REGULATING FOR ENERGY JUSTICE

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In this Article, we explore and critique the foundational norms that shape federal and state energy regulation and suggest pathways for reform that can incorporate principles of "energy justice." These energy justice principles—developed in academic scholarship and social movements—include the equitable distribution of costs and benefits of the energy system, equitable participation and representation in energy decisionmaking, and restorative justice for structurally marginalized groups.

While new legislation, particularly at the state level, is critical to the effort to advance energy justice, our focus here is on regulators' ability to implement reforms now using their existing authority to advance the public interest and establish just, reasonable, and nondiscriminatory rates, charges, and practices. Throughout the Article, we challenge the longstanding narrative that utility regulators are engaged solely in a technical ratemaking exercise in setting utility rates. We argue that rate setting is and always has been social policy implemented within a legislative framework designed to promote the public interest. As we explain, when regulators and advocates expressly recognize this fact, it creates new opportunities for the regulatory system to achieve energy justice goals.

Through our reexamination of energy system governance, we evaluate new approaches to advance the public interest and set just and reasonable rates for energy consumers. These new approaches consider system benefits as well as costs, enhance universal and affordable access to utility service, alleviate income constraints on residential energy consumption as an economic development tool, increase equitable access to distributed energy resources such as energy efficiency upgrades and rooftop solar, and enhance procedural justice in ratemaking proceedings. We argue that over the long run, these pathways to a more just energy system align the interests of all system stakeholders by creating community wealth and collective prosperity.

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INTRODUCTION

Energy is essential for modern life, which is why, for over a century, U.S. policymakers have declared the regulation of the energy industry to be "affected with a public interest."[1] But despite longstanding government regulation of the energy industry to promote access to energy services at reasonable prices, many communities continue to face significant energy insecurity. Not surprisingly, the unequal economic and social impacts of the COVID-19 pandemic served both to highlight and exacerbate energy insecurity in the United States, which led federal and state regulators to impose short-term moratoria on utility shutoffs and provide additional stopgap funding for residents to pay heating and electricity bills.[2]

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[1] *See, e.g.*, 15 U.S.C. § 717(a) (declaring in the Natural Gas Act of 1938 that transporting and selling natural gas "for ultimate distribution to the public is affected with a public interest" and that federal regulation of the same in interstate and foreign commerce is "necessary in the public interest"); 16 U.S.C. § 824(a) (declaring in the Federal Power Act of 1935 that transmitting and selling electricity "for ultimate distribution to the public is affected with a public interest" and that federal regulation of the same in interstate and foreign commerce is "necessary in the public interest"); Munn v. Illinois, 94 U.S. 113, 126 (1876) (citing Lord Chief Justice Hale from his 1670 treatise on English maritime law, *De Portibus Maris*, for the idea that property becomes subject to regulation "for the common good" if it becomes "clothed with a public interest when used in a manner to make it of public consequence, and affect the community at large"); *see also* William Boyd, *Just Price, Public Utility, and the Long History of Economic Regulation in America*, 35 YALE J. REGUL. 721, 747, 775 (2018) (tracing the history of the concept of "just price" from its English origins in the seventeenth century through its more contemporary applications in the "public interest" regulation of energy utilities in the United States); JIM LAZAR, ELECTRICITY REGULATION IN THE US: A GUIDE 3–5, 5 n.1 (2d ed. 2016) (discussing the history of public interest regulation of electric utilities and other "natural monopolies" starting with the use of the term "public interest" by Lord Chief Justice Hale in the seventeenth century through modern-day conceptions of public interest regulation of utilities, including universal service, nondiscriminatory access, and environmental protection); Eric Filipink, *Serving the "Public Interest" – Traditional v. Expansive Public Utility Regulation* 3 (Nat'l Regul. Rsch. Inst., NRRI Report No. 10-02, 2009) (discussing historical and contemporary views of utility regulation in the "public interest"); *infra* Part I.

[2] *See* Trevor Memmott, Sanya Carley, Michelle Graff & David M. Konisky, *Sociodemographic Disparities in Energy Insecurity Among Low-Income Households Before and During the COVID-19 Pandemic*, 6 NATURE ENERGY 186, 186, 188 (2021) (finding that, during the first month of the COVID-19 pandemic, millions of Americans struggled to pay their energy bills and avoid disconnection and that households with small children, households of color, households with inefficient and inadequate housing, and households that needed electronic medical devices were more vulnerable to these challenges). The 2020 Coronavirus Aid, Relief, and Economic Security (CARES) Act provided $900 million in supplemental funding for the Low-Income Home Energy Assistance Program. *See LIHEAP DCL 2020-10 CARES Act Supplemental Funding Release FFY20*, ADMIN. FOR CHILD. & FAM. (May 8, 2020), https://www.acf.hhs.gov/ocs/policy-guidance/liheap-dcl-2020-10-cares-act-supplemental-funding-release-ffy20 [https://perma.cc/D7CR-HCPS] (providing notice that $900 million in funds appropriated from the

The limits of these pandemic-related efforts, however, reinforce the fact that, in many important ways, public policy in the United States fails to reflect the moral imperative of provisioning necessary energy services for underrepresented, marginalized, and low-income residents.[3] Moreover, current U.S. energy policy ignores its potential to support community efforts to "build thriving economies that provide dignified, productive and ecologically sustainable livelihoods"[4] and to promote a more equitable energy system. Such a system could create positive political feedback loops that could advance efforts to address climate change.[5]

Instead, however, the commodification of energy that is required for essential services—space and water heating, cooling, refrigeration, lighting, and the operation of appliances—creates untenable tradeoffs, negative health impacts, and financial insecurity for a significant percentage of U.S. residents.[6] According to an Energy Information Administration survey conducted in 2020, over one-quarter of U.S. households had difficulty paying energy bills or sustaining adequate heating and cooling in their home; nearly one-fifth of households stated that they had forgone food, medicine, or other essential necessities to pay an energy bill; and ten percent had received an energy service disconnection notice.[7]

CARES Act would be released as supplemental funding for the Low-Income Home Energy Assistance Program); *see also infra* Part II.

[3] *See, e.g.*, Shelley Welton & Joel Eisen, *Clean Energy Justice*, 43 HARV. ENV'T L. REV. 307, 317–19, 317 n.43 (2019) (citing JOHN RAWLS, A THEORY OF JUSTICE 62 (1971)) (describing the "moral argument" for energy justice based on energy's status as a "primary good" necessary for participating "in the modern economy and in modern communities").

[4] *Just Transition Principles*, CLIMATE JUST. ALL., https://climatejusticealliance.org/just-transition [https://perma.cc/2ZRB-RM4C] (describing a vision for a "just transition" that benefits whole communities).

[5] *See* Welton & Eisen, *supra* note 3, at 320–21 (describing an instrumental rationale for energy justice that would create ways for "clean energy advocates . . . to find common cause with advocates focused on issues of poverty, economic power, and social and racial justice . . . [and] to push back against utility antipathy to clean energy").

[6] *See, e.g.*, NANCY L. SEIDMAN, ALICE NAPOLEON & KATHRYN MADDUX, ENERGY INFRASTRUCTURE: SOURCES OF INEQUITIES AND POLICY SOLUTIONS FOR IMPROVING COMMUNITY HEALTH AND WELLBEING 1 (2020).

[7] Ross Beall & Carolyn Hronis, *In 2020, 27% of U.S. Households Had Difficulty Meeting Their Energy Needs*, U.S. ENERGY INFO. ADMIN. (Apr. 11, 2022), https://www.eia.gov/todayinenergy/detail.php?id=51979 [https://perma.cc/K746-XQ76]; *see also* Robert Walton, *DTE to Expand Energy Efficiency in Underserved Communities, Develop 'Geographic Targeting' Approach*, UTIL. DIVE (Jan. 27, 2022), https://www.utilitydive.com/news/dte-to-expand-energy-efficiency-in-underserved-communities-develop-geogra/617820 [https://perma.cc/AF83-GTT7] (citing data showing that "[t]he median energy burden of Black households in Detroit—the percentage of a household's income spent on energy bills—is 54% higher than non-Hispanic white households" and explaining that this discrepancy is due in large part to "[g]enerations of discriminatory housing and lending practices" that have resulted in many neighborhoods with energy-inefficient homes).

While energy insecurity is pervasive, racial minority households are more likely to face energy insecurity than other households, regardless of geographic region or climate.[8] Moreover, the vulnerability of low-income and racial minority households to energy shocks is regularly compounded by hurricanes, winter storms, floods, and heat waves, which have worsened in recent decades due to climate change.

For instance, the devastating impacts of Winter Storm Uri in Texas and neighboring states in February 2021 and Hurricane Ida in Louisiana later that year fell most heavily on low-income communities and left them without power, water, and medical services, which lasted for weeks in some cases.[9] Now, as the energy system is poised to undergo widescale transformation to address climate change (associated with its own set of international and intranational injustices[10] through impacts on ecosystems, communities, and the energy system itself[11]), it is an opportune moment to consider how the highly struc-

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[8] *See* Beall & Hronis, *supra* note 7 (showing that households self-reporting as racial or ethnic minority households experienced higher greater energy insecurity than white households in 2020).

[9] *See, e.g.*, TEX. ENERGY POVERTY RSCH. INST., WHEN THE LONE STAR FROZE OVER: WINTER STORM URI AND THE LIVED EXPERIENCES OF TEXAS LOW-INCOME COMMUNITIES 13–17 (2021), https://www.txenergypoverty.org/wp-content/uploads/2021/07/When-the-Lone-Star-Froze-Over.pdf [https://perma.cc/FPP3-M2BQ] (discussing the impacts of Winter Storm Uri); Kiara Alfonseca, *Impoverished Communities Pay for Worsening Impacts of Climate Change: Experts*, ABC NEWS (Nov. 6, 2021, 10:09 AM), https://abcnews.go.com/US/impoverished-communities-pay-worsening-impacts-climate-change-experts/story?id=80794967 [https://perma.cc/BX8C-Q96G] (discussing the impacts of Hurricane Ida and other severe weather events); Marina Lazetic & Karen Jacobsen, *The 2021 Hurricane Season Showed US Isn't Prepared as Climate-Related Disasters Push People Deeper into Poverty*, THE CONVERSATION (Dec. 1, 2021, 12:59 AM), https://theconversation.com/the-2021-hurricane-season-showed-us-isnt-prepared-as-climate-related-disasters-push-people-deeper-into-poverty-169075 [https://perma.cc/9MJ5-RRJ9] (explaining how low-income households in Louisiana are disproportionately impacted by natural disasters and have more difficulty receiving emergency relief); Sophie Kasakove, *Three Weeks After Hurricane Ida, Parts of Southeast Louisiana Are Still Dark*, N.Y. TIMES (Sept. 18, 2021), https://www.nytimes.com/2021/09/18/us/ida-louisiana-power-outages.html [https://perma.cc/RF4A-NMC3] (discussing the effects of Hurricane Ida on Louisiana residents, particularly the lack of electrical power for weeks in some areas).

[10] *See, e.g.*, ERIC A. POSNER & DAVID WEISBACH, CLIMATE CHANGE JUSTICE 1–4, 189 (2010) (analyzing the global conversation regarding strategies to mitigate the effects of climate change and considering the varying rationales and socio-economic implications of reform); David Schlosberg & Lisette B. Collins, *From Environmental to Climate Justice: Climate Change and the Discourse of Environmental Justice*, 5 WIREs CLIMATE CHANGE 359, 359–60, 362 (2014) https://wires.onlinelibrary.wiley.com/doi/abs/10.1002/wcc.275 [https://perma.cc/556X-N37S] (surveying the historical development of environmental justice, with a focus on the grassroots lenses that address inequitable vulnerabilities to climate change).

[11] *See, e.g.*, MELISSA R. ALLEN-DUMAS, BINITA K.C. & COLIN I. CUNLIFF, EXTREME WEATHER AND CLIMATE VULNERABILITIES OF THE ELECTRIC GRID: A SUMMARY OF

tured governance of the energy system can be reformed to address the injustices *within* the energy system.

Since the development of the first shared infrastructure constituting an electric grid, the energy system has required a foundational level of cost- and benefit-sharing. Our focus in this Article is how governance of cost- and benefit-sharing establish the structures necessary to open multiple pathways that can imbue the energy system with justice principles, including the equitable sharing of benefits and burdens. Notably, a significant fraction of energy provision in the United States involves private enterprises with natural monopoly characteristics[12] and limited exposure to authorized competition.[13] As a result, since the early development of U.S. energy system governance, federal and state legislation has granted energy system regulators significant leeway in regulating private energy companies to advance the "public interest,"[14] in part by ensuring "just, reasonable, and nondiscriminatory" rates, charges, and practices.[15]

ENVIRONMENTAL SENSITIVITY QUANTIFICATION METHODS 5–6 (2019), https://info.ornl.gov/sites/publications/Files/Pub128663.pdf [https://perma.cc/YAN8-GST6] (explaining how climate related threats, such as sea level rise, heat waves, lengthened droughts, and severe storms, all negatively impact the life-cycle of the energy system from generation to user consumption).

[12] *See, e.g.*, Anodyne Lindstrom & Sarah Hoff, *Investor-Owned Utilities Served 72% of U.S. Electricity Customers in 2017*, U.S. ENERGY INFO. ADMIN. (Aug. 15, 2019), https://www.eia.gov/todayinenergy/detail.php?id=40913 [https://perma.cc/XQN9-78D5] (describing data showing that in 2017, seventy-two percent of electricity customers received service from private, investor-owned utilities). Exceptions include electric utilities owned and governed by the federal government (e.g., the Tennessee Valley Authority), state governments (e.g., Santee Cooper in South Carolina), territorial governments (e.g., the Puerto Rico Electric Power Authority), regional authorities (e.g., public power districts in Nebraska), and municipal governments (e.g., Austin Energy). Together, publicly owned utilities provide service to approximately sixteen percent of electricity customers in the United States (twenty-four million customers) as of 2017. *Id.* Publicly owned utilities, and to some extent rural electric cooperatives, operate under different regulatory and oversight regimes and are outside of the scope of this Article. *See, e.g.*, Alexandra B. Klass & Gabriel Chan, *Cooperative Clean Energy*, 100 N.C. L. REV. 1 (2021) (discussing governance and regulation of rural electric cooperatives); Alexandra B. Klass & Rebecca Wilton, *Local Power*, 75 VAND. L. REV. 93 (2022) (discussing governance and regulation of municipal utilities).

[13] *See, e.g.*, Kimberly Palacios, *Electricity Residential Retail Choice Participation Has Declined Since 2014 Peak*, U.S. ENERGY INFO. ADMIN. (Nov. 8, 2018), https://www.eia.gov/todayinenergy/detail.php?id=37452 [https://perma.cc/GRK6-ADVA] (describing data showing that in 2017, thirteen percent of residential electricity customers could elect to purchase their electricity directly from their choice of energy supplier, with the remaining eighty-seven percent of residential customers only able to purchase electricity from a single supplier).

[14] *See infra* Section I.B (discussing how state and federal regulators review the rates and practices of private energy providers).

[15] *See infra* Section I.C (discussing statutory mandates that utility rates be just, reasonable, and nondiscriminatory); *see also* JIM LAZAR, PAUL CHERNICK & WILLIAM

In this Article, we explore and critique the foundational norms that shape U.S. federal and state energy utility regulation, and suggest reforms that can incorporate principles of "energy justice."[16] These energy justice principles—developed in academic scholarship and social movements—include recognizing the inequitable historic and current benefits and burdens of the energy system, equitably distributing costs and benefits of the energy system, allowing for equitable participation and representation in energy decisionmaking, and emphasizing restorative justice for structurally marginalized groups.[17] Significantly, the norms that can promote energy justice within utility regulation apply equally to other infrastructure sectors, such as railroads, telecommunications, and water supply systems.

There are many intersecting focus areas for reforming the energy system to achieve the goals of energy justice.[18] Our focus in this

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MARCUS, ELECTRIC COST ALLOCATION FOR A NEW ERA: A MANUAL 173 (Mark LeBel ed., 2020) (noting that regulators should carefully scrutinize utilities' adoptions of new resources or new loads to prevent the arbitrary and discriminatory treatment of customers).

[16] *See infra* Section I.A (defining and describing energy justice).

