhood Ass’n v. Glendening*, 174 F.3d 180, 193 (4th Cir. 1999).

83. *Clifton Terrace Assocs.*, 929 F.2d at 720.

84. *See id.* at 716–18, 720.

85. *See id.*

86. *See id.* at 720.

87. *See id.*

88. *See Mackey v. Nationwide Ins. Co.*, 724 F.2d 419, 424 (4th Cir. 1984); *Jersey Heights Neighborhood Ass’n v. Glendening*, 174 F.3d 180, 193 (4th Cir. 1999).

89. *See Mackey*, 724 F.2d at 420, 425.

90. *Id.* at 425.

91. *Id.*

ruled that insurance was not a service within the meaning of the FHA.⁹² In *Jersey Heights Neighborhood Association v. Glendening*, the Fourth Circuit declined to extend FHA § 804(b) to the construction of a highway bypass adjacent to a predominately African-American community after determining that the highway bypass was not a housing-related service.⁹³

2. Circuits That Hold That Fair Housing Act § 804(b) Applies to Post-Acquisition Conduct

The Fifth, Seventh, Ninth, and Eleventh Circuits have all ruled that FHA § 804(b) applies to post-acquisition conduct.⁹⁴ In *Woods-Drake v. Lundy*, a landlord refused to continue renting to white tenants unless they stopped having African-American guests to their apartments.⁹⁵ The Fifth Circuit, “in keeping with Congress’ intent in passing the Fair Housing Act of replacing racially segregated housing with ‘truly integrated and balanced living patterns,’” read § 804(b) broadly.⁹⁶ Through this lens, the Fifth Circuit held that FHA § 804(b) applies to post-acquisition conduct when a landlord imposes discriminatory rental conditions on current tenants because of race.⁹⁷ This overruled the court’s previous decision in *Cox v. City of Dallas*, where the court held that FHA § 804(b) applies only to activities that are connected to the sale or rental of a dwelling.⁹⁸

The Seventh Circuit, in *Bloch v. Frischolz*, held that § 804(b) of the FHA applies to post-acquisition conduct so long as there is a contractual connection between the plaintiffs and the defendants.⁹⁹ In *Bloch*, the plaintiffs, condo-

minium owners, sued their condominium association after it enacted rules prohibiting the display of objects outside entrance doors and repeatedly removed and confiscated plaintiffs’ mezuzah from their doorpost.¹⁰⁰ In considering a claim of constructive eviction, the Seventh Circuit reasoned that the right to inhabit a dwelling was a “privilege of sale,” thus actions that make a dwelling uninhabitable after housing has been acquired violate FHA § 804(b).¹⁰¹ The court cautioned that FHA § 804(b) “is not broad enough to provide a blanket ‘privilege’ to be free from all discrimination by any source,” but found that in this instance, the plaintiffs’ agreement to be subjected to the rules of the condominium association was a “condition” of the sale of plaintiffs’ condominium, and thus relief was potentially available under § 804(b).¹⁰² The Seventh Circuit remanded the case to the district court to determine whether the hallway rules intentionally targeted the religious practice of hanging mezuzahs on doorposts.¹⁰³

The Ninth Circuit, in *Committee Concerning Community Improvement v. City of Modesto*, found that FHA § 804(b) extends to post-acquisition conduct, and that the provision of law enforcement personal to a neighborhood, or lack thereof, falls within FHA § 804(b)’s definition of services when plaintiffs sued the city of Modesto for failing to provide adequate law enforcement protection to their predominately Latino neighborhood.¹⁰⁴ The defendant, the city of Modesto, argued that the phrase “provision of services or facilities *in connection therewith*” [emphasis added] limited § 804(b)’s protections to only the services or facilities connected to the acquisition of a home.¹⁰⁵ The Ninth Circuit, however, rejected that argument and reasoned that “[t]here are few ‘services or facilities’ provided at the moment of sale, but there are many ‘services or facilities’ provided to the dwelling associated with the occupancy of the dwelling,” and therefore a more natural reading of the statute prohibited discrimination in the provision of services or facilities even after one has acquired housing.¹⁰⁶ The Ninth Circuit also interpreted the inclusion of the word “privileges” in § 804(b) to “implicate[] continuing rights.”¹⁰⁷ The court specified that its interpretation of the

92.

Section 804(b) prohibits discrimination against any person in the provision of services or facilities in connection with a dwelling. Mackey contends that hazard insurance is a service in connection with a dwelling, but surely that is a strained interpretation of the word . . . The hazard insurance industry is in the business of providing hazard insurance for householders, but what the industry does cannot reasonably be described as the provision of a service in connection with dwellings.

Id. at 424.

93. *Jersey Heights Neighborhood Ass’n*, 174 F.3d at 193.

94. See *Woods-Drake v. Lundy*, 667 F.2d 1198 (5th Cir. 1982); *Bloch v. Frischolz*, 587 F.3d 771 (7th Cir. 2009); *Comm. Concerning Cmty. Improvement v. City of Modesto*, 583 F.3d 690 (9th Cir. 2009); *Ga. State Conf. of the NAACP v. City of LaGrange*, 940 F.3d 627 (11th Cir. 2019).

95. *Woods-Drake*, 667 F.2d at 1199.

96. *Id.* at 1201 (first quoting *Trafficante v. Metropolitan Life Insurance Company*, 409 U.S. 205 (1972), then quoting Senator Mondale, 114 CONG. REC. 2706 (1968)).

97. See *Woods-Drake*, 667 F.2d at 1201.

98. See *Cox v. City of Dallas*, 430 F.3d 734, 746–47 (5th Cir. 2005) (finding that the city of Dallas did not violate the FHA by preventing illegal dumping because the activity was not connected to the sale or rental of a dwelling).

99. See *Bloch*, 587 F.3d at 780–81 (holding specifically by the Seventh Circuit that a cause of action under FHA § 804(b) requires that the defendant’s conduct is “linked to any of the terms, conditions, or privileges that accompanied or were related to” the acquisition of plaintiff’s housing. This was a departure from the Seventh Circuit’s prior ruling in *Halprin v. Prairie Single Family Homes of Dearborn Park Association*, 388 F.3d 327 (7th Cir. 2004). In *Halprin*, Jewish homeowners faced religiously charged harassment from their community homeowners association and sued the homeowners’ association under FHA § 804(b). See *id.* at 328. After adopting a narrow reading of FHA § 804(b), the Seventh Circuit ruled that FHA § 804(b) did not apply to post-acquisition conduct when the harassment was not linked to a

term, condition, or privilege of the sale of housing. See *id.* at 329–30. The Seventh Circuit adopted the narrow reading after interpreting the legislative history of the FHA in the following way:

Behind the Act lay the widespread practice of refusing to sell or rent homes in desirable residential areas to members of minority groups. Since the focus was on their exclusion, the problem of how they were treated when they were included, that is, when they were allowed to own or rent homes in such areas, was not at the forefront of congressional thinking.

Id. at 329.

100. See *Bloch*, 587 F.3d at 772–73.

101. *Id.* at 779.

102. *Id.* at 780.

103. Intentional discrimination is not required for claims under FHA § 804(b). *Id.* at 784. Plaintiffs can also show discrimination through the use of a modified impact theory, however the court in *Bloch* determined that plaintiffs failed to develop a disparate impact claim during summary judgment proceedings in the lower court, so the case was assessed FHA claims for intentional discrimination. See *id.* at 784, 787.

104. See *Comm. Concerning Cmty. Improvement v. City of Modesto*, 583 F.3d 690, 713 (9th Cir. 2009).

105. *Id.*

106. *Id.*

107. *Id.*

statutory language was consistent with HUD regulations implementing the FHA, which prohibit such acts as failing to provide maintenance to a dwelling because of race, color, religion, sex, handicap, familial status, or national origin, thereby “appear[ing] to embrace claims about problems arising after the tenant or owner has acquired the property.”¹⁰⁸

The recent ruling by the Eleventh Circuit in *Georgia State Conference of the NAACP v. City of LaGrange*, as discussed in the introduction of this Note, is most relevant to the ability of the FHA to challenge discriminatory utility policies.¹⁰⁹ The Eleventh Circuit concluded that “[o]n its face, the statute is unambiguous” because it does not contain language “limiting its application to discriminatory conduct that occurs prior to or at the moment of the sale or rental,” and therefore FHA § 804(b) applies to post-acquisition conduct.¹¹⁰ Additionally, the Eleventh Circuit further ruled that municipally provided electricity, gas, and water services fall within the definition of “services” in FHA § 804(b), and that the discrimination in the provision of utility services therefore violated FHA § 804(b).¹¹¹ The court remanded the case to the trial court to determine whether the utility’s court fee policy, as mentioned in the introduction, discriminated against residents on the basis of race.¹¹²

3. Circuits That Have Not Made Definitive Rulings on the Applicability of Fair Housing Act § 804(b) to Post-Acquisition Conduct

The U.S. Court of Appeals for the First Circuit and the U.S. Court of Appeals for the Second Circuit are unclear

on the scope of FHA § 804(b). The First Circuit has not ruled on whether FHA § 804(b) applies to post-acquisition conduct. However, in *Astralis Condominium Association v. Secretary, United States Department of Housing & Urban Development*, the First Circuit affirmed a ruling made by a HUD Administrative Law Judge that FHA § 804(f), which prohibits discrimination in the sale or rental of a dwelling because of a disability, applied when a property owner discriminated against a disabled resident who had lived at the property for over two years, indicating that at least certain sections of FHA § 804 apply to post-acquisition conduct.¹¹³ However, the defendant in *Astralis Condominium Association* did not challenge the applicability of FHA § 804(f) to post-acquisition conduct, so the First Circuit did not specifically address that issue in affirming the decision and has not addressed the issue in subsequent opinions.¹¹⁴

The Second Circuit, in *Francis v. Kings Park Manor, Inc.*, addressed post-acquisition conduct under FHA § 804(b), where a tenant continually spewed racial epithets at and threatened his African-American neighbor, and the landlord failed to take any action against the tenant despite multiple complaints from the neighbor and multiple calls to police.¹¹⁵ The Second Circuit determined that post-acquisition claims were redressable under the FHA and further stated that “[i]n short, there is no circuit split on whether § 3604 [804] reaches post-acquisition conduct. It does.”¹¹⁶ The court determined that this interpretation of the FHA was most consistent with the statutory language, congressional intent in enacting the FHA, and HUD’s regulations regarding the implementation of the FHA.¹¹⁷ However, the Second Circuit issued a ruling withdrawing their decision in *Francis* just one month later in April 2019, without explanation.¹¹⁸ In December 2019, the Second Circuit reissued its opinion and appellee Kings Park Manor submitted a Petition for Rehearing en banc, which the Second Circuit granted in February 2020.¹¹⁹ Oral arguments were held on September 24, 2020.¹²⁰

Lastly, the U.S. Court of Appeals for the Third Circuit, the U.S. Court of Appeals for the Sixth Circuit, the U.S. Court of Appeals for the Eighth Circuit, and the U.S. Court of Appeals for the Tenth Circuit are all silent on the scope of FHA § 804(b). In December 2019, however, the NAACP filed *Pickett v. City of Cleveland*, a class action suit against the city of Cleveland, using FHA § 804(b) to

108. The Court looked at 24 C.F.R. § 100.65, which provides that

(a) It shall be unlawful, because of race, color, religion, sex, handicap, familial status, or national origin, to impose different terms, conditions or privileges relating to the sale or rental of a dwelling or to deny or limit services or facilities in connection with the sale or rental of a dwelling. (b) Prohibited actions under this section include, but are not limited to: . . . (2) Failing or delaying maintenance or repairs of sale or rental dwellings because of race, color, religion, sex, handicap, familial status, or national origin . . . (4) Limiting the use of privileges, services or facilities associated with a dwelling because of race, color, religion, sex, handicap, familial status, or national origin of an owner, tenant or a person associated with him or her.

24 C.F.R. § 100.65 (2008); *Comm. Concerning Cmty. Improvement*, 583 F.3d at 713–14:

The sections prohibiting “[f]ailing or delaying maintenance or repairs of sale or rental dwellings” and “[l]imiting the use of privileges, services or facilities associated with a dwelling” appear to embrace claims about problems arising after the tenant or owner has acquired the property. In common parlance, issues relating to “maintenance or repairs” or “services or facilities associated with a dwelling” tend to be issues arising after the tenant or owner has come into possession of the dwelling and sought out maintenance, repair, or services.

Id. at 714 (quoting 24 C.F.R. §100.65 (2008)).

109. See discussion *supra* Part I.

110. *Ga. State Conf. of the NAACP v. City of LaGrange*, 940 F.3d 627, 631–32 (11th Cir. 2019).

111. Interestingly, the court in *Georgia State Conference of the NAACP v. City of LaGrange*, explicitly rejected the Ninth Circuit’s ruling that the provision of law enforcement personnel falls into FHA § 804(b)’s definition of “services.” See *id.* at 632–34.

112. See *id.* at 630.

113. See *Astralis Condo. Ass’n v. Sec’y, U.S. Dep’t of Hous. & Urban Dev.*, 620 F.3d 62, 64, 70 (1st Cir. 2010).

114. See *id.* at 62–70.

115. *Francis v. Kings Park Manor*, 944 F.3d 370, 373–74 (2d Cir. 2019).

116. The court in *Francis v. Kings Park Manor, Inc.*, came to this conclusion based on case law that every other circuit that has addressed the issue of post-acquisition conduct under the FHA, which at the time of the opinion were the Fourth, Fifth, Sixth, Ninth, and Eleventh Circuits, determined that FHA § 804(b) “at least prohibits ‘discrimination relating to . . . actual or constructive eviction,’ which is necessarily post-acquisition.” *Id.* at 376–77 (emphasis in original) (quoting *Cox v. City of Dallas*, 430 F.3d 734 (5th Cir. 2005)).

117. See *id.* at 378.

118. See *Francis v. Kings Park Manor, Inc.*, 920 F.3d 168 (2d Cir. 2019).

119. Petition for Rehearing en Banc, *Francis*, 944 F.3d 370 (No. 15-1823); Order at 1–2, *Francis v. Kings Park Manor, Inc.*, 949 F.3d 67 (2d Cir. Mar. 18, 2020) (No. 15-1823).

120. Order, *supra* note 120, at 2.

challenge the Cleveland Water Department's policy of putting water liens on properties with unpaid water bills on the grounds of the policy's disparate impact on African-American residents.¹²¹ When the Cleveland Water Department places a water lien on a property, that property then faces the risk of foreclosure actions, initiated by either the county treasurer or the owner of the lien if it was previously auctioned off.¹²²

Between 2014 and 2018, Cleveland Water placed "significantly more" water liens in predominantly African-American neighborhoods than in predominately white neighborhoods with the same median income, subjecting African-American residents to a higher risk of foreclosure.¹²³ Between 2012 and 2016, water liens generated less than one percent of Cleveland Water's revenue.¹²⁴ Plaintiffs argued that the small amount of recovered revenue by the water lien policy cannot justify Cleveland Water's "unreasonable and oppressive water lien policy."¹²⁵ Further, plaintiffs urged that Cleveland Water's interest in recovering such a minimal amount of revenue "may be achieved by less discriminatory means."¹²⁶

The city of Cleveland responded to the Complaint with a motion to dismiss the complaint in its entirety arguing plaintiffs failed to show a "robust causality" between Cleveland Water's water lien practices and its disparate impact on African-American residents.¹²⁷ The city of Cleveland did not challenge the application of FHA § 804(b) to post-acquisition conduct in its motion to dismiss.¹²⁸ The Sixth Circuit, in September 2020, denied the city of Cleveland's motion to dismiss the FHA claim, holding that the plaintiffs successfully made a prima facie claim, meeting the "robust causality" requirement.¹²⁹

III. Analysis

A. Why Fair Housing Act § 804(b) Applies to Post-Acquisition Conduct

The reasonable interpretation of the plain text of FHA § 804(b) is that it applies to post-acquisition conduct. FHA § 804(b) says that "it shall be unlawful . . . (b) To discriminate against any person in the terms, conditions, or privileges of sale or rental of a dwelling, or in the provision of services or facilities in connection therewith, because of race, color, religion, sex, familial status, or national origin."¹³⁰ First, the language "privileges of sale" implies ongoing privileges or rights associated with housing.¹³¹ While "privileges of sale" is undefined by the FHA, this language could mean such privileges as access to common spaces of an apartment building or perhaps municipal services like garbage collection.¹³² Second, the most natural reading of "[t]he provision of services" signals that FHA § 804(b)'s protections extend past the point of acquisition, as services connected to the sale or rental of housing, such as utility services, frequently occur after housing has been acquired.¹³³ The Eleventh Circuit, in *NAACP v. City of LaGrange*, even went so far as to say that the language of FHA § 804(b) was unambiguous on its face.¹³⁴

Proponents of a more limited reading may argue that the language "in the connection therewith" limits FHA § 804(b)'s protections against discrimination in the "privileges of sale" and "provision of services" to acquisition.¹³⁵ Because the FHA does not define "privileges of sale" or "provision of services," however, readers are left to interpret the language.

Looking at the FHA as a whole, other sections can be read as containing more overt language relevant to post-acquisition conduct.¹³⁶ For instance, FHA § 804(f)(2) states that it shall be illegal to "discriminate against any person in the terms, conditions, or privileges of sale or rental of a dwelling, or in the provision of services or facilities *in connection with such dwelling*, because of a handicap . . ." ¹³⁷ The use of the phrase "in connection with such dwelling" in FHA § 804(f)(2), as compared to "in the connection therewith" in FHA § 804(b) makes it clear that FHA § 804(f)(2) applies to the provision of services or facilities connected to the dwelling, as opposed to the provision of services or facilities in connection with the sale or rental of

121. *LDF Files Lawsuit Against the City of Cleveland to Address Discriminatory Water Liens and Shutoffs*, NAACP LEGAL DEF. FUND (Dec. 18, 2019), <https://www.naacpldf.org/wp-content/uploads/LDF-Cleveland-Water-Lawsuit-12-18-19.pdf> [https://perma.cc/VN3B-G9EF]. Water liens are tax liens placed on properties with outstanding debt to the water utility. Complaint at 4, 12–13, *Pickett v. City of Cleveland*, No. 19-CV-02911 (N.D. Ohio Dec. 18, 2019); OHIO REV. CODE ANN. § 743.04 (2019). Water liens may be sold at auctions, where bidders may purchase the lien. Complaint, *supra*, at 4, 13; OHIO REV. CODE ANN. § 5721.32 (2019).

122. Complaint, *supra* note 122, at 4, 13; OHIO REV. CODE ANN. § 5721.18, .39 (2019).

123. Complaint, *supra* note 122, 4, 15, 22.

124. *Id.* at 5.

125. Memorandum of Law in Opposition to Defendant's Motion to Dismiss at 13–14, *Pickett v. City of Cleveland*, No. 19-CV-02911 (N.D. Ohio Mar. 16, 2020).

126. Complaint, *supra* note 122, at 33.

127. Motion to Dismiss at 9, *Pickett v. City of Cleveland*, No. 19-CV-02911 (N.D. Ohio Feb. 13, 2020) (quoting Texas Dept. of Housing and Community Affairs v. Inclusive Communities Project, Inc., 576 U.S. 519, 542 (2015)). The "robust causality" standard, as articulated in *Texas Dept. of Housing*, requires that plaintiffs making a disparate impact claim under the FHA using statistical disparities must be able to "point to a defendant's policy of policies causing that disparity." Tex. Dept. of Hous. and Cmty. Affs. v. Inclusive Cmty. Project, Inc., 576 U.S. 519, 542 (2015).

128. Motion to Dismiss, *supra* note 128.

129. Order at 12, *Pickett v. City of Cleveland*, No. 19-CV-02911 (N.D. Ohio Sept. 29, 2020).

130. Fair Housing Act § 804(b), 42 U.S.C. § 3604(b). The phrase "provision of services or facilities in connection" with the sale or rental of a dwelling is not defined in the FHA.

131. *See Comm. Concerning Cmty. Improvement v. City of Modesto*, 583 F.3d 690, 713 (9th Cir. 2009).

132. *See id.*

133. *See id.*

134. *Ga. State Conf. of the NAACP v. City of LaGrange*, 940 F.3d 627, 631 (11th Cir. 2019).

135. *See, e.g.*, Brief of Appellee at 5, *Ga. State Conf. of the NAACP*, 940 F.3d 627 (11th Cir. 2019) (No. 18-10053).

136. *See, e.g.*, Rigel Oliveri, *Is Acquisition Everything? Protecting the Rights of Occupants Under the Fair Housing Act*, 43 HARV. C.R.-C.L. L. REV. 1, 32 n.171 (2008).

137. Fair Housing Act § 804(f)(2), 42 U.S.C. § 3604(f)(2) (2018) (emphasis added).

a dwelling in a narrow interpretation of FHA § 804(b).¹³⁸ This narrow interpretation of § 804(b) would mean that the FHA granted broader protections to those discriminated against because of a disability in FHA § 804(f)(2) than those discriminated against because of race, color, religion, sex, familial status, or national origin in FHA § 804(b). However, the legislative history of the FHA's 1988 amendments, which added § 804(f), does not demonstrate any congressional intent to give broader protections for discrimination based on disability.¹³⁹ Instead, the legislative history shows that the purpose of adding § 804(f) to the FHA was simply to "extend protection against housing discrimination to . . . individuals with disabilities."¹⁴⁰

In the midst of any ambiguity in the statutory language, the rich historical background and legislative history of the FHA, as mentioned in Part II of this Note, makes it clear that the FHA should be interpreted as broadly as needed to accomplish the FHA's goals of reversing housing segregation.¹⁴¹ The *Congressional Record* from April 10, 1968—the day the U.S. House of Representatives passed the FHA—is rife with tributes to the recently slain Dr. King and meditations about how the passage of the FHA would honor Dr. King's dream of a more just and equitable future.¹⁴² Members of the House extolled the opportunities that freedom from "only" housing discrimination would afford, such as access to better education, transportation services, jobs, and recreational opportunities.¹⁴³ It is clear that in enacting the FHA, Congress did not intend to create protections from discrimination in the sale or rental of homes, but did intend to create protections that would allow for the continued habitation of homes so that residents could access the services from which they were previously excluded.¹⁴⁴ Interpreting FHA § 804(b)'s scope as restricted to just discrimination in the acquisition of housing, and allowing discrimination after housing has been acquired, runs counter to the FHA's ultimate goal of creating integrated communities.¹⁴⁵

B. Why Utility Service Providers and Their Policies Should Be Subject to Fair Housing Act § 804(b)

Utility service providers should be subject to FHA § 804(b) because access to utilities is essential to the continued habitability of a dwelling. HUD has also voiced that utility services, at least municipal utility services, are within FHA § 804(b)'s jurisdiction.¹⁴⁶ In HUD's 1989 regulations interpreting the scope of FHA § 804(b), HUD expressly provides that prohibited activities under FHA § 804(b) include

"[r]efusing to provide municipal services . . . or providing such services . . . differently because of race, color, religion, sex, handicap, familial status, or national origin."¹⁴⁷ FHA § 804(b) should apply to utility service providers because the way utilities are regulated, from state-to-state, type-to-type, does not provide uniform protections to consumers against the discriminatory provisions of utility services. Take for instance the city of LaGrange, the municipal utility mentioned in Part I of this Note.¹⁴⁸ Because the city of LaGrange is a municipal utility, the Georgia Public Service Commission has no jurisdiction over it, and therefore provides no regulations on how the utility structures its rates or collects the cost of services from end-use consumers.¹⁴⁹ In the absence of oversight from the Georgia Public Service Commission, residents of LaGrange who are unable to pay for utility service due to the city's court debt policy are not given much of a choice but to move; they can either forgo utility service or move to another town with a different utility service provider.¹⁵⁰

Critics say that extending the scope of FHA § 804(b) to utility service providers and their policies goes beyond the scope of the FHA. That was the critique of the D.C. Circuit in *Clifton Terrace Associates v. United Technologies Corp.*, quoting a district court case that stated: "To say that every discriminatory municipal policy is prohibited by the Fair Housing Act would be to expand that Act to a civil rights statute of general applicability rather than one dealing with the specific problems of fair housing opportunities."¹⁵¹ However, there is a clear nexus between utility service and housing, as outlined in Part II of this Note.¹⁵² It is contradictory to prohibit housing discrimination while also allowing discrimination in the services that are essential to habitability. Critics may also argue that applying FHA § 804(b) would preempt state utility regulatory law, an area of traditional state authority.¹⁵³ While states have historically regulated the intrastate transmission of utilities, the FHA's savings clause makes it clear that the FHA invalidates any state or local law that permits any action that may qualify as a discriminatory housing practice.¹⁵⁴

147. *Id.*

148. See discussion *supra* Part I.

149. GA. CODE ANN. § 46-3-12 (2010).

150. Troyvelle Sharp, formerly of LaGrange, Georgia, was forced to move to West Point, Georgia, because she was unable to pay her court fees so LaGrange threatened to turn off her electricity and the LaGrange Housing Authority said she would lose her home if she lost utility service. Jones, *supra* note 3.

151. *Clifton Terrace Assocs. v. United Techs. Corp.*, 929 F.2d 714, 720 (D.C. Cir. 1991) (quoting *Vercher v. Harrisburg Hous. Auth.*, 454 F. Supp. 423, 424 (M.D. Pa. 1978)).

152. See discussion *supra* Part II.

153. "[T]he regulation of utilities is one of the most important of the functions traditionally associated with the police power of the States." Ark. Elec. Coop. v. Ark. Pub. Serv. Comm'n, 461 U.S. 375, 377 (1983).

154. The clause states:

Nothing in this subchapter shall be construed to invalidate or limit any law of a State or political subdivision of a State, or of any other jurisdiction in which this subchapter shall be effective, that grants, guarantees, or protects the same rights as are granted by this subchapter; but any law of a State, a political subdivision, or other such jurisdiction that purports to require or permit any actions that would be a discriminatory housing practice under this subchapter shall to that extent be invalid.

138. Compare Oliveri, *supra* note 137, at 32 n.171, with *Ga. State Conf. of the NAACP*, 940 F.3d at 631.

139. See, e.g., 134 CONG. REC. 19,863, 19,900 (1988).

140. *Id.* (statement of Sen. William Proxmire).

141. See discussion *supra* Part II.C.i; see, e.g., 114 CONG. REC. 9,527 (1968).

142. See generally 114 CONG. REC. 9,527 (1968).

143. See generally *id.*

144. See generally *id.*

145. See generally *id.*; see also discussion *supra* Section II.D.

146. 24 C.F.R. § 100.70(d).

C. HUD Should Issue a Rule Clarifying That the Scope of Fair Housing Act § 804(b) Extends to Post-Acquisition Conduct

HUD should issue a formal rule clarifying that the scope of FHA § 804(b) extends to post-acquisition conduct in order to reconcile the current ambiguity of FHA § 804(b)'s scope as interpreted between the circuits. When Congress passed the FHA, many states had their own housing discrimination policies, yet lawmakers considered federal legislation protecting against housing discrimination as essential.¹⁵⁵ In the spirit of the FHA, HUD must make explicit what it has already conceded in informal publications¹⁵⁶ and alluded to in regulations¹⁵⁷: that FHA § 804(b) prevents housing discrimination from the acquisition of housing through habitation, including the provision of utility services.¹⁵⁸ Despite HUD's prior assertion that FHA § 804(b) "plainly" applies to post-acquisition conduct, thereby eliminating the need to codify the scope,¹⁵⁹ some federal courts still interpret FHA § 804(b) as applying solely to pre-acquisition discrimination, denying plaintiffs the ability to seek judicial redress.¹⁶⁰ Courts would most likely uphold this formal rule under the *Chevron* analysis because a court would likely find HUD's interpretation of FHA § 804(b) to be a permissible construction of the statute, as discussed in Part IIIA of this Note, and the interpretation would therefore be entitled to *Chevron* deference absent a finding that the interpretation is arbitrary or capricious.¹⁶¹

Finally, HUD must preserve the power of the FHA because there is no other federal law quite so powerful to combat housing discrimination in this country.¹⁶² If courts continue to fracture in their interpretations of when FHA § 804(b) applies, the law that protects plaintiffs against dis-

crimination because of their race, color, religion, sex, disability, familial status, or national origin will crumble. In the instance of the discriminatory provision of municipal government services, the only remaining federal protection would be the Equal Protection Clause of the Fourteenth Amendment, which requires a showing of discriminatory intent, a far higher burden of proof for plaintiffs to overcome.¹⁶³ Failure to preserve the FHA's protection to the post-acquisition conduct of providing utility services keeps open the door for insidious utility policies that in practice make housing unavailable based on one's race.¹⁶⁴ This is contrary to the original goal of the FHA, which was intentionally broad and powerful in scope to combat policies that perpetuated systems of oppression by denying equal access to housing.

IV. Conclusion

Access to utilities is essential to access to housing, so when utilities have policies that discriminate on the basis of race, color, religion, sex, disability, familial status, or national origin, either intentionally or by disparately impacting a certain group of people, they create discriminatory barriers to housing and perpetuate segregated housing patterns. Despite the passage of the FHA over fifty years ago, housing discrimination persists, just now through more subtle mechanisms. As cases in the silent circuits, such as *Pickett v. City of Cleveland*, make their way up to the Third, Sixth, Eighth, and Tenth Circuits, there is a risk that the circuit split on the applicability of FHA § 804(b) will grow as these circuits confront the issue of FHA § 804(b)'s scope for the first time. This leaves many people vulnerable to discriminatory utility policies and threatens access to the essential utility services that can make a house a home. While the FHA can't alone undue the harms of centuries of discriminatory housing policies, it can still be a powerful tool to bring down barriers to integrated housing. That is why HUD must make a rule clarifying that the scope of FHA § 804(b) extends to post-acquisition conduct, including the provision of utility services.

42 U.S.C. § 3615. For example, HUD and the U.S. Department of Justice (DOJ) have issued a joint statement explaining how FHA's savings clause works with local land use laws, writing "[t]he Act does not pre-empt local zoning laws. However, the Act applies to municipalities and other local government entities and prohibits them from making zoning or land use decisions or implementing land use policies that exclude or otherwise discriminate against protected persons, including individuals with disabilities." DOJ and HUD, Joint Statement on Group Homes, Local Land Use, and the Fair Housing Act (Aug. 6, 2015), <https://www.justice.gov/crt/joint-statement-department-justice-and-department-housing-and-urban-development> [<https://perma.cc/833A-QAL6>].

155. See generally 114 CONG. REC. 3,419, 3,422 (1968).

156. Quid Pro Quo and Hostile Environment Harassment and Liability for Discriminatory Housing Practices Under the FHA, 81 Fed. Reg. 63,054, 63,059 (Sept. 14, 2016) (to be codified at 24 C.F.R. pt. 100).

157. See, e.g., 24 C.F.R. § 100.65 (2019).

158. See, e.g., Press Release, U.S. Dep't of Hous. & Urb. Dev., HUD and Huntsville Utilities Reach Agreement Settling an Allegation of Discrimination Against Prospective Hispanic Residential Customers (Aug. 9, 2012), <https://archives.hud.gov/news/2012/pr12-123.cfm> [<https://perma.cc/DMM4-5Q23>].