[17] *See, e.g.*, Shelley Welton, *The Bounds of Energy Law*, 62 B.C. L. REV. 2339, 2377–80, 2377 n.192 (2021) (discussing and citing the growing scholarly literature on energy justice); Welton & Eisen, *supra* note 3, at 307, 312–13 (analyzing literature regarding energy justice); Kirsten Jenkins, Darren McCauley, Raphael Heffron, Hannes Stephan & Robert Rehner, *Energy Justice: A Conceptual Review*, 11 ENERGY RSCH. & SOC. SCI. 174 (2016) (reviewing scholarly framings of energy justice in terms of distributional, recognitional, and procedural justice); Sanya Carley & David M. Konisky, *The Justice and Equity Implications of the Clean Energy Transition*, 5 NATURE ENERGY 569, 570 (2020) (applying the lens of distributional, procedural, recognitional, and restorative justice to clean energy transition); CHANDRA FARLEY, JOHN HOWAT, JENIFER BOSCO, NIDHI THAKAR, JAKE WISE, JEAN SU & LISA SCHWARZ, ADVANCING EQUITY IN UTILITY REGULATION 1 (2021) (discussing energy justice principles in the context of utility regulation in the South); Shalanda H. Baker, *Anti-Resilience: A Roadmap for Transformational Justice Within the Energy System*, 54 HARV. C.R.-C.L. L. REV. 1, 6 (2019) (arguing that energy justice should adopt an anti-resilience framework that proactively resists environmental racism, rather than planning for communities of color to bounce back in the name of resilience); *see also infra* Section I.A.

[18] *See, e.g.*, Welton & Eisen, *supra* note 3, at 332, 357 (discussing energy justice issues of "green jobs" and the siting of clean energy resources); Catherine J.K. Sandoval, *Principles to Advance Energy Justice for Native Americans*, ENERGY BAR ASS'N BRIEF, Fall 2020, at 29, https://www.eba-net.org/assets/1/6/DI_Special_Issue_-_EBA_Brief_-_FINAL1.pdf [https://perma.cc/FA7B-WPX9] (discussing ways to advance energy justice for Native Americans, including issues related to tribal sovereignty, energy access, and tribal ownership); Shalanda H. Baker, *Mexican Energy Reform, Climate Change, and Energy Justice in Indigenous Communities*, 56 NAT. RES. J. 369 (2016) (discussing energy justice issues related to renewable energy development and indigenous communities in Mexico); THE PEAK COALITION, THE FOSSIL FUEL END GAME 36 (2021) https://www.cleanegroup.org/ceg-resources/resource/fossil-fuel-end-game [https://perma.cc/T2JL-GCDK] (discussing principles for a just transition away from fossil fuel peaker plants in New York City); BENJAMIN K. SOVACOOL & MICHAEL H. DWORKIN, GLOBAL ENERGY JUSTICE: PROBLEMS, PRINCIPLES, AND PRACTICES 1, 5 (2014) (discussing energy justice

Article is on opportunities for energy regulators, but we acknowledge there are many additional areas for reform that should be addressed with legislation, community organizing, business development, and other forms of action. In reexamining energy regulation, we believe it is essential that regulators reform their processes. These reforms should center the concerns of marginalized communities and move beyond rarified technical knowledge that regulators, particularly state public utility commissions, utilize in arcane decisionmaking spaces. Such technical knowledge is based heavily, and sometimes exclusively, on information provided by the regulated private actors themselves.

Through this reexamination of the role of regulators in energy-system governance, we suggest pathways to energy justice that include: (1) utilizing new approaches to setting just and reasonable energy rates for residential energy consumers that consider benefits as well as costs; (2) enhancing universal and affordable access to utility service; (3) alleviating income constraints on residential energy consumption as an economic development tool; (4) increasing equitable access to distributed energy resources such as energy efficiency and rooftop solar; (5) building resilience to shield households from future energy price shocks; and (6) enhancing procedural justice to increase marginalized groups' access to regulatory processes. While new legislation, particularly at the state level, is critical to this effort and is detailed throughout the Article, our focus here is on regulators' ability to implement reforms now using their existing authority to advance the public interest and establish just, reasonable, and nondiscriminatory rates, charges, and practices.

In proposing these pathways, we argue that issues of fixed-cost allocation in energy regulation (deciding who pays for the large capital investments to supply energy, such as power plants, transmission lines, and distribution systems) are central to advancing distributional equity. The energy system requires infrastructure that is inherently shared, so regulatory systems must govern how customers collectively pay for infrastructure that provides benefits to everyone. Deciding how customers should pay requires determining their "fair shares," which raises energy justice concerns.[19] In practice, this calls for regulatory judgment and results in inequities, with some customers paying

issues relating to global energy security and energy access); Roxana A. Mastor, Michael H. Dworkin, Mackenzie L. Landa & Emily Duff, *Energy Justice and Climate-Refugees*, 39 ENERGY L.J. 139 (2018) (applying energy justice principles of procedural and distributive justice to the problem of climate-induced migration).

[19] *See, e.g.*, Gerald R. Faulhaber, *Cross-Subsidization: Pricing in Public Enterprises*, 65 AM. ECON. REV. 966 (1975) (providing one of the earliest economic formalizations of cross-subsidization).

more than their cost of service and others paying less—a dynamic known as "cross-subsidization." Cross subsidies occur in a utility system when the revenue that one consumer generates in relation to the costs for which they are responsible is disproportionate to the revenue generated by other consumers within the same utility system.[20] But cross-subsidies are not diseases to be cured or the result of poor technical analysis. Instead, cross-subsidization is an important purpose of public utility regulation; this purpose is too often obstructed and undermined by a dogmatic opposition to what should be correctly viewed as a vital role of the state. Richard A. Posner writes:

> To understand [the prevalence of 'internal subsidies'] . . . we must assign another important purpose to regulation: . . . "taxation by regulation." . . . [T]he deliberate and continued provision of many services at lower rates and in larger quantities than would be offered in an unregulated competitive market or, *a fortiori*, an unregulated monopolistic one . . . can be explained . . . only . . . by admitting that one of the functions of regulation is to perform distributive and allocative chores usually associated with the taxing or financial branch of government.[21]

Viewed in this way, the regulation of public utilities is intrinsically social policy. And deliberatively managing cross-subsidization as a matter of policy may be one of the most powerful tools to advance the public interest.

Indeed, regulators' frequent claims that they are engaged in a technical ratemaking exercise in setting utility rates, charges, and practices belie the substantial degree of selectivity and judgment regulators deploy, often based on a narrow conceptualization of justice, reasonableness, and non-discrimination.[22] This disconnect between

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[20] *Id.* at 966–77; Eirik S. Amundsen, Per Andersen & Frank Jensen, *Testing for Cross-Subsidisation in the Combined Heat and Power Generation Sector: A Comparison of Three Tests*, 33 ENERGY ECON. 750 (2011) (applying Faulhaber's cross-subsidization framework to common industry practices in the electricity sector); Kenneth Fjell, *A Cross-Subsidy Classification Framework*, 21 J. PUB. POL'Y 265 (2001) (critiquing and offering new distinctions for how the concept of cross-subsidization applies to utility regulation); John Brooks, Brian Galle & Brendan Maher, *Cross-Subsidies: Government's Hidden Pocketbook*, 106 GEO. L.J. 1229 (2018) (offering that cross-subsidization between consumers is a common feature of modern law across domains and can be more efficient than taxation in some cases); *see also infra* Section I.C.2 (discussing regulators' approaches to allocating the costs that accompany energy services).

[21] Richard A. Posner, *Taxation by Regulation*, 2 BELL J. ECON. & MGMT. SCI. 22, 22–23 (1971).

[22] *See, e.g.*, Ass'n of Bus. Advoc. Tariff Equity Coal. v. Midcontinent Indep. Sys. Operator, Inc., No. EL14-12-015, 2020 WL 6817660, at *58 (FERC Nov. 19, 2020) (Glick, Comm'r, concurring in part and dissenting in part) ("[T]he Commission's . . . orders in this saga have suggested that each new iteration of its ROE methodology is an entirely technical affair . . . with each new twist, it becomes harder to buy that the Commission is

what regulators say they are doing and what they are in fact doing is longstanding. Rate setting is and always has been social policy implemented within a legislative framework designed to promote the public interest.[23] But agencies that regulate rates generally do not view rate setting as such; instead, they apply technocratic frames and appeal to legacy practices to obscure the social and political dimensions of rate setting in the public interest.[24]

That social policy is embedded in ratemaking does not mean that regulators can or should act beyond the bounds of their legislative authority. Regulators face potential litigation risks in applying an expansive view of their authority,[25] and expansive regulation that imposes new costs on some parties could lead to new legislation designed to limit regulatory authority.[26] However, as exemplified by specialized economic development rates for commercial and industrial utility customers, some regulators use their public interest authority to consider alternative conceptualizations of system costs and benefits, sometimes to benefit preferred classes of customers.[27] In other cases, regulators establish distinct policies, such as creating energy efficiency programs that target disadvantaged communities, using their authority to set just, reasonable, and nondiscriminatory rates, charges, and practices.[28]

We argue that regulators' existing public interest authority should be used to conceptualize system costs and benefits in stronger alignment with the goals of energy justice. Doing so requires leaders from regulatory agencies to evaluate proactively how their authority to set just, reasonable, and non-discriminatory rates, charges, and practices can be deployed for energy justice. Further, recognizing the somewhat latent flexibility in public interest regulation, the normative principles

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genuinely reassessing the mechanics . . . rather than disagreeing with the ROE numbers that those models produce."); *see also infra* Section I.C (analyzing how the flexible "just and reasonable" standard creates tensions related to its implementation and enforcement).

[23] *See infra* Section I.B (discussing how state and federal legislatures set prices and practices with the goal to balance the public interest).

[24] *See* William Boyd, *Ways of Price Making and the Challenge of Market Governance in U.S. Energy Law*, 105 MINN. L. REV. 739, 743–44 (2020) ("[P]rices . . . are never simply facts or things that emerge out of markets, but instead, are ongoing objects of struggle . . . it is . . . on this more technical terrain [of price making] where so much of the politics of economic regulation now takes place."); *see infra* Part III (contrasting the technocratic and social lenses of ratemaking and arguing that all ratemaking is social ratemaking).

[25] The risks of litigation depend, in part, on the political economy of regulatory actions that shift costs and benefits. *See infra* Section IV.C.2 (discussing the political economy of regulating energy justice); Filipink, *supra* note 1, at 3 (analyzing how courts interpret legislatively delegated authority to limit regulators).

[26] *See* Filipink, *supra* note 1, at 3, 15–18, 17 & fig.3.

[27] *See infra* Section III.B (discussing economic development rates).

[28] *See infra* Section I.C.

of energy justice can provide guiding structure for regulators to advance the public interest more fully.

This Article proceeds as follows. Part I defines terms and principles. It first introduces the concept of energy justice. It then details the legislative, regulatory, and judicial pronouncements regarding longstanding statutory mandates directing energy regulators to advance the public interest and establish just, reasonable, and nondiscriminatory rates, charges, and practices. It explains how these statutory directives are complicated by regulators' creation of residential, commercial, and industrial rate classifications with different rates for different categories of customers. Such classifications are intended to manage cross-subsidies but can lead to undue burdens on low-income ratepayers.

Part II details how state regulators and legislators have designed and implemented utility policies to protect low-income and marginalized populations in the public interest. This Part first introduces the near-universal statutory requirement that utilities must serve all consumers who are able to pay for service without discrimination for "similarly situated customers."[29] It then examines special programs designed to protect low-income ratepayers, such as weather, medical, and COVID-19 utility disconnection bans, as well as longstanding federal and state grant programs.

Part III discusses "social ratemaking" and how that term has been used by regulators and courts for decades to refrain from holistically embracing equity and justice in the ratemaking process. It then explores state legislative and regulatory actions to create EDRs, defined as "economic development rates," that favor commercial and industrial customers and have a social policy dimension but generally remain protected from accusations of social ratemaking.

Finally, Part IV sets out proposed reforms. These include: (1) implementing rate design practices that explicitly consider the benefits of service to all customer classes;[30] (2) adopting new policies surrounding utility disconnection and arrearage management;[31] (3) utilizing commercial and industrial EDR rationale to create more efficient low-income rates in the residential sector;[32] (4) improving policy and technology focused on disaster prevention to lower costs for ratepayers;[33] (5) increasing equitable access to energy efficient

[29] *See infra* Part II.

[30] *See infra* Section IV.A.

[31] *See infra* Section IV.B.1.

[32] *See infra* Section IV.B.2.

[33] *See infra* Section IV.B.3.

upgrades, rooftop solar, and other resources;[34] and (6) implementing structural and procedural changes to utility regulation.[35] Notably, we contend that regulators can implement many of these programs using their existing statutory authority governing just, reasonable, and nondiscriminatory rates in the public interest because these programs would result in both economic benefits across all ratepayer classes and broader public interest benefits.

I
Principles of Public Utility Regulation and the Role of Energy Justice

In this Part, we first introduce the idea of energy justice through the prior work of scholars, activists, and policymakers, as well as its potential role in public utility regulation. We then detail the foundational norms that guide state and federal regulators in advancing the public interest and the just, reasonable, and nondiscriminatory standard for regulating rates, charges, and practices of public utilities.

A. Energy Justice and Public Utility Governance

Energy justice is a frame through which we may understand and evaluate outcomes and processes in the energy system. Energy justice considers the distribution of costs and benefits from the generation, distribution, and consumption of energy; the process of energy decisionmaking; the recognition of unequal historical energy system impacts; and the need for the energy system to move towards a restorative justice frame.[36] Scholars and activists who promote the energy justice framework highlight the urgent need to embed justice considerations into energy-system governance.[37]

These efforts have begun to prompt policy changes at both the federal and state levels. For instance, in 2021, the Biden administration launched its "Justice40 Initiative" described as "a whole-of-government effort to ensure that Federal agencies work with states and local communities to make good on President Biden's promise to deliver at least 40 percent of the overall benefits from Federal invest-

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[34] *See infra* Section IV.B.4.

[35] *See infra* Section IV.C.

[36] *See supra* note 17 and accompanying text (reviewing the scholarly literature on energy justice principles and their application).

[37] *See, e.g.*, Aladdine Joroff, *Energy Justice: What It Means and How to Integrate It into State Regulation of Electricity Markets*, 47 Env't L. Rep. 10927 (2017) (enumerating the specific governmental entities, contexts, sub-populations, and information needs that are relevant for applying an energy justice framework to state regulation of electricity); Farley et al., *supra* note 17 (reviewing the diverse perspectives of practitioners and activists with integrating energy justice into utility regulation).

ments in climate and clean energy to disadvantaged communities."[38] The Department of Energy estimates that in fiscal year 2019, less than six percent of the Department's investments were in line with the Justice40 priorities.[39] To address that gap, the Department's Office of Economic Impact and Diversity has taken a leading role in implementing the Justice40 Initiative.[40]

At the state level, legislatures have begun adopting and revising clean energy mandates to expressly address energy justice within the context of a transition to clean energy.[41] More broadly, a few state legislatures have expressly incorporated equity commitments into their utility statutes.[42] Though their long-term impact remains to be seen, these executive and legislative efforts show that scholars and advocates are beginning to persuade governments to integrate energy justice in policymaking.[43]

Moreover, while energy justice has only relatively recently emerged as an organizing framework for social movements and

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[38] Shalanda Young, Brenda Mallory & Gina McCarthy, *The Path to Achieving Justice40*, WHITE HOUSE (July 20, 2021), https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40 [https://perma.cc/RYV5-5U7Z]; *see also* Amy Laura Cahn & Zachary Handelman, *Tracking the Biden Administration's Whole-of-Government Approach to Equity and Environmental Justice*, VT. J. ENV'T L., https://vjel.vermontlaw.edu/-1-vol-23 [https://perma.cc/RWV7-6BGP].

[39] *See Energy Justice Dashboard (BETA)*, U.S. DEP'T OF ENERGY, https://www.energy.gov/diversity/energy-justice-dashboard-beta [https://perma.cc/GZ2T-329S] (displaying a pilot data visualization tool regarding DOE-specific investments); Daniel Moore, *Energy Department to Flex $62 Billion Funding Muscle on Equity*, BLOOMBERG L. (Jan. 28, 2022, 6:00 AM), https://news.bloomberglaw.com/energy/energy-department-to-flex-62-billion-funding-muscle-on-equity?context=Article-related [https://perma.cc/45KM-RZZL].

[40] *Promoting Energy Justice*, U.S. DEP'T OF ENERGY, https://www.energy.gov/promoting-energy-justice [https://perma.cc/6GUJ-GVE3].

[41] *See, e.g.*, Christopher McMichael, *Equity and Justice in State RPS/CES Policies*, NAT'L CONF. OF STATE LEGISLATURES (Dec. 7, 2021), https://www.ncsl.org/research/energy/equity-and-justice-considerations-in-state-rps-ces-policies.aspx [https://perma.cc/J38Z-VDKP] (identifying states that have included equity and energy justice provisions in state clean energy policies).