159. Quid Pro Quo and Hostile Environment Harassment and Liability for Discriminatory Housing Practices Under the Fair Housing Act, 81 Fed. Reg. 63,054, 63,059 (Sept. 14, 2016) (to be codified at 24 C.F.R. pt. 100).

160. See, e.g., Ga. State Conf. of the NAACP v. City of LaGrange, 2017 U.S. Dist. LEXIS 220044, at **7-8 (N.D. Ga. Dec. 7, 2019).

161. See *Chevron U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837, 842-43 (1984); see also discussion *supra* Section IIIA.

162. See Robert G. Schwemm, Cox, Halprin, and *Discriminatory Municipal Services Under the Fair Housing Act*, 41 IND. L. REV. 717, 789-93 (2008) (exploring a deeper discussion on the protections afforded by the FHA compared to the protections afforded by the Equal Protection Clause and the Civil Rights Act of 1866, 42 U.S.C. § 1983).

163. Jon Izak Monger, *Thirsting for Equal Protection: The Legal Implications of Municipal Water Access in Kennedy v. City of Zanesville and the Need for Federal Oversight of Governments Practicing Unlawful Race Discrimination*, 59 CATH. U. L. REV. 587, 590 (2010).

164. See discussion *supra* Section III.B.

THE GREEN NEW DEATH: A LEGISLATIVE FRAMEWORK TO PROMOTE AND LEGALIZE GREEN FUNERARY ALTERNATIVES

Helen Mitsuko Marsh*

ABSTRACT

This Note will consider the problem of environmentally impactful funerary practices: 95% of Americans are either buried or cremated. Traditional burial methods and cremation are environmentally harmful because they contribute to climate change, land overuse, and groundwater contamination. Compare that 95% with the 53.9% of Americans who report being open to green end-of-life rituals. The disparity between the number of people who are willing to dispose of their bodies through green funerary alternatives and the number of people who actually do is caused by the unavailability of alternatives. This Note will then look at two alternatives to traditional funerary practices—alkaline hydrolysis and human composting—and the current state of their legislation. Such legislation is insufficient. Therefore, to foster a sense of confidence and comfort with legislators and constituents, the Environmental Protection Agency should regulate the final disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer. This regulation should address concerns, such as pathogen destruction and disclosure of the substance’s origin, from states that regulate the final disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer and fill the gaps in current state legislation. The Environmental Protection Agency should then use cooperative federalism to incentivize states to adopt the regulation, with the goal of legalizing alkaline hydrolysis and human composting in all fifty states.

Introduction

Benjamin Franklin once wrote, “in this world nothing can be said to be certain, except death and taxes.”¹ Death is inevitable, and so is the growing national death rate: as the Baby Boomer generation is aging, the death rate in the

United States is rising.² In 2017, more than 2.8 million deaths were registered in the United States.³ The national death rate is projected to hit more than 3.6 million until it eventually peaks in 2055 and levels off gradually.⁴

While more Americans are joining the conversation about how to ensure their inevitable deaths will not contribute to increasing environmental issues, a supermajority of Americans rely on conventional funerary practices: 95% of Americans are either buried or cremated.⁵ Crema-

* Helen earned her J.D., with Honors, from The George Washington University Law School in 2021. In her time at GW Law, Helen served as the Editor-in-Chief of the GW Journal of Energy and Environmental Law and President of the GW Law Run Club. Helen thanks Michael Billotti, Prof. Robert Glicksman, Prof. Ryan Harper, Edward Mahabir, Devin O’Connell, and the entire JEEL membership for editing her Note. Helen also thanks her sister Anne for encouraging her to embrace death positivity and the rest of her family for supporting her throughout law school.

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1. Letter from Benjamin Franklin to Jean Baptiste Le Roy (Nov. 13, 1789), https://archive.org/stream/writingsofbenjam10franuoft/writingsofbenjam10franuoft_djvu.txt [<https://perma.cc/R5Z7-Q5P9>].

2. See Jason Devine, *As Population Ages, U.S. Nears Historic Increase in Deaths: Two States, A Third of Countries Have More Deaths Than Births*, U.S. CENSUS BUREAU (Oct. 24, 2017), <https://www.census.gov/library/stories/2017/10/aging-boomers-deaths.html> [<https://perma.cc/T4VJ-SJSQ>]; Austin Thompson, *How Baby Boomers, Generation X, and Millennials Got Their Names*, MENTAL FLOSS (May 1, 2018), <https://www.mentalfloss.com/article/542159/how-generations-named-baby-boomers-generation-x-millennials> [<https://perma.cc/Y22Y-QXJ2>] (“Baby Boomers” describes the generation of Americans born between 1946 and 1964.).
3. See KENNETH D. KOCHANEK ET AL., CTRS. FOR DISEASE CONTROL AND PREVENTION, 68 NATIONAL VITAL STATISTICS REPORTS, DEATHS: FINAL DATA FOR 2017, at 1 (2019).
4. See Devine, *supra* note 2.
5. See Tanya D. Marsh, *Life After Death: Americans Are Embracing New Ways to Leave Their Remains*, CONVERSATION (Oct. 27, 2017, 6:21 AM) <https://the-conversation.com/life-after-death-americans-are-embracing-new-ways-to-leave-their-remains-85657> [<https://perma.cc/9LGP-3LP5>]; NAT’L FUNERAL DIRS. ASS’N (“NFDA”), 2018 NFDA CREMATION AND BURIAL REPORT: RESEARCH, STATISTICS AND PROJECTIONS 3 (2018) [hereinafter 2018 NFDA REPORT] (Of the 2.8 million people that died in the U.S. in 2017, ap-

tion rates are rising and burial rates are falling, but that 95% is projected to remain the same for at least the next two decades.⁶

Conventional funerary practices take a toll on the environment. Traditional casket burial requires burying carcinogenic formaldehyde-based embalming fluid, steel, concrete, and hardwood along with our dead while taking up millions of acres of land.⁷ While traditional cremation is less environmentally impactful than burial, cremation releases pollutants and greenhouse gases into the atmosphere.⁸

Steady reliance on conventional death practices is not for a lack of interest in something different: in 2017, 53.8% of Americans reported interest in green funerary alternatives to reduce their posthumous environmental impact.⁹ The disparity between the purported interest and the actual use of green funerary alternatives is caused by the unavailability of these alternatives in the United States.¹⁰ Widespread legalization of alkaline hydrolysis—human body liquefaction—and human composting can close this gap.¹¹ This Note will not call for the eradication of burial and cremation as funerary options. Instead, this Note will call for the legalization of alternatives for those without strong preferences for traditional funerary practices. There is enormous potential to reduce the environmental impact of the growing death rate by legalizing and utilizing green funerary alternatives.¹²

proximately 52% of those were cremated and approximately 42% were buried, for a total of 94% of human remains disposed through a conventional funerary practice); NFDA, 2019 NFDA CREMATION AND BURIAL REPORT: RESEARCH, STATISTICS AND PROJECTIONS 4 (2019) [hereinafter 2019 NFDA REPORT] (In 2019, the cremation and burial rates are projected to be 54.8% and 39%, respectively, for a total of 93.8%. Cremation rates are projected to triple in 20 years, rising to a 78.7% cremation rate and 15.7% burial rate by 2040, for a total of 94.4% of human remains disposed through a conventional funerary practice.).

6. See 2018 NFDA REPORT, *supra* note 5, at 3; but see E-mail from Jessica Koth, Media Rels. Dir., NFDA, to author (Nov. 4, 2019, 06:30 EST) (on file with author):

The data in our report is gathered from death certificate information submitted to state departments of vital status. Therefore, “burial” would include traditional burial, green burial, burial at home—essentially anything in the earth. They don’t distinguish location of burial or type of cemetery/burial ground in classifying “burial.” It would not include burial at sea. That would likely be classified as “other” on a death certificate.

7. See Marsh, *supra* note 5.

8. See 2019 NFDA REPORT, *supra* note 5, at 1; Bill Schlesinger, *Casting Your Last Environmental Footprint*, MILLBROOK INDEP. (Oct. 31, 2017), <https://blogs.nicholas.duke.edu/citizenscientist/casting-your-last-environmental-footprint/> [<https://perma.cc/H97Z-UALM>].

9. Compare NFDA Consumer Survey: Funeral Planning Not a Priority for Americans, NFDA (June 22, 2017), <https://www.nfda.org/news/media-center/nfda-news-releases/id/2419/nfda-consumer-survey-funeral-planning-not-a-priority-for-americans> [<https://perma.cc/Z3D2-BAV3>], with LONA CHOI-ALLUM, AARP, FUNERAL AND BURIAL PLANNERS SURVEY 15 (2007) (outlining a 2007 survey in which a mere 21% of respondents reported “interest[] in a burial that is more environmentally friendly than a traditional burial with embalming”).

10. See generally Valerie Keene, *Alkaline Hydrolysis Laws in Your State*, Nolo (2020), <https://www.nolo.com/legal-encyclopedia/alkaline-hydrolysis-laws-your-state.html> [<https://perma.cc/SJ2Z-DVE9>].

11. See *infra* Sections I.D, I.E (providing a technical overview of alkaline hydrolysis and human composting).

12. See Elizabeth Keijzer, *Environmental Impact of Funerals: Life Cycle Assessments of Activities After Life*, 22 INT’L J. LIFE CYCLE ASSESSMENT 715, 54 (2016) (“The main conclusion of this research is that, even though the environmental impact of funerals on a national scale are not alarming, on

Each state has its own laws regulating the disposition of human remains.¹³ Typically, these laws define burial, interment, and cremation as the only options for disposition.¹⁴ However, eighteen states have legalized alkaline hydrolysis, and one state has legalized human composting as means of final disposition.¹⁵ Human remains law is an ever-shifting cultural and legal landscape.¹⁶ If our laws could shift to permit embalming and cremation, both at which Americans balked when first introduced, our laws can shift to permit alkaline hydrolysis and human composting.¹⁷

In Part I, this Note will explore the histories and environmental impacts of burial and cremation and highlight how the commonality of their initial rejection and later acceptance provides a road map for the blossoming legalization of alkaline hydrolysis and human composting.¹⁸ Part I will also provide technical overviews of alkaline hydrolysis and human composting, illuminating the concerns regarding the disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer.¹⁹

Part II will argue that, through authority granted by the U.S. Congress under the Clean Water Act (“CWA”), the U.S. Environmental Protection Agency (“EPA”) should exercise regulatory authority over the disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer, while delegating ultimate enforcement authority to the states in an expression of cooperative federalism.²⁰ This Note will argue that regulation would, at a minimum, give alkaline hydrolysis and human composting a federal stamp of approval.²¹ The regulation would have two goals: (1) to ensure proper alkaline hydrolysis effluent disposal and human compost use, and (2) to prompt states to recognize, acknowledge, and agree with EPA’s federal stamp of approval and thus legalize alkaline hydrolysis and human composting.²² Part II will also argue that EPA should issue a financial incentive for states to adopt and implement the regulation of alkaline hydrolysis and human composting.²³

the local scale there is an enormous reduction potential of their environmental impact, either by adapting traditional processes or by developing new techniques.”).

13. See *infra* Part III.

14. See, e.g., *id.*; LA. STAT. ANN. § 37:831 (2015) (defining “burial,” “cremation,” “embalming,” but not “alkaline hydrolysis” or “composting”).

15. See Keene, *supra* note 10; Adeel Hassan, *Ashes to Ashes. Dust to Dust. Or, in Washington State, You Could Now Be Compost*, N.Y. TIMES (May 22, 2019), <https://www.nytimes.com/2019/05/22/us/human-composting-washington.html> [<https://perma.cc/CL7S-FXMP>]; see, e.g., WASH. REV. CODE ANN. § 68.04.310 (West 2019) (defining “Natural organic reduction,” as permitted in WASH. REV. CODE ANN. § 68.50.110, as “accelerated conversion of human remains to soil.”).

16. See Asmara M. Tekle, *Have a Scoop of Grandpa: Composting as a Means of Final Disposition of Human Remains*, 3 SAVANNAH L. REV. 137, 159 (2016).

17. See *id.* at 149–50.

18. See *infra* Sections I.A–C.

19. See *infra* Sections I.D–E; see also FAQ Overview, RECOMPOSE (2018), <https://recompose.life/planning-ahead/#faq> (Recompose anticipates that using human compost as fertilizer means using your loved one’s remains to “nourish trees or plants.” Recompose will use any remaining soil not claimed by the family to nourish conservation land in Bells Mountain In fact, it is illegal to sell human compost in the only state in which it is legal. WASH. REV. CODE ANN. § 68.50.140(1). This Note advocates for personal, not commercial, use of human compost.

20. See *infra* Part II.

21. See *id.*

22. See *id.*

23. See *id.*

Parts III and IV will examine the recently enacted and currently unfolding legislation regarding alkaline hydrolysis and human composting.²⁴ This Note will consider and implement current state concerns regarding the disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer into its proposed EPA regulation.²⁵

I. Background

A. Burial: History and Environmental Impact

1. The History of Burial: From “Mutilation” to Tradition

Utilitarianism drove the invention of embalming and the development of the modern American traditional burial.²⁶ From our country’s foundation until the Civil War, burial rituals were performed in the home by family and friends of the deceased.²⁷ Funerary practices were of a communal, not a commercial, nature.²⁸ The body was cleaned by loved ones, laid in a simple shroud or box, displayed in the home’s parlor, and subsequently buried.²⁹

Before and at the start of the Civil War, Americans balked at embalming because it was perceived as the “un-Christian mutilation” of a corpse.³⁰ However, during the Civil War, thousands of Confederate and Union soldiers were dying on the battlefield, and scientists sought a means to preserve soldiers’ bodies until they arrived home.³¹ Consumer demand for preservation drove the invention of embalming fluid and the embalming process, which were often used on the battlefield.³² Finally, the highly publicized funeral procession of Abraham Lincoln’s embalmed corpse drove the American people to embrace embalming as a useful and acceptable means of human body disposition.³³ The communal funerary ritual moved into the commercial realm, where funeral homes could provide embalming and other funerary services to Americans.³⁴

Modern “traditional” American burial exists almost totally in the commercial realm: it entails hiring a funeral home, embalming the body, placing it in a casket, purchasing a plot in a cemetery, lowering the casket into a vault made of concrete and steel, and memorializing the grave

with a headstone.³⁵ These services can rack up tens of thousands of dollars in total.³⁶

2. Environmental Impact of Burial

In addition to its high commercial cost, traditional burial has a profound environmental impact. Taken together, all cemeteries in the United States occupy an estimated 1 million acres of land.³⁷ Every single year, the funeral industry buries: (1) over 800,000 gallons of formaldehyde, (2) 2.3 billion tons of concrete, (3) 115 million tons of steel, and (4) enough wood to build 4.6 million single-family homes.³⁸ Out of burial, cremation, cryomation (freeze drying³⁹), and alkaline hydrolysis, burial has the largest environmental impact in terms of land use, respiratory organics, and respiratory inorganics.⁴⁰

While a number of major religions, such as Judaism, Islam, and Catholicism—and the U.S. military—require or strongly prefer burial, the increasing number of Americans who no longer identify as “religious” has led to the decline of the traditional funeral and the rise of cremation.⁴¹ A

24. See *infra* Parts III, IV.

25. See *id.*

26. See Tekle, *supra* note 16 at 9.

27. See Tanya D. Marsh, *A New Lease on Death*, 49 REAL PROP. TR. & EST. L.J. 421, 424 (2015).

28. Tekle, *supra* note 16 at 10.

29. See *id.*

30. See Marsh, *supra* note 27, at 12.

31. See Ask a Mortician, *What Happens to a Body During Embalming?*, YOUTUBE (June 8, 2018), <https://www.youtube.com/watch?v=B5-NtLmKUDE> [<https://perma.cc/32SE-P8JN>].

32. See *id.*

33. See Marsh, *supra* note 27, at 425–26; Ask a Mortician, *supra* note 31.

34. See Tekle, *supra* note 16, at 148.

35. See *Traditional Burial*, FUNERAL CONSUMER ALL., <https://funerals.org/?consumers=earth-burial-tradition-simplicity> [<https://perma.cc/P8P2-FDKE>] (last visited Feb. 1, 2021) (The average casket costs around \$2,000, however they can range between \$1,000 and \$30,000. The cost of a cemetery plot can range between \$400 and \$10,000—the more urban, the more expensive. The cost of a burial vault can range from \$500 to \$15,000. The cost of a headstone is at least \$1,000. The “opening and closing” fee for digging the grave and burying the casket ranges from \$300 to \$1,500.).

36. See *id.*

37. See *The Environmental Impact of Funerals Infographic*, TALKDEATH (Mar. 13, 2014), <http://www.talkdeath.com/environmental-impact-funerals-infographic/> [<https://perma.cc/J85L-7M8D>].

38. See *id.*; Karla Marie Rothstein, *Reconfiguring Urban Spaces of Disposal, Sanctuary, and Remembrance*, in 1 OUR CHANGING JOURNEY TO THE END: RESHAPING DEATH, DYING, AND GRIEF IN AMERICA 253, 258 (Christina Staudt & Harold Ellens eds., 2013) (“No matter how fortified the bunker, eventually a fetid brew of embalmed tissue slowly leaches into the surrounding soil and groundwater.”).

39. See Keijzer, *supra* note 12, at 22 (This Note will not address cryomation, despite it being another environmentally-friendly final disposition option, because “[a]t the moment, the cryomation process is not yet fully operative . . . [all steps] have not been tested on humans yet, only on pig carcasses, and there does not yet exist an all-in cryomator.”).

40. See *id.* at 25; SOLIDWORKS, SUSTAINABLE DESIGN GUIDE ch. 3, choice 1 (Linder et al. eds., 2020), <https://www.solidworks.com/sustainability/sustainable-design-guide/ch3-choice-1-environmental-indicators.htm> (“Respiratory inorganics are particulate matter, often resulting from the burning of fossil fuels emitting sulphate and nitrate aerosols. This particulate matter causes breathing difficulties.”); *Healthy Air*, AM. LUNG ASS’N (2020), <https://www.lung.org/our-initiatives/healthy-air/indoor/indoor-air-pollutants/volatile-organic-compounds.html> [<https://perma.cc/4LRH-HXY3>] (Respiratory organics, or “volatile organic compounds . . . are gases that are emitted into the air from products or processes. Some are harmful by themselves, including some that cause cancer. In addition, they can react with other gases and form other air pollutants after they are in the air.” Some sources of volatile organic compounds include paint and paint strippers, varnishes and finishes, cleaners and disinfectants, pesticides, gasoline and diesel emissions, and oil and gas extraction and processing.).

41. See *Life, Death and Mourning*, JUDAISM 101 (last visited Nov. 18, 2019), <http://www.jewfaq.org/death.htm> [<https://perma.cc/GK4L-23XC>] (requiring burial but prohibiting embalming); Tasnim Shamma, *How Muslims Wash, Bury Their Dead*, WFAE 90.7 (last visited Nov. 18, 2019), <https://www.wfae.org/post/how-muslims-wash-bury-their-dead#stream/0> [<https://perma.cc/4AYX-7BGP>] (requiring burial but avoiding embalming); *Considering Cremation*, CATH. CEMETERIES (last visited Nov. 18, 2019), <https://www.rcancem.org/catholics-a-cremation-full-article/> [<https://perma.cc/2UN7-DWSB>] (preferring burial but not prohibiting cremation); see *Military Funeral Honors and the Committal Service*, U.S. DEP’T OF VETERANS AFFS. (Oct. 9, 2019), <https://www.va.gov/burials-memorials/what-to-expect-at->

2017 survey indicated that “[t]he percent of respondents who feel it is very important to have religion incorporated into a funeral service has decreased from 49.5 [%] in 2012 to 39.5 [%] in 2017, an all-time low.”⁴² This decline in interest has driven the increase in cremation’s popularity and may suggest that Americans are open to exploring other non-religious, utilitarian disposition options.

B. Cremation: History and Environmental Impact

1. The History of Cremation: The Need to “Purify”

Just as utilitarianism drove the invention, acceptance, and legalization of embalming, utilitarianism drove the development of modern American cremation. Beginning in the mid-19th century, the American sanitation movement brought an interest in finding a more sanitary means of human body disposition, and the cremation movement came soon after.⁴³ It is now known that human corpses are not inherently dangerous and that immediate incineration or burial of a corpse is not critical for sanitation.⁴⁴ However, at the time, America was undergoing a “rigorous self-inspection” of its public health practices and Americans were eager to clean up their communities.⁴⁵

After two events in Europe sparked the conversation about the need for cremation in America, American newspapers pounced on the hot topic of cremation.⁴⁶ Soon, doctors, religious leaders, cosmopolitans, sanitarians, and cremationists joined the conversation, with the “burden of proof” falling on those in support of the new practice.⁴⁷ Burial was a “time-honored” tradition that would not be

overturned without a fight, and this fight would be tough considering that many Americans considered cremation to be a “scandalous, pagan practice.”⁴⁸ Cremationists advanced many arguments during this “age of debate,” but the most prevalent pertained to sanitation and theology, arriving at the central claim that while burial pollutes, cremation purifies.⁴⁹

Despite the rise of cremation’s popularity in 1874, the first cremation was not performed until two years later in 1876, when Baron De Palm enlisted Dr. Francis Julius LeMoyné to perform his final disposition in a home-made crematorium in Washington, Pennsylvania.⁵⁰ De Palm’s cremation was largely successful, with most of the country’s newspapers covering the macabre event.⁵¹ While cremation continued to draw harsh criticism—describing it as “ghastly,” “grotesque,” “un-Christian,” and “undignified”⁵²—cremation gradually gained acceptance.⁵³

Currently, about half of the U.S. population elects to be cremated.⁵⁴ The trend appears to be driven by “cost considerations; environmental concerns; an increasingly transient population; fewer religious prohibitions against the practice; and changing consumer preferences, such as the desire for simple, less-ritualized funeral ceremonies.”⁵⁵ These driving factors accompany both alkaline hydrolysis and human composting, suggesting that people would be open to these green funerary alternatives if only they were available everywhere.

2. Environmental Impact of Cremation

While cremation is less environmentally impactful than burial, cremation still emits roughly as many respiratory organics and respiratory inorganics as burial, and nearly three times as many carcinogens.⁵⁶ One single cremation requires about 20 gallons of fossil fuel.⁵⁷

An unexpected environmental consequence of cremation is the emission of mercury from dental amalgam fillings: EPA estimates that as of 2018, there were over 1,000 tons of mercury in the mouths of Americans, 3.6 tons of which are released into the environment every year by cremation.⁵⁸ This airborne mercury is absorbed by soil, water, plants, and animals, and can be transformed into

military-funeral/ [https://perma.cc/4L4R-4YHZ]; NFDA, 2017 NFDA CREMATION AND BURIAL REPORT: RESEARCH, STATISTICS AND PROJECTIONS 1, 3 (2017) [hereinafter 2017 NFDA REPORT] (Burial rates have dropped from 61.4% in 2005, to 53.3% in 2010, to 45.2% in 2015, with cremation surpassing burial for the first time in 2014. Burial rates are projected to drop even further, to 37.8% in 2020, to 30.3% in 2025, to 22.7% in 2030, and to 15.3% in 2035); see also FAQ: *Green Burial Defined*, GREEN BURIAL COUNCIL (last visited Nov. 18, 2019), https://www.greenburialcouncil.org/green_burial_defined.html [https://perma.cc/G4FU-JESX] (demonstrating that those who strongly prefer burial can opt for a “green burial”).

42. *NFDA Consumer Survey: Funeral Planning Not a Priority for Americans*, *supra* note 9.
 43. See STEPHEN PROTHERO, *PURIFIED BY FIRE: A HISTORY OF CREMATION IN AMERICA* 15 (2001).
 44. See Oliver Morgan, *Infectious Disease Risks From Dead Bodies Following Natural Disasters*, 15 *PAN-AM. J. PUB. HEALTH* 307, 307–08 (2004). Human bodies are dangerous only when they carry an infectious disease that can outlive their host (such as encephalopathies, hepatitis B, hepatitis C, HIV infection, and possibly meningitis and septicemia), however, “such infections are no more likely to be present in [dead bodies] than in the general population.” *Id.* Even so, the causative agents of these infectious diseases are unable to survive long in the human body following death. *Id.* Additionally, the microorganisms responsible for putrefaction, the decay process, are not pathogenic. *Id.*
 45. See Howard D. Kramer, *History of the Public Health Movement in the United States, 1850 to 1900*, at 1 (May 1942) (Ph.D. dissertation, State University of Iowa).
 46. See PROTHERO, *supra* note 43, at 15–16. First, the display of a crematory furnace and incinerated remains at the 1873 Vienna Exposition demonstrated the viability of such a disposition method. *Id.* Second, the publication of Sir Henry Thompson’s “Cremation: The Treatment of a Body After Death” in 1874 provided many sanitary arguments for cremation. *Id.*
 47. See *id.* at 17.

48. See *id.*; *Death in the Afternoon: Crematory Whoopsies*, *ASK A MORTICIAN* (Oct. 24, 2018), https://deathintheafternoon.libsyn.com/crematory-whoopsies [https://perma.cc/D8Q7-P5AQ].
 49. See PROTHERO, *supra* note 43, at 17–20.
 50. See *id.* at 31; *Death in the Afternoon: Crematory Whoopsies*, *supra* note 48.
 51. See *Death in the Afternoon: Crematory Whoopsies*, *supra* note 48.
 52. See *id.*
 53. See *id.*
 54. See 2019 NFDA REPORT, *supra* note 5, at 4.
 55. *Id.* at 2. Notably absent from these driving factors is a desire to be cremated for the sake of being cremated. *Id.*
 56. See SOLIDWORKS, *supra* note 40, at 2 (defining “respiratory organics” and “respiratory inorganics”); Keijzer, *supra* note 12, at 724.
 57. Shannon Palus, *How to Be Eco-Friendly When You’re Dead*, *ATLANTIC* (Oct. 20, 2014), https://www.theatlantic.com/technology/archive/2014/10/how-to-be-eco-friendly-when-youre-dead/382120/ [https://perma.cc/R8RE-N648].
 58. See David Kennedy & Amanda Just, *Til Death Do Us Part: Dental Mercury Pollution From Crematoriums*, in *INTERNATIONAL ACADEMY OF ORAL MEDICINE AND TOXICOLOGY* 1, 1 (2018).

methylmercury, a deadly neurotoxin that moves up the food chain.⁵⁹

C. Lessons From the History of Burial and Cremation

The history of traditional burial and cremation has been evolutionary and dynamic. Both were previously rejected, seen as mutilating and disrespectful to a human corpse, but eventually accepted because utility outweighed squeamishness.⁶⁰

If embalming and cremation can be culturally accepted and legalized, so can alkaline hydrolysis and human composting. Just like the need to preserve bodies during the Civil War⁶¹ and the need to sanitize American communities in the mid- to late-1800s,⁶² there are currently pressing utilitarian needs for alkaline hydrolysis and human composting: conservation of land, clean groundwater, and clean air. The trend of technological development and legalization of these green funerary alternatives must, and can, continue.

Cultural acceptance, federal approval, state and federal regulation, and incentives for legalization will promote the legalization of green funerary alternatives. The essential starting point—cultural acceptance—is already underway: the departure from religious “traditional” burial and growing preference for cremation indicates that people would be open to other utilitarian options.⁶³

Additionally, the alt-death movement is already under way. Over 5,000 people have signed the pledge to Caitlyn Doughty’s “The Order of the Good Death,” which advocates for engaging in conversations about mortality and its implications.⁶⁴ Businesses like Katrina Spade’s “Recompose” (Washington state’s first human composting facility), projects like Columbia University’s “DeathLAB” (re-designing human body disposition methods for life in the city), and products like Anna Citelli and Raoul Bretzel’s “Capsula Mundi” (organic burial pods that turn your remains into a tree) and Jae Rhim Lee’s “Infinity Burial Suit” (a one-piece suit made of mushroom mycelium that will digest a corpse after burial) are entering the mainstream.⁶⁵ Americans are eager to learn about how they

can shrink their environmental footprints—before and after death—so naturally Americans would utilize alkaline hydrolysis, human composting, or any of these other creative alternatives to burial and cremation if only they were legally available everywhere.⁶⁶

D. Alkaline Hydrolysis: Technical Overview

Alkaline hydrolysis, or “resomation,” is a process through which human tissue is liquefied, leaving behind a coffee-like effluent, bright white bones, and any other insoluble objects that were in the body at the time the person passed away.⁶⁷ The body is placed in a cylindrical stainless steel vessel, which is then filled with a solution of 95% water and 5% alkali (caustic pH 14).⁶⁸ The vessel is then heated, and sometimes pressurized or agitated, for three to twelve hours, depending on temperature, pressure, and degree of agitation.⁶⁹ The liquid product is collected and cooled, its pH is lowered, and then it is disposed of through the municipal sewer system.⁷⁰ The brittle bone is cooled and dried over the course of about five days and subsequently crushed in a cremulator, and the fine white calcium phosphate that once belonged in a human body is returned to the next of kin.⁷¹

While the idea of liquefying loved ones may horrify some, eighteen states have legalized alkaline hydrolysis.⁷²

59. See *id.*

60. See *What Happens to a Body During Embalming?*, *supra* note 31; PROTHERO, *supra* note 43.

61. See *What Happens to a Body During Embalming?*, *supra* note 31.

62. See PROTHERO, *supra* note 43 at 55–56.

63. Cf. 2019 NFDA REPORT, *supra* note 5, at 2.

64. See *Death Positive*, THE ORDER OF THE GOOD DEATH, <http://www.orderofthegooddeath.com/death-positive> [https://perma.cc/62VB-WJTE].

65. See RECOMPOSE, <https://www.recompose.life/> [https://perma.cc/S5RA-LM74] (last visited Jan. 24, 2020); DEATHLAB, <http://deathlab.org/> (last visited Jan. 24, 2020) (One proposed disposition method is placing the corpse into a translucent hanging pod, whereby energy released from decomposition causes the pod to glow, resulting in an urban area lit up by beautiful glowing orbs.); *These Organic Burial Pods Will Turn You Into a Tree When You Die*, HEARTY SOUL (May 28, 2016), <https://theheartysoul.com/organic-coffins/> [https://perma.cc/D2ZB-QU2A]; Fiona MacDonald, *This Mushroom Suit Digests Your Body After You Die*, SCI. ALERT (Feb. 16, 2016), <https://www.sciencealert.com/this-mushroom-suit-digests-your-body-after-you-die> [https://perma.cc/Z8QX-W8N7].

66. This Note will not consider the legalization of any other alternative death practices other than alkaline hydrolysis and human composting.

67. See Keijzer, *supra* note 12, at 10; Nick Stockton, *The Fight to Legalize a Machine That Melts Flesh From Bone*, WIRED (Mar. 10, 2017, 7:00 AM), <https://www.wired.com/2017/03/bath-turns-dead-bodies-coffee-colored-water/> [https://perma.cc/8QZN-4ZX8]; Philip R. Olson, *Basic Cremation*, 8 WAKE FOREST J. L. & POL’Y 149,152 (2018); Wired, *The Future of Death: Inside the Machine That Dissolves Corpses* at 1:40–2:13, YOUTUBE (Aug. 15, 2017), <https://www.youtube.com/watch?v=sFuYijpLBDs> [https://perma.cc/KLC6-NZTW] (These insoluble objects are mainly prosthetics such as pacemakers, stents, methyl methacrylate or bone cement, hernia mesh, and teeth, which may contain mercury fillings.).