[42] *See* FARLEY ET AL., *supra* note 17, at viii–x (detailing state utility laws with energy justice or equity provisions). For example, Maine requires that state agencies, including its Public Utilities Commission, incorporate equity considerations into their decisionmaking, and California adopted legislation that requires environmental justice achievements to be part of the state's mission. *Id.*

[43] *See, e.g.*, Jean Chemnick, *On Anniversary of Biden's EJ Order, Is Justice40 Delivering?*, CLIMATEWIRE (Jan. 27, 2022, 6:28 AM), https://www.eenews.net/articles/on-anniversary-of-bidens-ej-order-is-justice40-delivering [https://perma.cc/A3UM-K6K4] (discussing how the Justice40 initiative resulted in twenty federal agencies submitting their plans, which would invest billions in energy justice, to the Office of Management and Budget).

energy-system governance,[44] norms of justice already permeate energy policy—particularly energy policy that is guided by the foundational standard that rates, charges, and practices are just, reasonable, and nondiscriminatory.[45] However, it is critical for scholars, activists, and regulators to reexamine guiding regulatory principles to promote energy justice.

As discussed in Section I.B, while regulatory commissions have authority to set rates and approve expenditures that are in the public interest, they are generally limited to considering non-energy impacts only to the extent that they cause direct and measurable financial impacts on ratepayers.[46] We argue that the specific impacts of the energy system on energy-insecure ratepayers should be understood as economic impacts of the energy system within the delegated authority of state public utility commissions under both their public interest authority and their authority to set just and reasonable retail rates.[47]

B. Utility Regulation to Advance the Public Interest

Utility law commands state and federal regulators to set prices and practices for private energy providers with natural monopoly characteristics to protect the public interest.[48] But the public interest is complex and multifaceted. It requires regulators to "manag[e] the balance of important public goals,"[49] including overall cost prudency, environmental protection, affordability, stability, innovation, and—as

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[44] *See* Sara Fuller & Darren McCauley, *Framing Energy Justice: Perspectives from Activism and Advocacy*, 11 ENERGY RSCH. & SOC. SCI. 1 (2016) (exploring the concept of energy justice and its recent rise to prominence).

[45] *See infra* Part II and Section III.A (discussing how the just, reasonable, and nondiscriminatory standard has enabled regulators to enact policies promoting affordable utility service).

[46] *See infra* Section I.B (discussing NAACP v. Fed. Power Comm'n, 425 U.S. 662 (1976)).

[47] Public utility commissions (PUCs) are also known as public service commissions, public regulation commissions, or corporation commissions, depending on the state. The Federal Power Act and Natural Gas Act divide regulatory authority over electricity and natural gas rates, charges, and practices between the states and the Federal Energy Regulatory Commission. *See infra* note 53 and accompanying text. Our focus in this Article is primarily on rates, charges, and practices at the retail level, which fall within state jurisdiction.

[48] *See* Filipink, *supra* note 1, at 3 (noting that while statutes often mandate regulators to act for the public interest, this concept is "indefinite and constantly changing"); *see also* LAZAR, *supra* note 1, at 32 (explaining that regulators have broad discretion in regulating for the public interest, which has "resulted in some regulators taking on issues that others do not," including "some aspects of environmental regulation, economic justice, or long-run reliability planning"); *but see id.* (noting that regulators' "power is not unlimited" but "constrained by the enabling statutes"); Boyd, *supra* note 1, at 750 (discussing the history of the regulation of utilities in the public interest).

[49] LAZAR, *supra* note 1, at 174.

we argue in this Article—energy justice. Public interest regulation allows regulators to respond flexibly to new information and new circumstances, but ambiguity in the definition of public interest can also lead to legal challenges.[50] Over time, state and federal lawmakers, and sometimes voters, have revised the roles, criteria, and missions of public utility regulators in the energy sector.[51]

In almost all states, public utility commissions derive their authority from state legislatures but some have independent state constitutional authority.[52] At the federal level, the Federal Energy Regulatory Commission (FERC), formerly called the Federal Power Commission (FPC), has statutory authority under the Federal Power Act and the Natural Gas Act to regulate various aspects of the energy sector, including wholesale sales and transport of natural gas and electricity in interstate commerce.[53]

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[50] *See* Filipink, *supra* note 1, at 3 (stating that when regulators attempt to use their public interest authority to address environmental and economic needs, investor-owned utilities "are prone to challenge the boundaries of regulators' authority in court or to limit it through legislation"). As James Bonbright wrote, "one is tempted to say that the so called standard of public interest is not a real standard at all" but is instead "invoked as an instrument of persuasion." JAMES C. BONBRIGHT, PRINCIPLES OF PUBLIC UTILITY RATES 27–28 (photo. reprt. 2005) (1961).

[51] *See* Filipink, *supra* note 1, at 3–7 (explaining that lawmakers and voters have expanded the meaning of public interest and that policymaking objectives and decisionmaking criteria have thus grown); Monica Hlinka, *US Utility Commissioners: Who They Are and How They Impact Regulation*, S&P GLOB. MKT. INTEL.: BLOG (May 11, 2021), https://www.spglobal.com/marketintelligence/en/news-insights/blog/us-utility-commissioners-who-they-are-and-how-they-impact-regulation [https://perma.cc/73BY-6AHY] (discussing public utility commission composition, party affiliation, and membership variation across different states, as well as changes to these characteristics by state legislative action or constitutional amendment); LAZAR, *supra* note 1, at 25–27 (providing overview of commission structures, functions, selection process, and powers); *State Public Service Commissions: Serving the Public Interest*, NAT'L ASS'N OF REGUL. UTIL. COMM'RS (2022), https://www.naruc.org/servingthepublicinterest/how-commissions-work/faqs [https://perma.cc/9RW2-KU86] (explaining the role of commissioners as quasi-judicial officials); *see also* Jonas J. Monast, *Ratemaking as Climate Adaptation Governance*, FRONTIERS IN CLIMATE, Aug. 27, 2021, at 4 (arguing that public utility commissions should explicitly incorporate climate change risks and adaptations into their ratemaking procedures, as their authority to set "just and reasonable" rates already requires them to weigh and assess risks).

[52] *See* LAZAR, *supra* note 1, at 27 (explaining the different sources of statutory authority for public utility commissioners); *e.g.*, Johnson Utils. v. Ariz. Corp. Comm'n, 468 P.3d 1176, 1180–83 (Ariz. 2020) (discussing how the delegates to the 1910 Arizona Constitutional Convention created constitutional authority for the state corporation commission to regulate utility rates in order to protect the public from corporate abuses and insulate the Commission's rate-setting authority from state legislative interference).

[53] *What FERC Does*, FED. ENERGY REGUL. COMM'N, https://www.ferc.gov/about/what-ferc/what-ferc-does [https://perma.cc/LX85-7DVX]; *see supra* note 1 (detailing federal statutes setting forth FERC's authority to regulate the sale of gas and electricity in interstate commerce); *infra* note 63 (describing the federal "just and reasonable" standard

Federal and state regulators and courts alike have grappled with the scope and breadth of the public interest mandate when it comes to regulating gas and electric utilities. For instance, in *NAACP v. Federal Power Commission*,[54] the Supreme Court considered whether the FPC had an obligation, under the public interest mandates contained in the Federal Power Act and the Natural Gas Act, to limit discriminatory employment practices by the utilities it regulated. The Court held that the Commission did not have the power to regulate the utilities' personnel practices and punish discriminatory actions as part of its statutory public interest authority.[55] However, it also held that the Commission did have the authority to consider the impacts of utilities' discriminatory employment practices to the extent those impacts directly related to setting "just and reasonable" rates in the public interest.[56]

The Court warned that "the use of the words 'public interest' in a regulatory statute is not a broad license to promote the general public welfare" and that courts must consider the purpose of the legislation in question.[57] Here, the Court found that "the principal purpose of [the Natural Gas and Federal Power Acts] was to encourage the orderly development of plentiful supplies of electricity and natural gas at reasonable prices" and that nothing in the Acts or their legislative history indicated one of the purposes of the laws was to eliminate employment discrimination.[58]

However, the Court also held that—to the extent that a utility's discriminatory employment practices resulted in duplicative or unnecessary labor costs, litigation costs associated with discrimination lawsuits, or other business costs that impacted the utility's rates—the Commission should disallow those costs in ratemaking proceedings, as passing such costs on to consumers would be unjust and unreasonable under the applicable statutes.[59]

Debates over the extent of federal and state utility regulators' ability to act in the public interest continue today.[60] Throughout the

for all rates and charges applicable to wholesale sales and transport of gas and electricity in interstate commerce).

[54] 425 U.S. 662 (1976).

[55] *Id.* at 671.

[56] *Id.*

[57] *Id.* at 669.

[58] *Id.* at 669–70.

[59] *Id.* at 668.

[60] *See, e.g.*, Filipink, *supra* note 1, at 49–50 (noting that "the public interest is indefinite and constantly changing" and that courts should instead decide cases based on "the elements of delegated authority – the goals, roles, and criteria for making regulatory decisions"); KIERA ZITELMAN & JASMINE MCADAMS, NAT'L ASS'N OF REGUL. UTIL. COMM'RS, THE ROLE OF STATE UTILITY REGULATORS IN A JUST AND REASONABLE

remainder of this Article, we detail regulatory proceedings, particularly at the state level, where regulated parties, consumers, and nonprofit groups continue to dispute the role of utility regulators in establishing low-income rates, imposing moratoria on utility shutoffs for nonpayment, or targeting ratepayer funds toward energy efficiency programs in disadvantaged communities. Of course, to the extent that federal or state legislation expressly directs commissions to consider energy justice concerns in their decisions, regulators can rely on that express direction.[61] However, in the absence of such clear direction, regulators can and should promote energy justice by focusing on issues of energy access, energy rates, and equal distribution of energy-related costs, consistent with the constraints that the Supreme Court articulated while interpreting identical "public interest" language in federal laws in *NAACP*.[62] We discuss this issue in more detail in Part IV.

C. Utility Regulation to Set Just, Reasonable, and Nondiscriminatory Rates

Regulation of utility rates is one of the most consequential areas in which broad statutory mandates to apply the just, reasonable, and nondiscriminatory standard offers regulators significant discretion in advancing the public interest. This Section describes the law that exists to guide regulators and the heuristics adopted in practice by many state utility regulators to address the fundamental tensions inherent in public utility rate setting.

Nearly all state and federal laws governing the regulation of public utility rates establish a standard that rates should be just, reasonable, and nondiscriminatory.[63] However, as with "public interest,"

ENERGY TRANSITION 5 (2021), https://pubs.naruc.org/pub/952CF0F2-1866-DAAC-99FB-0C6352BF7CB0 [https://perma.cc/7MCF-EUEX] (explaining that regulators find it difficult to address a wide variety of stakeholder concerns while also staying true to statutory precedent).

[61] *See, e.g.*, McMichael, *supra* note 41 (discussing states that have included energy justice provisions in their clean energy laws).

[62] While the *NAACP* opinion is not binding on states, it is persuasive. *See, e.g.*, Md. Off. of People's Couns. v. Md. Pub. Serv. Comm'n, 192 A.3d 744, 758 (Md. 2018) (citing *NAACP*'s interpretation of "public interest" in regulatory statutes). Much of *NAACP*'s influence stems from the fact that states modeled their public utility statutes in large part on the FPA and NGA, especially with regard to the "just and reasonable" mandate and the authorization to set rates in the "public interest." *See, e.g.*, 66 PA. CONS. STAT. § 1301 (2017) ("Every rate made, demanded, or received by any public utility, or by any two or more public utilities jointly, shall be just and reasonable . . . .").

[63] *See* 15 U.S.C. § 717c(a) (declaring in the Natural Gas Act of 1938 that all rates and charges "shall be just and reasonable"); 16 U.S.C. § 824d(a) (declaring in the 1935 amendments to the Federal Power Act that all rates and charges and any rules and regulations related to rates and charges "shall be just and reasonable"); SCOTT HEMPLING,

there is no fixed meaning of the "just and reasonable" standard.[64] Indeed, ever since the Supreme Court's landmark 1944 decision in *Federal Power Commission v. Hope Natural Gas*,[65] the Court has refused to require the Federal Power Commission or FERC to adhere to any particular rate formula in determining just and reasonable gas and electricity rates.[66] As a result, federal courts evaluate only the "end result" of the ratemaking process to determine whether any rate subject to the Commission's jurisdiction is just and reasonable.[67] State courts are similarly deferential to state public utility commission ratemaking for rates subject to state jurisdiction.[68]

1. Principles of Public Utility Rate Setting

Most commonly, the just and reasonable standard has been used to adjudicate the relative distribution of costs and benefits between private utility investors and ratepayers in aggregate—but the standard also has been applied to adjudicate cost allocation between groups of

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REGULATING PUBLIC UTILITY PERFORMANCE 219 (1st ed. 2013) (explaining that "[t]he phrase 'just and reasonable' appears in most economic regulatory statutes, both federal and state" and derives from the Interstate Commerce Act of 1887); ZITELMAN & MCADAMS, *supra* note 60, at 5 ("Many statutes granting PUCs authority or outlining core PUC missions require the PUC to set rates in a 'just and reasonable' manner. The definition of just and reasonable is open to interpretation and has taken shape over decades of public utility regulation."); Ari Peskoe, *Unjust, Unreasonable, and Unduly Discriminatory: Electric Utility Rates and the Campaign Against Rooftop Solar*, 11 TEX. J. OIL GAS & ENERGY L. 211, 228–29, 228 n.77 (2016) (discussing the history and framework for setting "just and reasonable" natural gas and electricity rates under federal and state law and citing "just and reasonable" language in various state statutes).

64 *See* Farmers Union Cent. Exch. v. FERC, 734 F.2d 1486, 1501 (D.C. Cir. 1984) (quoting City of Chicago v. FPC, 458 F.2d 731, 750 (D.C. Cir. 1971)) (explaining that the "just and reasonable" standard "is, of course, not very precise," does not "unduly confine FERC's ratemaking authority," and "[has] no intrinsic meaning applicable alike to all situations"); *see also* HEMPLING, *supra* note 63, at 219 & n.5 (citing and discussing case to demonstrate that the phrase "just and reasonable" has "no fixed meanings").

65 320 U.S. 591 (1944).

66 *Id.* at 603 (noting that there are "various permissible ways in which any rate base" is formulated, and that the exact method is not "important"). *But see, e.g.*, Welton & Eisen, *supra* note 3, at 363 n.307 (discussing judicial concerns with the broad discretion given to commissions to set rates both at the time of *Hope Natural Gas* and more recently).

67 *Hope Nat. Gas*, 320 U.S. at 602 ("Under the statutory standard of 'just and reasonable' it is the result reached not the method employed which is controlling.").

68 *See* Peskoe, *supra* note 63, at 230–31 (discussing the standard in *Hope Natural Gas* and stating that "[w]ith a deferential standard of review and only barebones instructions from state law, PUCs have wide latitude to set rates" and that "ratemaking proceedings are structurally similar around the country"); *id.* at 232 & nn.101–02 (noting that many state courts "explicitly adopt" the deferential standard of review articulated in *Hope* or "have adopted similar standards that track the Court's language in *Hope*" and citing state cases as examples of both approaches).

ratepayers.[69] However, public utility rate setting faces fundamental challenges of ambiguity and competing goals, which necessitate that regulators deploy their discretion to determine what is just, reasonable, and nondiscriminatory. While our analysis is not exclusively limited to the authorities established by the Federal Power Act, the Natural Gas Act, and nearly all states' laws for just and reasonable electricity and gas rates, our central argument is that appeals to "just" rate-setting practices leave a demonstrated significant degree of regulatory leeway and have a long way to go in order to fully reflect contemporary conceptualizations of "energy justice."