68. See Olson, *supra* note 67, at 152.

69. See *id.*

70. See *id.*

71. See *The Future of Death: Inside the Machine That Dissolves Corpses*, *supra* note 67 at 2:20–3:10; Olson, *supra* note 67, at 152.

72. See generally *NY Catholic Conference Opposes “Chemical Digestion” of Human Remains*, CATH. NEWS AGENCY (Mar. 25, 2012), <https://www.catholicnews-agency.com/news/ny-catholic-conference-opposes-chemical-digestion-of-human-remains> [https://perma.cc/ZY6Q-R9TF].

The Church’s reverence for the sacredness of the human body and its dignity arises out of concern for both the body’s natural and supernatural properties . . . It is therefore essential that the body of a deceased person be treated with respect and reverence. Processes involving chemical digestion of human remains do not sufficiently respect this dignity.

Despite New York Catholic Conference’s condemnation of alkaline hydrolysis, New York State introduced NY State Assembly Bill A8883, which is currently in committee. See *Assembly Bill A8883: 2011-2012 Legislative Session*, N.Y. STATE SENATE, <https://www.nysenate.gov/legislation/bills/2011/A8883> [https://perma.cc/4J3R-B5ZS] (sponsored by Earlene Hooper and James F. Brennan); see also COLO. REV. STAT. ANN. § 12-135-103 (West 2019); FLA. STAT. ANN. § 497.005 (West 2016); GA. CODE ANN. § 43-18-1 (West 2012); IDAHO ADMIN. CODE r. 24.08.01.450 (2019); 410 ILL. COMP. STAT. ANN. 18/5 (West 2018); KAN. STAT. ANN. § 65-1760 (West 2011); 10-144-227 ME. CODE R. § 1 (2019); MD. CODE ANN., BUS. REG. § 5-101 (2015); MINN. STAT. ANN. § 149A.941 (West 2013); MO. CODE REGS. ANN. tit. 20 § 2120-2.071 (2009); NEV. REV. STAT. ANN. § 451.617 (West 2018); N.C. GEN. STAT. ANN. § 90-210.136 (2019); OR. REV. STAT. ANN. § 692.010 (West 2009); UTAH CODE ANN. § 58-9-618 (West 2018); VT. STAT. ANN. tit. 26 § 1211 (West 2018); WYO. STAT. ANN. § 33-16-502

Alkaline hydrolysis is more expensive than a traditional cremation, but its primary draw is its lessened environmental impact: (1) it requires no embalming chemicals, (2) it emits a quarter of the carbon dioxide produced by fire cremation, (3) it does not burn the mercury in certain dental fillings, and (4) prosthetics can be saved from the flames and potentially reused or recycled.⁷³

The primary concern with alkaline hydrolysis is the disposal of the alkaline hydrolysis effluent.⁷⁴ However, when done properly, the liquefaction process “destroys all RNA, DNA, and pathogens—including infectious prions—and breaks down embalming fluids, cytotoxic agents, and biological and chemical warfare agents into harmless materials.”⁷⁵ The remaining alkaline hydrolysis effluent contains only amino acids, peptides, sugars, and soap with a sterility assurance level (“SAL”) around 10⁻⁶.⁷⁶ 10⁻⁶ SAL is the sterility level required for products intended to come into contact with compromised human tissue, such as surgically implanted devices; at 10⁻⁶ SAL there is a one-in-a-million chance of finding a single non-sterile molecule in the material.⁷⁷

At the beginning of the process, the pH level of the alkali solution is 14.⁷⁸ During alkaline hydrolysis, the pH level drops to 11 or 12.⁷⁹ Alkaline hydrolysis facilities lower the pH of their alkaline hydrolysis effluent through various methods, such as adding carbon dioxide or acetic acid to achieve the local pH requirement for disposal into a municipal sewer system.⁸⁰

EPA does not currently regulate alkaline hydrolysis effluent. EPA regulation of the effluent would ensure that alkaline hydrolysis occurs in the above-described manner and quell state discomfort with human body liquefaction.

(West 2015); CAL. HEALTH & SAFETY CODE § 7010.1 (West 2018); WASH. REV. CODE ANN. § 68.04.290 (West 2019).

73. Keene, *supra* note 10.

Alkaline hydrolysis equipment is expensive; it may cost a provider between \$150,000 and \$400,000 to purchase an AH unit, depending on the size of the machine as well as the temperature and pressure at which the system can operate . . . For example, in Minnesota, basic alkaline hydrolysis costs about \$2,400, while the cost of direct cremation—that is, simple cremation without an on-site ceremony—ranges from about \$800 to more than \$4,300, depending on the provider.

Keijzer, *supra* note 12, at 22; *The Future of Death: Inside the Machine That Dissolves Corpses*, *supra* note 67 at 1:40–2:13.

74. See Samantha Watson, *Dissolved Bodies? Sewers? Alkaline Hydrolysis Debunked*, FRAZER CONSULTANTS (June 22, 2016), <https://www.frazerconsultants.com/2016/06/dissolved-bodies-sewers-alkaline-hydrolysis-debunked/> [<https://perma.cc/CUC6-L6Z5>] (“Hundreds of articles have emerged in the last few days with headlines reading that funeral homes are dissolving bodies and pouring them into the sewers . . . This is the part of the process that seems to make people the most uncomfortable.”).

75. Philip R. Olson, *Flush and Bone: Funeralizing Alkaline Hydrolysis in the United States*, 39 SCI., TECH., & HUM. VALUES 666, 668 (2014).

76. See *id.*; Watson, *supra* note 74.

77. See *Selection of an Appropriate Sterility Assurance Level for Medical Devices*, STERIS (2019), <https://www.steris-ast.com/tech-tip/sterility-assurance-levels-sals-irradiation/> [<https://perma.cc/H4QA-FT8F>].

78. See Olson, *supra* note 67.

79. *Managing Contaminated Animal and Plant Materials*, NAT’L CTR. FOR FOREIGN ANIMAL AND ZOOLOGICAL DISEASE DEF., https://ssl.tamu.edu/edss/handbook/04_Alkaline.pdf [<https://perma.cc/J59F-CKV2>].

80. See Watson, *supra* note 74 (The acceptable pH level of fluids to enter the municipal water system varies by jurisdiction, but hovers around 10 to 11.5, with some outliers such as West Chicago, which has an acceptable pH range of 6 to 9.); *id.*

E. Human Composting: Technical Overview

Human composting is a means of final disposition which “gently converts human remains into soil.”⁸¹ The body is totally covered by two to three feet of organic material such as “wheat, straw, hay, sawdust, manure, finished compost, and woodchips” above, below, and around the sides.⁸² Aerobic microorganisms like bacteria and fungi decompose the body for around thirty days until all flesh and bone are reduced into roughly one cubic yard of sweet-smelling, nutrient-rich humus that can be used for fertilizer.⁸³

Human composting has been authorized in only one state, Washington.⁸⁴ As of April 2021, however, two other states—Colorado and Delaware—are considering bills that would allow for human composting as well.⁸⁵ Recompose, one of Washington’s three human composting facilities, has made several financial and environmental projections.⁸⁶ They project that each “recomposition,” as they call it, will cost roughly \$5,500 per body, which includes transportation to the facility from within Seattle, filing of the death certificate, time in the facility, and the recomposition process itself.⁸⁷ Based on an assessment “compar[ing] conventional burial, cremation, natural burial, and organic

81. See *FAQ Overview*, *supra* note 19 (referring to human composting as “natural organic reduction”); see also WASH. STATE DEP’T OF ECOLOGY, ON-FARM COMPOSTING OF LIVESTOCK MORTALITIES 5 (2005) (discussing “mortality composting” of bovine and equine carcasses).

82. See Tekle, *supra* note 16, at 144.

83. See *FAQ Overview*, *supra* note 19 (“The body and plant material remain in the vessel for 30 days. Microbes break everything down on the molecular level, resulting in the formation of a nutrient-dense soil.”); but see Tekle, *supra* note 16, at 145 (“Transforming flesh and bone into humus can take anywhere from four months to one year.”); WASH. STATE DEP’T OF ECOLOGY, *supra* note 81, at 6 (“[Composting] usually takes between 9-12 months for large [bovine and equine] carcasses.”).

84. See WASH. REV. CODE ANN. § 68.04.310 (West 2019) (legalized on May 1, 2020); Jen York, *Human Composting: How Washington Is Writing the Guidebook to a Green Burial*, NBC KING 5, (Mar. 3, 2021), <https://www.king5.com/article/news/local/human-composting-how-washington-is-writing-the-guidebook-to-a-green-burial/293-1a00198c-61b9-4bb7-a50c-70b832203b4e>.

85. Lexi Lonas, *Delaware State Lawmakers Consider Bill to Allow Human Composting*, THE HILL (Apr. 17, 2021 12:04 p.m.), <https://thehill.com/home-news/state-watch/548822-delaware-state-lawmakers-consider-bill-to-allow-human-composting-as> [<https://perma.cc/RNA3-FJY5>]; Saja Hindi, *Colorado Looks to Legalize Human Composting—Yes, Your Dead Body Could Become Garden Soil*, 9 NEWS (Apr. 15, 2021 7:55 p.m.), <https://www.9news.com/article/features/colorado-legalize-human-composting-dead-body-become-garden-soil/73-f7850e14-5ce2-4e55-ba9d-e56f81a62e0f> [<https://perma.cc/F9JK-WCLU>]; but see Saja Hindi, *Colorado Becomes Only 2nd State in the U.S. to Allow Composting of Human Bodies*, THE DENVER POST (May 10, 2021 4:32 p.m.), <https://www.denverpost.com/2021/05/10/human-composting-colorado-law-death/> [<https://perma.cc/45Q4-ZF4W>]. Colorado Gov. Jared Polis signed SB21-006 into law on May 10, 2021, during the final production stages of this Note. *Id.* Human composting will be legalized in August 2021, making Colorado the second state only to Washington to legalize this green funerary alternative. *Id.* The law will not allow for the compost to be sold or to grow food for human consumption, but will allow for dispersal on public land. *Id.*

86. See *Planning Ahead FAQ*, RECOMPOSE, <https://recompose.life/planning-ahead/#faq>; see also Jen York, *Human Composting: How Washington Is Writing the Guidebook to a Green Burial*, KREM2 (Mar. 3, 2021, 8:10 a.m.), [https://www.krem.com/article/life/human-composting-how-washington-is-writing-the-guidebook-to-a-green-burial/293-1a00198c-61b9-4bb7-a50c-70b832203b4e#:~:text=Natural%20Organic%20Reduction%20\(NOR\)%2C,operators%20in%20the%20Evergreen%20State](https://www.krem.com/article/life/human-composting-how-washington-is-writing-the-guidebook-to-a-green-burial/293-1a00198c-61b9-4bb7-a50c-70b832203b4e#:~:text=Natural%20Organic%20Reduction%20(NOR)%2C,operators%20in%20the%20Evergreen%20State) [<https://perma.cc/FEG6-74QF>] (“As of March 2020, there were three licensed [Natural Organic Reduction] operators in the Evergreen State.”).

87. See *id.*

reduction . . . [organic reduction] and green burial perform far better than cremation or conventional burial.”⁸⁸ Recompose estimates that, due to the carbon sequestration that occurs during recomposition, “between .84 and 1.4 metric tons of CO₂ will be saved each time someone chooses [human composting] over cremation or conventional burial.”⁸⁹

II. Analysis: Cooperative Federalism

A. Legislative Framework

Through authority granted by Congress under the CWA, EPA should regulate the disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer.⁹⁰ EPA should delegate permitting authority under this regulation to the states in an expression of cooperative federalism. EPA should then issue an incentive for the states to legalize alkaline hydrolysis and human composting and thus adopt EPA’s regulation of the disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer. EPA implementation and incentivization of this regulation would have two goals: (1) to ensure proper alkaline hydrolysis effluent disposal and human compost use, and (2) to prompt states to recognize, acknowledge, and agree with EPA’s federal stamp of approval and thus legalize alkaline hydrolysis and human composting.

Cooperative federalism is a legislative framework through which federal and state governments work together to achieve regulatory goals.⁹¹ The federal government sets regulatory goals and enlists state governments to assist in pursuing these goals through incentives and disincentives, known as “carrots” and “sticks.”⁹² Under some statutes, such as the Clean Air Act (“CAA”), states may choose the method by which to pursue these goals, but their efforts may not frustrate the federal goal.⁹³ Other statutes, such as the CWA, require states to follow EPA’s

prescribed structure.⁹⁴ A cooperative framework allows states to “meet their own particular needs” and, if executed properly, yields better results than either the state or federal government acting alone.⁹⁵

Congress, in writing the CWA, granted EPA the authority to regulate the disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer. Congress writes laws that provide EPA authority to issue regulations.⁹⁶ EPA, in turn, uses its power under the Commerce Clause to regulate activities that cause environmental hazards that may have effects in multiple states.⁹⁷ Congress wrote the CWA to prohibit the discharge of pollutants into navigable U.S. waters, authorizing EPA to enforce this prohibition.⁹⁸ EPA enforces this prohibition by setting regulatory standards and authorizing states to issue effluent disposal permits to point sources in compliance with those standards.⁹⁹ In issuing these permits, the states must implement effluent limitations that, at a minimum, comply with EPA regulatory standards, although the states may exceed the stringency of EPA standards.¹⁰⁰ Through the CWA, EPA can set regulatory standards for alkaline hydrolysis licensees and human compost users, and the states can issue permits to these point sources, conditioned on the point sources’ compliance with those standards.¹⁰¹

Under the legislative framework proposed in this Note, states retain the discretion to legalize alkaline hydrolysis or human composting.¹⁰² EPA would simply regulate the disposal of alkaline hydrolysis effluent and use of human compost as fertilizer in states that have already adopted alkaline hydrolysis or human composting. If a state legalizes alkaline hydrolysis or human composting, EPA would impose its regulation as a floor, partially preempting any pre-existing state regulation of these issues.¹⁰³ The state can

88. *Id.*

89. *Id.* Even one of the nation’s most prevalent environmental organizations, the Sierra Club, has touted human composting as “earth-friendly.” Molly Glick, *Now You Can Compost Human Bodies Too*, SIERRA (Jan. 27, 2021), <https://www.sierraclub.org/sierra/now-you-can-compost-human-bodies-too> [https://perma.cc/TYE5-GY8E].

90. See *infra* Parts III & IV (analyzing current alkaline hydrolysis and human composting laws and drafting EPA regulation of effluent disposal and fertilizer use, and drafting EPA regulatory language).

91. See Robert L. Glicksman, *From Cooperative to Inoperative Federalism: The Perverse Mutation of Environmental Law and Policy*, 41 WAKE FOREST L. REV. 719, 719 (2005).

92. See *id.* at 738, 754; 33 U.S.C. § 1383 (2018) (An example of an incentive is the Clean Water State Revolving Fund (“CWSRF”).). The CWSRF provides funds only for the implementation of CWA-imposed programs, such as the nonpoint source management program and the national estuary program. *Id.* An example of a disincentive is the highway fund and offset sanctions imposed under the CAA. See 40 C.F.R. § 52.31 (1994). If the state fails to submit a plan to EPA for the attainment of National Ambient Air Quality Standards, the federal government may revoke a certain percentage of highway funds from the state or require the state to pay for offsets. *Id.*

93. See THE CLEAN AIR ACT IN A NUTSHELL: HOW IT WORKS, U.S. ENV’T PROT. AGENCY 4 (Mar. 22, 2013), https://www.epa.gov/sites/production/files/2015-05/documents/caa_nutshell.pdf [https://perma.cc/G8CA-YT25].

94. See *Summary of the Clean Water Act*, U.S. ENV’T PROT. AGENCY (last updated Mar. 11, 2019), <https://www.epa.gov/laws-regulations/summary-clean-water-act> [https://perma.cc/M54K-KDVD].

95. See *Hodel v. Va. Surface Mining & Reclamation Ass’n*, 452 U.S. 264, 289 (1981); Glicksman, *supra* note 91, at 754.

96. *Laws and Regulations*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/laws-regulations> [https://perma.cc/4RBT-5TE7] (last updated Feb. 28, 2020).

97. See *Hodel*, 452 U.S. at 282.

98. See 33 U.S.C. § 1251(a) (2002).

99. See *id.* § 1311(m)(2).

100. See *id.* § 1251(e).

101. See *id.* § 1342(k); see also *infra* Sections III.B, IV.B (proposing standards for EPA regulation of the disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer).

102. The federal government has authority to regulate only interstate commerce in regard to states. See U.S. CONST. art. I, § 8. What kind of human remains disposition methods states choose to legalize may fall outside the realm of interstate commerce and outside the scope of federal regulation. Any power not delegated to the federal government is reserved for the states. See U.S. CONST. amend. X. Therefore, the states have the power to legalize, or not legalize, alkaline hydrolysis and human composting. However, once the issue of pollution is involved, then interstate concerns come into play: “[m]ost federal environmental legislation is rooted in Congress’s authority to regulate interstate commerce.” See Glicksman, *supra* note 91, at 755.

103. This is only a partial preemption because states still retain authority to go beyond federal regulation. See, e.g., 33 U.S.C. § 1370 (establishing the CWA’s “regulatory floor”); see *New York v. United States*, 505 U.S. 144, 178 (1992) (“The Constitution . . . gives Congress the authority to regulate matters directly and to pre-empt contrary state regulation.”).

impose more stringent standards if desired, but the state must meet the regulation's minimum requirements.¹⁰⁴

The final piece of this legislative framework is EPA's implementation of a financial incentive for the states to legalize alkaline hydrolysis and human composting. Before EPA can incentivize adoption of their regulation, Congress must first pass an authorizations act conferring Congress's constitutional spending power to EPA.¹⁰⁵ Once passed, EPA has the power to "attach conditions on the receipt of federal funds."¹⁰⁶ EPA should use this congressionally granted authority to incentivize states to legalize alkaline hydrolysis and human composting. Incentives or disincentives tied to federal funding must be related to a national concern, in this case, shifting the bulk of funerary activity from environmentally harmful to environmentally friendly.¹⁰⁷ Therefore, EPA should require states to use their federal grant for funerary education, alkaline hydrolysis and human composting facilities, funerary research, or any other activity that promotes green funerary alternatives.

Not only is this a feasible solution to America's detrimental reliance on traditional funerary methods, the benefits of using cooperative federalism to achieve nationwide legalization of alkaline hydrolysis and human composting are numerous. First, cooperative federalism demonstrates EPA's respect for state sovereignty and state functionality as a "laboratory" to discover and experiment with solutions for pressing environmental issues.¹⁰⁸ Second, EPA regulation in and of itself demonstrates to the states that the federal government considers alkaline hydrolysis and human composting to be viable solutions to environmental problems, giving both federal stamps of approval. Third, an incentive would encourage politicians to legalize these green funerary alternatives and gain political credit for securing additional federal funding for a state program related to funerary research, education, or infrastructure.

B. Counterarguments

The legislative framework that this Note proposes is novel.¹⁰⁹ No existing EPA regulatory program allows states to opt-in by legalizing some technical process and no existing

EPA program regulates green funerary practices.¹¹⁰ However, the novel quality of this legislative framework is no reason to dismiss it as infeasible. The CWA itself was one of the first pieces of major environmental legislation, using the relatively new concept of cooperative federalism to compel the states to comply with federal regulation.¹¹¹ In the 1970s, Congress passed a variety of major environmental statutes, such as the CAA and the CWA, in response to environmental crises.¹¹² While these statutes were novel, they were necessary.¹¹³ The legislative framework that this Note proposes is also necessary: the national death rate is rising and is projected to hit more than 3.6 million by 2037, but the vast majority of Americans rely on environmentally harmful funerary practices.¹¹⁴ Just as they did in the 1970s, Congress and EPA should implement novel solutions to tackle today's impending environmental crises.

Objections to the cost of this incentive, while having some merit, fail to consider that the long-term financial benefits more than make up for the initial investment. EPA uses the social cost of carbon ("SC-CO₂") to measure, in dollars, the climatic impacts of rulemaking.¹¹⁵ The SC-CO₂ measures the comprehensive effect of damages and changes "in net agricultural productivity, human health, property damages from increased flood risk, and changes in energy system costs, such as reduced costs for heating and increased costs for air conditioning."¹¹⁶

A higher rate of carbon emissions means a higher social cost. Burial and cremation release far more carbon dioxide than alkaline hydrolysis and human composting.¹¹⁷ Widespread availability of these green funerary alternatives may reduce carbon emissions and lessen the national financial burden of carbon emissions. Channeling funds toward developing green funerary alternatives would cost money in the short term but save money in the long term.

104. See 33 U.S.C. § 1370.

105. See *Glossary Term—Authorizations Act*, U.S. SENATE, https://www.senate.gov/reference/glossary_term/authorizations_act.htm (last visited Apr. 12, 2020) ("A law that establishes or continues one or more Federal agencies or programs, establishes the terms and conditions under which they operate, authorizes the enactment of appropriations, and specifies how appropriated funds are to be used. Authorizations acts sometimes provide permanent appropriations.")

106. See *South Dakota v. Dole*, 483 U.S. 203, 206 (1987) ("Incident to [constitutional spending] power, Congress may attach conditions on the receipt of federal funds.")

107. See *Dole*, 483 U.S. at 206–09; cf. *Funding for All Communities*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/small-and-rural-wastewater-systems/funding-sources-small-and-rural-wastewater-systems#general> [<https://perma.cc/H3Z9-UCZ8>] (last updated Sept. 21, 2016) (listing all of the grant programs, including the CWSRF, that the EPA uses to incentivize state use of a federal implementation plan); see, e.g., 42 U.S.C. § 300j-12 (Drinking Water State Revolving Loan Fund); *id.* § 300j-2(a) section 1443(a) (Public Water System Supervision Grant Program); 33 U.S.C. § 1256 (Water Pollution Control Grants).

108. See Glicksman, *supra* note 91, at 720.

109. See, e.g., 33 U.S.C. § 1251; 42 U.S.C. § 7401.

110. See *supra* note 108.

111. See *Governance*, ENV'T L. INST., <https://www.eli.org/keywords/governance> [<https://perma.cc/F479-SBRJ>] (last visited Apr. 10, 2020).

112. See *id.*

113. See, e.g., Michael Rotman, *Cuyahoga River Fire*, CLEVELAND HIST., <https://cleveandhistorical.org/items/show/63> [<https://perma.cc/8LEY-HENE>] (Oct. 5, 2019) (After the infamous 1969 fire on the Cuyahoga River, Cleveland Mayor Carl Stokes and his brother U.S. Rep. Louis Stokes "played a part in the passage of the federal Clean Water Act of 1972."); *Clean Air Act Requirements and History*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/clean-air-act-overview/clean-air-act-requirements-and-history> [<https://perma.cc/4RDQ-ZVK4>] (Jan. 10, 2017) ("Dense, visible smog in many of the nation's cities and industrial centers helped to prompt passage of the 1970 legislation at the height of the national environmental movement.")

114. See *supra* notes 3–5 and accompanying text; Devine *supra* note 2.

115. See *The Social Cost of Carbon*, U.S. ENV'T PROT. AGENCY, https://19january2017snapshot.epa.gov/climatechange/social-cost-carbon_.html [<https://perma.cc/8BAY-BB6S>] (Jan. 9, 2017) ("The SC-CO₂ is a measure, in dollars, of the long-term damage done by a ton of carbon dioxide . . . emissions in a given year. This dollar figure also represents the value of damages avoided for a small emission reduction.")

116. See *id.* The SC-CO₂ increases over time because current damages have far-reaching effects into the future. *Id.* Measured at a "high impact"—95th pct at 3%—discount rate and statistic, the SC-CO₂ for 2015, as a dollar-year and emissions-year, was \$105 per ton of carbon. *Id.* For 2020, the SC-CO₂ will be \$123. *Id.* In 2050, the SC-CO₂ will be as high as \$212 per ton of carbon. *Id.*

117. See Becky Little, *The Environmental Toll of Cremating the Dead*, NAT'L GEOGRAPHIC (Nov. 5, 2019), <https://www.nationalgeographic.com/science/article/is-cremation-environmentally-friendly-heres-the-science>.

Arguments that society is not ready to liquefy and compost bodies overlook the increasingly popular alt-death movement. Green funerary alternatives from mushroom suits to burial pods to glowing orbs powered by energy released during decomposition are entering the mainstream.¹¹⁸ If Americans could accept and legalize burial and cremation, Americans can accept alkaline hydrolysis and human composting,¹¹⁹ and currently, over half of Americans are open to using green funerary alternatives.¹²⁰

III. Analysis: Alkaline Hydrolysis

Given that EPA has the authority to issue regulation of the disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer under the CWA, it is important to analyze the ways states currently regulate these green funerary alternatives.

A. An Examination of State Alkaline Hydrolysis Laws Regarding the Disposal of Alkaline Hydrolysis Effluent

A brief survey of state alkaline hydrolysis laws is in order. California, Idaho, Minnesota, North Carolina, Utah, Vermont, Washington, and Wyoming have explicitly legalized alkaline hydrolysis as its own distinct process.¹²¹ Colorado, Florida, Georgia, Illinois, Kansas, Maine, Maryland, Missouri, Nevada, and Oregon have simply expanded the definition of cremation to encompass and thus authorize alkaline hydrolysis.¹²² Alabama defines “alkaline hydrolysis” but does not authorize or prohibit it.¹²³ Connecticut mentions alkaline hydrolysis as it pertains to executing one’s will but does not authorize or prohibit it.¹²⁴ New Hampshire explicitly prohibits it.¹²⁵

Current alkaline hydrolysis legislation is rudimentary and underdeveloped, especially regarding the regulation of alkaline hydrolysis effluent disposal. All alkaline hydrolysis laws have been passed within the past twelve years, as of 2021.¹²⁶ Many of these laws have not been amended to account for the disposal of the alkaline hydrolysis effluent.¹²⁷ There are only five states that have issued regulation regarding alkaline hydrolysis effluent: California, Minnesota, Nevada, North Carolina, and Wyoming.¹²⁸ This current alkaline hydrolysis effluent legislation is insufficient because it exists in only five of the eighteen states that have legalized alkaline hydrolysis, and the legislation in four of those five states is sparse.

1. California

California has, by far, the most extensive and detailed regulation regarding the disposal of alkaline hydrolysis effluent.¹²⁹ Other states’ legislation, when compared to California’s, is sparse.¹³⁰ EPA’s regulation should closely reflect this legislation, which fills many of the gaps present in other states’ alkaline hydrolysis effluent legislation.

California requires that the licensed hydrolysis facility (“LHF”) meet the following criteria in order to dispose of alkaline hydrolysis effluent in the municipal sewer system: (1) contain and collect all alkaline hydrolysis effluent; (2) gain express authorization from all public agencies that provide wastewater treatment and disposal services; (3) comply with “local ordinances, pretreatment requirements, permitting requirements, waste discharge requirements, and all other applicable federal, state, and local laws, ordinances, and regulations” regarding water quality, public health, water recycling, and sewer use; (4) comply with standards set by the public agency or agencies authorizing the disposal of alkaline hydrolysis effluent, which should include, at a minimum, annual water testing; and (5) every five years, submit to the Department of Public Health (“DPH”) results of biological indicator spore testing and data from the last thirty days that includes “the pH, time, temperature, and pressure” at which the electronic hydrolysis chamber was operated.¹³¹

Based on the LHF’s submission, DPH must evaluate whether the chamber still destroys pathogens.¹³² The LHF

118. See *supra* note 65.

119. See *supra* Section I.C.

120. *NFDA Consumer Survey: Funeral Planning Not a Priority for Americans, supra* note 9.

121. See CAL. HEALTH & SAFETY CODE § 7010.1 (West 2018); IDAHO ADMIN. CODE r. 24.08.01.450 (2019); MINN. STAT. ANN. § 149A.941 (West 2013); N.C. GEN. STAT. ANN. § 90-210.136 (2019); UTAH CODE ANN. § 58-9-618 (West 2018); VT. STAT. ANN. tit. 26 § 211 (West 2018); WASH. REV. CODE ANN. § 68.04.290 (West 2019); WYO. STAT. ANN. § 33-16-502 (West 2015).

122. See COLO. REV. STAT. ANN. § 12-135-103 (West 2019); FLA. STAT. ANN. § 497.005 (West 2016); GA. CODE ANN. § 43-18-1 (West 2012); 410 ILL. COMP. STAT. ANN. 18/5 (West 2018); KAN. STAT. ANN. § 65-1760 (West 2011); 10-144-227 ME. CODE R. § 1 (2019); MD. CODE ANN., BUS. REG. § 5-101 (2015); MO. CODE REGS. ANN. tit. 20 § 2120-2.071 (2009); NEV. REV. STAT. ANN. § 451.617 (West 2018); OR. REV. STAT. ANN. § 692.010 (West 2009).

123. See ALA. CODE § 34-13-1 (2017) (“ALKALINE HYDROLYSIS. The technical process that reduces human remains to bone fragments using heat, water, and chemical agents.”).

124. See CONN. GEN. STAT. ANN. § 45a-318 (West 2018) (“Any person . . . may execute in advance of such person’s death a written document . . . [d]irecting the disposition of such person’s body upon the death of such person. . . . Such disposition shall include . . . alkaline hydrolysis . . .”).

125. See N.H. REV. STAT. ANN. § 325-A:30 (2008) (“The disposal of human remains through a reductive process utilizing alkaline hydrolysis is prohibited.”).

126. See *supra* notes 121–22.

127. See IDAHO ADMIN. CODE r. 24.08.01.450 (2019); UTAH CODE ANN. § 58-9-618 (West 2018); VT. STAT. ANN. tit. 26 § 1211 (West 2018); WASH. REV. CODE ANN. § 68.04.290 (West 2019); COLO. REV. STAT. ANN. § 12-135-103 (West 2019); FLA. STAT. ANN. § 497.005 (West 2016); GA. CODE ANN. § 43-18-1 (West 2012); 410 ILL. COMP. STAT. ANN. § 18/5 (West 2018); KAN. STAT. ANN. § 65-1760 (West 2011); 10-144-227 ME. CODE R. § 1 (2019); MD. CODE ANN., BUS. REG. § 5-101 (2015); MO. CODE REGS. ANN. tit. 20 § 2120-2.071 (2009); OR. REV. STAT. ANN. § 692.010 (West 2009).

128. See CAL. BUS. & PROF. CODE § 7639.10 (West 2019); CAL. BUS. & PROF. CODE § 7639.08 (West 2019) (California refers to alkaline hydrolysis effluent as “hydrolysate.”); MINN. STAT. ANN. § 149A.941(2), (4) (West 2013); NEV. REV. STAT. ANN. § 451.637 (West 2018); N.C. GEN. STAT. ANN. § 90-210.136(e) (2019); WY RULES AND REGULATIONS 035.0001.6 § 6 (2015).