Applying the just and reasonable standard to balance benefits between utility investors and ratepayers requires adjudicating the competing goals of (1) ensuring utilities collect sufficient revenues to recover all reasonable costs of providing service, including a "fair" rate of return on equity[70] and (2) charging rates to consumers that reflect their marginal cost of service.[71] These goals come into conflict because investments in large, indivisible capital are required to provide utility service to large groups of consumers,[72] and these investments do not vary with changes in consumption in the short run

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[69] *See, e.g.*, Colo. Interstate Gas Co. v. Fed. Power Comm'n, 324 U.S. 581, 591 (1945) (citing Walton H. Hamilton, *Cost as Standard for Price*, 4 LAW & CONTEMP. PROBS. 321, 333 (1937)) ("Allocation of costs [among ratepayers] is not a matter for the slide-rule. It involves judgment on a myriad of facts. It has no claim to an exact science."); Peskoe, *supra* note 63, at 230 (citing William Boyd, *Public Utility and the Low-Carbon Future*, 61 UCLA L. REV. 1614, 1645 (2014)) (noting that the *Hope* Court took a "pragmatic approach" to the "just and reasonable" standard by balancing the relevant interests at stake); *see also* Samuel Huntington, *The Rapid Emergence of Marginal Cost Pricing in the Regulation of Electric Utility Rate Structures*, 55 B.U. L. REV. 689, 704–05 (1975) (stating that "the objective of allocative efficiency does not stand alone" and pointing to the observation that states frequently deviate from efficiency to meet the "revenue condition" to ensure utility financial viability but "the clash between allocative efficiency and income distributive objectives promises to be much less structured").

[70] *See* David C. Rode & Paul S. Fischbeck, *Regulated Equity Returns: A Puzzle*, ENERGY POL'Y, Oct. 2019, at 2 (describing how "the spread between authorized equity returns (and also earned equity returns) and the riskless rate has grown steadily over time," and suggesting that "regulators who are tasked with standing in for the discipline of a competitive market and ensuring that returns are just and reasonable" have authorized these excessive returns).

[71] *See* NAT'L ASS'N OF REGUL. UTIL. COMM'RS, ELECTRIC UTILITY COST ALLOCATION MANUAL 165 (1992) (explaining that regulatory authorities "must balance the welfare of the entire ratepayer population against that of significant individual customer groups," and that it can be difficult to optimize for this tradeoff); *id.* at 147 ("The major reason for allocating costs using marginal cost principles is to promote economic efficiency and societal welfare by simulating the pricing structure and resulting resource allocation of a competitive market.").

[72] Manuela Mosca, *On the Origins of the Concept of Natural Monopoly: Economies of Scale and Competition*, 15 EUR. J. HIST. ECON. THOUGHT 317, 318–24 (2008) (tracing the history of the concept of natural monopoly, including the framing of natural monopolies based on industrial production processes that entail "high fixed start-up costs and low or

(utility costs of this nature are also referred to as "joint and common costs," "indirect" costs, or—often incorrectly—"fixed costs").[73] Because of these properties of utility costs, the marginal cost of serving an individual consumer is fundamentally ambiguous; it depends on whether serving that consumer impacts the need for new indivisible capital investments, which depends on the time horizon. New indivisible capital will always be required over the long run as old infrastructure becomes obsolete but will rarely be required in the short run when all needs can be met with current infrastructure.[74] Regulators have adopted common practices for allocating the indivisible capital costs of providing electric service through embedded-cost ratemaking.[75]

Even if the ambiguity in allocating indivisible costs could be resolved, if all consumers were charged only their marginal cost, the utility would collect insufficient revenue to recoup the full costs of

zero variable costs" and "indivisible industries" that require "high fixed cost, indivisible facilit[ies]" (citations omitted)).

[73] Indivisible capital costs include the physical infrastructure that is shared by multiple energy consumers. Joint and common costs are costs that are incurred to provide service to a group of customers. *See* JONATHAN A. LESSER & LEONARDO R. GIACCHINO, FUNDAMENTALS OF ENERGY REGULATION 67–68 (3d ed. 2019) (defining and distinguishing joint and common costs). For example, the costs of a feeder on a distribution grid serves multiple customers in proximity to the feeder and the costs of a central station powerplant are incurred to provide reliable service across all customers of a utility. Joint and common costs are also a subset of a utility's "indirect costs," costs which cannot be identified with a particular, specified service. In contrast, "direct costs" are those directly attributable to specific consumption, such as the marginal cost of fuels used in a powerplant. *See Guidelines for Cost Allocations*, NAT'L ASS'N OF REGUL. UTIL. COMM'RS, https://pubs.naruc.org/pub.cfm?id=539BF2CD-2354-D714-51C4-0D70A5A95C65 [https://perma.cc/W8BV-UZPJ] (defining "direct costs" and "indirect costs"); *infra* note 74 (discussing the ambiguity of the term "fixed costs").

[74] Because they are shared across multiple consumers, indirect costs are "fixed" over the short run. But over the long run, as levels of consumption change, all (indirect) costs are in fact variable. *See* LAZAR ET AL., *supra* note 15, at 262 ("From a regulatory and economics perspective, the concept of fixed costs is irrelevant. For purposes of regulation, all utility costs are variable in the long run.").

[75] Generally, rate setting in every U.S. state incorporates at least some element of embedded-cost ratemaking, whether for delivery of service alone or fully bundled service (i.e., energy plus delivery). Embedded-cost ratemaking involves four steps: (1) determining the utility's revenue requirement to most cost-effectively meet future demand for service, (2) functionalizing costs based on categories, (3) classifying costs based on their purpose, and (4) allocating costs to classes of customers. *Id.* at 15–16, 69 (stating that "embedded cost of service studies may be the most common form of utility cost allocation study" and describing how such studies are conducted); *see also* BONBRIGHT, *supra* note 50 (outlining in detail principles for public utility cost allocation that are widely adopted in current practice); ALFRED E. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS (2d ed. 1988) (extensively applying economic theory to the practices of industry regulation); NAT'L ASS'N OF REGUL. UTIL. COMM'RS, *supra* note 71, at 32 (describing embedded-cost ratemaking as the "dominant method of cost allocation").

their prudent investments. This puts the goals of utility regulation in perpetual conflict; there is no theoretical optimal rate design that maximizes the achievement of all goals simultaneously.[76] Instead, regulators are guided by heuristics for navigating the tradeoffs of multiple goals.

Regulators have navigated these conflicting goals by positing that the role of regulating utility profits is to replicate the theoretical outcomes of competitive markets that would otherwise discipline private companies against the anti-consumer behavior of monopolies.[77] The normative goal of replicating the theoretical outcome of competitive markets is also applied to retail rate setting, often through the appeal to cost-causal principles.[78] Cost allocation based on cost causality seeks to base rates on the cost of serving a customer. In a competitive market, if a customer was charged above their cost of service, another supplier could theoretically profit by undercutting an above-cost price. And conversely, a customer charged below their cost of service would generate unsustainable revenue for the supplier. Thus, cost-causal principles seek to answer the question: "Why were the costs incurred?" But cost-causal principles are distinct from the question of who benefits from specific expenditures.[79] In other words, regulators using cost-causal principles view total energy demand as fixed and set rates without considering the marginal benefits of utilizing energy

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[76] *See* LISA WOOD, ROSS HEMPHILL, JOHN HOWAT, RALPH CAVANAGH & SEVERIN BORENSTEIN, RECOVERY OF UTILITY FIXED COSTS: UTILITY, CONSUMER, ENVIRONMENTAL AND ECONOMIST PERSPECTIVES 47–48 (2016) ("[T]he foundational principle of economic efficiency . . . is likely to lead to a revenue shortfall. . . . [T]here is no perfect approach to increasing revenue, but some approaches make much more sense than others.").

[77] *See* Peskoe, *supra* note 63, at 228 (explaining that regulators have interpreted "just and reasonable" through a competitive lens to mean that monopoly utilities should not earn excessive profits or price-discriminate among ratepayers (citing David K. Kadane, *The Legality of Marginal Cost Pricing*, 5 HOFSTRA L. REV. 755, 756 (1977))).

[78] *See, e.g.*, K N Energy, Inc. v. FERC, 968 F.2d 1295, 1300 (D.C. Cir. 1992) ("[I]t has been traditionally required that all approved rates reflect to some degree the costs actually caused by the customer who must pay them."); Ala. Elec. Coop., Inc. v. FERC, 684 F.2d 20, 27 (D.C. Cir. 1982) ("[I]t has come to be well established that electrical rates should be based on the costs of providing service to the utility's customers, plus a just and fair return on equity."); S. Cal. Edison Co., No. 53488, 1973 Cal. PUC LEXIS 840, at *8 (Cal. P.U.C. Sept. 25, 1973) (authorization to increase rates) (recognizing the need for each group to bear its fair share of the cost of service as measured by a cost of service study); *see also* Daniel C. Matisoff, Ross Beppler, Gabriel Chan & Sanya Carley, *A Review of Barriers in Implementing Dynamic Electricity Pricing to Achieve Cost-Causality*, ENV'T RSCH. LETTERS, Aug. 25, 2020, No. 093006.

[79] LAZAR ET AL., *supra* note 15, at 18; *see also* Midwest ISO Transmission Owners v. FERC, 373 F.3d 1361, 1369–70 (D.C. Cir. 2004) ("We have described [the cost causation] principle as 'requir[ing] that all approved rates reflect to some degree the cost actually caused by the customer who must pay them.'" (quoting *K N Energy, Inc.*, 968 F.2d at 1300)).

infrastructure or enjoying energy services. However, replicating the outcomes of competitive markets and applying cost-causal principles is neither a legal objective nor sufficient to explain the full range of positive outcomes or normative goals of public utility regulation.[80] In other words, the heuristic of replicating the outcomes of competition is not necessarily aligned with the "public interest" mission of utility regulation, nor the requirement to set just, reasonable, and nondiscriminatory rates, charges, and practices. Quite the contrary, many competitive markets are highly discriminatory, in part because markets can perpetuate "the norms and practices of advantaged groups" and "the second-class citizenship of the disadvantaged."[81]

In recent decades, economic and legal scholars have developed principles and practices for regulating rates and allocating burdens and benefits in infrastructure systems that rely on indivisible capital, such as railroads, telecommunications, cable television, electricity, natural gas pipelines, and water delivery (sometimes referred to as "natural monopolies").[82] James Bonbright's 1961 *Principles of Public Utility Rates* and the 1988 posthumous second edition with additional authors, establishes a set of criteria of sound rate structure for public utilities that has been used in countless state and federal proceedings.[83] Particularly relevant for distributional equity are the following criteria:

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[80] *See* Posner, *supra* note 21, at 22 (arguing that neither of the two dominant academic views on public utility regulation—which hold that regulation either benefits the public interest or is instead used for the protection of "politically effective groups"—explain the "phenomenon" of public service provision "at lower rates and in larger quantities than would be offered in an unregulated competitive market or . . . an unregulated monopolistic one").

[81] Cass R. Sunstein, *Why Markets Don't Stop Discrimination*, 8 SOC. PHIL. & POL'Y 22, 36 (1991); *see also id.* at 22 ("[U]nder plausible assumptions and in many settings, markets will not stop discrimination and that reliance on competitive pressures would be a grave mistake for a government intending to eliminate discriminatory practices.").

[82] *See, e.g.*, KAHN, *supra* note 75, at 113, 152 (applying economic theory to the institutional context of natural monopoly, with an example of natural gas transmission); RICHARD SCHMALENSEE, THE CONTROL OF NATURAL MONOPOLIES (1979); William J. Baumol, *On the Proper Cost Tests for Natural Monopoly in a Multiproduct Industry*, 62 AM. ECON. REV. 809, 809 (1977) (explaining the creation of natural monopolies through effect tests and economic formulae); Richard J. Posner, *Natural Monopoly and Its Regulation*, 21 STAN. L. REV. 548 (1969) (analyzing the regulatory processes underlying natural monopolies and proposing areas for reform).

[83] *See* Karl R. Rábago & Radina Valova, *Revisiting Bonbright's* Principles of Public Utility Rates *in a DER World*, 31 ELEC. J. 9 (2018) ("Much of Bonbright's classic treatise . . . has stood the test of time, and still provides a basis for useful reflection on principles of regulation and rate development."); DEVI GLICK, MATT LEHRMAN & OWEN SMITH, ROCKY MOUNTAIN INST., RATE DESIGN FOR THE DISTRIBUTION EDGE 38 (2014), https://rmi.org/wp-content/uploads/2017/04/2014-25_eLab-RateDesignfortheDistributionEdge-Full-highres-1.pdf [https://perma.cc/HX6Y-DS3M] (discussing Bonbright's 1961 principles as "the foundation of public utility ratemaking in the U.S. for the next half century");

- Rates should reflect "all of the present and future private and social costs and benefits occasioned by a service's provision (i.e., all internalities and externalities)."
- Rates should seek "fairness . . . in the apportionment of total costs of service among the different ratepayers so as to avoid arbitrariness and capriciousness."
- Rates should avoid undue discrimination by being "subsidy free with no intercustomer burdens."[84]

Bonbright's principles have been instantiated through formal ratemaking principles and practices in virtually all states.[85] These principles help regulators navigate the complexity of managing the multiple objectives of utility regulation by defining criteria that utility rates can be measured against. But these principles are sometimes in tension, leading to significant regulatory discretion in determining how to navigate tradeoffs among goals to best advance the public interest.[86] Relevant for distributional equity are potential tradeoffs between economic efficiency and discriminatory pricing.[87]

2. *Balancing the Principles of Public Utility Regulation*

Generally, contemporary thinking on the issue of rate design has emphasized the necessity of balancing multiple perspectives, accounting for the multi-dimensionality of public interest, and relying on data and analysis as market, technological, and operating conditions change.[88] It is within this context that we suggest there is a significant opportunity to evaluate and reorient energy-system governance toward advancing energy justice as a key component of advancing the public interest. Rate setting ultimately involves significant judgment

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LAZAR ET AL., *supra* note 15, at 26 ("James Bonbright, regarded as the dean of utility rate analysts, set out eight principles that are routinely cited today."). For examples of cases citing Bonbright's principles, see *United States v. Public Utilities Commission*, 635 A.2d 1135, 1141–42 (R.I. 1993); *Fitchburg Gas & Electric Light Co. v. Department of Public Utilities*, 359 N.E.2d 1294, 1297 n.5 (Mass. 1977); *Maine Water Co. v. Public Utilities Commission*, 482 A.2d 443, 456–57 (Me. 1984).

[84] JAMES C. BONBRIGHT, ALBERT L. DANIELSEN & DAVID R. KAMERSCHEN, PRINCIPLES OF PUBLIC UTILITY RATES 383–84 (Pub. Utils. Reps. 2d ed. 1988).

[85] *See supra* note 83 and accompanying text.

[86] *See* BONBRIGHT, *supra* note 84, at 315 ("Seeking the closest feasible approach to the accomplishment of these . . . partly conflicting objectives, the rate maker has at his command a wide variety of schemes of differential rate making which he must apply, not singly but in combination.").

[87] *See* KEN COSTELLO, ALTERNATIVE RATE MECHANISMS AND THEIR COMPATIBILITY WITH STATE UTILITY COMMISSION OBJECTIVES 29–31 (2014) (explaining that economic efficiency and discriminatory pricing are important considerations in setting "just and reasonable" rates).

[88] *Id.* at 19–21.

and reliance on untestable assumptions. According to the Regulatory Assistance Project:

> In the end, cost allocation may be more of an art than a science, since fairness and equity are often in the eye of the beholder. In most situations, cost allocation is a zero-sum process where lower costs for any one group of customers lead to higher costs for another group. However, the techniques used in cost allocation have been designed to mediate these disputes between competing sets of interests.[89]

In setting rates, an important concept is differentiation between different groups of ratepayers into distinct rate classes. From a legal perspective, differentiating customers is permissible if it does not rise to the level of "undue discrimination."[90] And from an economic perspective, the purpose of differentiation is to eliminate "cross-subsidization"—the underpayment of costs by one customer that causes an overpayment by another customer.[91] Finer differentiation allows cost allocators to assign responsibility for costs more specifically to customers based on their utilization of indivisible capital, thereby better aligning what customers pay with the costs for which they are responsible.

Generally, regulators' most powerful tool to introduce differentiation is defining rate classes. Rate classes are based on evidence of a differential cost of service, and all customers within a class pay based on a predetermined ("postage stamp") rate.[92] Most utilities differentiate residential customers from commercial and industrial (C&I) customers, and utilities often further differentiate C&I customers into multiple sub-classes based on their size or required voltage.[93] Further, many commissions have approved rate class differentiation for specific technologies, such as electric space heating and electric vehicle charging.[94] While public utility commissions generally enable cus-

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[89] LAZAR ET AL., *supra* note 15, at 18.

[90] *See, e.g.*, Adrienne L. Thompson, *Protecting Low-Income Ratepayers as the Electricity System Evolves*, 37 ENERGY L.J. 265, 274 (2016) (discussing the duty of nondiscrimination in relation to price differentiation that does not amount to undue discrimination).

[91] *See supra* Introduction (discussing the role of cross subsidies in public utility regulation).

[92] *See* LAZAR ET AL., *supra* note 15, at 26 (discussing "postage stamp pricing").