129. See CAL. BUS. & PROF. CODE § 7639.10 (West 2019); CAL. BUS. & PROF. CODE § 7639.08 (West 2019).

130. See *infra* Section III.A.2.

131. CAL. BUS. & PROF. CODE § 7639.08(e), .10(a)(4), .10(a)(8) (West 2019).

132. See *id.* § 7639.08(e).

then must include DPH's evaluation in its application to renew its license.¹³³ The Cemetery and Funeral Bureau ("CFB") will renew the LHF's license only if DPH determines that the chamber destroys pathogens.¹³⁴ The LHF must also conduct annual maintenance of the chamber, and if they refuse to do so, CFB will not renew their facility license.¹³⁵

Additionally, manufacturers of alkaline hydrolysis chambers must apply to DPH "for approval of a hydrolysis chamber upon finding that the hydrolysis chamber causes the destruction of pathogenic micro-organisms" and meet all "minimum parameters of pH, time, temperature, and pressure that shall be used by each hydrolysis chamber to destroy all pathogenic micro-organisms."¹³⁶ CFB will grant hydrolysis facility licenses only to applicants that use a hydrolysis chamber approved by DPH.¹³⁷

California's legislation also provides that "[a]uthorization for disposal of [alkaline hydrolysis effluent] using a sewer collection system shall be voluntary and at the discretion of each public agency" and that each public agency "has the discretion to authorize or to prohibit the discharge of [alkaline hydrolysis effluent] into a sewer collection system for any reason."¹³⁸ It is unclear why California decided to add the latter provision, which grants public agencies unchecked discretion in allowing or prohibiting the disposal of alkaline hydrolysis effluent in the municipal sewer system, however, it is clear that California values this provision highly: California has considered this provision to be important since the assembly first began discussing alkaline hydrolysis in April of 2017.¹³⁹

2. The Remaining Four: Minnesota, Nevada, North Carolina, and Wyoming

In contrast to California's extensive regulation of both operators and manufacturers regarding alkaline hydrolysis effluent, the legislation regarding the disposal of alkaline hydrolysis effluent in Minnesota, Nevada, North Carolina, and Wyoming is insufficient.¹⁴⁰ For example, none of these states require that the LHF ensure that the alkaline hydrolysis effluent is sterile.¹⁴¹ This lack of robust regulation does not assuage concerns about this new human body liquefaction process.

Minnesota merely requires an LHF to, in relevant part, (1) comply with local building codes and zoning laws, (2) comply with wastewater management and environmental regulations, and (3) properly vent and connect all "plumbing fixtures, water supply lines, plumbing vents,

and waste drains" in accordance with the Minnesota Plumbing Code.¹⁴²

Nevada also provides little detail in its regulation of the disposal of alkaline hydrolysis effluent. In relevant part, Nevada merely requires that the LHF provide notice, to the Division of Environmental Protection ("DEP") and the local sewer operator, of the equipment to be used and the date on which the equipment will be purchased.¹⁴³ In turn, DEP and the local sewer operator must ensure that the proposed alkaline hydrolysis equipment complies with the Nevada Water Pollution Control Law and all other local laws, ordinances, and regulations.¹⁴⁴

The North Carolina regulation is the most minimal. It simply provides: "Disposal of liquid waste shall be subject to all applicable health and environmental laws and regulations."¹⁴⁵

Wyoming's alkaline hydrolysis effluent regulation requires that the LHF (1) use a purpose-built vessel as a dissolution chamber certified by the American Society of Mechanical Engineers, (2) use sufficient heat, time, and solution circulation to achieve complete dissolution of all tissue remains, and (3) ensure that the alkaline hydrolysis effluent meets the sewage collection and treatment facility's pH and temperature requirements.¹⁴⁶

EPA should avoid the path taken by these states as their regulatory frameworks do not thoroughly regulate alkaline hydrolysis facilities and thus do not assuage public concern about effluent disposal.

B. Proposed Solution: EPA Regulation of Alkaline Hydrolysis Effluent Disposal

EPA should issue a regulation for the disposal of alkaline hydrolysis effluent to address current concerns—such as pathogen destruction and compliance with local laws—pulling from the five states that currently regulate alkaline hydrolysis. EPA should list this proposal in Title 40 of the Code of Federal Regulations (Protection of the Environment), Subchapter N (Effluent Guidelines and Standards).¹⁴⁷ EPA should title this regulation "Disposal of Alkaline Hydrolysis Effluent in Municipal Sewer System" and cite to it as 40 C.F.R. § 472¹⁴⁸:

(A) Any licensed¹⁴⁹ hydrolysis facility must:

1. Comply with all state and local laws, regulations, codes, and ordinances regarding water quality, public health, water recycling, sewer use, plumbing, and buildings;

133. *See id.*

134. *See id.*

135. *See id.* § 7639.08(h), (i).

136. *Id.* § 7639.08(b), (c).

137. *See id.* § 7639.08(g).

138. *Id.* § 7639.10(8).

139. *See* Assembly Comm. on Bus. and Professions 967, California 2017-2018 Reg. Sess. (Cal. 2017).

140. *See infra* Section III.A.1.

141. *See* MINN. STAT. ANN. § 149A.941(2), (4) (2013); NEV. REV. STAT. ANN. § 451.637 (2018); N.C. GEN. STAT. ANN. § 90-210.136(e) (2019); WYO. RULES AND REGUL. 035.0001.6 § 6 (2015).

142. MINN. STAT. ANN. § 149A.941(2), (4) (2013).

143. *See* NEV. REV. STAT. ANN. § 451.637(1) (West 2018).

144. *See id.* § 451.637(2); *see also id.* § 445A.300-730 (West 2021).

145. N.C. GEN. STAT. ANN. § 90-210.136(e) (2019).

146. Wyo. Rules and Regulations 035.0001.6 § 6.

147. *See generally* 40 C.F.R. § 400-71 (2021).

148. Subchapter N ranges from 40 C.F.R. §§ 400-71. 40 C.F.R. § 472 has not yet been used.

149. This regulation will not address the licensure process. This regulation assumes that the hydrolysis facility is licensed by the state or local government and only addresses the disposal of alkaline hydrolysis effluent.

2. Contain and collect all alkaline hydrolysis effluent;
 3. Provide notice of the hydrolysis equipment to be used to the local Departments of Public Health and the Environment;
 4. Receive a permit from the local wastewater treatment and disposal services provider to dispose of the alkaline hydrolysis effluent;
 5. Assure that the facilities will use only local Department of Health-approved chambers;
 6. Maintain the hydrolysis chamber;
 7. Properly connect and vent all plumbing fixtures in accordance with local plumbing codes;
 8. Complete annual alkaline hydrolysis effluent testing, noting pH, temperature, and whether the alkaline hydrolysis effluent:
 - a. Contains no RNA,
 - b. Contains no DNA,
 - c. Contains no pathogens, and
 - d. Has a 10-6 SAL;
 9. Report annual alkaline hydrolysis effluent testing data to the local Departments of Public Health and the Environment;
 - a. In turn, the Departments of Public Health and Environment must evaluate whether the hydrolysis chamber destroys DNA, RNA, and pathogens, and achieves a 10-6 SAL. If not, the Departments must revoke the hydrolysis facility's license until the LHF can prove that the standards in 40 C.F.R. § 472(8) are met;
 10. The state may revoke the hydrolysis facility's license for noncompliance with 40 C.F.R. § 472(1)-(9).
- (B) Any manufacturer of alkaline hydrolysis chambers must:
1. Ensure that the chamber is certified by the American Society of Mechanical Engineers; and
 2. Receive approval for sale from the Departments of Health and the Environment upon demonstration that the chamber destroys DNA, RNA, and pathogens, and achieves a 10-6 SAL.

The one provision that 40 C.F.R. § 472 (proposal) should not incorporate from California's regulation is the provision permitting local municipal sewer systems to "opt-out" of alkaline hydrolysis effluent disposal "for any reason."¹⁵⁰ The California state legislature has not shed any light on

150. See CAL. BUS. & PROF. CODE § 7639.10(8)(D) (West 2019).

why they included this provision. Additionally, California's legislation did not go into effect until July 1, 2020, so its functional effect on LHF's and sewer service providers is not yet clear.¹⁵¹ This provision cuts against the goal of authorizing hydrolysis in all fifty states because it allows sewer service providers to indiscriminately reject alkaline hydrolysis effluent.¹⁵² Therefore, without any clearly compelling reason to retain this detrimental provision, EPA should not include this provision in the regulation.

IV. Analysis: Human Composting

A. An Examination of Washington's Natural Organic Reduction Law Regarding the Use of Fertilizer Derived From Human Bodies

Legislation regarding human composting is limited to a single state: Washington.¹⁵³ Washington approved the first human composting law on May 21, 2019, and it became effective on May 1, 2020.¹⁵⁴ The Washington human composting law makes no mention of using human compost as fertilizer and, unlike California's thorough alkaline hydrolysis effluent disposal legislation, the law does not inform what EPA regulation of the use of human compost as fertilizer should look like.¹⁵⁵ Fortunately, there are some clues in this law, another Washington State law, and a Washington State guideline regarding the potential use of human compost.¹⁵⁶

The Washington human composting law allows the decedent—per their pre-mortem wishes—their executor, or a licensed funeral establishment ("LFE") to possess the decedent's remains without further intervention by the state.¹⁵⁷ However, the statute goes on to require that anyone who scatters human compost outside of a cemetery must (1) obtain a permit from the state Funeral and Cemetery Board, (2) obtain consent of the property owner, if it is on private land, and (3) obtain approval from the government agency that controls the land, if it is on public land.¹⁵⁸

The statute does not discuss the technical requirements of the compost or restrictions on its use as a fertilizer.¹⁵⁹ Although Washington's human composting law provides little detail as to the requirements and use of human compost, the state legislature has issued more detailed regulation regarding the composting of bovine and equine carcasses and subsequent use for fertilizer, which may inform any proposed EPA regulation of human compost.¹⁶⁰

151. See *id.*

152. See *id.*

153. WASH. REV. CODE ANN. § 68.04.310 (West 2019); but see *supra* note 85.

154. See Engrossed Substitute Senate Bill 5001; WASH. REV. CODE ANN. § 68.04.310.

155. See WASH. REV. CODE ANN. § 68.04.310; *supra* Section II.A.1.

156. See WASH. REV. CODE ANN. § 68.04.310; *id.* § 70.95.306; ON-FARM COMPOSTING OF LIVESTOCK MORTALITIES, *supra* note 81, at 4.

157. See WASH. REV. CODE ANN. §§ 68.50.160, .50.270.

158. See *id.* § 68.05.195; *id.* § 68.50.130.

159. *Id.* § 68.04.310.

160. See generally *id.* § 70.95.306.

Washington's composting of bovine and equine carcasses statute requires bovine and equine composters, in relevant part, to (1) follow the Washington State Department of Ecology "On Farm Composting of Livestock Mortalities" guidelines; (2) inform the end-user about the compost's source; (3) inform the end-user about the compost's quality, including nutrient content, pathogens, and stability; and (4) inform the end-user that the compost may only be used on agricultural lands that are not used for the production of root crops and may not come into contact with the crops harvested.¹⁶¹

B. Proposed Solution: EPA Regulation of the Use of Human Compost as Fertilizer

The Washington State human composting law is not very detailed and makes no mention of the use of human compost as fertilizer.¹⁶² Therefore, the EPA regulation would have to be more expansive to address potential state concerns about human composting, considering the restrictions that Washington State has imposed on the use of bovine and equine compost as fertilizer.

The EPA regulation, like the alkaline hydrolysis regulation, belongs in Title 40 of the Code of Federal Regulations (Protection of the Environment). EPA should list this regulation in Subchapter O (Sewage Sludge), Part 503 (Standards for the Use or Disposal of Sewage Sludge) because this section regulates composting.¹⁶³ EPA should title this regulation "Use of Human Compost as Fertilizer" and cite to it as 40 C.F.R. § 503.49¹⁶⁴:

The decedent, their executor, or a licensed funeral establishment must:

1. Obtain a permit from the state Funeral and Cemetery Board before using human compost as fertilizer;
2. Obtain consent from the property owner, if using the human compost on private land;

161. See generally WASH. STATE DEP'T OF ECOLOGY, *supra* note 81, at 9. In August 2005, the Washington Department of Ecology published these guidelines in "On-Farm Composting of Livestock Mortalities," which imposes additional conditions to maintain exemption from the solid waste handling rules testing and permit requirements, such as notifying the Departments of Health and Ecology of intent to operate under this exemption and allowing regular inspections by these Departments. *Id.* They walk through the elements of a successful composting, such as site selection, windrows vs. static piles, co-composting material, moisture content, aeration, temperature, pH levels, recommended equipment needs, managing mortalities in compost piles, and finished product. *Id.* It outlines the Testing Requirements for the finished product, which examine nutrients, pathogen levels, pH, and stability, and advises the reader on how to take samples and properly sterilize equipment for pathogen testing. *Id.* Compost may only be applied to agricultural lands that will not be used for root crop production within 3 years after application. See *id.* at 4; WASH. REV. CODE ANN. § 70.95.306.

162. See *supra* Section IV.A.

163. See generally 40 C.F.R. § 503.1–48; see 40 C.F.R. Appendix B to Part 503 (enumerating standards regarding composting).

164. Part 503 ranges 40 C.F.R. § 503.0–48. 40 C.F.R. § 503.49 has not yet been used.

3. Obtain approval from the government agency that controls the land, if using the human compost on public land;
4. Inform the end-user of the human compost about the compost's source;
5. Inform the end-user of the human compost about the compost's quality, including:
 - a. Nutrient content,
 - b. Pathogens, and
 - c. Stability;
6. Inform the end-user about restrictions on the use of the compost as a fertilizer, or heed the restrictions on the use of the compost as a fertilizer, which are that:
 - a. The compost may be used only on agricultural lands that are not used for the production of root crops, and
 - b. The compost may not come into contact with the crops harvested.

Conclusion

Two green funerary alternatives have appeared in state legislatures over the last decade: alkaline hydrolysis and human composting.¹⁶⁵ Both are significantly less environmentally harmful than cremation and burial, but they are not legal everywhere.¹⁶⁶ EPA regulation of the disposal of alkaline hydrolysis effluent and the use of human compost as fertilizer would expedite the current state-by-state legalization process.¹⁶⁷ Cooperative regulation by both federal and state governments would provide a federal stamp of approval for these green funerary alternatives, ensure proper disposal of alkaline hydrolysis effluent and human compost use, and give states a financial incentive to legalize alkaline hydrolysis and human composting.¹⁶⁸

People struggle to incorporate environmentally friendly habits into their everyday lives. Americans struggle to sort their recycling, compost their food waste, cut down on their single-use plastic consumption, walk or bike instead of drive, reuse cloth towels in lieu of disposable paper towels, shut off their lights and HVAC before leaving their homes, switch their incandescent light bulbs to LED light bulbs, choose vegetarianism or veganism, take shorter showers and turn off the faucet while brushing their teeth, support local environmental organizations, plant more trees on their property, buy local, thrift used clothes instead of buying new. Ironically, choosing a green funerary alternative to dispose of one's body after death is the easiest way to reduce one's environmental impact because the decedent will not be around to suffer the inconvenience of it.

165. See *supra* note 10.

166. See *id.*

167. See *supra* Part II.

168. See *id.*

Death is inevitable, but a significant posthumous environmental footprint does not have to be. Currently, 95% of Americans choose to be buried or cremated.¹⁶⁹ Both disposition options are environmentally harmful because they contribute to climate change, land overuse, and groundwater contamination.¹⁷⁰ However, more than half

of Americans are open to unconventional, green funerary alternatives.¹⁷¹ EPA, Congress, and the states must work together to make alkaline hydrolysis and human composting available to everyone, and a cooperative legislative framework is the most effective and beneficial way to do so.

169. See 2018 NFDA REPORT, *supra* note 5, at 3.
170. See *supra* Sections I.A.2, .B.2.

171. NFDA Consumer Survey: Funeral Planning Not a Priority for Americans, *supra* note 9.

A BREATH OF FRESH AIR: USING THE CLEAN AIR ACT TO ELIMINATE AIR POLLUTION HOT SPOTS

Magdalena Filipiuk Gonzalez*

ABSTRACT

The Clean Air Act governs air quality in the United States through a coordinated effort between the Environmental Protection Agency and the states. This Note focuses on the Clean Air Act's National Ambient Air Quality Standards provisions, through which the Environmental Protection Agency regulates the nation's air by setting air quality standards based on what it deems are permissible concentrations of particularly harmful air pollutants. Once the Environmental Protection Agency sets an air quality standard for an air pollutant, the states must implement plans that prevent these air pollutants from exceeding maximum concentrations in "Air Quality Control Regions." While the Clean Air Act improves air quality on a regional geographic scale, it ignores air pollution "hot spots," which are localized areas of impermissibly high levels of dangerous air pollutants usually located in impoverished, non-white communities. This Note argues that Congress must amend the Clean Air Act to require states to regulate local, in addition to regional, air quality, by using low-cost local air quality monitors and including local air quality improvement plans in their state implementation plans.

I. Introduction

Małgorzata Swierczek is from a small town in northeastern Poland called Białystok. In 1986, the Soviet Union covered up a massive explosion at one of its westernmost nuclear facilities, located roughly 300 miles east of Białystok,¹ through multifaceted propaganda efforts.² The Soviet government denied the explosion, and launched media-based propaganda to demonize governments and organizations alleging it happened.³ The facility was located in Chernobyl and, decades later, the disastrous environmental and

human health effects of this explosion are finally being revealed.⁴ The people living in Belarus, Poland, Ukraine, and other Northern European states were in the direct fallout of the nuclear explosion and were unknowingly exposed to nuclear fallout for years after the explosion.⁵ Cancer rates and the contraction of other physical ailments increased dramatically in the communities now known to have been affected by nuclear fallout.⁶ Once foreign governments became aware of Chernobyl's disastrous health effects, the public began demanding transparency. The USSR resisted these demands and accused any individual or government alleging they were a victim of Chernobyl or criticizing its response of anti-USSR propaganda.⁷

Małgorzata was one of many young people living in an area affected by the nuclear fallout and was diagnosed with ovarian cancer in 1990. Her son, now a doctor living in the United States, often wonders why she lost her life to this disease. His family does not have a history of cancer, and neither her lifestyle nor her workplace posed cancer-causing risks or exposed her to carcinogens. Małgorzata's illness was unexpected—a mystery. Her story, like those of many others who lived in eastern Poland during the now-infamous Chernobyl incident, exemplifies a political

* Magdalena Filipiuk Gonzalez graduated from The George Washington University Law School in 2020. She currently practices law at a small law firm in the northwest suburbs of Chicago.

This Note is dedicated to my parents, who immigrated to Chicago from Białystok, Poland, in search of a better life and a safe place to raise their family.

1. *Distance From Białystok to . . .*, TIMEANDDATE.COM, <https://www.timeand-date.com/worldclock/distances.html?n=1448> (last visited Apr. 8, 2019) [<https://perma.cc/B44S-ZRRU>].
2. See Alla Yaroshinskaya, *Secret Chernobyl Documents Expose the Cover-Up*, DIANUKE.ORG (Mar. 28, 2013), <https://www.dianuke.org/secret-chernobyl-documents-expose-the-cover-up> [<https://perma.cc/89R7-CVHK>]; see also Julie Vitkovskaya, *How the Soviet Union Stayed Silent During the Chernobyl Disaster*, WASH. POST (Apr. 25, 2016, 5:00 AM), https://www.washingtonpost.com/news/worldviews/wp/2016/04/25/how-the-soviet-union-stayed-silent-during-the-chernobyl-disaster/?utm_term=.f469e265c846 [<https://perma.cc/8F5K-LEQV>].
3. See *id.*

4. See Kim Hjelmgaard, *30 Years Later: Chernobyl Disaster Could Trigger More Cancer, Deaths*, USA TODAY (Apr. 25, 2016, 11:38 AM), <https://www.usatoday.com/story/news/world/2016/04/25/chernobyl-30-year-anniversary/83220302> [<https://perma.cc/2GWN-HEUE>].

5. See Vitkovskaya, *supra* note 2.

6. See Hjelmgaard, *supra* note 4.

7. See Vitkovskaya, *supra* note 2.

power dynamic that left a population powerless to defend itself against environmental hazards. Chernobyl teaches that when a government and its environmental laws do not respond to the needs of the people, protests against governmental complicity in their suffering do little to protect the public.

This Note is about the manifestation of a similar power dynamic in the United States. This Note does not equate the United States to the Soviet Union politically or suggest that the United States willfully exposes its people to environmental hazards. Instead, its purpose is to demonstrate the tangible consequences of political disempowerment in the context of environmental pollution. More specifically, this Note critiques the Clean Air Act (“CAA” or “the Act”), and its failure to protect disproportionately poor and minority communities whose lives are impacted by air pollution.

This Note uses Illinois’ compliance with CAA National Ambient Air Quality Standards (“NAAQS”) provisions as a case study to demonstrate that the CAA framework does not require states to respond to environmental justice (“EJ”) communities’⁸ concerns about the disproportionate concentration of air pollutants in small geographic areas called hot spots. This Note suggests the U.S. Congress should amend CAA’s State Implementation Plan (“SIP”) provision, 42 U.S.C. § 7410, to require states to identify air pollution hot spots using the U.S. Environmental Protection Agency’s (“EPA’s”) environmental justice screening tool, EJSCREEN, and implement local air quality monitoring plans to improve local air quality. Part II of this Note summarizes air quality problems in Illinois and California and describes the ways in which environmental justice advocates have exposed the existence of hot spots in both states. Part III provides background information on the CAA and the NAAQS program. Part III provides an overview of Illinois’ and California’s implementation of the NAAQS program and each state’s compliance with CAA. Part III also discusses the federal government’s efforts to address and eliminate air pollution hot spots. Part IV analyzes why the CAA leaves substantial air quality problems unaddressed in hot spots. Using Illinois as an example, Part IV explains why the CAA loopholes result in ineffective voluntary state-level efforts to improve air quality in hot spots and why there is a need for a federal solution. Finally, Part V argues that amending the CAA closes loopholes in the CAA that fail to regulate local air pollution in hot spots.

8. The term “environmental justice community,” as used in this Note, describes impoverished, typically nonwhite, inner city, marginalized, and disproportionately polluted communities. It does not imply these communities have achieved environmental justice. Counterintuitively, disadvantaged and hyper-polluted communities use this term to self-identify as victims of environmental injustice.

II. Factual Background

A. Air Quality in the United States With a Focus on Illinois and California

1. Air Quality in the United States: How Has It Changed Over Time?

In the late 19th century, the Industrial Revolution led to rapid urbanization and the growth of polluting industries, both of which resulted in dangerously high concentrations of air pollutants in the country’s major cities.⁹ By the 1960s, both the federal government and the public acknowledged that air pollution had unacceptably harmful effects on human health and the environment.¹⁰ In 1970, Congress passed the CAA, the primary statute that regulates the nation’s ambient air quality.¹¹

Air quality has steadily improved since the passage of the CAA, but air pollution still poses significant health issues for millions of Americans.¹² Today, air pollution hot spots, or small geographic areas with disproportionately poor air quality, exist in every state, and reflect regulatory deficiencies that have shifted the burden of pollution from entire cities to hyper-polluted communities.¹³ Hot spots tend to form in predominantly non-white, impoverished communities, where socioeconomic disadvantages compound the negative effects of environmental harms by exacerbating health problems and limiting economic growth.¹⁴ Environmentalists and civil rights activists use the term “environmental justice” to conceptualize the hot spot phenomenon in terms of its environmental, economic, and social dimensions.¹⁵ Environmental justice is a theory of environmental discrimination based on race and economic status.¹⁶ Environmental justice advocates posit that minority and impoverished communities are disproportionately exposed to environmental harms.¹⁷ The environmental justice movement developed during the Civil Rights Movement of the

9. *Water and Air Pollution*, HISTORY (Nov. 6, 2009), <https://www.history.com/topics/natural-disasters-and-environment/water-and-air-pollution> [https://perma.cc/WY87-V2TW].

10. *See id.*

11. *Clean Air Act Requirements and History*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/clean-air-act-overview/clean-air-act-requirements-and-history> (last updated Jan. 10, 2017) [https://perma.cc/3N3A-MFUX].

12. Joanna Kamhi, *Clean Air Act Obscures Polluted “Hotspots,”* REGUL. REV. (Nov. 23, 2018), <https://www.theregview.org/2018/11/23/kamhi-clean-air-act-hotspots> [https://perma.cc/U8TT-AB3U].

13. *Id.*; *see also* UNIV. OF CAL. HASTINGS COLL. OF THE LAW, ENVIRONMENTAL JUSTICE FOR ALL: A FIFTY STATE SURVEY OF LEGISLATION, POLICIES AND CASES viii–xviii (Steven Bonorris ed., 4th ed. 2010), <http://gov.uchastings.edu/public-law/docs/ejreport-fourthedition.pdf> [hereinafter ENVIRONMENTAL JUSTICE FOR ALL].

14. *See* Kamhi, *supra* note 12; *see also* ENVIRONMENTAL JUSTICE FOR ALL, *supra* note 13.

15. *See* Meleah Geertsma, *New Map Shows Chicago Needs Environmental Justice Reforms*, NAT. RES. DEF. COUNCIL (Oct. 25, 2018), <https://www.nrdc.org/experts/meleah-geertsma/new-map-shows-chicago-needs-environmental-justice-reforms> [https://perma.cc/D6H4-PNE4].

16. Renee Skelton & Vernice Miller, *The Environmental Justice Movement*, NAT. RES. DEF. COUNCIL (Mar. 17, 2016), <https://www.nrdc.org/stories/environmental-justice-movement> [https://perma.cc/WVW4-9G8L].

17. ENVIRONMENTAL JUSTICE FOR ALL, *supra* note 13, at 22.

1960s as part of a broader effort to illuminate and oppose institutionalized discrimination.¹⁸ Dr. Martin Luther King Jr. was one of the first well-known advocates of environmental justice, and called for improved air quality conditions for garbage workers in Memphis, Tennessee.¹⁹

Environmental justice provides a useful framework to understand contemporary air pollution problems in the United States. The government acknowledges the “environmental justice” component of contemporary air quality issues.²⁰ Environmental justice advocacy groups research local air pollution, and play a central role in exposing the existence of hot spots.²¹ These groups disseminate air pollution data to federal and state governments to ensure awareness of local air pollution, both that it exists and that it is an imminent threat to health and safety.²² The next section examines air pollution hot spots in Illinois and California, and the community-based efforts to identify these hot spots and improve the air quality therein.

2. Air Quality and Air Pollution Hot Spots in Illinois

In 1673, European settlers discovered coal in Illinois and developed a rapidly-growing coal mining industry, giving birth to cities like Coal City, Carbondale, and Carbon Hill.²³ During the Industrial Revolution, Chicago transformed into an industrialized metropolis, growing faster than any other city in the world.²⁴ Chicago’s mills, boiler rooms, and furnaces were powered by coal mined in southern Illinois.²⁵ The city’s rapid industrialization resulted in dangerously high levels of air pollution, producing a visible cloud of smoke that lingered over the city.²⁶

By the 1950s, Chicago was infamous for its poor air quality.²⁷ Chicago responded to thousands of citizens’ complaints about smoke, smog, and pervasive breathing problems by creating the Department of Air Pollution

Control in 1959.²⁸ Although the Department’s regulations improved Chicago’s air quality, it remains one of the most polluted cities in America.²⁹ In 2019, the American Lung Association ranked Chicago as the eighteenth most polluted city in the country for ozone pollution.³⁰ Illinois’ air quality problems are historically concentrated in Chicago’s metropolitan area.³¹ The last coal mine in the city of Chicago closed in 2012 as the result of years of grassroots lobbying by Chicago-based organizations and only one coal mine is currently operating in the city of Waukegan, which is part of Chicago’s greater metropolitan area.³²

The research of environmental justice advocacy groups reveals that air pollution in Chicago’s metropolitan area is now concentrated in impoverished and predominantly minority communities like Little Village, Pilsen, Englewood, and Waukegan.³³ For example, the Natural Resources Defense Council’s (“NRDC’s”) recent study of Chicago’s environmental quality reveals that vulnerable Chicago communities like Pilsen, Little Village, and McKinley/Brighton Park are disproportionately exposed to air pollution.³⁴ The NRDC’s study is forcing Illinois’ government officials to confront the reality that these communities face imminent environmental threats, some to which are contributed by city and state officials.³⁵

Southeast Side advocacy groups are currently battling Chicago’s zoning changes, alleging these changes explain the NRDC’s findings because they are pushing heavy industry into Chicago’s southeast side.³⁶ In 2017, the Chicago Mayor’s Office re-zoned an industrial area in Chicago, and incentivized industrial businesses to move to economically disadvantaged areas on the Southeast Side of Chicago, like Little Village.³⁷ Environmental justice organizations criticize the Office’s action because these communities, which historically have been disproportionately exposed to environmental harms, will bear the burden of increased air pollution exposure, while wealthier parts of Chicago experience commercial and economic growth.³⁸

18. *See id.*

19. *Environmental Justice Timeline*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/environmentaljustice/environmental-justice-timeline> (last visited Nov. 11, 2018) [<https://perma.cc/XED7-77H7>].

20. *See, e.g.*, Exec. Order No. 12,898, 59 Fed. Reg. 7,629 (Feb. 16, 1994); *Environmental Justice*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/environmentaljustice> (last updated Aug. 19, 2019) [<https://perma.cc/3W7G-XGXL>].

21. EILEEN GUANA ET AL., CTR. FOR PROGRESSIVE REGUL., ENVIRONMENTAL JUSTICE 4–6 (2005), http://progressivereform.org/articles/EJ_505.pdf [<https://perma.cc/W886-EEMU>].

22. *See id.* at 6–8.

23. Kari Lydersen, *Illinois Coal’s Last Stand*, CHI. READER (June 15, 2016), <https://www.chicagoreader.com/chicago/future-coal-mining-energy-illinois/Content?oid=22523058> [<https://perma.cc/NN9V-7DYB>]; *see also History*, VILL. OF COAL CITY, <https://coalcity-il.gov/history> (last visited Jan. 26, 2019) [<https://perma.cc/9ZD6-UDDW>].

24. *See* Jonathan Rees, *Industrialization and Urbanization in the United States, 1880-1929*, OXFORD RSCH. ENCYCS. (July 2016), <http://oxfordre.com/americanhistorical/view/10.1093/acrefore/9780199329175.001.0001/acrefore-9780199329175-e-327> [<https://perma.cc/RRW7-ZQYM>].

25. *See* David Stradling, *Air Quality*, ENCYC. OF CHI., <http://www.encyclopedia.chicagohistory.org/pages/32.html> (last visited Jan. 26, 2019) [<https://perma.cc/3UBQ-V8JT>].

26. *See id.*

27. *Id.*

28. *Id.*

29. *See* Stradling, *supra* note 25; *Most Polluted Cities*, AM. LUNG ASSOC., <https://www.lung.org/our-initiatives/healthy-air/sotal/city-rankings/most-polluted-cities.html> (last visited Sept. 28, 2019) [<https://perma.cc/3GWS-94NC>].