[93] *See* LAZAR, *supra* note 1, at 25, 61 (explaining the allocation of costs to customer classes); LAZAR ET AL., *supra* note 15, at 61–64 (explaining how utilities determine customer classes).

[94] *See* LAZAR ET AL., *supra* note 15, at 62 ("Some of the distinctions [among customer classes] are based on technology (or, more accurately, as a proxy for the load impacts of certain technologies), such as electric space heating, electric water heating, solar or other distributed generation and even electric vehicles.").

tomer differentiation based narrowly on cost of service, commissions also regularly incorporate considerations of differential private and public benefits of service.[95]

In addition to reforming cost allocation practices within the embedded-cost ratemaking framework, another area where state regulatory commissions introduce differentiation is in the treatment of specific new customers or load categories outside of the ordinary rate-setting process.[96] Often, commissions will apply the "just and reasonable" standard to evaluate proposals to give tailored treatment to new load that may or may not be appropriately aggregated within existing rate classes. In evaluating such proposals, commissions have not always determined that the embedded costs already allocated to existing customers should be allocated to new, incremental load.[97] This approach instead applies the logic of cost causality to assign only the incremental costs of service to incremental load.

This approach effectively exempts new load from contributing to the joint and common ("indirect") costs of providing electricity service to the full collective of a utility's customers. Section III.B includes examples where state utility commissions allowed electric utilities to offer "economic development rates" for commercial and industrial customers that exempts specific incremental load from embedded-cost pricing based on hoped-for economic development benefits for the entire utility system.

In addition to differentiation that arises through a regulatory commission's rate-setting authority, legislatures and regulators have also introduced differentiation in the costs and benefits applied to specific customers through programs and charges that apply as riders or additional value streams on top of rates.[98] For instance, as discussed in

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[95] *See infra* Section III.A (discussing low-income rate classes); *infra* Section III.B (discussing economic development rates).

[96] Furthermore, twenty-five states have statutory authority to consider economic development impacts at least partially in decisionmaking, four of which (Iowa, Kansas, Missouri, and Tennessee) have specific authority to consider economic development in ratemaking. *See* ZITELMAN & MCADAMS, *supra* note 60, at 22, 25–26.

[97] *See, e.g.*, Petition by Northern States Power Company for Approval of Contracts and Ratemaking Treatment for Provision of Electric Service to Google's Data Center Project, No. E-002/M-19-39, slip op. at *15 (Minn. P.U.C. July 15, 2019) (authorizing Xcel Energy to provide electric service to Google at a specified rate, and finding that the specified rate is "just, reasonable, and not unduly preferential in that it will recover more than its incremental costs, thereby helping to defray some costs that would otherwise have been borne by others," but notably omitting a comparison of this special rate to existing rate classes that have pre-determined allocations of embedded costs necessary to meet the utility's system-wide revenue requirement).

[98] Differentiation in costs and benefits can also apply to specific types of energy generators. For example, renewable generation sources are generally eligible for federal tax incentives and state incentives. *See Database of State Incentives for Renewables &*

Section II.B, in implementing the Low Income Home Energy Assistance Program, federal policymakers introduced income-based differentiation for bill assistance to residential customers in order to reduce household energy insecurity. Commonly, differentiation can be introduced through new programs created by statute or regulation. But while universal service rules and the requirement of nondiscrimination apply generally, regulators also have significant leeway in considering differential treatment of new resources and new loads.[99]

Despite efforts to differentiate a public utility's customers based on differential cost of service, in virtually all infrastructure systems some amount of cross-subsidization is inevitable and, in some cases, can even be intentional and desirable.[100] Some degree of cross-subsidization is almost always inevitable because of the impracticalities of developing rates at a fine enough specificity to account for all differences in cost of service (for example, rates are often based on class-average cost-of-service studies).[101] And cross-subsidization can be intentional and desirable to achieve social and policy goals, such as encouraging energy efficiency,[102] attracting economic development opportunities,[103] treating consumers in disparate parts of the system

Efficiency, N.C. CLEAN ENERGY TECH. CTR., https://www.dsireusa.org [https://perma.cc/LSK4-XPVZ] (listing state policies and incentives across the United States); LYNN J. CUNNINGHAM & RACHEL J. ECK, CONG. RSCH. SERV., R40913, RENEWABLE ENERGY AND ENERGY EFFICIENCY INCENTIVES: A SUMMARY OF FEDERAL PROGRAMS (2021) (listing federal programs and incentives for renewable energy).

[99] *See* LAZAR ET AL., *supra* note 15, at 173 ("[R]egulators have treated new resources or new loads using considerations that do not fit neatly into the embedded cost of service study framework.").

[100] *See, e.g.*, Posner, *supra* note 21, at 47–48 (describing the pervasiveness of cross-subsidization and comparing the advantages and disadvantages of cross-subsidization relative to other methods of public finance as tools for achieving policy objectives of providing public utility and common carrier services).

[101] Rates that are based on class-average cost-of-service studies include significant cross-subsidization within a class. Over time, the cross-subsidization within a class arising from customers with heterogeneous usage can grow to be significant. And therefore, cross-subsidization is an inherent part of modern practice to design rates that purport to follow cost-causal principles. *See* Peskoe, *supra* note 63, at 238 & n.135 (citing Ahmad Faruqui, *The Ethics of Dynamic Pricing*, 23 ELEC. J. 13, 19 (2010)) ("A flat rate . . . around the clock essentially creates a cross subsidy between consumers that have flatter-than-average load profiles and those . . . [with] peakier-than-average load profiles. This cross subsidy is invisible to most consumers but over . . . [time] can run into the billions of dollars.").

[102] *See* Severin Borenstein, *The Economics of Fixed Cost Recovery by Utilities*, 29 ELEC. J. 5, 7 (2016) ("[T]he fixed-cost recovery problem has grown as more costs have been added . . . . [E]nergy efficiency programs, discounts to low-income customers, and subsidies for installing distributed generation are now costs that the utility must recover, but are not part of the social marginal cost of providing a kWh . . . .").

[103] *See, e.g.*, *infra* notes 329–30 and accompanying text (discussing rate discounts for C&I customers).

non-discriminatorily,[104] guaranteeing reliable service continuation after specific system failures, and providing low-income rate discounts. In fact, some utility observers argue that the original purpose of electric utilities was to intentionally create cross-subsidies as a means of providing universal service.[105]

As we argue in Section IV.A, cross-subsidization is not necessarily a problem to eliminate in all circumstances. Instead, it is an important outcome for utilities and regulators to manage strategically as they simultaneously manage for affordability, reliability, and safety.

II
Current Policies Promoting Affordable Utility Service

Public utilities have an obligation to serve customers in defined areas, subject to some limitations. In this Part, we explain the limitations of a public utility's obligation to serve and how this obligation has been viewed by state regulators to guarantee service in specific conditions. We then discuss how a utility's obligation to serve and a regulatory commission's public interest authority have been applied to guarantee affordable service for low-income customers.

Generally, state statutes require utilities to serve all consumers who can pay for service[106] without discriminating among similarly situated customers.[107] In order to meet this requirement, regulators define classes of energy consumers and charge a standard rate for all

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[104] *See, e.g.*, *infra* note 307 and accompanying text (explaining how residential rates do not differentiate between rural and urban consumers, despite the relatively higher costs of building urban distribution grids).

[105] Indivisible capital required for public utilities creates mutual dependence between customers who enjoy more affordable services (relative to "standalone costs") by pooling their resources to achieve economies of scale. Cross-subsidization is therefore inherent to all public utilities. *See* Sean Casten & Joshua Meyer, *Cross-Subsidies: Getting the Signals Right*, Fort. Mag. (Dec. 2004), https://www.fortnightly.com/fortnightly/2004/12/cross-subsidies-getting-signals-right [https://perma.cc/2PJJ-7NUK] ("The reason we have regulated utilities is to create cross-subsidies. . . . [C]ross-subsidization . . . is found throughout utility rates . . . . We tolerate and encourage such rate setting out of the belief that the social benefits created by such subsidization outweigh the resulting economic inefficiency.").

[106] *See* Douglas N. Jones, *Regulatory Concepts, Propositions, and Doctrines: Casualties, Survivors, Additions*, 22 Energy L.J. 41, 57 (2001) ("Originating in English common law, the idea was that monopoly providers in certain common callings had a near-absolute duty to service all who requested it, and at fair and reasonable rates."); *see also* Charles F. Phillips, Jr., The Regulation of Public Utilities: Theory and Practice 553–59 (3d ed. 1993) (studying Colorado legislation and describing how utilities may not discriminate between paying customers on the bases of protected identity categories but may discriminate on the bases of geography and non-payment); Colo. Rev. Stat. § 40-4-101 (LEXIS through 2022 Reg. Sess.).

[107] Phillips, *supra* note 106, at 119.

customers within the class. However, in recent years, regulators have allowed for both optional and mandatory rate differentiation, such as opt-in and opt-out time-of-use rate classes[108] and rates differentiated for specific new customers or adopters of certain technologies, such as electric heating or electric vehicles.[109] Commissions have justified these approaches as being responsive to customers' desire to control their costs and to introduce differentiated rate structures that better align rates with system costs.[110]

A utility's obligation to serve includes an obligation to provide a "community service" now and into the future.[111] However, while a utility's legal obligation to serve has limits, these limits have evolved over time. For example, when retail competition was introduced in some states, legislatures designated a utility, often the incumbent, with an obligation to serve any customer as a "last resort."[112] States have further refined utilities' obligation to serve all customers by excluding from their obligation serving remote customers with high specific costs of service, customers who use electricity for hazardous purposes, and non-paying customers—particularly in weather conditions for whom nonservice would not be a risk to health.[113]

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[108] *See* Beia Spiller, *To Opt-In or Opt-Out: What Works for Time-Variant Pricing*, ENV'T DEF. FUND (Aug. 7, 2014), https://blogs.edf.org/energyexchange/2014/08/07/to-opt-in-or-opt-out-what-works-for-time-variant-pricing [https://perma.cc/7B75-MT75] (discussing recent pilot programs of opt-in and opt-out time-of-use rate programs); *TOU Takeaways: Perspectives on Two Time-of-Use Rates in Colorado*, MEDIUM: GETTING IT RIGHT ON ELEC. RATE DESIGN (May 1, 2019), https://medium.com/getting-it-right-on-electricity-rate-design/tou-takeaways-608d7e5851aa [https://perma.cc/GCT4-6B84] (describing a mandatory time-of-use rate in a utility in Colorado with no ability to opt-out).

[109] *See, e.g.*, *Residential Pricing Options*, DTE ENERGY, https://newlook.dteenergy.com/wps/wcm/connect/23195474-a4d1-4d38-aa30-a4426fd3336b/WholeHouseRateOptions.pdf?MOD=AJPERES [https://perma.cc/6SZQ-9YSU] (showing one utility's differentiated rates for general residential electric service and its rates associated with specific technologies: electric space heating, electric water heating, and electric vehicle charging).

[110] *See* HEMPLING, *supra* note 63, at 47 (citing Federal Energy Regulatory Commission orders approving demand response and time-based rate programs).

[111] *See id.* at 37–38 (citing Bd. of Fire Comm'rs of Fire Dist. No. 3, Piscataway v. Elizabethtown Water Co., Consol., 142 A.2d 85, 87 (N.J. 1958)) ("The burden assumed thereby was a community service; it was not limited to the establishment of a system suitable only to the then current needs.").

[112] *Id.* at 87–88 (noting that maintaining an obligation to serve may create a tension with promoting competition in services due to customer "inertia" to remain with the default provider); *see also* LAZAR, *supra* note 1, at 18–19 (discussing state adoption of retail competition—primarily in the northeast and Texas—that allowed new companies to compete with incumbent investor-owned utilities to sell electricity to consumers).

[113] *See* HEMPLING, *supra* note 63, at 38 (discussing exceptions to the obligation to serve, including "non-paying customers," those "who violate the tariff's safety provision," and those "who reside remotely from the central population").

A. Disconnection Policies: Guaranteeing Service in Seasonal, Medical, and Pandemic Conditions

Policymakers have long recognized that people need access to basic utilities during specific weather and public health emergencies. In response to that need, and in addition to the general low-income programs discussed in Section II.B below, many state-level legislatures, executives, and public utility commissions have imposed disconnection moratoriums during specified times of the year, weather conditions, and emergencies. There are three primary kinds of disconnection protections currently in use across the United States: (1) seasonal disconnection policies; (2) disconnection policies to protect persons with medical conditions that require electricity to run life-saving equipment; and (3) emergency disconnection policies related to the COVID-19 pandemic.

1. Seasonal Disconnection Policies

Many states have longstanding disconnection policies, created either by their legislatures or their public utility commissions, related to seasonal conditions. Seasonal disconnection policies focus on two different weather emergencies: severe cold weather and severe hot weather. Although forty-two states have cold-weather-related protection, only fourteen have protection for severe heat.[114] Even within those forty-two states with cold-weather protection, there is significant variation. Some states afford blanket disconnection protection for all customers during a season while others only apply their own state's cold weather rule when the temperature hits a certain threshold.[115] Some protections only include an extra notice before termination.[116] Others only apply weather disconnection protection to customers who meet certain income or age requirements.[117] Utility commissions claim these requirements are meant to protect vulnerable populations.[118] However, many states that have weather policies do not have similar arrearage forgiveness nor do they waive reconnection fees.[119]

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[114] *See* Matthew Flaherty, Sanya Carley & David M. Konisky, *Electric Utility Disconnection Policy and Vulnerable Populations*, ELEC. J., Dec. 2020, at 1, 4 (mapping states with cold weather and heat protections).

[115] *See id.* at 2.

[116] *See id.* at 3 ("All states require utilities to provide some form of notice before disconnecting service, but these requirements vary significantly.").

[117] *See id.* at 2 ("Sometimes these protections are absolute, but in other cases they are conditional on entering into a payment plan. They may also be limited to certain customer groups, such as low-income or elderly customers.").

[118] *See id.* at 3.

[119] *See id.* at 6 (suggesting states adopt arrearage forgiveness programs and prohibit reconnection fees).

Notification of these seasonal disconnection policies also varies by state. Many states require utilities to make direct contact with the customer before initiating disconnection.[120] Others go even further, requiring that utilities communicate with utility commissions before disconnecting vulnerable customers.[121] Rhode Island requires communication for any disconnections of vulnerable residents.[122] Montana and Maine require permission from the public utility commission to disconnect customers during winter months.[123]

2. Medical Necessity Policies

Almost every state—forty-five and the District of Columbia—affords protections for medical conditions that require uninterrupted service to power life-sustaining equipment.[124] Most programs like this require continued certification from a physician, but, as with weather protections, state programs vary significantly. Some states unequivocally extend the protection without regard for arrearage levels, while others require the customer to enter a payment plan to continue protection.[125]

3. COVID-19 Disconnection Policies

Many states built on existing disconnection policies related to weather or medical necessity to create new policies favoring utility customers during the COVID-19 pandemic.[126] These policies followed at least four different pathways. In a few states, legislatures acted by

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120 *See id.* at 3 ("26 states and the District of Columbia also require either attempted in person or telephone notice.").

121 *See id.*

122 *See id.* ("For instance, Rhode Island requires a utility to file an affidavit with the Division of Utilities and Carriers prior to all disconnections. For customers with additional protections in the state, . . . approval by the Division is required prior to disconnection.").

123 *Id.*

124 *See id.*

125 *See id.*; *e.g.*, Peter A. Kahn, Krishna R. Daggula, Wei Teng, Richard C. Hintz & Gretchen Berland, *Medical Exemption from Disconnection of Utilities in Connecticut*, 323 J. Am. Med. Ass'n 1189 (2020) (studying medical exemptions from utility disconnections in Connecticut and demographic trends of exemption applicants).

126 *See* Kay Jowers, Christopher Timmins, Nrupen Bhavsar, Qihui Hu & Julia Marshall, *Housing Precarity & the COVID-19 Pandemic: Impacts of Utility Disconnection and Eviction Moratoria on Infections and Deaths Across US Counties* 2–23 (Nat'l Bureau of Econ. Rsch., Working Paper No. 28394, 2021), https://www.nber.org/papers/w28394 [https://perma.cc/56EP-QWPT] (estimating that utility disconnection moratoria implemented in response to the pandemic reduced COVID-19 infections by 4.4% and mortality rates by 7.4% and that infections would have been reduced by 8.7% and deaths would have been reduced by 14.8%, if utility disconnection moratoria had been implemented across all counties in the United States from March 2020 through November 2020).

imposing disconnection moratoria by statute.[127] In many more states, however, public utility commissions initiated the policies and cited their governors' state of emergency declarations as providing authority to impose disconnection moratoria.[128] In others, the governor ordered the moratoria.[129] In a few states, individual utilities created their own programs.[130] However, not all states imposed a moratorium on disconnection. Some commissions merely requested that utilities offer payment plans and waive late fees but did not go so far as banning disconnections.[131] Others imposed no enforceable restrictions on utilities but did ask that utilities find ways to help customers negatively affected by COVID-19.[132] Within the first month of the pandemic, an estimated 800,000 households were disconnected from energy service.[133]

For the states that implemented disconnection moratoria through their state public utility commissions, the general practices were the same, although the details of the orders varied.[134] Some of the orders

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[127] Only one state—Alaska—and the District of Colombia initially implemented their moratoria through the legislature, but legislatures in Connecticut and New York later codified public utility commission moratoria by statute. *See Map of Disconnection Moratoria*, NAT'L ASS'N OF REGUL. UTIL. COMM'RS (Sept. 9, 2021), https://www.naruc.org/compilation-of-covid-19-news-resources/map-of-disconnection-moratoria [https://perma.cc/N6G3-YDVN]; 2020 Alaska Sess. Laws ch. 10, § 19; N.Y. Pub. Serv. Law § 32 (5)(a)(6) (McKinney 2021); COVID-19 Response Emergency Amendment Act of 2020, D.C. Act 23-247, §§ 305–307, 67 D.C. Reg. 003093, 003101–02 (Mar. 17, 2020); An Act Concerning Emergency Response by Electric Distribution Companies, the Regulation of Other Public Utilities and Nexus Provisions for Certain Disaster-Related or Emergency-Related Work Performed in the State, Pub. Act No. 20-5, 2020 Conn. Acts 270, 271–72 (Spec. Sess.).

[128] Most states that imposed, rather than suggested, disconnection moratoria did so through their utility commissions. Of the thirty-three states with mandatory disconnection moratoria, twenty-five were the result of public utility commission orders. *See Map of Disconnection Moratoria*, *supra* note 127 (charting which states' public utility commission orders relied on emergency declarations).

[129] Eight states imposed disconnection moratoria by governors' orders or directives. *See id.* (including Delaware and Maryland).

[130] Seventeen states used various voluntary programs to persuade utilities to self-impose disconnection moratoria, although there was no regulatory requirement. *See id.* (including Florida, Alabama, and Idaho).

[131] *See id.* (including Colorado and Michigan).

[132] *See id.* (including Missouri and Oregon).

[133] *See* Memmott, Carley, Graff & Konisky, *supra* note 2, at 187 (finding that an estimated 0.8×10^6 (800,000) households disconnected from energy service in the month prior to April/May 2020, with an estimated uncertainty range of $0.5–1.2 \times 10^6$ (500,000–1,200,000) households).

[134] *See, e.g.*, *Map of Disconnection Moratoria*, *supra* note 127 (identifying moratorium policies during COVID-19); Letter from Matthew H. Nelson, Chairman, Mass. Dep't of Pub. Utils. to All Investor-Owned Gas, Elec., and Water Distrib. Cos. (Mar. 24, 2020), https://www.mass.gov/doc/chairs-1st-set-of-orders-under-c-25-s-4b-re-covid-19/download [https://perma.cc/R2C6-HRQB] (ordering that companies refrain from shutting off gas, electric, or water services for failure to pay bills).

were more specific about the class of individuals it covered and the stated authority for acting. For instance, the Public Utility Commission of Texas cited its statutory authority to "regulate public utilities, to regulate the provision of wholesale and retail electric service" and "provide protections to retail customers of electric service" as the basis for orders creating an Electricity Relief Program.[135] The program, although short-lived, banned utility disconnections and provided financial assistance for utility customers affected by the economic effects of the pandemic.[136] Notably, many of these policies expired well before the end of the pandemic, and even when they were in place, they did not always prevent disconnections in practice. For instance, Commonwealth Edison in Illinois served disconnection notices to eleven percent of customers on low-income assistance in October 2020.[137] And, within the seventeen states that publicly disclose disconnection data, over one million households were disconnected since the time COVID-19 was declared a national emergency.[138]

Many states combined their cold-weather rules with COVID-19 disconnection moratoria to further protect customers during the pandemic. As disconnection moratoria were ending around Fall 2020, cold weather rules became applicable, and those rules reduced disconnections even in states where formal COVID-19 disconnection policies ended.[139] Moreover, the increased federal funding for electricity assistance from the Coronavirus Aid, Relief, and Economy Security Act and other federal stimulus packages found its way into state portfolios. For example, in 2021 Minnesota increased the number of house-

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[135] Memorandum from DeAnn T. Walker, Chairman, Pub. Util. Comm'n of Tex., to Comm'r Arthur C. D'Andrea & Comm'r Shelly Botkin 6 (July 15, 2020), https://interchange.puc.texas.gov/Documents/50664_203_1075365.PDF [https://perma.cc/SVJ3-UBKW].

[136] *See id.* at 1 (proposing an order for electric providers to offer deferred payment plans and granting an exception to Texas laws allowing disconnection); News Release, Pub. Util. Comm'n of Tex., PUC Formalizes Electricity Relief Program Extension (July 16, 2020), https://www.puc.texas.gov/agency/resources/pubs/news/2020/PUCTX-PR-ERPupdate-07162020.pdf [https://perma.cc/A6SZ-XZ9H] (covering the extension of the program following the Texas governor's extension of the state's COVID-19 disaster declaration); Asher Price, *Utilities Aimed to Gut Relief Effort: No State Money Dedicated to Promoting PUC Program*, AUSTIN AM.-STATESMAN, Apr. 11, 2021, at A1 (discussing how pushback from electric providers contributed to the end of the relief program).

[137] Steve Cicala, *The Incidence of Extreme Economic Stress: Evidence from Utility Disconnections* 3 (Nat'l Bureau of Econ. Rsch., Working Paper No. 28422, 2021), https://www.nber.org/papers/w28422 [https://perma.cc/BXL4-A92T].

[138] GREER RYAN, CTR. FOR BIOLOGICAL DIVERSITY, POWER CRISIS: DESPITE TRANSPARENCY FAILURES, UTILITY INFORMATION REVEALS MAJOR HOME SHUTOFF PROBLEM 1–2 (2021).

[139] *See supra* Section II.A.1 (discussing state cold-weather rules).

holds that were eligible for energy assistance and cold-weather protection.[140] Minnesota also increased the length of its Cold Weather Rule.[141] These kinds of policies, many of which involved actions initiated by utility commissions using general ratemaking authority, have important social and economic impacts on low-income and marginalized communities.[142] But the effectiveness of policies to address energy insecurity through disconnection moratoria can be limited by enforcement and implementation practices. Even in some states with disconnection protections, customers were still disconnected if they were not able to fight the disconnection proactively, and disconnections resumed sharply after moratoria expired.[143]

B. Payment Assistance: Low-Income Utility Bill Relief

Despite a utility's obligation to provide universal access to service and actions by regulators and legislators to guarantee service under specific seasonal, medical, and pandemic-related conditions, households still may not be able to afford energy service. In this Section, we detail legislative and regulatory approaches to guaranteeing affordable service for low-income utility customers.

There is a rich history of federal and state programs to support low-income electric utility customers. Congress created the Low-Income Home Energy Assistance Program (LIHEAP) in 1981, when it was known as the Low-Income Energy Assistance Program.[144] As

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[140] *See More Minnesotans Eligible for Heating Help This Winter*, INFORUM (Sept. 28, 2021, 3:23 AM), https://www.inforum.com/news/moorhead/more-minnesotans-eligible-for-heating-help-this-winter [https://perma.cc/4PR7-MNL2] ("Under new changes, more than 600,000 Minnesota households are income-eligible for energy assistance this winter, according to the state Department of Commerce.").

[141] *See id.* ("Minnesota's Cold Weather Rule, which protects customers from having electric or natural gas service shut off, is also lasting longer than before, from Oct. 1 to April 30."); *Shutoff Protection*, MINN. PUB. UTILS. COMM'N, https://mn.gov/puc/consumers/shut-off-protection [https://perma.cc/JP7L-YKLT] (describing how Minnesota's Cold Weather Rule protects electric and natural gas service between October 1 and April 30).

[142] *See* Memmott, Carley, Graff & Konisky, *supra* note 2, at 186–88 (finding that Black households, Hispanic households, households with young children, households with a medical device, and households in inefficient conditions were more likely to report being unable to pay an energy bill, receive a disconnection notice, or be disconnected compared to other households based on a survey conducted at the beginning of the COVID-19 pandemic).

[143] *See, e.g.*, Shalanda H. Baker, Sanya Carley & David M. Konisky, *Energy Insecurity and the Urgent Need for Utility Disconnection Protections*, ENERGY POL'Y, Oct. 13, 2021, at 3–4, No. 112663 (showing monthly disconnections in five Indiana utilities before, during, and after the statewide disconnection moratoria in March to August 2020).

[144] LIBBY PERL, CONG. RSCH. SERV., RL33275, THE LIHEAP FORMULA 1 (2019). Congress also created the Weatherization Assistance Program or "WAP" in 1976 as part of the Energy Conservation and Production Act to provide grants to states to support weatherization of homes and allow low-income residents to reduce their energy

fuel prices increased rapidly at that time, Congress enacted the law to help struggling renters and homeowners pay for energy.[145] LIHEAP gives block grants to states and allows states flexibility to determine eligibility levels and to manage distribution practices for households through the annual funding cycle.[146] Many states distribute funds through their local social services agencies and local providers—often through community action partnerships.[147]

Many states have also created low-income assistance programs to supplement federal funds. For instance, California was the first state to implement rate assistance for low-income customers in 1989.[148] The program, first called Low-Income Ratepayer Assistance and later California Alternate Rates for Energy (CARE), initially provided residential households with income at or below 150% of the federal poverty level with a 15% discount on electric rates.[149] Over time, the legislature has increased the assistance, requiring a discount between 30% and 35% for households with annual incomes equal to or less than 200% of the federal poverty guideline as of 2021.[150] The CARE program is funded by a public purpose surcharge on all non-participating ratepayers' utility bills.[151]

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consumption. *See* CORRIE E. CLARK & LYNN J. CUNNINGHAM, CONG. RSCH. SERV., R46418, THE WEATHERIZATION ASSISTANCE PROGRAM FORMULA 1 (2021).

145 PERL, *supra* note 144, at 1, app. D (describing purposes and history of LIHEAP); *see also* 42 U.S.C. §§ 8621–8630 (codifying LIHEAP).

146 PERL, *supra* note 144, at 1 (describing the operation of LIHEAP); Olivia Wein, *The Low Income Home Energy Assistance Program (LIHEAP)*, *in* 2017 ADVOCATES' GUIDE 1-1, 5-27 (2017). States manage annual LIHEAP allocations throughout the annual funding cycle, but if assistance needs outpace expectations, states can deplete funds before the end of the funding year and then are unable to assist additional households. *See, e.g.*, Kyeland Jackson, *Cold Weather, High Demand Exhaust City's Energy Assistance Program*, WFPL (Mar. 8, 2018), https://wfpl.org/cold-weather-high-demand-exhaust-citys-energy-assistance-program [https://perma.cc/JLT8-2S6E] (discussing how funds from Louisville's energy assistance program had been exhausted).

147 Wein, *supra* note 146, at 5-27. Congress authorized additional funding for LIHEAP in its COVID-19 relief package and for low-income weatherization programs in the American Rescue Plan Act of 2021. *See* Paul Ciampoli, *New $1.9 Trillion COVID Relief Plan Includes Additional $4.5 Billion for LIHEAP*, AM. PUB. POWER ASS'N (Mar. 15, 2021), https://www.publicpower.org/periodical/article/new-19-trillion-covid-relief-plan-includes-additional-45-billion-liheap [https://perma.cc/PZ3P-G59T].

148 *See* Application of Pac. Gas & Elec. Co. for Approval of Energy Sav. Assistance & Cal. Alternate Rates for Energy Programs & Budgets for 2021–2026 Program Years. (U39M) & Related Matters, No. 19-11-003, 2021 WL 2473875, at *3 (Cal. P.U.C. June 3, 2021) (discussing the establishment of the CARE program in 1989 which provides discounts on energy rates to low-income households).

149 *Id.*

150 CAL. PUB. UTIL. CODE § 739.1(a), (c)(1) (Deering 2022).

151 *See Application of Pac. Gas & Elec. Co.*, 2021 WL 2473875, at *4 ("The CARE program is funded by non-participating ratepayers as a part of a statutory public purpose program surcharge that appears on their monthly utility bills.").

About a decade after California first began providing low-income utility bill discounts, New Hampshire followed suit. New Hampshire's program, the Energy Assistance Program, was authorized during the state's restructuring of its utility industry from 1996 to 1997.[152] The New Hampshire legislature adopted policy principles to guide its restructuring.[153] One of those principles was universal service.[154] Another principal was benefits for all, namely, that restructuring should "benefit[] all consumers equitably" and "not benefit one customer class to the detriment of another."[155] To actualize these principles, the legislature implemented a "System Benefits Charge."[156] The System Benefits Charge "is assessed on all electric customers to fund public benefits related to the provision of electricity."[157] It funds energy efficiency and low-income bill assistance.[158]

The New Hampshire statute directs the New Hampshire Public Utilities Commission to approve the uses of the funds generated by the System Benefit Charge.[159] The Commission noted that a low-income bill assistance program would help with both the affordability and manageability of electric bills.[160] Additionally, the Commission referenced the testimony of Community Action Programs, which indicated that low-income customers spent a substantially higher percentage of their income on electric bills than the average utility customer.[161]

In addition to the benefits to low-income customers, the Commission noted the societal benefits of a bill assistance program.[162] It found that "a low income assistance program would have the effect of reducing the utilities' uncollectible accounts."[163] The costs of uncollectible accounts are passed on to all customers, so utility bills for all customers would become more affordable if uncollectible accounts were reduced.[164] Finally, the Commission argued that local property

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[152] Restructuring N.H.'s Elec. Util. Indus., No. 96-150, 1997 WL 155394, at *64–66 (N.H.P.U.C. Feb. 28, 1997).

[153] N.H. REV. STAT. ANN. § 374-F:3 (LexisNexis, LEXIS through 2022 Reg. Sess.).

[154] *Id.* § 374-F:3(V)(a) ("Electric service is essential and should be available to all customers.").

[155] *Id.* § 374-F:3(VI).

[156] *Id.* § 374-F:3(VI-a).

[157] N.H. PUB. UTIL. COMM'N, RESULTS AND EFFECTIVENESS OF THE SYSTEM BENEFITS CHARGE ANNUAL REPORT 1 (2017).

[158] *Id.*

[159] *See* N.H. REV. STAT. ANN. § 374-F:3(VI-a)(a).

[160] Restructuring N.H.'s Elec. Util. Indus., No. 96-150, 1997 WL 155394, at *65 (N.H.P.U.C. Feb. 28, 1997).

[161] *Id.* at *64.

[162] *Id.* at *65.

[163] *Id.*

[164] *Id.*

taxes could decrease because there would be less need for "crisis assistance" at a local level for low-income energy customers.[165] As of 2021, the New Hampshire Energy Assistance Program offered discounts between 8% and 76% based on household income.[166]

New Jersey similarly implemented a low-income program when it restructured its electricity regulatory system in the 1990s.[167] As in New Hampshire, the New Jersey legislature created a charge on all utility customers to benefit low-income customers (called the "societal benefits charge").[168] This funding supports the Universal Service Fund, which ensures that households with income equal to or less than 175% of the Federal Poverty Guideline pay no more than 6% of their annual income for gas and electric service combined.[169]

In 2020, New Jersey used those funds to significantly reduce customer arrearages in response to the economic effects of the COVID-19 pandemic. Along with a utility disconnection moratorium, the New Jersey Board of Public Utilities dramatically expanded the Universal Service Fund to increase benefit caps, reduce the "energy affordability threshold" to 2% of income, and serve all families who were at or below 400% of the federal poverty level.[170] Notably, C&I utility customers in the state criticized the program for imposing a competitive disadvantage on industrial customers in the state, being unfairly

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165 *Id.*

166 N.H. OFF. OF STRATEGIC INITIATIVES, NEW HAMPSHIRE ELECTRIC ASSISTANCE PROGRAM TRIENNIAL PROCESS EVALUATION OF PROGRAM YEARS 2016–2018, at 5 (2019), https://www.energy.nh.gov/sites/g/files/ehbemt551/files/inline-documents/sonh/triennial-process-evaluation-report-2019.pdf [https://perma.cc/3KFS-83GS]; *2021 EAP Income Eligibility Guidelines by Discount Tier*, N.H. PUB. UTILS. COMM'N, https://www.puc.nh.gov/consumer/Consumer-EAP-Income-Eligibility-Guidelines-By-Discount-Tier-FPG-Current-Year.pdf [https://perma.cc/X3QR-Y88P] (setting out updated eligibility guidelines by discount tier).