30. *Id.*

31. *See* Elizabeth Brackett, *Activists Call for Closure of Waukegan Power Plant*, WTTW (Mar. 23, 2016, 11:21 AM), <https://news.wttw.com/2016/03/23/activists-call-closure-waukegan-coal-fired-power-plant> [<https://perma.cc/5W43-5VY2>].

32. *Id.*; *see also* Michael Hawthorne, *Citizen Devices Tracking Chicago’s Pollution Hotspots*, CHI. TRIB. (Nov. 11, 2017, 12:47 AM), <https://www.chicagotribune.com/news/local/breaking/ct-chicago-air-quality-testing-met-20171111-story.html>.

33. Kari Lydersen, *Civil Rights Investigation Probes Environmental Justice in Illinois*, ENERGY NEWS NETWORK (Mar. 10, 2016), <https://energynews.us/2016/03/10/midwest/civil-rights-investigation-probes-environmental-justice-in-illinois> [<https://perma.cc/QC53-BBEU>].

34. *See* Geertsma, *supra* note 15.

35. *See* Brett Chase, *In Chicago, Pollution Hits West Side, South Side the Hardest, Study Finds*, CHI. SUN-TIMES (Oct. 25, 2018), <https://chicago.suntimes.com/business/chicago-pollution-health-hazard-west-south-side-study-finds> [<https://perma.cc/LC7K-4P3A>].

36. *See id.*

37. *See* Geertsma, *supra* note 15.

38. *See* Chase, *supra* note 35; *see also* Geertsma, *supra* note 15; Jay Koziarz, *Chicago City Council Approves Sweeping North Branch Zoning Ordinance*, CURBED CHI. (July 27, 2017, 12:59 PM), <https://chicago.curbed>.

In 2017, a group of environmental justice advocates created a portable air quality monitoring device that tracks air quality in the South Side Chicago neighborhoods.³⁹ Activists strap this device to their chests and connect to their smartphones to track daily air quality levels in their communities.⁴⁰ The device caught the attention of EPA, which approved funding for the expansion of the air quality-monitoring project and research to better understand how the device works.⁴¹ The devices confirm substantial differences in air quality between wealthy and impoverished neighborhoods located near industrial polluters.⁴² This innovative device is a source of hope for Chicagoans, who are increasingly disillusioned with city and state government officials as they realize the state's environmental justice policies have resulted in minimal air quality improvement in their communities.

The devices reaffirm fears about air quality in Southeast Side Chicagoan communities, and validate long-held suspicions that the air quality is worse than data reflects. A Southeast Side resident mopped her floors for toxic dust that may have blown into her home as she was being interviewed by a *Chicago Tribune* journalist on air pollution in her community.⁴³ She stated: "The vision for my neighborhood is just the status quo . . . It's just an industrial armpit of Chicago . . . I just want it to be a little cleaner for my son. Because his life is just as important as a child's life on the North Side."⁴⁴ This resident's fears are widely shared by South Side residents, who observe unusually high cancer and asthma rates in their communities, and fear the health consequences of spending too much time outdoors.⁴⁵ The University of Chicago confirms South Side residents suffer disproportionately from asthma.⁴⁶

3. Air Quality and Air Pollution Hot Spots in California

California's air quality is notoriously worse than the air quality in most states.⁴⁷ The state's air quality is impacted

by California's climate, topography, and wildfires.⁴⁸ Valleys—topographical features shared by all of California's eight most populous metropolitan areas—trap polluted air between surrounding mountains.⁴⁹ In 2018, the American Lung Association's report on the top-eleven most ozone-polluted cities in America included eight Californian cities, all of which are located in valleys.⁵⁰ Northern California's air quality suffered drastically after historically deadly wildfires destroyed the city of Paradise in late 2018.⁵¹

California's air quality problems, especially in the southern region of the state, are particularly acute in poor urban neighborhoods.⁵² Air quality problems in these neighborhoods are exacerbated by the cumulative impacts of proximity to busy highways and industrial facilities, lack of green space, warm climate, and the ubiquitous topographical pollutant-trapping effect plaguing most of California's major metropolitan areas.⁵³ Government officials are beginning to take affirmative steps to remedy the most intolerable air pollution from California's cities⁵⁴; nevertheless, the state's air quality continues to pose immediate health and safety hazards to millions of Californians, increasing risks of cancer and respiratory problems.⁵⁵ Environmental justice advocates in California conducted research on air quality disparities in the state, revealing that the phenomenon of air pollution hot spots manifests similarly in California as it does in Illinois.

California Environmental Justice Alliance ("CEJA") unites California's grassroots environmental justice organizations into a coalition that advocates for environmental justice policies at the state and local level.⁵⁶ In an effort to promote governmental transparency and community awareness, CEJA pressured California Environmental Protection Agency ("CalEPA") and the Office of Environmental Health Hazards Assessment ("OEHHA") to create CalEnviroScreen, a mapping tool designed to evaluate "cumulative impacts" of race, economic status, and air

com/2017/7/27/16050734/chicago-development-north-branch-zoning-ordinance-approved [https://perma.cc/8SWP-WZEB].

39. See Hawthorne, *supra* note 32.

40. *See id.*

41. *See id.*

42. *See id.*

43. Tony Briscoe, *State Falls Short in Pollution Protection*, CHI. TRIB., http://digitaledition.chicagotribune.com/infinity/article_share.aspx?guid=898dd3c1-fc23-4ce6-b409-925af6cdad89 (last visited Apr. 8, 2019) [https://perma.cc/7KMG-RWDW].

44. *Id.*

45. *Cancer, Violence Among Top Health Concerns for South Siders*, U. CHIC. MED. (June 22, 2016), <https://www.uchicagomedicine.org/forefront/news/2016/june/cancer-violence-among-top-health-concerns-for-south-siders> [https://perma.cc/2S2M-ZUTW].

46. *See UChicago Medicine Announces South Side Pediatric Asthma Center*, U. CHIC. MED. (June 29, 2017), <https://www.uchicagomedicine.org/forefront/news/2017/june/uchicago-medicine-announces-south-side-pediatric-asthma-center> [https://perma.cc/XZ77-PJQ4].

47. See Zoe Schlanger, *These Are the US Cities With the Worst Air Pollution*, QUARTZ (Apr. 25, 2019), <https://qz.com/1604654/the-us-cities-with-the-worst-air-pollution-are-in-california> [https://perma.cc/WU7K-DEZB]; see also Kevin Kelleher, *Northern California Officially Has the World's Worst Air Quality, as Its Fires Continue to Rage*, FORTUNE (Nov. 16, 2018), <http://fortune.com/2018/11/16/northern-california-officially-worlds-worst-air-quality-californias-fires-continue-rage> [https://perma.cc/BR54-Z9LG].

48. See Ashley Hackett, *Facing a Massive Pollution Problem, California Is Fighting Against the EPA's Efforts to Roll Back Emissions Standards*, PAC. STANDARD (May 8, 2018), <https://psmag.com/environment/facing-a-massive-pollution-problem-california-is-fighting-against-the-epas-efforts-to-roll-back-emissions-standards> [https://perma.cc/6WZW-T95Q]; see also *Air Pollution a Problem in California?*, CAL. AIR RES. BD., <https://www.arb.ca.gov/know-zone/students/airpollu/airpolpage/whys.htm> (last visited Feb. 10, 2019).

49. *Id.*

50. AM. LUNG ASS'N, *STATE OF THE AIR 2018* (2018), <https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf>; see also Hackett, *supra* note 48.

51. See Kelleher, *supra* note 47; see also Jeff Masters, *America's Deadliest Wildfire in 100 Years: 56 Dead in Paradise, California*, WEATHER UNDERGROUND (Nov. 14, 2018, 12:10 PM), <https://www.wunderground.com/cat6/Americas-Deadliest-Wildfire-100-Years-48-Dead-Paradise-California> [https://perma.cc/4HQZ-QJQD].

52. See Douglas Houston et al., *Structural Disparities of Urban Traffic in Southern California: Implications for Vehicle-Related Air Pollution Exposure in Minority and High-Poverty Neighborhoods*, 26 J. URB. AFFS. 565, 566 (2004).

53. See, e.g., *id.*; CAL. AIR RES. BD., *supra* note 48.

54. See discussion *infra* Part V.

55. See Houston et al., *supra* note 52.

56. *Mission and Vision*, CAL. ENV'T JUST. ALL., <https://caleja.org/about-us/vision-and-history> (last visited Jan. 23, 2019) [https://perma.cc/6XNS-9ZB3].

quality on California's most disadvantaged communities.⁵⁷ CalEnviroScreen provides detailed demographic information for low, medium, and high pollution areas and reveals that the state's most extreme air pollution is concentrated in low-income, non-white communities.⁵⁸

Air pollution in California's hot spots has severe consequences for residents, whose lives are impacted on a daily basis from the imminent threat air pollution poses to their health. In Imperial County, residents report a visible haze lingering over the city that irritates their eyes and makes it difficult to breathe.⁵⁹ A teenage resident reports that he, like other children in his community, "actively avoids the polluted air in his community that caused asthma attacks so bad they sent him to the hospital several times as a kid."⁶⁰ In the Los Angeles region, impoverished non-white neighborhoods are more likely to be located near sources of air pollution, and those residents are more likely to suffer from cancer and asthma.⁶¹ The Asthma Coalition of Los Angeles County's study on "disparities in asthma" reveals substantial differences in asthma rates, with African Americans suffering disproportionately high rates.⁶²

Westside San Bernardino, another hot spot, is located next to multiple sources of pollution, including Robertson's Ready Mix Concrete Factory, multiple auto body shops, and a Burlington Northern Santa Fe rail yard.⁶³ The community surrounding these sources of pollution is predominantly Hispanic, with 26.1% of its residents living below the poverty line, and is notorious for its poor air quality.⁶⁴ The Center for Community Action and Environmental Justice ("CCA EJ") produced a report documenting the movement of polluting industries into Westside San Bernardino over the last two decades, and the health hazards posed by these polluters.⁶⁵ The report concluded that San Bernardino's air quality poses imminent threats to the community's health and safety, and that air quality improvements will require a comprehensive approach involving federal agencies, substantial resources, and regulation.⁶⁶ CCA EJ's findings describe the health and safety problems plaguing hot spots throughout the state of California.⁶⁷

57. *Id.*; see also *Maps & Data*, CAL. OFF. ENV'T HEALTH HAZARDS ASSESSMENT, <https://oehha.ca.gov/calenviroscreen/maps-data> (last visited Mar. 31, 2019).

58. See *Maps & Data*, *supra* note 57.

59. See Elizabeth Aguilera, *Living in One of the Most Polluted Places in California*, 89.3 KPCC (Jan. 25, 2019), <https://www.scpr.org/news/2019/01/25/88021/living-in-one-of-the-most-polluted-places-in-calif> [https://perma.cc/UR9X-Z4VQ].

60. *Id.*

61. See Houston et al., *supra* note 52. See generally JOHN HUANG, ASTHMA COAL. OF L.A. CTY., QUICK FACTS: DISPARITIES IN ASTHMA (2009), <http://publichealth.lacounty.gov/mch/asthmacoalition/docs/Statistics%20and%20Reports/Fact%20Sheet%20on%20Disparities%20in%20Asthma10.09.pdf> [https://perma.cc/8N7Z-3JNL].

62. HUANG, *supra* note 61.

63. CTR. FOR CMTY. ACTION & ENV'T JUSTICE, POLLUTION IN SAN BERNARDINO 4 (2011), <http://ccej.org/wp-content/uploads/2016/11/Pollution-in-San-Bernardino-Final.pdf>.

64. *Id.*

65. *Id.*

66. *Id.* at 20.

67. See generally *id.* at 12.

II. Legal Background

A. Environmental Protection Agency and Clean Air Act

The CAA operates through cooperative federalism,⁶⁸ because it requires EPA to work closely with states to improve the nation's regional air quality.⁶⁹ Since its enactment in 1970, the Act has reduced concentrations of the most dangerous air pollutants by 70%.⁷⁰ The CAA allows states to determine specific air quality control measures, and EPA acts as the regulatory watchdog ensuring states' air quality control measures comply with air quality standards and sanctioning noncompliance. This EPA-state partnership results in remarkably effective air pollution control on a regional level.⁷¹

1. Clean Air Act

The CAA requires EPA to set National Ambient Air Quality Standards ("NAAQS") for "criteria pollutants," which are pollutants that are particularly dangerous to human health and welfare.⁷² For each criteria pollutant, EPA sets primary and secondary ambient air quality standards, which are reviewed every five years.⁷³ Primary ambient air quality standards must protect health and human welfare, while secondary ambient air quality standards must protect the human environment.⁷⁴ Currently, EPA lists six pollutants as "criteria pollutants": carbon monoxide, sulfur dioxide, ozone, lead, particulate matter, and nitrogen dioxide.⁷⁵ NAAQS are calculated in terms of maximum allowable concentrations of each pollutant in the air over a period of time.⁷⁶ The CAA requires the EPA Administrator to revise NAAQS for each criteria pollutant "as may be appropriate" every five years.⁷⁷

68. "The essence of cooperative federalism is that states take primary responsibility for implementing federal standards, while retaining the freedom to apply their own, more stringent standards." Adam Babich, *Our Federalism, Our Hazardous Waste, and Our Good Fortune*, 54 MD. L. REV. 1516, 1532–33 (1995).

69. See *Cooperative Federalism Under the Clean Air Act: State Perspectives: Hearing Before the Subcomm. on Clean Air and Nuclear Safety of the Senate Comm. on Env't and Pub. Works*, 115th Cong. 1 (2018) (statement of Matthew Rodriguez, Secretary, California Environmental Protection Agency), https://www.epw.senate.gov/public/_cache/files/9/4/94b9b613-243b-44a8-afea-da39a8e064f5/CCD269FF1574EA5EF0B43607957DBDCD.rodriquez-testimony-04.10.2018.pdf [https://perma.cc/6MTP-WKNN].

70. See *id.*

71. See discussion *infra* Part IV.

72. See, e.g., 42 U.S.C. § 7409 (2018); ROBERT GLICKSMAN ET AL., ENVIRONMENTAL PROTECTION LAW AND POLICY 436 (Erwin Chemerinsky et al. eds., 7th ed. 2015); *Criteria Air Pollutants*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/criteria-air-pollutants> (last updated Mar. 8, 2018) [https://perma.cc/N2Z9-PME4].

73. See, e.g., 42 U.S.C. § 7409(d)(1); Arnold W. Reitze Jr., *Air Quality Protection Using State Implementation Plans—Thirty-Seven Years of Increasing Complexity*, 15 VILL. ENV'T L.J. 209, 229 (2004).

74. See GLICKSMAN ET AL., *supra* note 72, at 436–38.

75. See Reitze Jr., *supra* note 73, at 301 n.601.

76. See GLICKSMAN ET AL., *supra* note 72, at 443.

77. 42 U.S.C. § 7409(d)(1) (2018).

In order to comply with NAAQS, states must comply with a number of CAA requirements.⁷⁸ First, states must create a State Implementation Plan (“SIP”) that sets forth the state’s plan for NAAQS compliance for every criteria pollutant in each of the state’s “air quality control regions” (“AQCR”).⁷⁹ AQCRs correspond to geographic areas that must independently comply with NAAQS for every criteria pollutant.⁸⁰ States must create a separate SIP for every criteria pollutant and every SIP describes how the state will comply with NAAQS for that pollutant in each of its AQCRs.⁸¹ Every time EPA changes NAAQS for a criteria pollutant, states must submit a revised SIP for that pollutant, and demonstrate how they will comply with the new NAAQS.⁸² States comply with NAAQS by translating maximum allowed ambient concentrations of each criteria pollutant into emissions limitations on sources of pollution for each criteria pollutant.⁸³

Second, states must submit their SIPs to EPA for approval.⁸⁴ Every SIP must delineate a plan for NAAQS compliance with requisite specificity.⁸⁵ EPA reviews every state’s SIP; if EPA finds a SIP inadequate, the EPA Administrator may give the state the opportunity to fix any deficiencies, reject the SIP in its entirety, or conditionally approve the SIP if at least some of the SIP is CAA-compliant, and the state submits a “letter of commitment” promising to remedy deficiencies within a specific period of time.⁸⁶ In order for EPA to conditionally approve a state’s SIP, the state’s letter of commitment must identify “specific enforceable measures” it intends to implement, rather than a commitment to identify measures on some unspecified future date.⁸⁷ If the state fails to submit a CAA-compliant SIP a second time, EPA has the authority to issue a Federal Implementation Plan (“FIP”).⁸⁸ FIPs take away a state’s discretion to determine how it will comply with NAAQS (e.g., how it will allocate emissions caps for sources of pollution, implement its permitting programs, etc.), and replace it with an EPA-created compliance plan.⁸⁹

Third, once EPA approves a SIP (or creates an FIP for a noncompliant state), the state must implement it.⁹⁰ A state implements its SIPs by placing air quality monitors in its AQCRs and ensuring that critical air pollutant concentrations do not exceed NAAQS.⁹¹ If a state fails to comply with NAAQS for any criteria pollutant, EPA designates the noncomplying portion of the state as a “nonattainment area” (“NAA”).⁹² A state fails to comply with NAAQS and is in nonattainment for a criteria pollutant if one monitor-

ing site within the AQCR does not comply with NAAQS.⁹³ Once an area is designated as an NAA, CAA requires the state to promulgate a new SIP that complies with the stringent requirements set forth in the CAA’s NAA provisions.⁹⁴ These provisions delineate sanctions placed on states when one of their AQCRs goes into nonattainment, and set forth stringent SIP requirements to help the state improve air quality so the area achieves NAAQS.⁹⁵

2. Relevant SIP Provisions

a. General SIP Requirements

Section 7410 of the CAA specifies the information, data, and analyses that each SIP must include.⁹⁶ First, this provision explains how frequently SIPs must be submitted and the process states must use to submit SIPs to the EPA Administrator.⁹⁷ It then lists thirteen SIP requirements, each of which requires states to describe a specific component of their plan to achieve and maintain NAAQS for each criteria pollutant in each of their AQCRs.⁹⁸ For example, this section requires states to articulate specific measures with respect to air quality monitor installation and replacement, and techniques for implementing emissions limitations.⁹⁹ States must also provide assurances that they will allocate adequate personnel, funding, and authority under state and local law to implement their SIPs.¹⁰⁰

b. Attainment Areas

An area designated as an attainment area (“AA”) meets NAAQS for every criteria pollutant, but is subject to provisions that ensure the area maintains its air quality and does not regress into an NAA.¹⁰¹ The Prevention of Significant Deterioration (“PSD”) program sets a permissible rate of air quality decline in AAs, and requires states to ensure air quality decline in its AAs does not exceed this rate.¹⁰² Areas with good air quality are placed into three classes (Class I, Class II, Class III), and an AA’s permissible level of air quality decline depends on how it is classified, with Class I having the most stringent requirements and Class III having the least stringent requirements.¹⁰³

c. Nonattainment Areas

Under § 7502, NAAs are subject to more stringent criteria pollutant-specific standards depending on the criteria

78. See GLICKSMAN ET AL., *supra* note 72, at 436–39.

79. See 42 U.S.C. § 7410(a)(1) (2018); Reitze Jr., *supra* note 73, at 229.

80. See Reitze Jr., *supra* note 73, at 229.

81. *Id.*

82. *Id.*; see also *Sierra Club v. EPA*, 356 F.3d 296 (D.C. Cir. 2004).

83. See GLICKSMAN ET AL., *supra* note 72 at 436–39.

84. *Id.* at 439; see also *Sierra Club*, 356 F.3d at 296.

85. See *Sierra Club*, 356 F.3d at 299.

86. 42 USC § 7410(k); see also *Sierra Club*, 356 F.3d at 301.

87. *Id.* at 301–02.

88. See Reitze Jr., *supra* note 73, at 229.

89. See *id.* at 233.

90. See GLICKSMAN ET AL., *supra* note 72, at 439.

91. See *id.*

92. *Id.*

93. See Reitze Jr., *supra* note 73, at 232.

94. See *id.* at 230.

95. See *id.* at 229–30.

96. See generally 42 U.S.C. § 7410 (2018).

97. *Id.* § 7410(a)(1).

98. *Id.* § 7410(a)(2).

99. See *id.* (suggesting states achieve adequate emissions limitations through “economic incentives such as fees, marketable permits, and auctions of emissions rights”).

100. *Id.*

101. See GLICKSMAN ET AL., *supra* note 72, at 439–40.

102. 42 U.S.C. § 7471 (2018).

103. 42 U.S.C. § 7473 (2018); see GLICKSMAN ET AL., *supra* note 72, at 440.

pollutant(s) for which the area is in nonattainment and the severity of the area's nonattainment.¹⁰⁴ NAA SIPs must assure reduction in criteria pollutant concentrations at rates that directly correspond to the severity of the area's nonattainment.¹⁰⁵ For example, an area in nonattainment for ozone is categorized as either marginal, moderate, serious, or severe, and the required reduction in ozone concentration corresponds directly to its categorization.¹⁰⁶ The CAA, recognizing that NAAQS attainment is substantially impeded in areas with high levels of automobile traffic, also regulates vehicle usage in NAAs.¹⁰⁷ AQCRs in nonattainment for ozone and CO are required to implement “[g]asoline vapor recovery systems, clean-fuel vehicle programs, transportation controls, and traffic control measures.”¹⁰⁸

NAAs are subject to different deadlines than AAs, and these deadlines also correspond with the severity of nonattainment.¹⁰⁹ In other words, the amount of time an NAA receives to comply with NAAQS increases with the severity of nonattainment.¹¹⁰ The goal of an NAA SIP is to set pollution standards stringent enough to transition the NAA into attainment.¹¹¹ However, when the NAA does not meet NAAQS by an EPA-designated attainment date, the NAA is re-designated to a more severe level of nonattainment for that pollutant.¹¹² As a result, the state must again revise its SIP to comply with CAA requirements for the more severe nonattainment level.¹¹³

Under § 7509, the EPA Administrator may impose sanctions on states if their SIPs do not comply with the Act's NAA provisions.¹¹⁴ The Administrator has the discretion to impose various “highway sanctions,” such as prohibitions on highway projects or preventing the Secretary of Transportation from providing the noncompliant state with highway project grants.¹¹⁵ This provision requires states to submit compliant SIPs within one year, and permits the Administrator to sanction noncomplying states “from the date of the notice under § 7509(c)(2) of this title.”¹¹⁶ § 7509(c)(2) states that the Administrator will publish a notice in the *Federal Register* whenever he or she has identified an NAA.¹¹⁷

3. EPA Administrator's Review of Environmental Impacts

The EPA Administrator, under § 7609, must review pieces of legislation, actions, and regulations to determine

104. 42 U.S.C. § 7502(a)(1)(A) (2018); see GLICKSMAN ET AL., *supra* note 72, at 439–40.

105. See GLICKSMAN ET AL., *supra* note 72, at 439–40.

106. *Id.*

107. *Id.* at 440.

108. *Id.*

109. See 42 U.S.C. § 7502(b) (2018).

110. See GLICKSMAN ET AL., *supra* note 72, at 439.

111. *Id.* at 440.

112. *Id.*

113. See *id.* at 439–40.

114. See 42 U.S.C. § 7509 (2018).

115. *Id.* § 7509(b)(1).

116. *Id.* § 7509(d)(1)–(3).

117. *Id.* § 7509(c)(2).

whether they are unsatisfactory “from the standpoint of public health or welfare or environmental quality.”¹¹⁸ If the Administrator makes such a finding, he or she must publish this determination and refer it to the Council on Environmental Quality for further action.¹¹⁹

B. Illinois and California's Compliance With CAA

1. Illinois

The Illinois Environmental Protection Agency (“IEPA”) is the entity responsible for enforcing the CAA in Illinois.¹²⁰ Illinois' SIPs comply with CAA requirements, and EPA has historically approved Illinois' revised SIPs for the state's attainment and nonattainment areas.¹²¹ It is important to note, however, that promulgation of timely and EPA-approved revised SIPs does not mean Illinois' AQCRs are in compliance with NAAQS, because compliance with NAAQS is legally distinct from compliance with SIP requirements.¹²² Several of Illinois' AQCRs fluctuate between attainment and various levels of nonattainment, which means Illinois must create a revised SIP for every noncompliant AQCR every time it moves into nonattainment or fails to transition into attainment by an EPA-designated attainment deadline.¹²³ For example, EPA designated the Chicago-Naperville area as a “marginal nonattainment” area for ozone in 2008.¹²⁴ The area did not meet the “attainment deadline” in 2017, and was moved to “moderate nonattainment.”¹²⁵ Illinois failed to promulgate a revised SIP corresponding with more stringent

118. *Id.* § 7609.

119. See *id.* § 7609(b).

120. See *Introduction*, ILL. ENV'T PROT. AGENCY, <https://www2.illinois.gov/epa/about-us/Introduction/Pages/default.aspx> (last visited Sept. 7, 2019) [<https://perma.cc/KVU9-TG8F>].

121. See, e.g., Air Plan Approval; Illinois; Nonattainment New Source Review Requirements for the 2008 8-Hour Ozone Standard, 83 Fed. Reg. 50,551, 50,553 (Oct. 9, 2018) (to be codified at 40 C.F.R. pt. 52), <https://www.federalregister.gov/documents/2018/10/09/2018-21877/air-plan-approval-illinois-nonattainment-new-source-review-requirements-for-the-2008-8-hour-ozone> [hereinafter Air Plan Approval] [<https://perma.cc/6YPK-BSK9>].

122. When an AQCR is in *nonattainment*, the AQCR is not complying with NAAQS for a specific criteria pollutant. This is a separate regulatory concept from a state's compliance with SIP requirements. SIP requirements become more stringent with more serious levels of nonattainment. In other words, a state's revised SIP will impose stricter emissions on polluters in a “serious” nonattainment area than in a “moderate” nonattainment area. So long as the state's SIP includes emissions restrictions as required by CAA, the state's revised SIP is approved, and is therefore CAA-compliant. The state is not finished, however, because EPA expects the revised SIP to result in the area's successful transition from nonattainment into attainment by the “attainment deadline.” If the state does not reach “attainment” by EPA's “attainment deadline,” EPA will redesignate the area in more severe nonattainment. This redesignation means the state must once again promulgate a revised SIP that is compliant with SIP requirements for the more severe nonattainment designation. See *NAAQS Implementation Process*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/criteria-air-pollutants/naaqs-implementation-process> (last visited Sept. 29, 2019) [<https://perma.cc/YKB6-S88W>].

123. See Air Plan Approval, *supra* note 121, at 50,556; see also 42 U.S.C. § 7502(b) (2018).

124. Air Plan Approval, *supra* note 121, at 50,552.

125. *Id.*

requirements for “moderate nonattainment” areas.¹²⁶ The area again failed to meet NAAQS for ozone in 2018, and is now in “serious nonattainment.”¹²⁷ Once again, IEPA must revise the state’s ozone SIP to comply with the more stringent “serious nonattainment” SIP requirements.¹²⁸ As of March 31, 2019, Illinois has two nonattainment areas for ozone.¹²⁹

2. California

The California Air Resources Board (“CARB”) is responsible for California’s compliance with the CAA.¹³⁰ Many of California’s metropolitan areas are severely polluted and fluctuate between levels of nonattainment; however, California complies with CAA requirements for attainment and nonattainment areas by issuing a revised SIP every time an AQCR’s nonattainment level changes.¹³¹ EPA has never issued an FIP for California, which means California’s revised SIPs comply with CAA requirements.¹³² However, as of March 31, 2019, California has 21 nonattainment areas for ozone, some of which are classified as “severe” or “extreme.”¹³³ California’s size and unique metropolitan air pollution problems explain the degree and severity of the state’s nonattainment.¹³⁴

In 2005, CARB requested that EPA waive CAA’s preemption of California’s more stringent vehicle emissions standards after concluding that NAAQS were not sufficiently strict to improve California’s particularly severe air pollution problems.¹³⁵ In 2009, after President Barack Obama signed an Executive Order directing EPA to do so, it waived CAA’s preemption of California’s vehicle emissions standards, permitting California to set more stringent vehicle emissions standards.¹³⁶

C. Federal Efforts to Address the Problem of Air Quality in Hot Spots

President William Clinton issued Executive Order 12,898 (“EO 12,898” or “EO”) in 1994,¹³⁷ the main goal of which was to encourage agencies to consider environmental justice when making policy or regulatory decisions.¹³⁸ Specifically, the EO requires EPA to review proposed actions for their effect on minority, low-income communities.¹³⁹ EO 12,898 states, in relevant part:

To the greatest extent practicable and permitted by law . . . each Federal agency shall make achieving environmental justice part of its mission . . . by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.¹⁴⁰

EPA and other federal and state agencies should cite EO 12,898 as their primary reason for developing environmental justice programs and initiatives.¹⁴¹ In light of EO 12,898, EPA has created multiple entities that seek to promote environmental justice and address hot spots, including the Office of Environmental Justice in 1992 (“OEJ”).¹⁴² EPA also opened the National Environmental Justice Council (“NEJAC”) in 1993.¹⁴³

Additionally in response to EO 12,898, OEJ developed EJSCREEN, a program designed to designate environmental justice communities and determine their pollution levels.¹⁴⁴ EJSCREEN provides a visual representation of air quality disparities on a local level.¹⁴⁵ This mapping tool combines data on air quality, poverty, health risks, and various demographic indicators to demonstrate the effect of air pollution on the most vulnerable communities.¹⁴⁶ The goal of EJSCREEN is to inform the public, especially those living in “hot spots,” of the quality of the air and the health and safety risks associated with extreme levels of air pollution at the local level.¹⁴⁷

126. *Id.*

127. Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Several Areas Classified as Moderate for the 2008 Ozone National Ambient Air Quality Standards, 83 Fed. Reg. 56,781, 56,782 (Nov. 14, 2018), <https://www.govinfo.gov/content/pkg/FR-2018-11-14/pdf/2018-24816.pdf> [<https://perma.cc/7PSV-LYSC>].

128. Air Plan Approval, *supra* note 121, at 50,552–53.

129. See *8-Hour Ozone (2015) Nonattainment Area State/Area/County Report*, U.S. ENV’T PROT. AGENCY, <https://www3.epa.gov/airquality/greenbook/jncs.html#CA> (last visited Jan. 29, 2019) [hereinafter *8-Hour Ozone*] [<https://perma.cc/6BWB-KVFG>].

130. See *About: The California Air Resources Board*, CAL. AIR RES. BD., <https://ww2.arb.ca.gov/about> (last visited Sept. 29, 2019) [<https://perma.cc/7TXP-7Y33>].

131. See *California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants*, U.S. ENV’T PROT. AGENCY, https://www3.epa.gov/airquality/greenbook/anayo_ca.html (last updated Sept. 30, 2019) [<https://perma.cc/F4C5-AQ3B>].

132. See *id.*

133. See *8-Hour Ozone*, *supra* note 129.

134. See Hackett, *supra* note 48.

135. *California Greenhouse Gas Waiver Request*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/california-greenhouse-gas-waiver-request> (last updated Aug. 19, 2019) [<https://perma.cc/2WCS-AR28>]; see also 42 U.S.C. § 7543 (2018).

136. *California Greenhouse Gas Waiver Request*, *supra* note 135.

137. See generally Exec. Order No. 12,898, 59 Fed. Reg. 7,629 (Feb. 16, 1994).

138. *Id.*

139. *Id.*

140. *Id.*

141. See U.S. ENV’T PROT. AGENCY, MEMORANDUM OF UNDERSTANDING ON ENVIRONMENTAL JUSTICE AND EXECUTIVE ORDER 12898, at 2 (2011), <https://www.epa.gov/sites/production/files/2015-02/documents/ej-mou-2011-08.pdf> [<https://perma.cc/6Q38-54UP>].

142. See U.S. ENV’T PROT. AGENCY, TOOLS AND PRODUCTS FOR ENVIRONMENTAL JUSTICE ACTION 1 (2017), https://www.epa.gov/sites/production/files/2017-09/documents/epa_office_of_environmental_justice_factsheet.pdf [<https://perma.cc/Y6WJ-WBJK>].

143. See *National Environmental Justice Advisory Council*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/environmentaljustice/national-environmental-justice-advisory-council> (last updated Mar. 29, 2019).

144. See *EJSCREEN: Environmental Justice Screening and Mapping Tool*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/ejscreen> (last updated Aug. 2, 2018) [hereinafter *EJSCREEN*] [<https://perma.cc/A9AB-7TK9>].

145. See *id.*

146. See *Purposes and Uses of EJSCREEN*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/ejscreen/purposes-and-uses-ejscreen> (last updated Mar. 20, 2018) [<https://perma.cc/LU87-3LKL>].

147. See *id.*

NEJAC frequently issues recommendation reports to EPA on various environmental justice issues, including specific recommendations related to eliminating hot spots. For example, NEJAC's report, "Recommendations and Guidance for EPA to Develop Monitoring Programs in Communities," advised EPA to develop an accessible information-dissemination method on air quality in environmental justice communities.¹⁴⁸ NEJAC's recommended program would provide interested individuals with specific air quality data that explains pollution levels and the impact polluting facilities have on nearby communities.¹⁴⁹

III. Legal Analysis

A. Why CAA Is Not Designed to Eliminate Hot Spots

Air pollution hot spots continue to exist in part because the CAA's air quality monitoring provisions do not require states to install monitors for the specific purpose of detecting these hot spots in local communities.¹⁵⁰ EPA air quality monitoring regulations match the scope of the NAAQS program by setting broad technological guidelines states must follow to properly detect air quality on the regional level.¹⁵¹ States must follow EPA regulations on the geographic placement, management, and design of air quality monitors, but, as long as monitor placement adequately detects criteria pollutant concentrations at the regional (AQCR) level, state officials ultimately may choose monitor sites.¹⁵² CAA's NAAQS provisions and their corresponding monitoring requirements extend only far enough to ensure AQCRs achieve air quality improvement.

AQCRs swallow hot spots because CAA compliance is based on meeting standards at the *regional* rather than the *local* level, and does not distinguish between regional and local air quality data for compliance purposes.¹⁵³ Under § 7609, the Act requires the EPA Administrator to review and consider the potential impact of pollution on vulnerable communities, but it does not require states to exam-

ine intra-AQCR disparities in air quality, or set localized air quality standards that would require states to address or remedy such impacts.¹⁵⁴ A state's compliance with the NAAQS program is fundamentally predicated on: (1) submitting timely and adequate SIPs, and (2) meeting NAAQS for each criteria pollutant in the state's AQCRs.¹⁵⁵ Neither the CAA's NAAQS nor its SIP provisions require consideration of air pollution hot spots, thereby creating a statutory loophole and allowing states to ignore highly polluted areas without being sanctioned so long as their SIPs successfully ameliorate air quality in their AQCRs.

Environmental justice screening tools reveal substantial disparities in air quality within AQCRs, supporting advocates' concerns about the CAA's responsiveness to air pollution hot spots.¹⁵⁶ In the Los Angeles region, impoverished non-white neighborhoods are more likely to be located near sources of air pollution, including hazardous waste and toxic release facilities.¹⁵⁷ In Southern California, AQCRs comply with NAAQS, while field studies indicate impermissibly and dangerously high levels of pollutants in "highly localized" areas near major highways.¹⁵⁸ Another AQCR in California is considered in "extreme nonattainment for ozone." This means that the air quality in the predominantly non-white, low-income eastern part of the region is more dangerous than the affluent western side of the region.¹⁵⁹ CAA provisions are not designed to address or eliminate these disparities, because the CAA specifically requires California to move the entire AQCR into attainment, rather than to eliminate substantial differences in air quality within it.

EPA's EJSCREEN, the mechanism that identifies and provides data on hot spots, is revealing in two significant ways: first, the data it produces identifies dozens of hot spots across the nation, revealing that pockets of high criteria pollutant concentrations are a pervasive nationwide problem.¹⁶⁰ Second, and even more significantly, EPA has made clear EJSCREEN serves an informative purpose¹⁶¹ and creates no legal responsibilities for state governments, implying that states have no obligation to regulate localized air pollutant concentrations, even when EJSCREEN

148. See NAT'L ENV'T JUST. ADVISORY COUNCIL, RECOMMENDATIONS AND GUIDANCE FOR EPA TO DEVELOP MONITORING PROGRAMS IN COMMUNITIES 5 (2017), <https://www.epa.gov/sites/production/files/2018-01/documents/monitoring-final-10-6-17.pdf> [<https://perma.cc/M56N-42HZ>].

149. See *id.* at 10–11.

150. See, e.g., RACHEL MASSEY, TUFTS UNIV. GLOB. DEV. & ENV'T INST., ENVIRONMENTAL JUSTICE: INCOME, RACE, AND HEALTH 9 (2004) http://www.ase.tufts.edu/gdae/education_materials/modules/Environmental_Justice.pdf; Ann E. Carlson, *The Clean Air Act's Blind Spot: Microclimates and Hotspot Pollution*, 65 UCLA L. REV. 1036 (2018). See generally 40 C.F.R. § 58 (2019).

151. 40 C.F.R. § 58.10(d).

152. *Managing Air Quality—Ambient Air Monitoring*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/air-quality-management-process/managing-air-quality-ambient-air-monitoring> (last updated Aug. 22, 2019) [<https://perma.cc/7LUQ-74GZ>]; see also 40 C.F.R. § 58.10.

153. Carlson, *supra* note 150, at 1047–48 ("By using seemingly authoritative emissions factors rather than actual measurements of refinery emissions—factors that may systematically understate the risk to residents in adjacent neighborhoods—regulators may simply . . . [be unable to] . . . 'see' or understand the complaints of residents who can smell the chemicals and regularly experience respiratory problems.").

154. See 42 U.S.C. § 7609; see also Jason Pinney, Note, *The Federal Energy Regulatory Commission and Environmental Justice: Do the National Environmental Policy Act and the Clean Air Act Offer a Better Way?*, 30 B.C. ENV'T AFFS. L. REV. 353, 393–95 (2003); see *supra* text accompanying note 122.

155. See *NAAQS Implementation Process*, *supra* note 122.

156. See Valerie G. Zartarian et al., *The Environmental Protection Agency's Community-Focused Exposure and Risk Screening Tool (C-FERST) and Its Potential Use for Environmental Justice Efforts*, 101 AM. J. PUB. HEALTH S286 (2011); see also Houston et al., *supra* note 52, at 566.

157. See Houston et al., *supra* note 52, at 568.

158. *Id.* at 567–68.

159. Joanna Kamhi, *supra* note 12, <https://www.theregreview.org/2018/11/23/kamhi-clean-air-act-hotspots> [<https://perma.cc/3J5K-3QV9>] (both West Los Angeles and San Bernardino are in the same air quality control region, but, in 2016, the former had no violations while the latter had 26); see also MICHAEL MATSUNAGA, L.A. AREA CHAMBER OF COM., CONCENTRATED POVERTY NEIGHBORHOODS IN LOS ANGELES 4 (2008), http://www.lachamber.com/clientuploads/LUCH_committee/082609_ConcentratedPoverty-Final_LUCH.pdf [<https://perma.cc/B6WR-BG8V>].

160. See Tony Barboza, *EPA's "Environmental Justice" Map Highlights California's Pollution Ills*, L.A. TIMES (June 10, 2015, 12:21 PM), <https://www.latimes.com/local/lanow/la-me-ln-environmental-justice-map-20150609-story.html>.

161. See *Purposes and Uses of EJSCREEN*, *supra* note 146.

reveals they clearly exceed NAAQS.¹⁶² EPA stated it would not use EJSCREEN to “label specific areas as environmental justice zones or as the basis for enforcement, funding and permitting decisions.”¹⁶³

B. How the CAA’s Loopholes Affect the Way States Address Air Pollution Hot Spots

The CAA is effective because it delineates air quality standards, informs states of their regulatory obligations, and consistently sanctions noncompliance.¹⁶⁴ The CAA’s regional air quality monitoring provisions incorporate this trifecta, but the CAA gives unfettered discretion to states in regulating local air quality. The CAA’s failure to address local air quality problems results in divergent state-level efforts to eliminate hot spots.¹⁶⁵ States like Illinois do little to address hot spots, acknowledging their existence only insofar as environmental justice advocates pressure them to do so. States tend to demonstrate the government’s sympathy toward environmental justice and its acknowledgement of the health and safety impacts of hot spots, but do not guarantee tangible air quality improvement.¹⁶⁶ CAA includes a regulatory loophole that environmental justice activists are not equipped to fix; rather, the solution to this problem fits squarely within the regulatory responsibilities of the federal and state governments.

In 2016, the U.S. Commission on Civil Rights created a report examining EPA’s enforcement of laws that protect environmental justice communities.¹⁶⁷ The Illinois Advisory Committee to the Commission on Civil Rights submitted a Memorandum on the status of environmental justice in Illinois, which is reproduced in the Commission’s report.¹⁶⁸ The Memorandum recommended IEPA and EPA work together to change permitting practices that allow industrial facilities to operate and pollute poor communities of color.¹⁶⁹ Additionally, the Committee suggested that Illinois’ failure to monitor at the local level, coupled with a lack of air quality monitors, does not adequately monitor the air quality in Chicago’s most vulnerable communities.¹⁷⁰ The Committee’s criticisms reflect the powerful forces causing and perpetuating air quality disparities and illuminate the CAA’s failure to impose regulatory obligations on states specifically targeted toward improving localized air quality.

162. See Barboza, *supra* note 160.

163. *Id.*

164. *Supra* Section II.A.i.

165. See generally ENVIRONMENTAL JUSTICE FOR ALL, *supra* note 13; see also *supra* Section III.A.

166. Illinois’ approach is similar to most other states’ approaches, with only a few states having EJ programs similar to those in California (e.g., Delaware, Hawaii, and Rhode Island). See ENVIRONMENTAL JUSTICE FOR ALL, *supra* note 13, at vii–xvii.

167. See U.S. COMM’N ON C.R., ENVIRONMENTAL JUSTICE: EXAMINING THE ENVIRONMENTAL PROTECTION AGENCY’S COMPLIANCE AND ENFORCEMENT OF TITLE VI AND EXECUTIVE ORDER 12,898 (2016), https://www.usccr.gov/pubs/2016/Statutory_Enforcement_Report2016.pdf [<https://perma.cc/S8ML-9BMG>].

168. *Id.* at 157.

169. *Id.* at 161.

170. *Id.* at 164.

IEPA’s “EJ Grievance Procedure” is the main legal tool available for redress for those who have suffered tangible harm from air pollution in hot spots.¹⁷¹ In 2015, the Southeast Environmental Task Force (“SETF”), a Southeast Chicagoan environmental justice nonprofit organization, submitted a complaint to the Illinois Environmental Justice Officer under IEPA’s EJ Grievance Procedure.¹⁷² This complaint reflects Illinois’ failure to adequately address hot spots and, at the very least, to follow its own environmental justice policies.¹⁷³ It alleges that IEPA granted Agri-Fine, a polluting facility in an impoverished, minority Southeast Side Chicago neighborhood, a “lifetime operating permit,” even though Agri-Fine does not comply with CAA.¹⁷⁴ The complaint further alleges that IEPA failed to provide an “opportunity for public participation” in the permit-granting process, in violation of IEPA’s own “Environmental Justice Public Participation Policy.”¹⁷⁵ It utterly failed to provide the community with information on the facility, conduct a public hearing, create a “draft permit” for the public’s review, or solicit public comment.¹⁷⁶ The complaint provides specific data with respect to Agri-Fine’s multiple violations of CAA.¹⁷⁷ Finally, it requests a response from IEPA, expecting to engage IEPA in negotiations with respect to Agri-Fine’s continuing operations.¹⁷⁸

Illinois does not routinely engage with communities on air quality issues, which is a necessary but not sufficient component of solving environmental justice issues:

... [O]ver the past 3 ½ years, no outreach was conducted in more than half the cases in which state Environmental Protection Agency considered a permit that could affect air . . . quality in an environmental justice area. No public hearings were held in nearly two years for such cases. Even when notices were sent to neighborhood groups, the letters did not detail how the public could get involved. Nor did they outline the period of time the public had to respond.¹⁷⁹

171. See generally *Grievance Procedure*, ILL. ENV’T PROT. AGENCY, <https://www2.illinois.gov/epa/topics/environmental-justice/Pages/grievance-procedure.aspx> (last visited Apr. 9, 2019) [<https://perma.cc/HXD9-EJSJ>].

172. See Letter from Keith Harley, Att’y for the Se. Env’t Task Force, to the Env’t Justice Officer, Ill. Envtl. Prot. Agency (Apr. 28, 2015), <https://www2.illinois.gov/epa/Documents/iepa/environmental-justice/fines/agri-fine/complaint.pdf> [hereinafter Letter from Keith Harley] [<https://perma.cc/89C6-2FXJ>].

173. *Id.* at 1.

174. *Id.* at 2; see also Robin Amer, *Facing Lawsuit, Agri-Fine COO Says Company Spent “Millions” on Odor Control*, DNA INFO (June 18, 2015, 8:45, AM), <https://www.dnainfo.com/chicago/20150618/south-deering/facing-lawsuit-agri-fine-coo-says-company-spent-millions-on-odor-control> [<https://perma.cc/T25B-6U6J>].

175. Letter from Keith Harley, *supra* note 172, at 2.

176. *Id.* at 2–3.

177. Letter from Keith Harley, *supra* note 172.

178. The complaint further stated SETF would file a Title VI claim with EPA if IEPA denied its complaint. See *id.* at 5.

179. Briscoe, *supra* note 43:

According to records obtained by the Tribune, between January 2015 and August 2018, almost 2,000 permit applications were catalogued in the state’s environmental justice outreach database and marked as completed. But in 56 percent of these cases, no notification letter was sent. When a notification letter was sent, the Tribune found at least 80 instances in which communities were given the minimum two weeks or less to respond.

IEPA attempts to assess and remedy air pollution hot spots, but explicitly recognizes its ability to respond to these concerns is constrained “by the absence of . . . clear direction [for how to address environmental justice concerns] at the federal level.”¹⁸⁰ The government’s failure to address local air quality concerns demonstrates that state-level efforts to address local air pollution, if not regulated by CAA in the same way regional air pollution is, ultimately fail to develop consistently enforced regulatory framework necessary to effectively improve air quality.

C. How Federal Efforts Have Failed to Eliminate Air Pollution Hot Spots

EOJ created EJSCREEN in direct response to EO 12,898. However, this program’s sole function is to improve public access to air quality data and support “community awareness efforts.”¹⁸¹ The NRDC recently used EJSCREEN to analyze air quality disparities in the Chicago area and to create a map of hot spots, recognizing the limited value of its analysis because “no map is a definitive accounting of real conditions on the ground.”¹⁸² The NRDC’s study suggests EJSCREEN is effective for the limited purpose of identifying and mapping air pollution hot spots, and informing individuals living in them of the potential health and safety risks they face.¹⁸³ EJSCREEN’s usefulness is constrained by the limited local air quality data available, since states’ monitoring systems are not designed to monitor local air quality specifically.¹⁸⁴ For that reason, EJSCREEN does little to encourage and incentivize greater responsiveness of states to localized air quality problems, nor does it compensate for the lack of federal and state efforts to monitor, regulate, and improve local air quality. EPA’s efforts to assess environmental justice in light of EO 12,898 are ineffective because policies and tools like EJSCREEN involve information-gathering and accessibility, which do not create a direct and effective response to environmental justice issues.¹⁸⁵ An empirical study came to the following conclusion:

We found that . . . EO 12898 . . . had little, if any, impact on federal regulatory decision making. To the extent federal agencies discussed EO 12898, most did so in boilerplate rhetoric that satisfied compliance but was devoid of detailed thought or analysis. In the 21st year, with the exception of the Environmental Protection Agency, very little federal regulatory activity included references to EO 12898.¹⁸⁶

In practical effect, EO 12,898 offers encouraging rhetoric, but does little to address local air pollution concerns. The EO does not create substantive legal obligations for states to address hot spots, nor does it create legal rights for individuals harmed by pollution in hot spots.¹⁸⁷ Federal efforts to eliminate hot spots demonstrate that the government is fully aware hot spots are a national problem, but also highlights how the law does not require the federal government to regulate hot spots, nor compel states to do so. For example, Earthjustice, an environmental nonprofit organization, sued EPA in September 2018 for not enforcing or sanctioning California’s failure to make any air quality progress in a hot spot, San Joaquin Valley. California has been aware of the threats to health and safety the hot spot posed to residents since 1997.¹⁸⁸

Prof. Robert Bullard, a well-known environmental justice advocate, argues these communities are too immediately vulnerable to wait while the government takes “baby steps” to address disparate environmental harms afflicting vulnerable communities.¹⁸⁹ EO 12,898 is a “baby step” because acknowledging disparate environmental impacts does not make them go away; rather, the EO raises awareness about hot spots while maintaining the status quo.¹⁹⁰ EO 12,898, NEJAC, and EOC are not only complicit in, but perpetuate, the existence of hot spots by substituting impactful work with empty rhetoric.

IV. Solution

EJSCREEN reflects CAA’s strengths and weaknesses, because it affirms a steady improvement in *regional* air quality while only exposing *local* pockets of high concentrations of air pollution in predominantly impoverished, non-white neighborhoods. The existence of hot spots is inherently problematic, but the need for a solution to this regulatory loophole is particularly acute because of its impact on already vulnerable populations. EJSCREEN must be integrated into CAA’s sophisticated legal framework, so that the statute’s effective regulatory and enforcement mechanisms apply equally to local and regional air quality.¹⁹¹ The NAAQS program has been remarkably effective in improving air quality on a regional level, and provides a flexible framework within which a localized air quality control scheme logically fits.¹⁹² More specifically, since CAA’s SIP provisions ensure state accountability for complying with NAAQS at the regional level,

180. *Environmental Justice (EJ) Policy*, ILL. ENV’T PROT. AGENCY, <https://www2.illinois.gov/epa/topics/environmental-justice/Pages/ej-policy.aspx> (last visited Apr. 8, 2019) [<https://perma.cc/LF6U-BQS2>].

181. See *Purposes and Uses of EJSCREEN*, *supra* note 146.

182. See Geertsma, *supra* note 15.

183. See *id.*

184. See *supra* Section III.A.

185. See Elizabeth Glass Geltman et al., *Beyond Baby Steps: An Empirical Study of the Impact of Environmental Justice Executive Order 12898*, 39 FAM. & CMTY. HEALTH 143, 144 (2016), https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=1184&context=sph_pubs [<https://perma.cc/AFT3-3WMK>].

186. *Id.* at 143.

187. See *id.* at 148.

188. Chris Jordan-Bloch, *Protecting Air Quality in the San Joaquin Valley*, EARTHJUSTICE, https://earthjustice.org/our_work/cases/2010/air-quality-in-the-san-joaquin-valley (last visited Mar. 1, 2019) [<https://perma.cc/4E2M-N4KT>]; see also Press Release, Earthjustice, Groups Charge EPA With Failing to Enforce Air Standards (Sept. 18, 2018), <https://earthjustice.org/news/press/2018/groups-charge-epa-with-failing-to-enforce-air-standards> [<https://perma.cc/P7C8-5842>].

189. Geltman et al., *supra* note 185, at 149.

190. See *id.*

191. See Geertsma, *supra* note 15.

192. See *A Success Story. With Many Chapters Still to Come*, EARTHJUSTICE, <https://earthjustice.org/features/campaigns/a-success-story-with-many-chapters-still-to-come> (last visited Feb. 27, 2019) [<https://perma.cc/JZC8-77QH>].

creating hot spot-related SIP requirements will likewise ensure state accountability for eliminating air pollution at the local level.

A. Amending CAA

1. The Solution

The solution to the existence of hot spots is to amend CAA's SIP provision, 42 U.S.C. § 7410, to require states to monitor and remedy unacceptably high localized concentrations of criteria air pollutants. CAA's SIP provisions hold states accountable for improving air quality by requiring states to specify how they will achieve air quality improvement. Section 7410 should be amended to require SIPs to include a hot spots section that details specific measures the state will take to identify and eliminate air pollution hot spots in the state's attainment and nonattainment areas. The amendment should be placed directly after § 7410(a)(2) (M) and state:

States shall address substantial intra-AQCR disparities in air quality by identifying highly concentrated areas of one or more criteria pollutants (hereinafter referred to as a hot spot) in their attainment and non-attainment areas. Once the State identifies a hot spot, the State shall include a section within the relevant attainment or non-attainment provision of the SIP for the relevant criteria pollutant(s), describing how the State will:

- 1) Identify hot spots using EPA's EJSCREEN mapping tool;
- 2) Ensure air quality monitors are placed in the hot spot such that local air quality is accurately and consistently monitored;
- 3) Achieve significant reductions in emissions from mobile and/or stationary sources located within or near the hot spot so the hot spot achieves pollutant concentrations that the EPA Administrator can reasonably find are equal or substantially similar to the concentrations in the whole AQCR within which it is located;
- 4) Use the State's existing emissions limitation techniques that are at least as stringent as the techniques used in nonattainment areas to improve air quality in the hot spot. If the hot spot fails to achieve significant improvement in air quality such that its air quality is equal or substantially similar to the air quality of the AQCR within which it is located within 18 months, the Administrator shall impose severe sanctions on the state, including but not limited to fines, EPA-imposed emissions limitations, and withholding of EPA funding for state projects and programs.

Section 7410 is the most logical CAA provision to amend, because the Act's effectiveness is largely attributable to its SIP provisions, which require states to design specific measures to improve air quality. If a state's SIP includes a section that identifies and describes how the state will regulate disparities in local air quality (as is the case for regional air quality), their ability to exercise discretion is eliminated, which is what historically has led to little, if any, air quality amelioration in hot spots.

Further, requiring states to add a hot spot provision to their SIPs would be a manageable obligation, because states are accustomed to updating their SIPs on a regular basis, and already understand the specificity, feasibility, and detail required to comply with the CAA's SIP requirements. Lastly, an SIP requirement would ensure states consider hot spots in nonattainment and attainment areas, as well as evaluate hot spots created by stationary and mobile sources if the hot spot is located in a nonattainment area.

The central purpose of this amendment is to ensure that the substantial intra-AQCR differences in air pollutant concentrations are eliminated. The amendment must require states to use the same or similar enforcement mechanisms they use to comply with NAA provisions so states implement sufficiently stringent emissions limitations to ensure timely progress. CAA's NAA provisions require states to implement more stringent emissions limitations than in AAs. Air quality regulation in hot spots should be held to at least the same standard of stringency.

The amendment's enforcement mechanisms would penalize noncompliance through fees and increased scrutiny of the state's compliance efforts by EPA. The EPA Administrator will have discretion in his or her evaluation of "substantial similarity." They should take into account the degree of progress the state has achieved in the hot spot, the difference in air pollutant concentration between the hot spot and the rest of the AQCR, and the feasibility of decreasing emissions in the hot spot without placing a significant burden on the state.

2. California: A Success Story

California is a pioneer-state in the realm of environmental justice, and the relative success of its policies in addressing hot spots proves that states must adopt a comprehensive approach to regulating local air quality in order to eliminate hot spots.¹⁹³ California's main initiatives serve as a success story of effective regulation, and amending CAA's main SIP provision would ensure every state addresses hot spots similarly. In 2017, CARB established the Community Air Protection Program ("CAPP") with the goals of establishing a consolidated method for identifying hot spots and funding air quality monitors in the most polluted communities.¹⁹⁴

CAPP is a community-based air quality monitoring program meant to supplement other air quality monitor-

193. See ENVIRONMENTAL JUSTICE FOR ALL, *supra* note 13, at 17–18, 28.

194. See *Community Air Protection Program: About*, CAL. AIR RES. BD., <https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program/about> (last visited Oct. 1, 2019) [hereinafter *CAPP*].

ing programs already in place, including CAA-mandated programs.¹⁹⁵ In creating this program, CARB seems to reveal: (1) the severity of air pollution in many of the state's communities, many of which are located in NAAs; and (2) CAA's inadequacy with respect to addressing localized air quality problems in these communities.¹⁹⁶ This program achieves its goal of localized air quality monitoring by funding and mandating annual interactive monitoring projects in selected hot spots.¹⁹⁷ Communities are selected based on a number of factors including the severity of air quality, exposure to health risks, and poverty level.¹⁹⁸

In 2019, CARB is funding local air quality monitoring in San Diego County through CAPP.¹⁹⁹ The County is providing its most vulnerable and polluted neighborhoods with approximately 25 air quality monitoring stations designed to detect localized air pollutant concentrations.²⁰⁰ CAPP consolidates tools and strategies into a comprehensive plan, encouraging state and local government entities to implement localized air quality monitoring programs. CAPP is a success story because it illustrates the feasibility of local air quality monitoring as a supplement to states' existing regional air quality monitoring obligations. A CAA amendment requiring states to incorporate local air quality monitoring into their SIPs will result in programs similar to CAPP in every state.

V. Conclusion

Thousands of Americans are disproportionately vulnerable to environmental harms because of the existence of air pollution hot spots and the absence of an effective legal framework for eliminating them. The CAA, as the only major federal air quality statute, must directly address air pollution hot spots because states will not adequately address them on their own. By using Illinois and California as case studies, this Note demonstrates that state governments will not address substantial differences in air quality at the local level beyond "committing" to environmental justice efforts absent a clear statutory directive to do so. This Note has proposed an amendment that will state with a level of clarity and precision what states must do to address disproportionately high concentrations of criteria pollutants in hot spots. Without a CAA-mandated regulatory response, states will continue to take inefficient and ineffective baby steps toward acknowledging and eliminating substantial disparities in air quality at the local level. A statutory solution obligating states to eliminate hot spots in a timely manner is necessary in the same way that CAA, with its many strict deadlines, was necessary to improve air quality on a much larger geographic scale in 1973, when extreme pollution threatened entire cities the same way it threatens the health and well-being of vulnerable communities today.

195. *See id.*

196. *See* CAL. AIR RES. BD., CALIFORNIA AIR PROTECTION PROGRAM BLUEPRINT (2018), https://ww2.arb.ca.gov/sites/default/files/2018-10/final_community_air_protection_blueprint_october_2018.pdf [https://perma.cc/2CC4-3JQ9] [hereinafter CAPP BLUEPRINT].

197. *See* CAPP, *supra* note 194.

198. *See* CAPP BLUEPRINT, *supra* note 196.

199. *See* Nicole Tyau, *San Diego County's Most Polluted Neighborhoods Could Get New Air Monitors*, KPBS (July 11, 2018), <https://www.kpbs.org/news/2018/jul/11/san-diego-countys-most-polluted-neighborhoods-could> [https://perma.cc/8S4H-8B86].

200. *Id.*

THE CONVENTIONAL ENERGY TRANSITION SUBSIDY: STRUCTURING A FUTURE FOR OIL & GAS COMPANIES

Neal M. Anderson*

ABSTRACT

The oil and gas industry is a predominant player in the global economy, but its commodities will not last forever. Oil and gas companies receive generous subsidies from the United States government for their operations and production of energy. While there are subsidies available for wind and solar energy development, the incentives for oil and gas companies to transition to renewable energy production are inadequate. Oil and gas are finite resources, and in order to mitigate economic impacts from their depletion, this Note proposes a tax regime that encourages oil and gas companies to invest in wind and solar electricity. It is imperative that the oil and gas industry has avenues for investment in renewables, starting with reinstating the Production Tax Credit and the Investment Tax Credit, but going further to allow the oil and gas industry to have access to renewable energy production at a rate that is near their current profit margins from oil and gas extraction and sales. With the transition of oil and gas companies using tax credits, the future of the economy will remain stable and the environment will benefit from reduced greenhouse gas emissions.

I. Introduction

Oil and gas are abundant commodities, but when they inevitably become rare within the twenty-first century,¹ the U.S. economy must cope with a fundamental change to the energy industry. Although many oil corporations are heavily invested in natural gas, few U.S. oil corporations have seriously invested in renewable energy resources.² Even Saudi Aramco—Saudi Arabia’s national oil company that has long succeeded with tunnel vision in the oil market³—has expressed intentions to invest in renewables.⁴

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1. See *infra* Section II.A.
2. See Maxx Chatsko, *3 Oil Companies Getting Serious About Renewable Energy—and 2 That Aren’t*, MOTLEY FOOL, (June 29, 2018), <https://www.fool.com/investing/2018/06/29/3-oil-companies-getting-serious-about-renewable-en.aspx> [<https://perma.cc/LE4U-SS3Y>] (contrasting three European companies that take renewable energy seriously with U.S. oil giant Chevron, which does not).
3. Ana Penha, *Oil Companies’ Approach to Renewable Energy*, 6 ENV’T & ENERGY L. & POL’Y J. 1, 43 (2011).
4. Stanley Reed, *From Black Gold to Golden Rays*, N.Y. TIMES, Feb. 6, 2018, at B1. *But see* Anthony Dipaola, *It’s Hard to Be the Saudi Arabia of Solar*, BLOOMBERG (Dec. 20, 2018), <https://www.bnnbloomberg.ca/it-s-hard-to-be-the-saudi-arabia-of-solar-1.1184029> [<https://perma.cc/K5EA-NQN2>].

Consider the veil that corporations sew into their climate mitigation strategies; many oil and gas corporations appear committed to mitigating the risk of climate change but take no proactive steps.⁵ Instead, oil industry leaders opt for technological solutions that adapt to climate change rather than actively pursuing carbon-neutral energy.⁶

Conventional energy corporations appear to be investing in renewable energy, yet they continue to focus on oil and gas in the near and long term. BP P.L.C. (“BP”) expects that in certain evolving market scenarios, faster energy transition will be “driven by policy and advancements in renewable and energy efficiency.”⁷ Although promising on its face, BP’s analysis suggests that other actors, namely federal and state governments, have equal responsibility in the energy transition.⁸ Royal Dutch Shell PLC’s (“Shell”) direct investment in renewable energy resources is the highest among oil and gas companies, ranging from \$1 billion

5. Sylvia Jaworska, *Change but No Climate Change: Discourses of Climate Change in Corporate Social Responsibility Reporting in the Oil Industry*, 55 INT’L J. BUS. COMM. 194, 215 (2018) (“To sum up, the [corporate social responsibility] reporting in the oil industry, which is one of the most influential sectors in the world closely aligned with political powers, simulated commitment to climate change, while responsibilities are clandestinely shifted to other stakeholders or the future.”).
6. *Id.* at 216 (“Thus, the enthusiasm for technological solutions and [carbon capture and storage] conceals alternative solutions, does not challenge existing practices and in doing so, further serves to reinforce the business-as-usual mode.”).
7. BP PLC, *ADVANCING THE ENERGY TRANSITION 5*, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/sustainability/group-reports/bp-advancing-the-energy-transition.pdf> [<https://perma.cc/G26W-CRVW>] (last visited Jan. 27, 2019).
8. See Jaworska, *supra* note 5, at 200.

to \$2 billion a year,⁹ yet Shell dispels any notion that the corporation has “gone soft on the future of oil and gas.”¹⁰ A policy change driven by federal and state governments is thus a requisite to encourage oil and gas companies to invest in renewable energy.