167 Electric Discount and Energy Competition Act, 1999 N.J. Laws 23 (1999) (codified at N.J. STAT. ANN. §§ 48:3-49 to -98 (West, Westlaw through L.2022, c. 101 and J.R. No. 3)).

168 N.J. STAT. ANN. § 48:3-60; *see also* Thompson, *supra* note 90, at 287 (describing similar Public Benefit Fund programs and stating that thirty states and the District of Columbia had such programs, funded through utility surcharges, settlements with local utilities, or other revenue sources like carbon auctions).

169 N.J. STAT. ANN. § 48:3-60; *Universal Service Fund*, N.J. BD. OF PUB. UTILS., https://www.state.nj.us/bpu/residential/assistance/usf.html [https://perma.cc/8RUV-4U5L].

170 N.J. Bd. of Pub. Utils., *NJBPU Expands Utility Assistance Programs to Help Residents Financially Impacted by Pandemic*, TAP INTO PATERSON (June 24, 2021, 5:19 PM), https://www.tapinto.net/towns/paterson/sections/government/articles/njbpu-expands-utility-assistance-programs-to-help-residents-financially-impacted-by-pandemic [https://perma.cc/BB3K-FSJX].

applied across the ratepayer classes, and regularly amassing large financial surpluses, but the program has remained intact.[171]

This temporary expansion of benefits in New Jersey affirms that electricity is a basic need and that energy insecurity resulting in uncollectible account costs threatens all customers, not just the ones most directly impacted. While state legislatures have created many of the low-income utility programs across the country, utility commissions have used their public interest authority to refine, expand, and enhance those programs to address new problems, like the COVID-19 pandemic.

III
ALL RATEMAKING IS "SOCIAL RATEMAKING"

Part II illustrated how lawmakers, governors, and utility regulators have enacted policies to ensure access to safe and affordable electricity for all citizens in the face of weather, medical, and pandemic conditions or economic distress. Part III turns more specifically to situations where utility regulators have exercised (or not exercised) their authority to accomplish similar goals through the ratemaking process. In these instances, the utility commission is using its statutory authority to ensure just, reasonable, and nondiscriminatory rates to accomplish a broader goal, such as reducing financial burdens on low-income or elderly utility customers, rather than implementing a more targeted or short-term policy, such as a cold weather or COVID-19 disconnection ban.

In many cases, when regulators take such actions, they are accused of abandoning their statutory, technocratic ratemaking role and engaging in "social ratemaking."[172] Section III.A examines this issue in the context of regulatory efforts to establish support for low-income electricity customers through special, low-income rates. Section III.B turns to similar efforts by regulators to boost economic development in the state by creating special rates for businesses. While advocates of economic development rates often contend that business rates do not implicate the same "social ratemaking" concerns

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[171] *See* Tom Johnson, *Explainer: Societal Benefits Charge Fuels Clean Energy, Other Programs*, N.J. SPOTLIGHT NEWS (Aug. 6, 2013), https://www.njspotlightnews.org/2013/08/13-08-05-societal-benefits-charge-sbc [https://perma.cc/F6JT-ZCCN] (discussing criticisms of the program, such as the diversion of surplus energy funds to plug holes in the state budget); *see also* N.J. STAT. ANN. § 48:3-60 (authorizing the Societal Benefits Charge and Universal Service Fund); Tom Johnson, *Who Pays the SBC?*, N.J. SPOTLIGHT NEWS (Dec. 3, 2010), https://www.njspotlightnews.org/2010/12/10-1202-2330 [https://perma.cc/4XSZ-QUVV] (discussing criticism of the program, such as its impact on the profit margins and market competitiveness of large businesses).

[172] *See, e.g.*, *infra* Section IV.B.4.b.

associated with low-income rates, we argue that they are two sides of the same coin and merit close comparison.

A. Low-Income Rates

As illustrated in Part II, state legislatures have often created low-income discount programs to assist ratepayers with electricity bills. However, as this Section illustrates, there is far less consensus among state public utility commissions and the courts on whether state public utility commissions can use their authority to ensure just, reasonable, and nondiscriminatory rates to set low-income rates. In several states, public utility commissions have rejected the idea that they have the authority to set discounted rates for low-income customers under their general ratemaking authority.[173] State supreme courts have also found that, absent legislative action, low-income discounts are "preferential" or "discriminatory" when state commissions have acted to create such programs under their general ratemaking authority.[174]

Although most low-income rate programs are focused on residential customers, an early example of a public utility commission's attempt to enact rates to address economic distress was in Washington State during the Great Depression. In 1934, in *State ex rel. Puget Sound Power & Light Co. v. Department of Public Works*,[175] the Department (the predecessor to Washington's Public Utilities Commission) required multiple electric utilities to provide reduced electricity rates to farmers during the Depression after holding a hearing to address alleged unjust and unreasonable rates. According to the court:

> The gist of the charges [was] that the rates of each of the respondents for [electric] service were unjust, unfair, and unreasonable and for the season of 1933 such rates would be oppressive, in excess of the value of the service and beyond the ability of the customers to pay, resulting (unless reduced) in irreparable injury both to the respective respondents and to the customers of each. . . . The record is full of individual expressions tinged with the bitterness of despair.

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[173] *See, e.g.*, Haw. Elec. Light Co., 207 P.U.R.4th 117 (Haw. P.U.C. Feb. 8, 2001) (concluding that the establishment of a low-income rate is best left to the legislature); Rate Concessions to Poor Persons and Senior Citizens, No. R-23, 1976 WL 419194, at *98 (Or. P.U.C. Jan. 16, 1976) (rejecting the idea that the Oregon Commission had authority to set special rates for low-income and elderly customers). The Oregon Legislature has since allowed for some low-income rates. OR. REV. STAT. ANN. § 757.612(7)(f) (West, Westlaw through ch. 2, 2022 Reg. Sess.).

[174] *E.g.*, Mountain States Legal Found. v. N.M. State Corp. Comm'n, 687 P.2d 92, 94 (N.M. 1984) (determining that a telephone discount rate program that differentiated between low-income individuals was discriminatory).

[175] 38 P.2d 350 (Wash. 1934).

> Discontinued service and abandoned places were told of everywhere. . . . The story was one entirely of gloom, without seemingly a single exception to serve as a ray of hope.[176]

Although the court was empathetic to the plight of the farmers, it invalidated the Department's orders. It reasoned:

> The distress shown in the record is real and acute, but the cost of electric power is but a very small item in the total cost of production, and with it eliminated entirely, still the farmer and the orchardist, according to this record, could not possibly make both ends meet. In any event, however, public service companies are not eleemosynary [charity] institutions, and they cannot be compelled to devote their property to a public use except upon the well-recognized basis of a fair and reasonable return therefor.[177]

The Washington Supreme Court's rationale for preventing the Department from using its ratemaking authority to address social concerns stemming from unaffordable electric rates is reflected in more recent state supreme court decisions and public utility commission decisions in other states. These decisions focus on a fair return to the utility as well as the potential for discrimination among customer classes.

For instance, in 1984 the New Mexico Supreme Court found that the New Mexico Corporation Commission (now called the Public Regulation Commission) did not have the authority to exempt certain low-income elderly customers from telephone rate increases.[178] The court first stated that rates set by the Commission must be "just and reasonable."[179] Though this case involved telephone rates, in New Mexico, such rates are subject to the same "just and reasonable" standard as electric rates.[180] The court declared that "[e]stablishing a telephone discount rate program which differentiates between economically needy individuals who receive the same service is unjustly discriminatory."[181] Further, the court held that the

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176 *Id.* at 351–52.

177 *Id.* at 353.

178 *Mountain States Legal Found.*, 687 P.2d at 92.

179 *Id.* at 94 (citing N.M. CONST. art. XI, § 8 (repealed 1996)). That section of the New Mexico Constitution has since been repealed by ballot amendment submitted to the state voters. *See* N.M. LEGIS. COUNCIL SERV., PIECEMEAL AMENDMENT OF THE CONSTITUTION OF NEW MEXICO SINCE 1911, at 68 (2016), https://www.nmlegis.gov/Publications/New_Mexico_State_Government/Piecemeal_Amendment_Dec2016.pdf [https://perma.cc/Y3CR-RM74].

180 N.M. STAT. ANN. § 62-8-1 (LexisNexis, LEXIS through 2022 Legis. Sess.).

181 *Mountain States Legal Found.*, 687 P.2d at 94 (citing Mountain States Legal Found. v. Pub. Utils. Comm'n, 590 P.2d 495, 498 (Colo. 1979) (en banc)) (holding that a discount gas rate program was unjustly discriminatory because it differentiated between economically needy individuals receiving the same service).

Commission could not effect "social policy" through special rates despite having broad ratemaking authority.[182] Instead, the creation of social programs was to be left to the legislature.[183]

Likewise, in 1987, the Alabama Public Utility Commission reviewed a proposal containing several options for assisting low-income customers.[184] In this case, a low-income group, Greater Birmingham Unemployment Committee (GBUC), filed a complaint against Alabama Gas Corporation.[185] The complaint sought to, among other things, implement a low-income lifeline program or a percentage-of-income plan.[186] GBUC argued that Alabama Gas Corporation's rates were "unfair, unreasonable, unjust, inadequate, unjustly discriminatory or unduly preferential" because low-income customers pay a larger percentage of their income to utility bills than do other customers.[187] In rejecting this argument, the Commission stated that low-income customers were not charged different rates than other customer classes, and thus "this is a problem of insufficient income, not unfair treatment."[188] Finally, the Commission emphasized that the guiding principle in rate setting is cost of service and that there was no evidence that low-income customers cost less to serve.[189] Regarding the proposed program, the Commission was concerned that customers not participating in the program would ultimately have to pay a portion of the costs associated with the program.[190] Therefore, the Commission found the program to be "unduly discriminatory and unduly preferential."[191]

In 2003, the Arkansas Supreme Court reviewed a low-income reconnection plan for gas implemented by the Arkansas Public Service Commission.[192] Due to the particularly harsh 2000–2001 winter and the resulting record-high gas prices, over 30,000 Arkansas gas customers were disconnected for their inability to pay their bills.[193] The past due bills of some customers were in excess of $1,000,

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182 *Id.*

183 *Id.*

184 Greater Birmingham Unemployed Comm. v. Ala. Gas Corp., 86 P.U.R.4th 218, 220 (Ala. Pub. Serv. Comm'n Sept. 8, 1987).

185 *Id.* at 219–20.

186 *Id.*

187 *Id.* at 220, 222 (citing ALA. CODE § 37-1-83 (LexisNexis, LEXIS through 2022 Sess.)).

188 *Id.* at 223.

189 *Id.* at 223–24.

190 *Id.* at 226.

191 *Id.*

192 Ark. Gas Consumers, Inc. v. Ark. Pub. Serv. Comm'n, 118 S.W.3d 109 (Ark. 2003).

193 *Id.* at 112.

and many of the customers in arrears were low-income households.[194] Therefore, without assistance, many of these households would face another winter without heat.

The Commission argued that it had the power to implement the program through its "general ratemaking authority and its power to set standards and regulate utilities."[195] The Commission also maintained that its statutory authority to implement surcharges supported creation of the program.[196] The Arkansas Supreme Court rebuffed both arguments; it first determined that the Commission's ratemaking authority was not as broad as the Commission argued and then found that the statutory authority to implement surcharges was meant for situations where the utility sought to impose a surcharge on customers—not when the Commission wanted to do so.[197] Finally, the court referenced the Commission's own order that said the Commission had "no authority to provide low-income assistance."[198]

The Utah Supreme Court reached a similar result in reviewing a low-income discount program created by the Utah Public Service Commission. The Commission had created an exemption from general rate increases for senior citizen customers of Utah Power & Light based on a theory that senior citizens have "lower consumption and less income than the general residential class."[199] In 1981, in *Mountain States Legal Foundation v. Utah Public Service Commission*, the court invalidated the exemption, stating that the Commission "must articulate a rational connection between the facts found and the conclusion reached, and the Commission has not done that."[200] The court held that the Commission "has not explained why the lower average income and smaller consumption of senior citizens warrants treating them differently from other residential consumers."[201]

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194 *Id.*

195 *Id.* at 117.

196 *Id.* at 118 (citing ARK. CODE ANN. § 23-4-501(a)(1) (LEXIS through 2021 Sess.)).

197 *Id.* at 117, 119. The Arkansas Supreme Court noted that several other state supreme courts had held that public utility commissions did not have the authority to implement similar programs. *Id.* at 117–18 (citing Mountain States Tel. & Tel. Co. v. Pub. Serv. Comm'n, 754 P.2d 928 (Utah 1988); Process Gas Consumers Grp. v. Pa. Pub. Util. Comm'n, 511 A.2d 1315 (Pa. 1986); Mountain States Legal Found. v. N.M. State Corp. Comm'n, 687 P.2d 92 (N.M. 1984)).

198 *Id.* at 120 (citing Generic Proceeding to Consider the Implementation of a Competitive Retail Elec. Mkt. - Gen. Principles, No. 97-451-U, 1998 Ark. PUC LEXIS 907, at *118 (Ark. Pub. Serv. Comm'n Aug. 28, 1998)).

199 Mountain States Legal Found. v. Utah Pub. Serv. Comm'n, 636 P.2d 1047, 1057–58 (Utah 1981).

200 *Id.* at 1057.

201 *Id.* at 1058; *see also* Citizens Action Coal. v. Pub. Serv. Co., 450 N.E.2d 98, 101 (Ind. Ct. App. 1983) (affirming the Indiana PUC's decision to not require state electric utilities to offer similar "lifeline" rates to customers on the grounds that doing so would violate

Despite this ruling, the Commission persevered and later found the authority to implement low-income discounts for multiple types of utilities. It first found that it had the authority to implement a low-income lifeline program for telephone service in 1986.[202] The Commission determined that *Mountain States Legal Foundation v. Utah Public Service Commission* was "a case in which a lifeline rate for senior citizens failed not because the Commission lacked authority to set the rate but because findings of facts were insufficient to justify and delineate the class of beneficiaries."[203] Additionally, the Commission found that "the definition of just and reasonable rates was broad enough to" establish a low-income lifeline rate.[204] The Commission specifically cited to section 54-3-1 of the Utah Code, which includes "economic impact of charges on each category of customer" in the definition of "just and reasonable."[205]

In 1999, the Commission considered a proposal from Salt Lake Community Action Program and Crossroads Urban Center (SLCAP/CUC) for a lifeline rate for the low-income residential electric utility customers of investor-owned utility PacifiCorp.[206] The proposed lifeline rate provided an eight dollar per month credit for qualifying customers on electricity bills.[207] The Commission found that, as with telephone service, it had the authority to implement a lifeline program for electric service.[208] Next, the Commission assessed whether a lifeline rate was in the public interest. It concluded there was a need for a lifeline rate because the percentage of income spent on utility bills (i.e., the energy burden) for some households at the federal poverty level was four times as high as for households at the median income for Utah.[209] Additionally, it concluded that lifeline rate eligibility was not overly broad because it was "adequately targeted to customers whose energy burden is disproportionately high."[210] Further, it noted that a lifeline rate could lead to fewer uncollectible accounts and the

state law prohibiting a public utility from charging customers different rates for the same service, even if the preferred customer group is "deserving").

202 *See* PacifiCorp, No. 97-035-01, 1999 WL 218118, at *70 (Utah Pub. Serv. Comm'n Mar. 4, 1999) (citing Tel. Lifeline Rates, No. 85-999-13, 1986 Utah PUC LEXIS 5, at *3–4 (Utah Pub. Serv. Comm'n Jan. 3, 1986)).

203 *Id.*

204 *Id.*

205 *Id.* (quoting UTAH CODE ANN. § 54-3-1 (West, Westlaw through 2022 3d Spec. Sess.)).

206 *Id.*

207 *Id.*

208 *Id.*

209 *See id.* at *71.