Although oil and gas corporations invest in renewable energy, existing tax incentives do not sufficiently encourage those corporations to invest in the energy transition. The Renewable Energy Production Tax Credit (“PTC”) is a tax regime that allows new utility-scale wind projects to receive a credit of \$.015 per kilowatt-hour for wind electricity production at the facility for a decade after the facility is placed into service.¹¹ As of this writing, the PTC has been extended twelve times and expires in 2021,¹² marking the seventh expiry since its inception in 1992.¹³ Comparatively, various provisions under the Investment Tax Credit (“ITC”) have expired and been renewed by the U.S. Congress since 1982.¹⁴ Currently, the ITC provisions sunset between 2017 and 2021,¹⁵ leaving, in relevant part, only a ten percent tax credit for solar electric investments after 2022.¹⁶

Despite the transitory nature of subsidies, many scholars agree that the PTC and ITC should be available for renewable energy to remain competitive.¹⁷ Other scholars have outlined the merits of various tax schemes and structures.¹⁸ Scholarship has even compared the commonalities and differences between tax subsidies for renewable energy sources

and oil and gas production.¹⁹ Still other scholarship has explored the reasons for oil and gas companies’ investment into renewable energy.²⁰ An unexplored topic, and the focus of this Note, is whether and to what extent tax incentives could support oil and gas corporations’ transition to renewable energy. The rate of return for renewable energy investments is too low to incentivize oil and gas companies to use their limited capital on renewable energy development, compared to the rate of return with fossil fuel subsidies.²¹ The federal government should thus subsidize oil and gas corporations’ renewable energy investments by reinstating the PTC and the ITC—thus resolving the lack of certainty and simplifying the tax code²²—and should provide additional investment subsidies to induce the energy transition from conventional to renewable resources.

This Note explores the role of oil and gas companies in emerging renewable energy markets, particularly wind and solar energies.²³ To mitigate future losses from resource scarcity, oil and gas corporations should secure their stake in renewable energies with greater levels of investment. Investment in renewables is the most practical solution to long-term growth in the energy sector given our finite-resource earth. The barriers to energy transition among oil and gas corporations are monetary.²⁴ Corporations could overcome monetary barriers with targeted subsidies for conventional energy corporations to invest in renewable energy.²⁵ A new energy infrastructure would follow, allowing an electric-based economy to thrive.

Part II discusses the economic and technological developments of the oil and gas industry, the future of oil and gas given the finite resources available, and market pressures available to mitigate climate change. Part III outlines the theory behind tax subsidies, the available subsidies for wind and solar electricity generation, and the current availability of subsidies for oil and gas companies. Building off the current state of energy subsidies, Part IV argues in favor of extending the PTC and ITC and outlines an addi-

9. Ron Bousso & Shadia Nasralla, *Natural Gas Here to Stay Beyond Energy Transition, Big Oil Says*, REUTERS (Oct. 9, 2018) <https://www.reuters.com/article/us-oil-conference-gas/natural-gas-here-to-stay-beyond-energy-transition-big-oil-says-idUSKCN1M1J1CJ> [<https://perma.cc/H6NQ-K56J>].

10. *Id.* (“[T]he [renewable energy] investments ‘might even make people think we have gone soft on the future of oil and gas.’”).

11. See I.R.C. § 45(a) (2018). The PTC step-down began in 2017 and reduced the credit amount by twenty percent on an annual basis until 2019. *Id.* § 45(b)(5).

12. MOLLY F. SHERLOCK, CONG. RSCH. SERV., R43453, THE RENEWABLE ELECTRICITY PRODUCTION TAX CREDIT 4–5 (2020). Investors can claim forty percent of the PTC for projects that have begun construction of a significant nature or have at least five percent completion before January 1, 2020. See I.R.S. Notice 2016-31, 2016-1 C.B. 1025, at 3, <https://www.irs.gov/pub/irs-drop/n-16-31.pdf> [<https://perma.cc/QCP9-YL2B>].

13. SHERLOCK, *supra* note 12, at 4–5.

14. MOLLY F. SHERLOCK, CONG. RSCH. SERV., IF10479, THE ENERGY CREDIT: AN INVESTMENT TAX CREDIT FOR RENEWABLE ENERGY 1–2 (2018).

15. I.R.C. § 48(a)(5)(E), (a)(6), (a)(7).

16. I.R.C. § 48(a)(6)(B); N.C. CLEAN ENERGY TECH. CTR., BUSINESS ENERGY INVESTMENT TAX CREDIT (ITC) (Mar. 1, 2018), <http://programs.dsireusa.org/system/program/detail/658> [<https://perma.cc/C368-KHW7>].

17. For a sample of articles, see Michelle D. Laysner, *Improving Tax Incentives for Wind Energy Production*, 81 MO. L. REV. 453, 482–83 (2016); see also Felix Mormann, *Beyond Tax Credits: Smarter Tax Policy for Cleaner, More Democratic Energy Future*, 31 YALE J. REG. 303, 319 (2014) (comparing the history of government incentives for renewable energy to those for oil and gas).

18. See Melissa Powers, *Sustainable Energy Subsidies*, 43 ENV’T L. 211 (2013) (providing a backdrop of renewable energy tax credits and arguing for greater reliability of those tax incentives to support greater opportunity for renewable energy investments); Kevin M. Walsh, *Renewable Energy: Where We Are Now and How Renewable Energy Investment and Development Can Be Expanded*, 23 U. MIAMI BUS. L. REV. 69–70 (2014) (advocating for renewable energy development and investment by broadening the investment pool); Jeffrey S. Hinman, *The Green Economic Recovery: Wind Energy Tax Policy After Financial Crisis and the American Recovery and Reinvestment Tax Act of 2009*, 24 J. ENV’T L. & LITIG. 39 (2009) (conducting a “case study on how federal tax policy has effected one industry and how it can better encourage growth in that industry”).

19. See Blake Harrison, Note, *Expanding the Renewable Energy Industry Through Tax Subsidies Using the Structure and Rationale of Traditional Energy Tax Subsidies*, 48 U. MICH. J. L. REFORM 845–46 (2015).

20. See Penha, *supra* note 3.

21. See Tracey M. Roberts, *Picking Winners and Losers: A Structural Examination of Tax Subsidies to the Energy Industry*, 41 COLUM. J. ENV’T L. 63, 135–36 (2016) (juxtaposing the marginal incentive the PTC and ITC provide against the array of subsidies for fossil fuel companies).

22. See Erin Dewey, *Sundown and You Better Take Care: Why Sunset Provisions Harm the Renewable Energy Industry and Violate Tax Principles*, 52 B.C. L. REV. 1105, 1141–42 (2011).

23. Fossil fuels oil and gas take precedence over coal because of coal’s decline in production and consumption in the U.S. electricity market. See U.S. ENERGY INFO. ADMIN., SHORT-TERM ENERGY OUTLOOK 9 (2019) (forecasting coal-fired electricity generation to decrease twelve percent in 2019 alone). State regulations on flaring and a high concentration of British thermal units make natural gas popular in the energy sector. With the decline of electricity generation from coal, the rise in demand for natural gas, and the preeminence of oil, the latter two resources are more relevant for the purposes of this Note. Wind and solar energy offer the greatest opportunities for growth, see Darrell Blakeway & Carol Brotman White, *Tapping the Power of Wind, FERC Initiatives to Facilitate Transmission of Wind Power*, 26 ENERGY L.J. 393, 393 (2005), and therefore are the focus of this Note. However, a complete energy transition will require energy inputs from geothermal, nuclear, biofuels, hydroelectric, and other renewable resources.

24. Roberts, *supra* note 21.

25. See *id.*

tional tax incentive for oil and gas companies to transition to renewable energy.

II. Energy Industry Development

A. Oil and Gas History and Development

Oil and gas have been used as commercial energy sources since the nineteenth century.²⁶ As science and technology advanced during the industrial revolution, drilling for oil became more reliable.²⁷ After the Sixteenth Amendment reintroduced the income tax in 1909,²⁸ the Tax Revenue Act of 1913 (“TRA”) levied an income tax pursuant to the Sixteenth Amendment, but also instated a tax subsidy for oil discovery.²⁹ The ready supply of oil during World War I and the latter part of the U.S. industrial revolution was a direct result of the TRA as a vehicle to encourage development.³⁰ Oil became a ubiquitous resource as demand for energy expanded with the overall growth of the economy.³¹ Demand for natural gas likewise accelerated with applications in electricity generation and heating.³² As technology continues to advance³³ and tax incentives adapt to diverse exploration and development practices, previously uneconomical oil and gas resources become cost effective.³⁴

Consider that the oil and gas industry’s modus operandi has been to maximize profits by minimizing costs, targeting large and easily accessible oil and gas reservoirs.³⁵ As more oil and gas is used, these large reservoirs are depleted from total reserves.³⁶ Total oil and gas reserves are the

sum of proven deposits and extracted reserves.³⁷ Oil and gas reservoirs are still abundant but new resource discovery has declined in recent years.³⁸ In the December 2018 U.S. Geological Survey assessment of the Permian Basin,³⁹ U.S. oil and gas reserves swelled with the discovery of new deposits.⁴⁰ Though the Permian Basin increased reserves, the U.S. Energy Information Administration (“EIA”) found that new oil and gas reserves discovered through exploration had decreased during the decade prior to 2018.⁴¹ Additionally, large discoveries of new reserves are merely “approximations [that] do not address future economic profitability.”⁴² Corporate Boards of Directors (“BODs”) have a duty to shareholders to maximize profits.⁴³ Given the duty to maximize profits, the lack of certainty in the future economic profitability of oil and gas should give pause to corporate BODs and shareholders as they seek to maximize profits through aggressive depletion of available reserves.

Technology and innovation are key to future growth as the oil and gas industry extracts from harder-to-reach reservoirs.⁴⁴ Yet, oil and gas reserves will near a point where it is no longer economically feasible to continue extracting.⁴⁵ BP estimates that global proven reserves, which include uneconomic reserves, would be depleted in fifty years under 2017 consumption levels.⁴⁶ However, assuming oil demand will hold steady,⁴⁷ proven oil reserves will

26. *A Brief History of Natural Gas*, AM. PUB. GAS ASS’N, <https://www.apga.org/apgamainsite/aboutus/facts/history-of-natural-gas> [https://perma.cc/9BUZ-XPAM] (last visited Jan. 27, 2019).

27. See, e.g., Jaromir Benes et al., *The Future of Oil: Geology Versus Technology*, 31 INT’L J. FORECASTING 207, 208 (2015) (discussing the Hubbert bell curve and the relevance of technological solutions for improved oil recovery).

28. U.S. CONST. amend. XVI (“The Congress shall have power to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several States, and without regard to any census or enumeration.”).

29. See Charles O. Galvin, *The “Ought” and “Is” of Oil-and-Gas Taxation*, 73 HARV. L. REV. 1441, 1458 n.48 (1960) (cataloging the early history of oil subsidies in the Revenue Acts of 1913, 1916, and 1918).

30. For an overview of the early history of oil subsidies, see generally Charles O. Galvin, *Federal Income Tax—Percentage Depletion of Oil and Gas Wells*, 21 TEX. L. REV. 410, 411–13 (1943).

31. See KOSTAS BITHAS & PANOS KALIMERIS, REVISITING THE ENERGY-DEVELOPMENT LINK 40–41 (8th ed. 2016). Until this time, other renewable energy resources—trees, water, and wind—were used to meet the energy demands of society. See *id.* at 40 (using renewable energy resources ensured a steady supply of energy, but also maintained a cycle of carbon disposition, extraction, and emission).

32. See *id.* at 40.

33. See generally *id.* at 39 (including technologies such as horizontal drilling and hydraulic fracturing).

34. See Roberts, *supra* note 21, at 76.

35. See JOHN S. LOWE ET AL., CASES AND MATERIALS ON OIL AND GAS LAW 41 (7th ed. 2018); see also LUIZ AMADO, *Drilling Cost*, in RESERVOIR EXPLORATION AND APPRAISAL 59 (2013), <https://www.sciencedirect.com/topics/engineering/drilling-cost> [https://perma.cc/VCM2-QSMK].

36. Philip Budzik & Michael Ford, *Oil and Natural Gas Resource Categories Reflect Varying Degrees of Certainty*, U.S. ENERGY INFO. ADMIN. (July 17, 2014), <https://www.eia.gov/todayinenergy/detail.php?id=17151> [https://perma.cc/Y3ZD-KQCB]. The industry has continued to thrive from technological innovations and government subsidies, which have lowered the cost of extraction and recovery in sparse oil and gas fields.

37. *Id.*

38. Jeff Barron, *Reporting Oil Companies’ Proved Reserves in 2016 Decline for Second Consecutive Year*, U.S. ENERGY INFO. ADMIN. (June 12, 2017), <https://www.eia.gov/todayinenergy/detail.php?id=31592> [https://perma.cc/R7KH-HLQH].

39. U.S. GEOLOGICAL SURV., ASSESSMENT OF UNDISCOVERED CONTINUOUS OIL AND GAS RESOURCES IN THE WOLFCAMP SHALE AND BONE SPRING FORMATION OF THE DELAWARE BASIN, PERMIAN BASIN PROVINCE, NEW MEXICO AND TEXAS (2018), <https://pubs.usgs.gov/fs/2018/3073/fs20183073.pdf> [https://perma.cc/NJ7R-QPX2].

40. Ariel Cohen, *America’s Oil and Gas Reserves Double With Massive New Permian Discovery*, FORBES (Dec. 21, 2018, 8:52 AM), <https://www.forbes.com/sites/arielcohen/2018/12/21/americas-oil-and-gas-reserves-double-with-massive-new-permian-discovery> [https://perma.cc/3TP8-NJDE].

41. *Oil Crude and Petroleum Products Explained*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/energyexplained/index.php?page=oil_home#tab2 [https://perma.cc/WN5C-FR74] (last updated Dec. 12, 2018).

42. Cohen, *supra* note 40.

43. See Karmel, *infra* note 52.

44. Brandy Fidler, *CEO Outlook: Positioning for Growth*, OIL & GAS INV., June 2017, at 2. With declining reserves, the oil and gas industry has had to find creative ways to minimize costs of production, especially as applied to hard-to-reach reservoirs. See LOWE ET AL., *supra* note 35, at 41.

45. See *infra* Section II.B (The cost of extraction will top the sale price feasible against substitute goods.).

46. BP PLC, BP STATISTICAL REVIEW OF WORLD ENERGY 13 (2018), <https://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review/bp-stats-review-2018-full-report.pdf> [https://perma.cc/SL7P-YHAJ]. Note that this does not include estimates for energy consumption growth, which is inevitable as developing countries continue to grow in population and industrialize.

47. Cf. *World Energy Outlook 2018 Examines Future Patterns of Global Energy System at a Time of Increasing Uncertainties*, INT’L ENERGY AGENCY (Nov. 13, 2018), <https://www.iea.org/newsroom/news/2018/november/world-energy-outlook-2018-examines-future-patterns-of-global-energy-system-at-a-t.html> [https://perma.cc/BGG5-2DTC] (concluding “oil consumption [will] grow[] in the coming decades, due to rising petrochemicals, trucking and aviation demand”); BP PLC, BP ENERGY OUTLOOK 73 (2018), <https://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/energy-outlook/bp-energy-outlook-2018.pdf> [https://perma.cc/WH77-4PEC] (predicting global demand for liquid fuels will either grow through 2035 or gradually grow then plateau as 2035 approaches).

last roughly forty years.⁴⁸ Similarly, there are only enough stores of natural gas resources to last about ninety years.⁴⁹ Barring major discoveries of oil and gas,⁵⁰ corporations will exhaust global reserves between the mid to late twenty-first century. With so few resources available, oil and gas corporations will become insolvent and close business,⁵¹ causing energy markets to crumble. However, encouraging oil and gas BODs to invest in renewable energies within the twenty-first century will allay the risk of energy transition.⁵²

B. The Oil and Gas Economy Showing Signs of Transition

An important consideration for oil and gas companies is the concept of substitute goods. In economics, substitute goods are relational in that the increase in the price of one good causes the demand for a substitute good to increase.⁵³ This concept is an important consideration, because as the price of oil and gas increase, the demand for renewables will increase (hence “alternative energy”).⁵⁴ Over time, as costs for crude oil extraction—and therefore gasoline and diesel prices—rise, the demand for hybrid and electric vehicles will increase.⁵⁵ In the twenty-first century,

the transition from gasoline-powered vehicles to electric or hybrid vehicles will affect oil companies more than it will fossil fuel companies with significant natural gas production, because electricity demand will increase from electric vehicle demands. Demand for electric vehicles will drive down the price for electric vehicles, making them more cost-competitive against gasoline- and diesel-engine cars and trucks, further limiting the market for oil. Car companies will also have a major impact with widespread plans to invest in electric and hybrid vehicles.⁵⁶

Natural gas power plants can assuage electricity demand growth, but such is not a permanent solution. Oil and gas corporations have thus begun researching and developing renewable energy resources. Many oil and gas corporations provide information about energy diversity on their websites, and some have published action plans to cope with the future of energy production.⁵⁷ BP hosts an energy transition website,⁵⁸ Shell has produced their Energy Transition Report,⁵⁹ and Total S.A. has a web page committed to their renewable energy investment projects.⁶⁰ Yet by comparison, Chevron Corp., and more so Exxon Mobil Corp., both lack a comparable energy transition campaign. Many oil and gas companies see renewables and fossil fuels as complementary, not competing, energy sources.⁶¹ One perspective that most corporations share is that government intervention will greatly impact the likelihood of an energy transition.⁶²

48. Cf. Andy Tully, *How Long Will World's Oil Reserves Last? 53 Years, Says BP*, CHRISTIAN SCI. MONITOR (July 14, 2014), <https://www.csmonitor.com/Environment/Energy-Voices/2014/0714/How-long-will-world-s-oil-reserves-last-53-years-says-BP#:~:text=Or%20walk.,at%20current%20rates%20of%20extraction> [https://perma.cc/TYK2-MPPQ].

49. *Frequently Asked Questions*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/tools/faqs/faq.php?id=58&t=8> [https://perma.cc/7RE3-T7AA] (last updated Feb. 3, 2021).

50. Even with the USGS discovery in December 2018, the oil discovered would meet world demand for a year and natural gas demand for “several.” Cohen, *supra* note 40.

51. See *Judson Atkinson Candies, Inc. v. Latini-Hohberger Dhimantec*, 529 F.3d 371, 384 (7th Cir. 2008) (insolvency is a reason for special circumstances to dissolve); see generally MODEL BUS. CORP. ACT § 14.02 (AM. BAR ASS'N 2016) (allowing BODs to dissolve under “special circumstances”).

52. A topic this Note does not delve into is corporate governance, which rests on the premise that corporate decisions should be made by the BODs or by the majority of shareholders. See *Daily Income Fund, Inc. v. Fox*, 464 U.S. 523, 530 (1984) (citing *Hawes v. City of Oakland*, 104 U.S. 450, 454–57 (1881)). The decisionmaking of the corporate BODs rests on the demand requirement, which “affords the directors an opportunity to exercise their reasonable business judgment and ‘waive a legal right vested in the corporation in the belief that its best interests will be promoted by not insisting on such right.’” *Id.* at 533 (quoting *Corbus v. Alaska Treadwell Gold Mining Co.*, 187 U.S. 455, 463 (1903)). Shareholders elect BODs, see Roberta S. Karmel, *Should a Duty to the Corporation Be Imposed on Shareholders?*, 60 BUS. LAW. 1, 11 (2004), and while BODs should have the opportunity to use their reasonable business judgment, shareholders may remove them if the shareholder disagrees with corporate decisionmaking. *Id.* at 10. This is particularly applicable to oil and gas companies, whose shareholders may want the corporation to focus its resources on developing oil and gas leases in the short term rather than long-term business stability. See, e.g., P.M. Vasudev, *The Shareholder Principle, Corporate Governance, and Theory: Evidence From the Field and the Path Onward*, 41 HOFSTRA L. REV. 399, 435 (2012); Karmel, *supra* at 18.

53. JOHN BEARDSHAW, ECONOMICS 75 (1984).

54. See *id.* The interaction of oil and gas and renewable energy as substitute goods is briefly discussed in *Ctr. for Sustainable Econ. v. Jewell*, 779 F.3d 588, 603 (D.C. Cir. 2015).

55. See Michelle Krebs, *Will Higher Gas Prices Affect Hybrid, EV Sales?*, EDMUNDS (Feb. 28, 2012), <https://www.edmunds.com/industry-center/analysis/will-higher-gas-prices-boost-hybrid-ev-sales.html> (predicting higher demand for electric alternatives based on historic trends when gasoline prices increased); cf. Lawrence Ulrich, *Passing Up the Hybrids*, N.Y. TIMES, May 15, 2015, at B1 (reporting a decline in hybrid buyers due to decreased gasoline prices).

56. See Nick Carey & Joseph White, *Ford Plans \$11 Billion Investment, 40 Electrified Vehicles by 2022*, REUTERS (Jan. 14, 2018), <https://www.reuters.com/article/us-autoshow-detroit-ford-motor/ford-plans-11-billion-investment-40-electrified-vehicles-by-2022-idUSKBN1F30YZ> [https://perma.cc/B5LK-WZDP]; Jack Ewing, *Volvo, Betting on Electric, Moves to Phase Out Conventional Engines*, N.Y. TIMES (July 5, 2017), <https://www.nytimes.com/2017/07/05/business/energy-environment/volvo-hybrid-electric-car.html> [https://perma.cc/9RC9-M3FT]; Nathan Bomey, *Why Hybrid Cars Aren't Dead (Despite What You May Have Heard)*, USA TODAY (July 5, 2017), <https://www.usatoday.com/story/money/cars/2017/07/05/volvo-hybrids/451998001/> [https://perma.cc/A6T5-QCPY].

57. See ROYAL DUTCH SHELL PLC, ENERGY TRANSITION REPORT (2018), <https://www.shell.com/energy-and-innovation/the-energy-future/shell-energy-transition-report> [https://perma.cc/MF5A-W95T] (last visited Jan. 27, 2019); BP PLC, ADVANCING THE ENERGY TRANSITION (2018), <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/sustainability/group-reports/bp-advancing-the-energy-transition.pdf> [https://perma.cc/8LA6-UPSC]; EXXONMOBIL, INC., 2018 ENERGY OUTLOOK (2019), <https://corporate.exxonmobil.com/-/media/Global/Files/outlook-for-energy/2018-Outlook-for-Energy.pdf> [https://perma.cc/98V6-TUNN]; CONOCO PHILLIPS CO., 2017 SUSTAINABILITY REPORT (2018), <http://static.conocophillips.com/files/resources/17sr.htm#1> [https://perma.cc/R88B-23WV].

58. See BP PLC, *supra* note 7.

59. See ROYAL DUTCH SHELL PLC, *supra* note 57, at 19. The Shell Energy Transition Report is unique for its forecasting. Whereas other oil companies focus on the next twenty years, Shell is looking at the next fifty, with a focus on reducing emissions, the energy transition to renewable fuels, and meeting transportation demands with hydrogen vehicles. Shell sets their modeling on the goal of keeping global temperatures below 2.0 and 2.5 degrees Celsius.

60. TOTAL S.A., STRENGTHENING OUR PRESENCE IN RENEWABLE ENERGIES, <https://www.total.com/group/energy-expertise/exploration-production/renewable-energies> [https://perma.cc/N4AB-KZMM] (last visited Mar. 19, 2021).

61. Penha, *supra* note 3.

62. See, e.g., ROYAL DUTCH SHELL PLC, *supra* note 57, at 18; EXXONMOBIL, INC., *supra* note 57, at 29; BP PLC, *supra* note 57, at 24.

C. Climate Change as a Motivator for Transition

Climate change frames this issue because oil and gas companies produce the very commodities that lead to its exacerbation. As oil and gas are burned, their hydrocarbon structures break down, releasing carbon dioxide and increasing the concentration of atmospheric greenhouse gases.⁶³ As carbon dioxide concentrations increase, more infrared energy from the sun is captured in the earth's atmosphere, causing average temperatures to increase through radiative forcing.⁶⁴ Warming average temperatures give rise to more extreme climates, harming people in regions across the world.⁶⁵

Persuading oil and gas companies to invest in renewable energy is imperative to reduce global harm, however, turnover in the executive branch has frustrated the potential for major changes in policy. Two key examples are the United States' signature to the Paris Climate Agreement⁶⁶ and the former Clean Power Plan.⁶⁷ Both policy regimes advanced by the Barack Obama Administration were structured to increase renewable energy investment, but President Donald Trump subsequently withdrew the United States from the Paris Agreement⁶⁸ and replaced the Clean Power Plan with his Administration's Affordable Clean Energy Rule.⁶⁹ Instead, a number of cities and states have committed to meet the Paris Agreement's strict emissions reductions via renewable energy production.⁷⁰ In addition, companies have taken it upon themselves to invest in renewable energy at their factories and through their supply chains. Some companies, such as Tesla, promote as their business

model a direct reliever of greenhouse gas emissions.⁷¹ With continuing investment from the private sector plus local and state governments, the federal government's unwillingness to participate in greenhouse gas emission reduction programs may not be as bad as it seems.⁷²

Reducing carbon dioxide concentrations should be a goal, but this should not be the sole purpose of a transition to alternative energy. Rather, economic stability is the main goal, with the consequential benefit of decreased carbon emissions. Empirical studies show that businesses are taking action to combat climate change and diversify investments.⁷³ While the energy transition will last decades before proven reserves are expended, transitioning energy sourcing from oil and gas to renewable energy will take time and significant capital resources.⁷⁴ Time and capital resources act as barriers to entry in the renewable energy market, and a policy shift to overcome those barriers must be enacted in the near future.⁷⁵ Tax policy can therefore be the vehicle to encourage oil and gas companies to build a sustainable business model that adapts to resource scarcity.

III. Legal Landscape of Subsidies

A. Theory Behind Market Subsidies

Tax subsidies are a product of Congress's spending power.⁷⁶ Tax subsidies can include both direct spending in the form of cash grants and tax reductions in the form of tax credits or deductions.⁷⁷ Tax credits provide taxpayers with a reduction in tax liability equal to the cost incurred.⁷⁸ A tax deduction is a monetary value subtracted from the tax base, lowering the sum against which the tax percentage is calculated.⁷⁹ Tax credits are therefore more powerful than tax deductions, because tax credits reduce the tax liability

63. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE: THE IPCC SCIENTIFIC ASSESSMENT xv (1990), https://www.ipcc.ch/site/assets/uploads/2018/03/ipcc_far_wg_i_full_report.pdf [<https://perma.cc/P7KV-3KLB>]. See also INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 5 (2007), <https://www.nrc.gov/docs/ML0932/ML093220680.pdf> [<https://perma.cc/S6NH-FEPN>] (greenhouse gases include carbon dioxide, methane (natural gas), chlorofluorocarbons, nitrous oxide, and water vapor) [hereinafter IPCC SYNTHESIS REPORT].

64. IPCC SYNTHESIS REPORT, *supra* note 63, at 5.

65. *Id.*

66. See generally Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

67. See generally Clean Power Plan, 40 C.F.R. § 60 (2015).

68. See Press Release, U.S. Dep't of State, Communication Regarding Intent to Withdraw From Paris Agreement (Aug. 4, 2017) (on file with author); see also Paris Agreement—Status of Ratification, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/paris_agreement/items/9444.php [<https://perma.cc/G3FP-K5SH>]. In yet another policy swing, President-elect Joseph Biden has reaccepted the Paris Climate Agreement on behalf of the United States on January 20, 2021. See Paris Climate Agreement, THE WHITE HOUSE (Jan. 20, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/paris-climate-agreement/> [<https://perma.cc/C3K6-YMLR>].

69. See generally Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations, 84 Fed. Reg. 32,520 (July 8, 2019). The Clean Power Plan never took effect, because petitioners representing twenty-five states and state commissions filed a lawsuit enjoining EPA from implementing the Clean Power Plan. Petition for Review, West Virginia v. EPA, No. 15-1363 (D.C. Cir. Oct. 23, 2015). The U.S. Supreme Court issued a stay for the Clean Power Plan until the court of appeals completed its review of the rule. West Virginia v. EPA, 577 U.S. 1126, 136 S. Ct. 1000 (Feb. 9, 2016).

70. See Thomas L. Forman II, *The Role of Business and the Free Market in Combating Climate Change*, GEO. ENV'T L. REV. ONLINE 1 (2017).

71. See *Total CO₂ Saved by Tesla Vehicles*, TESLA, <https://www.tesla.com/carbon-impact> (last visited Oct. 16, 2019).

72. Forman, *supra* note 70.

73. *Id.*

74. See JIM COLLINS, GOOD TO GREAT 165 (2001).

75. Matt McGrath, *Climate Change: 12 Years to Save the Planet? Make That 18 Months*, BBC NEWS (July 24, 2019), https://www.bbc.com/news/science-environment-48964736?fbclid=IwAR2ziL2KC_L83_uf94NyVYO-qLL6Y9qaEKgOauLA5mPDqnnoc_hFjRy9sHhs [<https://perma.cc/B3TY-LGVL>].

76. *E.g.*, *Cincinnati Soap Co. v. United States*, 301 U.S. 308, 315 (1937). Article I to the U.S. Constitution states, "The Congress shall have Power To lay and collect Taxes, Duties, Imposts and Excises, to pay the Debts . . . of the United States." U.S. CONST. art. I, § 8, cl. 1.

77. *Subsidy*, BLACK'S LAW DICTIONARY (10th ed. 2014); see *Reagan v. Tax'n Without Representation of Wash.*, 461 U.S. 540, 544 (1983) (delineating the impact of tax deductions and tax exemptions). Subsidies can take the form of "(1) direct and targeted subsidization of R&D and innovation; . . . (2) prizes, rewards, and other ex post funding; (3) consumption or production subsidies; (4) tax subsidies; (5) administrative subsidies; and (6) foreign aid." Joshua D. Sarnoff, *Government Choices in Innovation Funding (With Reference to Climate Change)*, 62 EMORY L.J. 1087, 1117–18 (2013).

78. *Tax Credit*, BLACK'S LAW DICTIONARY (10th ed. 2014) (Tax credit is defined as "[a]n amount subtracted directly from one's total tax liability, dollar for dollar, as opposed to a deduction from gross income."); cf. *Deduction*, BLACK'S LAW DICTIONARY (10th ed. 2014) (second definition; "an amount subtracted from gross income when calculating adjusted gross income, or from adjusted gross income when calculating taxable income").

79. *Deduction*, BLACK'S LAW DICTIONARY (10th ed. 2014).

ity of a taxpayer dollar-for-dollar rather than a deduction's fractional benefit.⁸⁰

Reductions to a taxpayer's tax liability are a matter of Congress's political discretion.⁸¹ However, a tax deduction is "appropriate where the value of the activity to the public is great, where the social benefits would not accrue (or would be substantially diminished or delayed) in the absence of a subsidy, and where the detrimental effects of the activity or the subsidy itself are not unacceptable."⁸² Under Section 162 of the Internal Revenue Code ("IRC"), a business may deduct certain expenses it incurs from its gross income.⁸³ Tax credits also exist to incentivize a number of energy transition business projects: "Certain properties that make it possible for certain businesses to shift from oil or natural gas to other types of fuel . . ." ⁸⁴ While subsidies are provided to goods and services throughout our economy, subsidies should not, in theory, benefit polluters if the detrimental effects of pollution are unacceptable.⁸⁵ Rather, a subsidy would be better spent on means of pollution control under the polluter-pays principle.⁸⁶

Scholars argue that the prominence of tax credits has declined, because they do not readily impact corporate decisionmaking.⁸⁷ However, tax credits induce activity in the renewable energy market.⁸⁸ Other scholars rebut the presumption that tax credits do not impact decisionmaking, arguing instead that tax credits must consider the larger landscape of a tax regime in the economy and behavior of taxpayers.⁸⁹ An increase in cost of greenhouse gas-emitting energy through carbon taxes or cap-and-trade programs

would encourage investment in alternative energy,⁹⁰ but the hurdle to attain such policies on a national scale is high. A lower bar that is more feasible in the short term, if not as impactful, is to provide investment opportunities in alternative energies. Scholars argue that tax credits should not be applied in a one-size-fits-all policy,⁹¹ but tax credits would elicit action from a number of market participants: large companies that have the up-front capital to invest in renewable projects would benefit handsomely from a tax credit, small start-ups with market certainty would secure project financing, and investment groups would be more willing to engage in the energy market.⁹²

The PTC and ITC are designed for utility-scale projects, driving U.S. wind and solar project investments to \$55.5 billion in 2019 capital expenditures.⁹³ This compares to global investment in renewable energy development, which equaled \$297 billion in 2016, outpacing global oil and gas development twofold.⁹⁴ The United States' share of world energy consumption amounts to seventeen percent,⁹⁵ which means United States' renewable investment is on pace with the global average. However, it is vital to consider the current levels of subsidies allocated to oil, gas, wind, and solar energy industries. Calculating the amount of subsidies for the oil and gas industry is integral to determining the adequate tax incentives to encourage investment in renewable energy. For a feasible transition to renewable energy, there must be, at least, parity of tax incentives between energy resources.

B. Calculating Current Oil and Gas Subsidies

Determining the exact level of subsidies available for oil and gas industry activities is difficult because of the wide variety of calculations of those subsidies. Tax subsidies available to oil and gas companies include the Intangible Drilling Cost Deduction⁹⁶ and the Research and Development Deduction,⁹⁷ as seen in the EIA report,⁹⁸ but also include tax incentives for a business entity's status

80. CRAIG WESLEY FOXGROVER & DAMON KELLAR, FINANCING RENEWABLE ENERGY PROJECTS THROUGH U.S. TAX CREDITS 641 (2010).

81. *Comm'r v. Sullivan*, 356 U.S. 27, 28 (1958); see *Comm'r v. Engle*, 464 U.S. 206, 208–11 (1984) (discussing Congress's history of using tax deductions and credits to subsidize the oil and gas industry).

82. Patrice L. Simms, *Furtive Subsidies: Reframing Fossil Fuel's Regulatory Exceptionalism*, 35 VA. ENV'T L.J. 420, 430 (2017).

83. Trade or Business Expenses, I.R.C. § 162 ("There shall be allowed as a deduction all the ordinary and necessary expenses paid or incurred during the taxable year in carrying on any trade or business . . ."); see also JAMES E. PARKER, INTRODUCTION TO TAXATION § 10.01, at 402 (1985):

A tax system based on income, as opposed to consumption, tends to discourage investments in income-producing properties. To counterbalance this influence, the Code contains several incentive provisions designed specifically to encourage investments in certain types of productive properties. Generally, these incentive provisions relate either to the granting of various tax credits upon a property's acquisition or to an acceleration in the depreciation deductions during its service life.

84. PARKER, *supra* note 83, at 431.

85. Simms, *supra* note 82.

86. *Id.* at 467 (citing ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, THE POLLUTER-PAYS PRINCIPLE: OECD ANALYSES AND RECOMMENDATIONS 5 (1992)).

87. Mormann, *supra* note 17, at 317.

88. Kevin M. Walsh, *Renewable Energy Financial Incentives: Focusing on Federal Tax Credits and the Section 1603 Cash Grant: Barriers to Development*, 36 ENVIRONS ENV'T L. & POL'Y J. 207, 233 (2013) (citing Eric S. Spengler, *A Shift in the Wind: The Siting of Wind Power Projects on Public Lands in the Obama Era*, 86 IND. L.J. 1185, 1204 (2011)).

89. *Id.* at 234 (concluding that tax credits are a boon for large, established industries, but cash grants are more beneficial to developing industries such as the renewable sector); Victor M. Hanna, *Stop, Think, Build, Repeat*, 69 U. MIA. L. REV. 241, 257 (2014) ("[W]e must focus our attention on those behaviors that inform the decision-making processes . . . any potential solutions must go beyond merely creating financial incentives, such as subsidies or tax credits.").

90. FOXGROVER & KELLAR, *supra* note 80.

91. Mormann, *supra* note 17, at 360.

92. *Id.*

93. Catherine Morehouse, *US Hit Record \$55.5B Renewables Investment in 2019*, UTILITY DIVE (Jan. 17, 2020), <https://www.utilitydive.com/news/us-hit-record-555b-renewables-investments-in-2019/570608/> [<https://perma.cc/XJV9-2PCK>].

94. Russel Gold, *Global Investment in Wind and Solar Energy is Outshining Fossil Fuels*, WALL ST. J. (June 11, 2018), <https://www.wsj.com/articles/global-investment-in-wind-and-solar-energy-is-outshining-fossil-fuels-1528718400> [<https://perma.cc/BRS4-5C92>] ("In 2016 . . . about \$297 billion was spent on renewables—more than twice the \$143 billion on new nuclear, coal, gas and fuel-oil power plants.").

95. *Frequently Asked Questions: What Is the United States' Share of World Energy Consumption?*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/tools/faqs/faq.php?id=87&ct=1> [<https://perma.cc/Y8DC-BTBJ>] (last updated Dec. 26, 2018).

96. I.R.C. § 57(a)(2)(A), (B); Treas. Reg. § 1.612-4(a) (IDCs are "expenditures made by an operator for wages, fuel, repairs, hauling, supplies, etc., incident to and necessary for the drilling of wells and the preparation of the well for the production of oil and gas.").

97. JANET REDMAN, OIL CHANGE INTERNATIONAL, DIRTY ENERGY DOMINANCE: DEPENDENT ON DENIAL 11 (Oct. 2017), http://priceofoil.org/content/uploads/2017/10/OI_US-Fossil-Fuel-Subs-2015-16_Final_Oct2017.pdf [<https://perma.cc/H429-MHJK>].

98. *Infra* note 103.

as a Master Limited Partnership and Last-In First-Out Accounting.⁹⁹ Whereas around \$6.5 billion of tax credits for oil and gas are permanent,¹⁰⁰ only \$1.1 billion of tax subsidies were applied to renewable energy sources in 2016.¹⁰¹ Valuations of oil and gas subsidies vis-à-vis renewable subsidies generally misrepresent tax benefits the oil and gas industry long used to their advantage to gain market share of energy consumption.¹⁰²

Estimates of oil and gas subsidies are varied. The EIA lists oil and gas subsidies at a net negative \$940 million in fiscal year 2016.¹⁰³ The EIA calculates subsidies from a number of tax incentives within the IRC,¹⁰⁴ but oddly lists different values than other studies.¹⁰⁵ Whereas the Congressional Research Service (“CRS”) pegs annual fossil fuel subsidies at \$5.2 billion and renewable energy, energy efficiency, renewable fuels, and alternative technology vehicles subsidies at \$12.8 billion,¹⁰⁶ the EIA totals annual oil and gas subsidies at net negative \$773 million, coal at \$1,262 million, and renewables and conservation at \$7,665 million.¹⁰⁷

However, the fossil fuel subsidies reported by the CRS and the EIA fall short of actual subsidy amounts. Defined broadly, post-tax subsidies¹⁰⁸ in the United States on the fossil fuel industry amounted to \$600 billion in 2013.¹⁰⁹ Whereas this figure represents the discount for the oil and gas industry, calculating subsidies from tax revenues is a better indicator of the U.S. tax policy.¹¹⁰ Therefore, there may be as many as \$41 billion in annual subsidies for oil and gas companies¹¹¹ or as little as \$16 billion in state and federal subsidies, as averaged between 2015 and 2016.¹¹²

Although the exact figure is unknown, it is clear that the oil and gas industry receives significant benefits to remain competitive in the energy economy. After the PTC and the ITC expire, new wind and solar projects will have an even more limited menu of government programs to remain competitive with the oil and gas industry.

C. Renewable Energy Investment Incentives

The PTC¹¹³ and ITC¹¹⁴ are tax subsidies within the U.S. tax code that are applicable to renewable energy investment and renewable energy production. The PTC and ITC are subsidies that provide ex-post incentives (i.e., tax credits) for innovative output—either renewable electricity production or investment.¹¹⁵ In 2016, PTC-generated energy received \$1,266 million in subsidies and solar received \$2,231 million in subsidies.¹¹⁶ The CRS report lists tax subsidies under the ITC as \$2.8 billion in 2018 and the PTC as \$5.1 billion in 2018.¹¹⁷

1. The History of the PTC: Mired by Expiry

The PTC was originally introduced in 1992¹¹⁸ to reduce a taxpayer’s tax liability when electricity from wind energy is produced and sold.¹¹⁹ Despite congressional and industry support for the PTC since 1992,¹²⁰ the law is at constant risk of expiry and has needed to be extended thirteen times¹²¹—unlike tax credits for oil and gas production, many of which are continuous and require an act of Congress to repeal rather than reinstate.¹²² Aside from advantageous tax structures,¹²³ this lack of certainty puts renewable energy investment at a disadvantage compared to investments in oil and gas.¹²⁴ The disadvantage deepens as a result of the variety of tax credits available for oil and gas corporations, but not for renewable energy investments.¹²⁵ Lowering the cost of finance is the best way to narrow the cost gap because manufacturers have reduced costs through the supply-chain and end product¹²⁶ by streamlining or consolidating logistics and supply-chain activities.¹²⁷ Moreover, renewable energy is highly sensitive to the cost of capital, and a lower cost of finance will therefore narrow the gap.¹²⁸ Once costs are lowered, renew-

99. REDMAN, *supra* note 97, at 17.

100. *Id.* at 12.

101. *Id.*

102. See, e.g., Jake Richardson, *Renewable Energy Doesn't Get More Than Fossil & Nuclear Energy Have Gotten, & Continue to Get*, CLEANTECHNICA (Jan. 26, 2018), <https://cleantechnica.com/2018/01/26/renewable-energy-doesnt-get-subsidies-fossil-nuclear-sources-gotten-continue-get/> [https://perma.cc/UFU9-4QBS].

103. U.S. ENERGY INFO. ADMIN., DIRECT FEDERAL FINANCIAL INTERVENTIONS AND SUBSIDIES IN ENERGY IN FISCAL YEAR 2016, at 25 (2018), <https://www.eia.gov/analysis/requests/subsidy/pdf/subsidy.pdf> [https://perma.cc/KQL8-4YAU].

104. *Id.*

105. Compare *id.* (finding that oil and gas subsidies for exploration and development costs equaled negative \$450 million for fiscal year 2016 (i.e., net tax revenue paid to the Department of Treasury)), with MOLLY F. SHERLOCK, CONG. RSCH. SERV., R44852, THE VALUE OF ENERGY TAX INCENTIVES FOR DIFFERENT TYPES OF ENERGY RESOURCES 6 (2017) (calculating the same tax credit for fiscal year 2016 at \$1.8 billion in lost tax revenue), and David Coady et al., *How Large Are Global Fossil Fuel Subsidies?*, 91 WORLD DEV. 11, 11 (2017). See also U.S. ENERGY INFO. ADMIN., *supra* note 103, at 18 (noting conspicuously that the extensive literature on subsidies provides examples of how differing definitions and methods can yield a wide range of estimates and interpretations).

106. SHERLOCK, *supra* note 105, at 6–7.

107. U.S. ENERGY INFO. ADMIN., *supra* note 103, at 9.

108. David Coady et al., *supra* note 105, at 11 (“The broader notion of energy subsidies—what we term ‘post-tax subsidies’—arises when consumer prices are below supply costs, plus a ‘Pigouvian’ tax to reflect environmental damages and general consumer taxes.”).

109. *Id.* at 12.

110. Cf. Simms, *supra* note 82, at 426 (arguing “that sector-specific exemptions from environmental laws are best characterized as a distinct class of industry subsidy”).

111. See Harrison, *supra* note 19, at 852.

112. See REDMAN, *supra* note 97 (indicating state subsidies amounted to \$5.8 billion per year and federal subsidies amounted to \$14.7 billion per year).

113. See generally I.R.C. § 45.

114. See generally I.R.C. § 48.

115. Harrison, *supra* note 19, at 858–59.

116. U.S. ENERGY INFO. ADMIN., *supra* note 103, at 11.

117. See SHERLOCK, *supra* note 105, at 6.

118. See *id.* at 3.

119. Harrison, *supra* note 19, at 858.

120. SHERLOCK, *supra* note 12, at 9.

121. See *id.*

122. See Harrison, *supra* note 19 at 858–59.

123. Mormann, *supra* note 17, at 340.

124. Felix Mormann, *Enhancing the Investor Appeal of Renewable Energy*, 42 ENV’T L. 681, 711 (2012).

125. See Harrison, *supra* note 19, at 858–60.

126. Neil Auerbach, *The Future of Clean Energy Finance*, 20 N.Y.U. ENV’T L.J. 363, 367 (2014) (Keynote).

127. See Steve Harley, *Energy Sector: Supply Chains Matter Now More Than Ever*, DELIVERING TOMORROW (Oct. 21, 2016) (on file with Volume 12 Editor-in-Chief).

128. See Mike O’Boyle, *Investment-Grade Policy: De-Risking Renewable Energy Projects*, FORBES (Nov. 12, 2018), <https://www.forbes.com/sites/energyin->

able energy financing can become more efficient and more available to developers in the energy industry.

2. The ITC's Legacy

The ITC is a tax credit calculated as a percentage of the cost of energy property—defined generally to include renewable electricity-producing sources¹²⁹—that is applied in the tax year the energy property is placed into service.¹³⁰ Complementary to the PTC, the ITC applies to solar and non-commercial wind energy property, the latter being small-scale industrial or residential applications.¹³¹ Energy property under the ITC excludes any property that is eligible for a tax credit under the PTC.¹³² Under the Bipartisan Budget Act of 2018,¹³³ the ITC was amended and de facto extended by replacing the “in service” requirement with the “commenced construction” provision.¹³⁴ The commenced construction provision allows for a one-year period during which the facility must be complete to be eligible for the commencement period amount.¹³⁵ Therefore, the energy property placed into service in 2021 is eligible for the full credit if construction began before December 31, 2021.¹³⁶

The IRS has produced guidance on methods to establish when a project has commenced construction.¹³⁷ The project has commenced construction when there is physical work of a significant nature, which varies per project and type of energy property in question,¹³⁸ but does not generally include preliminary activities, such as planning, securing financing, and research.¹³⁹ Alternatively, the IRS has determined that a project has commenced construction under a safe harbor¹⁴⁰ which applies if a taxpayer incurs five percent of the cost of the total energy property that makes “continuous efforts to advance towards completion of the energy property.”¹⁴¹ The continuity requirement for both tests is determined by the relevant facts and circumstances.¹⁴² Once construction is completed, energy property is

considered placed in service in the earlier of the following taxable years: (i) the taxable year in which . . . the period for depreciation with respect to such property begins; or (ii) the taxable year in which the property is placed in a condition or state of readiness and availability for a spe-

novation/2018/11/12/investment-grade-policy-de-risking-renewable-energy-projects/#74f572bd4e77 [https://perma.cc/9ZZQ-KNBK].

129. I.R.C. § 48(a)(3).

130. See I.R.C. § 48(a).

131. I.R.C. § 48(a)(2)(IV), (c)(4) (defining qualified small wind energy property as a wind turbine with nameplate capacity less than 100 kilowatts).

132. See I.R.C. § 48(a)(3), (5)(B).

133. Bipartisan Budget Act of 2018, Pub. L. No. 115-123, 132 Stat. 64, 150 (2018).

134. See I.R.C. § 48(a)(5)(E), (a)(6), (a)(7)(A), (c)(1)(D), (c)(2)(D), (c)(3)(A)(4), (c)(4)(C).

135. See I.R.C. § 48(a)(6).

136. See *id.*

137. I.R.S. Notice 2018-59, 2018-28 I.R.B. 196, 198.

138. *Id.* at 199.

139. *Id.* at 199–200.

140. *Id.* at 198.

141. *Id.* at 14.

142. *Id.* at 17.

cifically assigned function . . . [including] the production of income.¹⁴³

Current tax incentives have created substantial investment in renewable energy. But for a more steady and robust transition to a renewable-driven economy, further tax incentives must build on those already in place to avoid a collapse of the energy industry.¹⁴⁴

IV. Legal Solution

Although, in theory, renewable energy tax incentives are limited to the ITC and PTC, the reality is that options for incentivizing investment in wind and solar energy are vast.¹⁴⁵ Determining the best approach to coax oil and gas corporations will be imperative for the twenty-first century energy transition. Subsidizing renewable energy investment is the best solution to incentivize the oil and gas industry to invest in renewables, because (1) the economic certainty of long-term subsidies would establish long-term planning; (2) the oil and gas industry relies on tax incentives¹⁴⁶; and (3) investment incentive programs have proven successful.¹⁴⁷ Subsidizing renewable investments would not betray the polluter-pays principle, because the oil and gas companies would be investing in a future commodity for their stockholders.¹⁴⁸

A. The Energy Transition Requires Reinstating the PTC and ITC for the Long Term

To incentivize renewable energy generation further, the PTC and ITC must be established as long-term tax credits. The economy relies on certainty and predictability, and tax regimes should avoid uncertainty because uncertainty creates waste.¹⁴⁹ The PTC alone has been reissued twelve times,¹⁵⁰ and is set to expire again on December 31, 2019.¹⁵¹ Inconsistency signifies a lack of certainty. To achieve greater certainty, the tax code at I.R.C. § 45(b)(5) should be repealed, thereby omitting a phaseout of credit for wind facilities. The ITC is similarly situated, as many of its benefits are set to expire in the near term.¹⁵² The tax code at I.R.C. §§ 48(a)(5)(E) and 48(a)(6), should also be

143. See Treas. Reg. § 1.46-3(d)(1).

144. Discussed *supra* Section II.A.

145. Penha, *supra* note 3, at 17 (including implementing for feed-in tariffs, capital investment, rebates, subsidies, sales tax exemptions, value-added tax exemptions, other tax incentives and credits, energy production payments, net metering, public competitive bidding, energy investment or financing, biofuel blending mandates, production subsidies, and fuel tax exemptions).

146. Discussed *supra* Section III.B.

147. See Walsh, *supra* note 88, at 232.

148. Tyler Hagenbach, *Establishing an Aggressive Legal Framework for the Future of Wind Energy in Europe*, 42 VAND. J. TRANSNAT'L L. 1595, 1601, 1610 (2009) (arguing history of oil and gas subsidies make polluter pays argument nonissue, because that industry would not have received government support were it strictly following this principle).

149. William Klein, *Criteria for Good Laws of Business Association*, 2 BERKELEY BUS. L.J. 13, 22 (2005).

150. See SHERLOCK, *supra* note 12, at 3.

151. I.R.C. § 45(b)(5)(A).

152. See I.R.C. § 48(a)(5)(E), (6), (7).

repealed, thereby omitting the phaseouts for wind facilities and solar energy property. Further, I.R.C. § 48(a)(7) should be amended by striking from the subsection title “Fiber-Optic Solar,” and “, and Qualified Small Wind Energy,” leaving “Phaseout for Qualified Fuel Cell Property.” The text at I.R.C. § 48(a)(7)(A) should be amended by striking the following language:

(A) In general Subject to subparagraph (B), in the case of any qualified fuel cell property, ~~qualified small wind property, or energy property described in paragraph (3)~~ (A)(ii), the energy percentage determined under paragraph (2) shall be equal to—

(i) in the case of any property the construction of which begins after December 31, 2019, and before January 1, 2021, 26 percent, and

(ii) in the case of any property the construction of which begins after December 31, 2020, and before January 1, 2022, 22 percent.

Deleting the above language will preserve tax credits for solar and wind facilities sun-setting in 2022.

The recurring expiration of the PTC and the expected expiration of the ITC frustrate the long-term planning of the private sector to invest in renewable energy. Creating a long-term tax regime aligned with the effects of the oil and gas industry may incentivize the industry to invest more heavily in the renewable energy sector. Legislation repealing the terms of the PTC and ITC should be adopted, *inter alia*,¹⁵³ allowing investors in the oil and gas industry to take advantage of decreased costs in electricity production by using renewable energy.

A common argument against establishing a long-term credit is that wind and solar energy have become cost-competitive without the credit.¹⁵⁴ However, the oil and gas industry is deeply rooted into the economy and still relies on exploration and development credits to continue operations.¹⁵⁵ Oil and gas companies will again enjoy a significant advantage in the energy market by allowing the ITC and PTC to expire, but such an advantage will not last with dwindling supplies and rising costs.

B. *The Conventional Energy Transition Renewable Energy Investment Tax Credit Will Be Applied to Oil and Gas Industry*

The government must incentivize oil and gas companies to invest in renewable energy to achieve an effective, timely transition. This legislation would add a section to the tax code, 26 I.R.C § 48E. The section would read:

153. See *infra* Section IV.B.

154. E.g., David Funkhouser, *How Much Do Renewables Actually Depend on Tax Breaks?*, EARTH INST. (Mar. 16, 2018), <https://blogs.ei.columbia.edu/2018/03/16/how-much-do-renewables-actually-depend-on-tax-breaks/> [<https://perma.cc/89UW-KYHG>] (“The growth in wind and solar energy is . . . going to continue despite policy changes this administration has put into place, because the market forces are pretty powerful.”).

155. See I.R.C. § 263(c).

(a) **In general.** For purposes of section 46, the qualifying conventional energy transition project credit for any taxable year is an amount equal to 15 percent of the qualified investment for such taxable year with respect to any qualifying conventional energy transition project of the qualified taxpayer.

(1) **Qualified investment.** Qualified investment is the basis of a—

- (a) wind energy facility, or
- (b) solar energy facility.

(2) **Qualifying conventional energy transition project.** A qualifying energy transition project means any property—

- (a) construction, reconstruction, or erection of which is completed by the qualified taxpayer, and
- (b) that offsets the production of a conventional energy source, and
- (c) developed as a qualified investment.

(b) **Definitions for the purposes of this section**

(1) **Qualified Taxpayer.** The term “qualified taxpayer” means—

- (A) a taxpayer with a history of oil and gas production as determined by the Secretary (after consultation with the Secretary of Energy), and
- (B) a taxpayer registered as a business prior to January 1, 2015.

(2) **Wind energy facility.** The term “wind energy facility” means any facility using wind to produce electricity. Such term shall not include any facility with respect to which any qualified small wind energy property expenditure (as defined in subsection (d) (4) of section 25D) is taken into account in determining the credit under such section.

(3) **Solar energy facility.** The term “solar energy facility” means any facility using the sun to produce electricity.

Legislation should institute the Conventional Energy Transition Credit (“CETC”) for companies traditionally doing business with oil and gas to invest in—that is, spend direct capital to develop—renewable energy. “A taxpayer with a history of oil and gas production” will be an oil and gas corporation that has profited from or invested in oil and gas resource extraction for five years prior to the creation of legislation. Oil and gas corporations currently relying on government assistance to transition (e.g., Shell, BP) should be the first corporations to benefit from the incentive. Those corporations have investors that stand to

lose significant capital if not otherwise helped, and while free-market capitalism is important in the U.S. economy, the government should step in when dramatic shifts and economic crises are at stake. By supporting the oil and gas corporations in this shift much like the government has already done for over a century, the government will be a stabilizing force in the otherwise volatile energy economy.

While oil and gas companies will have access to the PTC, ITC, and the CETC, this will not be unfair to companies currently operating renewable energy resources. First, wind and solar companies have the economies of scale that oil and gas corporations lack in the wind and solar sector. Second, oil and gas corporations have already begun developing renewable energy projects,¹⁵⁶ and therefore the market is not exclusive to solar and wind companies. Third, the CETC will equal the playing field, because wind and solar companies have already developed the core competencies valued in the oil and gas industry.¹⁵⁷ Fourth, greater competition in the market will decrease prices of electricity.¹⁵⁸ Finally, electricity demand will increase as a result of the decrease in energy supply from fossil fuels, increasing the electricity pie—there will be enough demand to go around.

The rationale for an additional investment tax credit lies within the 2009 Recovery Act. The 2009 Recovery Act amended the tax code to allow taxpayers to elect to receive a cash grant in lieu of investment tax credits by converting their PTC to their ITC.¹⁵⁹ The 2009 Recovery Act was tremendously successful, enticing seventy percent of wind energy developments to elect for the cash grant.¹⁶⁰ Further, the PTC attracts development of wind energy, and when the PTC expires, investment declines.¹⁶¹ Access to the ITC is therefore integral to renewable energy investment.

Research and development tax credits, which are already available to the energy sector, should likewise be made available to oil and gas companies. Specifically, the oil and gas industries receive tax credits for exploratory drilling and developing information on oil and gas reservoirs.¹⁶² That tax regime can be translated into wind and solar electricity generation facility research. As it stands, a single corporation does not handle every step of oil and gas exploration, well development, transportation, and production. Likewise, electricity generation is multifaceted; different companies own land rights, manufacture wind

turbines or photovoltaic cells, purchase wind turbines or photovoltaic cells, maintain wind farms or solar parks, and build and operate the transmission lines that ship electricity to the grid. Oil and gas companies will likely create a niche within wind and solar energy development and production that most closely aligns with their current business practices. While oil and gas companies do not currently build their own wind turbines, photovoltaic cells, or batteries, their purchase of these components from others will allow them to produce electricity and sell it to the grid, profiting from production rather than manufacture.¹⁶³

This solution does not address other relevant legal and tax challenges to renewable energy development. The development of renewable energy must address siting, zoning, and interconnecting the energy project¹⁶⁴ and selling and transporting the electricity to the load.¹⁶⁵ While this process is beyond the scope of this Note, cognizing the legal issues involved in electricity development and production are critical to successful adoption of renewable energy investment at oil and gas corporations, not to mention the Federal Energy Regulatory Commission policies that affect utility investment.¹⁶⁶

V. Conclusion

The energy transition from a fossil fuel-based economy is inevitable.¹⁶⁷ Oil and gas are finite resources, and technology will only delay the inevitable depletion of economically recoverable oil and gas.¹⁶⁸ Introducing legislation that will promote investment in wind and solar energy among oil and gas companies is necessary for the well-being of investors, the economy, and the environment.¹⁶⁹ It will mitigate adverse consequences in the energy market and ensure that the United States is propelled into the twenty-second century with a reliable, secure energy grid. Transitioning will take time, so while there are fifty and ninety years of oil and natural gas production still available, respectively, policy actions taken now will smooth the transition and ensure long-term growth.¹⁷⁰ Furthermore, the energy transition will incentivize oil and gas companies to react and will prevent further deterioration

156. See *Wind Energy Sites*, BP, https://www.bp.com/en_us/united-states/home/who-we-are/possibilities-everywhere/wind-and-natural-gas.html [<https://perma.cc/P6FG-DMT2>] (last visited Oct. 18, 2019).

157. See Penha, *supra* note 3, at 9 (highlighting core competencies as important factors in oil and gas corporate strategy); Simms, *supra* note 82, at 431 (“Importantly, even where a subsidy makes sense, it should be crafted with precision, with an eye toward not just maximizing gross public benefit, but also avoiding the creation or exacerbation of distributional inequities.”).

158. See FED. ENERGY REGUL. COMM’N, STRATEGIC PLAN: FY 2018–2022, at 1 (2018) (ensuring just and reasonable electricity rates is the number one goal).

159. American Recovery and Reinvestment Tax Act of 2009, §§ 1102(a), 1603; DEP’T OF TREASURY, FINAL OVERVIEW OF THE § 1603 PROGRAM (Mar. 1, 2018), <https://www.treasury.gov/initiatives/recovery/Documents/P%20Status%20overview%202018-03-01.pdf> [<https://perma.cc/L4ZJ-4EQD>]. The section 1603 program expired in 2011 and was never reinstated.

160. See Walsh, *supra* note 88, at 233.

161. *Id.* (citing Eric S. Spengler, *A Shift in the Wind: The Siting of Wind Power Projects on Public Lands in the Obama Era*, 86 IND. L.J. 1185, 1204 (2011)).

162. See SHERLOCK, *supra* note 105, at 2.

163. Companies separate from those with the oil and gas mineral rights often handle production. One exception is ConocoPhillips: its expertise in engineering will necessarily be well suited for turbine and photovoltaic cell manufacture. This Note may therefore not cover its transition. See *Ownership of U.S. Petroleum Refineries Has Changed Significantly Since 2000*, U.S. ENERGY INFO. ADMIN. (Jan. 24, 2014), <https://www.eia.gov/todayinenergy/detail.php?id=14791> [<https://perma.cc/KN42-64NS>].

164. See Hannah Wiseman, Lindsay Grisamer & E. Nichole Saunders, *Formulating a Law of Sustainable Energy: The Renewables Component*, 28 PACE ENV’T L. REV. 827, 842–91 (2011).

165. See Blakeway & Brotman White, *supra* note 23, at 294.

166. See, e.g., Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators, Order No. 841, 162 FERC ¶ 61,127 (2018), order on reh’g Order No. 841-A, 167 FERC ¶ 61,154 (2019); Coakley v. Bangor Hydro-Elec. Co., 165 FERC ¶ 61,030 (Oct. 16, 2018) (adopting a new metric to determine whether utilities’ return on equity is just and reasonable).

167. See *infra* Section II.A.

168. *Id.*

169. See *infra* Section III.A.

170. *Infra* Section II.B.

of the global environment.¹⁷¹ Many oil and gas corporations recognize climate change as a reality,¹⁷² and legislation should be provided to meet their concerns with functional measures. The energy transition has begun and

the oil and gas sector is in need of government assistance to make renewable investment profitable. This is a golden opportunity to pass legislation that mitigates risk from both the energy transition and climate change.

171. *Infra* Section II.C.

172. *Infra* Part I.

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