210 *Id.* at *72 (noting that program eligibility was limited to customers with a household income at or below 125% of the federal poverty guideline).

spreading of fixed costs across more customers.[211] Because of these considerations, the Commission found that the lifeline rate may be in the public interest, though it still had practical concerns about implementation of the rate.[212] To examine these concerns and issue recommendations for action, the Commission created a low-income task force comprised of people from each interested party and chaired by a member of the Utah Department of Commerce Division of Public Utilities.[213]

In 2000, the Commission again considered approving a lifeline rate for low-income residential customers of PacifiCorp.[214] As in the 1999 proceeding, SLCAP/CUC proposed an eight dollar per month credit for qualifying customers on electricity bills.[215] This proposal followed the issuance of a report from the low-income task force.[216] However, the report did not recommend the implementation of a low-income energy assistance program.[217] Nonetheless, the Commission determined that its concerns from the prior case were adequately addressed and ordered implementation of the lifeline rate.[218] It also said that while the lifeline rate may only benefit one class of customers—low-income customers—the program does not have to be paid for by only that class.[219] The Commission noted that some large customers and special contract customers similarly do not bear all the costs of their service.[220] The Commission said "[e]xamples abound to demonstrate that one person's improper 'social welfare' program is another person's legitimate regulation of utilities in the 'public interest.'"[221]

An earlier case from Massachusetts provides an example of a state utility commission authorizing a low-income rate despite objections from the utility's C&I customers. In 1980, in *American Hoechest Corp. v. Department of Public Utilities*, the Supreme Judicial Court of Massachusetts upheld an order by the state Department of Public

211 *Id.* at *73.

212 *Id.* at *74.

213 *See id.* at *80.

214 Investigation into the Reasonableness of Rates & Charges of PacifiCorp, No. 99-035-10, 2000 WL 873337, slip op. at 77 (Utah Pub. Serv. Comm'n May 24, 2000).

215 *Id.*

216 *Id.*

217 *Id.*

218 *Id.* at 79.

219 *Id.*

220 *Id.*

221 *Id.* The lifeline program is still in place today and is called the Home Electric Lifeline Program. *See* UTAH DIV. OF PUB. UTILS., HOME ELECTRIC LIFELINE PROGRAM 2020 ANNUAL REPORT 2 (2021), https://pscdocs.utah.gov/electric/20docs/2003520/319366DPUCmnts6-30-2021.pdf [https://perma.cc/BH7M-JGYC].

Utilities approving a reduced rate for elderly, low-income customers proposed by the Massachusetts Electric Company.[222] In reviewing a challenge to the low-income rate by a group of the utility's C&I customers, the court noted that the Department had "serious reservations with social rate-making in general."[223] Nonetheless, the Department had approved the rate and concluded that the costs of the rate should be paid for by all the utility's customers—as in government social welfare programs—not only by residential customers as the utility had proposed.[224]

The court found that treating classes of customers differently as part of the ratemaking process is not necessarily unlawful discrimination, and that "[w]hile cost of service is a well-recognized basis for utility rate structures, it need not be the sole criterion."[225] It thus gave deference to the Commission's reliance on the benefits of utility service and ability to pay—not just the cost of providing service—in defining a class of customers.[226] The Commission concluded that the goal of helping the needy outweighed the cost to other ratepayers as a reason to allow the "experiment."[227] The court also focused on the fact that the utility itself had proposed the low-income rate[228] and that this was not a situation "where the department, on its own initiative, mandated adoption of the reduced rate and imposed it on an unwilling company."[229] The court also emphasized that further study may show that there are "economic factors justifying the reduced rate," which would support the conclusion that the rate is in the public interest.[230]

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These cases show a long history of both regulatory and judicial resistance to state public utility commission efforts to address energy equity and justice considerations through the ratemaking process. Nevertheless, the Utah and Massachusetts examples show that state commissions can achieve energy justice goals by focusing on the potential economic benefits of low-income rates for all utility cus-

222 399 N.E.2d 1 (Mass. 1980).
223 *Id.* at 2.
224 *Id.* at 3.
225 *Id.*
226 *See id.* at 4–5.
227 *Id.* at 2–3.
228 *See id.* at 2. In proposing the rate, the utility cited as rationales its concern for its elderly customers, improvement to the company's image, national trends toward subsidized rates, and the results of a customer survey showing willingness to help the elderly poor. *Id.*
229 *Id.* at 3.
230 *Id.* at 4.

tomers, even if more data may need to be collected to establish the extent of such benefits. Doing so is consistent with established Supreme Court doctrine on regulators' authority to ensure just and reasonable rates, as articulated in *NAACP v. Federal Power Commission*.[231]

B. Economic Development Rates

At the same time public utility commissions have grappled with their role in setting special rates for low-income customers, state legislatures and commissions have created special, discounted rates to support economic development in the state for certain industries or activities.[232] These discounts are often referred to as "economic development rates" (EDRs, also known as "economic development riders"). Notably, while public utility commissioners and stakeholders have not generally referred to EDRs as "social ratemaking," they are similarly designed to favor targeted customer classes to both increase the benefits to individual industries and companies and create spillover effects that increase societal welfare. As shown below, while legislatures in some states have expressly authorized EDRs, public utility commissions have also created them under their general ratemaking authority.

1. Legislatively Enacted Economic Development Rates

Most C&I rates are created by state legislatures.[233] For example, in 2020, the Kansas legislature directed a consulting firm to conduct a comprehensive review of utility rates in the state.[234] The study sug-

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[231] *See supra* Section I.B (discussing *NAACP* case).

[232] *See* ZITELMAN & MCADAMS, *supra* note 60, at 3, 5, 13–26 (providing case studies of regulatory decisions and an overview of economic development considerations in utility regulators' missions and state statutes).

[233] *See, e.g.*, DEL. CODE ANN. tit. 26, § 303(d)(1) (2022) ("The Commission shall authorize a public utility to establish an individual or joint rate for any product supplied or service rendered within the State for the purposes of ensuring the State's current and future economic well-being and growth . . . ."); 220 ILL. COMP. STAT. 5 / 9-241 (2022) ("However, nothing in this Section shall be construed as limiting the authority of the Commission to permit the establishment of economic development rates as incentives to economic development either in enterprise zones as designated by the State of Illinois or in other areas of a utility's service area."); N.H. REV. STAT. ANN. § 378:11-a (1995) ("[T]he commission shall establish procedures for the review and approval of tariffs for electric service rates that foster economic development and of tariffs for retention of existing loads within the state."); *see also* ME. REV. STAT. ANN. tit. 35-A, § 3210-E (2021); NEV. REV. STAT. § 704.7875 (LexisNexis 2013); N.M. STAT. ANN. § 62-6-26 (1989); S.D. CODIFIED LAWS § 49-34A-8.3 (1996); WYO. STAT. ANN. § 37-2-121 (1995).

[234] LONDON ECON. INT'L LLC, STUDY OF RETAIL RATES OF KANSAS ELECTRIC PUBLIC UTILITIES (2020), https://estar.kcc.ks.gov/estar/ViewFile.aspx/S20200108144309.pdf?Id=1a3a31e5-e38d-4445-aada-1cd0170a7b85 [https://perma.cc/FKD2-FTZ9].

gested that EDRs in Kansas could be used to make Kansas's "retail electricity prices regionally competitive."[235] As a result, the legislature enacted a law permitting the Kansas Corporation Commission to approve discounted rates for commercial and industrial customers.[236] The bill requires that customers "[h]ave incentives from one or more local, regional, state, or federal economic development agencies to locate such new or expanded facilities in the electric public utility's certified service territory" in order to be eligible for the discounted rates.[237] One of the investor-owned utilities in Kansas, Evergy, offers a Commission-approved EDR.[238] Evergy's rider offers qualifying industrial and commercial businesses a twenty-percent discount on utility rates for five years.[239]

Likewise, in 2018, the Colorado legislature enacted a law to permit investor-owned utilities to offer EDRs to C&I customers.[240] The legislature stated that attracting new commercial customers and incentivizing current businesses to expand in the state would help "stimulate further economic development in Colorado."[241] The legislature found that this economic stimulation was in the public interest.[242] The Colorado discounted rates can be offered to C&I customers for up to ten years.[243]

For a customer to qualify for the EDR, the customer must demonstrate that the cost of electricity is a critical consideration in its decision on whether to locate operations in Colorado and that the availability of EDR rates is a substantial factor in this decision.[244] Further, the EDR cannot be lower than the utility's marginal costs of providing service to the customer, but it must be lower than the rate the customer would typically pay.[245] Also, the Commission must ensure that EDRs are not subsidized by other customers.[246] To do so, the

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235 *Id.* at 167.

236 KAN. STAT. ANN. § 66-101j (2020).

237 *Id.* § 66-101j(a)(1).

238 *Kansas Standard Economic Development Rider Criteria*, EVERGY, https://www.evergyed.com/wp-content/uploads/EVERGY.EDRKansasStd.v5-C.pdf [https://perma.cc/ZD6K-HXLG].

239 *Id.*

240 Act of June 1, 2018, ch. 362, § 2, 2018 Colo. Sess. Laws 2159, 2159–60 (codified at COLO. REV. STAT. § 40-3-104.3(6)–(8) (2018)).

241 *Id.* § 1(1)(c), 2018 Colo. Sess. Laws at 2159.

242 *See id.* § 1(2), 208 Colo. Sess. Laws at 2159 ("[I]t is in the public interest to allow public utilities to offer economic development rates in accordance with this act.").

243 COLO. REV. STAT. § 40-3-104.3(6)(b)(III) (2018).

244 *Id.* § 40-3-104.3(6)(d)(II)(B).

245 *See* Verified Application of Black Hills Colo. Elec., LLC for Expedited Approval of Its Econ. Dev. Rate Tariff, No. 18A-0791E, 2019 WL 2435793, at *5 (Colo. P.U.C. May 28, 2019).

246 COLO. REV. STAT. § 40-3-104.3(6)(c)(I).

Commission must include in the authorization for the EDR "such terms and conditions as it deems necessary to ensure the EDR rates [sic] or charges assessed to other customers do not subsidize the cost of providing service to EDR customers by falling below the marginal cost floor" and "that there is no other subsidization of the cost of providing service to EDR customers."[247]

In 2021, the Colorado Commission approved an EDR for investor-owned utility Public Service Company of Colorado through a settlement agreement.[248] The Commission said the EDR was "just and reasonable and in the public interest given the legally binding requirements" of the statute.[249] Further, the Commission stated that changes made to the EDR during the regulatory proceedings ensured that EDR customers were not subsidized by other customers.[250] These changes included: (1) basing marginal costs on actual system dispatch rather than simulations, (2) allocating "costs prudently incurred to prepare and litigate the application and compliance advice letter(s)" to EDR customers, (3) charging bad debt expenses from EDR customers to EDR customers, and (4) agreeing not to seek recovery of the costs of stranded assets from EDR customers in future rate cases.[251] Additionally, the EDR included an agreement from Public Service Company of Colorado not to contract for coal resources to serve EDR customers' load.[252] The Commission said Public Service may limit additional enrollment in the EDR should it determine that the program is hindering the state's emission reduction goals, which create system benefits.[253] While at least eight states, including the ones discussed in this Section, have permitted EDRs through legislation,[254] regulators can also initiate EDRs.

2. Commission-Initiated Economic Development Rates

In other states, the public utility commission has created economic development discounted rates through its general ratemaking authority. For instance, the Arizona Corporation Commission created

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247 Verified Application of Pub. Serv. Co. of Colo. for Approval of an Econ. Dev. Rate (EDR) Proposal Pursuant to Colo. HB 18-1271, No. 20A-0345E, 2021 WL 2693279, at *11 (Colo. P.U.C. June 7, 2021) (citing COLO. REV. STAT. § 40-3-104.3(6)(c)(I)).

248 *Id.* at *12, *14.

249 *Id.* at *12.

250 *Id.*

251 *Id.*

252 *Id.* at *26.

253 *Id.*

254 *See supra* note 233 (citing state statutes establishing EDRs).

economic development discounts through traditional rate cases.[255] According to the Commission, the purpose of the EDR is "to attract new jobs and economic activity."[256] In 2016, the Commission approved a discount-based economic development program for the investor-owned utility UNS Electric (UNSE). Prior to this rate case, UNSE had recently lost forty-five megawatts of industrial load due to losing several large customers, and the program was designed to make up for the lost load.[257] A utility witness testified that "energy rates can be a factor in whether industrial users locate in the UNSE's territory and that attracting large high load-factor customers is one of the goals of" the economic development program.[258] None of the intervening parties in the case opposed implementation of the program, so the Commission did not provide a detailed analysis of it.[259] The Commission simply stated that "the Company and its ratepayers should benefit from adding high load factor, low-cost customers."[260] UNSE's proposal did require that its shareholders absorb any lost incremental revenues, however.[261] Eligibility for the discount requires customers to have a projected peak demand of at least 1,000 kilowatts (kW) and a steady level of electricity demand over time.[262] The Commission found that these eligibility requirements "are appropriate

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255 *See, e.g.*, Application of UNS Elec., Inc. for the Establishment of Just & Reasonable Rates & Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Props. of UNS Elec., Inc. Devoted to Its Operations Throughout the State of Ariz. & for Related Approvals, No. E-04204A-15-0142, 2016 WL 4467959 (Ariz. Corp. Comm'n Aug. 18, 2016).

256 Application of Tucson Elec. Power Co. for the Establishment of Just & Reasonable Rates & Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Props. of Tucson Elec. Power Co. Devoted to Its Operations Throughout the State of Ariz. & for Related Approvals, No. 77856, 2020 WL 8257471, at *97 (Ariz. Corp. Comm'n Dec. 31, 2020).

257 *Application of UNS Elec., Inc.*, 2016 WL 4467959, at *73.

258 *Id.* at *20.

259 *See id.* at *75.

260 *Id.*; Customers with a "high load factor" draw power from the grid on a more consistent basis over the timespan of months or years, enabling more efficient utilization of grid assets and more predictable utility planning. *See Load Factor: What Is It? What Should It Be?*, ENERGYCAP, https://www.energycap.com/resource/what-is-load-factor [https://perma.cc/4GCY-AFN3] (explaining that utility companies prefer high load factor meters because energy demand is constant and predictable, making it easier to plan for power generation); *Everything You Need to Know About Implied Load Factor*, MAJOR ENERGY, https://majorenergy.com/everything-you-need-to-know-about-implied-load-factor [https://perma.cc/UH2R-MTBN] ("A high load factor indicates that the load . . . is using the electric system more efficiently . . . .").

261 *Application of UNS Elec., Inc.*, 2016 WL 4467959, at *75.

262 *Id.* at *73 (requiring that C&I customers to have a load factor of seventy-five percent or higher for the highest coincident-peak months in a rolling twelve-month period to qualify for the EDR).

to ensure that any new or expanded business is a low-cost addition to the system."[263]

Four years later, in 2020, the Commission approved changes to Tucson Electric Power (TEP) Company's EDR.[264] The Commission originally adopted the EDR in 2017 and stated: "We find that the proposed EDR may provide benefits to the entire TEP system if successful."[265] However, the EDR failed to attract any customers by the time of this rate case.[266] TEP's original EDR was very similar to UNSE's, but TEP's rate required a peak demand of at least 3,000 kW rather than 1,000 kW.[267] The changes included lowering the load threshold and load factor needed for a customer to be eligible for the EDR.[268] While supporting the changes, the Commission's Utilities Division staff recommended that the Commission consider ending the EDR should the changes fail to attract customers.[269] The Commission approved the revisions stating they were "just, reasonable, and in the public interest."[270] It is important to note, however, that unlike most state commissions, the Arizona Commission has independent constitutional authority, and the Arizona Supreme Court has held that the Commission's ratemaking authority is exclusive, plenary, and subject to almost no legislative limitations.[271]

In 2013, the Florida Public Service Commission approved a settlement agreement for Duke Energy Florida.[272] The agreement included pilot economic development and re-development tariffs that would be in place for three years.[273] In 2016, Duke Energy Florida

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263 *Id.* at *75.

264 Application of Tucson Elec. Power Co. for the Establishment of Just & Reasonable Rates & Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Props. of Tucson Elec. Power Co. Devoted to Its Operations Throughout the State of Ariz. & for Related Approvals, No. E-01933A-19-0028, 2020 WL 8257471 (Ariz. Corp. Comm'n Dec. 31, 2020).

265 Application of Tucson Elec. Power Co. for Approval of its 2016 Renewable Energy Standard Implementation Plan, No. E-01933A-15-0239, 2017 WL 784783, at *103 (Ariz. Corp. Comm'n Feb. 24, 2017).

266 *Application of Tucson Elec. Power Co.*, 2020 WL 8257471, at *97.

267 *See id.*

268 *Id.* The alterations to TEP's EDR specifically included lowering the peak demand requirement to 1,000 kW and the load factor from seventy-five to sixty percent. *Id.*

269 *Id.* at *98.

270 *Id.*

271 *See supra* note 52 (discussing the Arizona Corporation Commission's constitutional authority over rates).

272 Petition for Ltd. Proc. to Approve Revised & Restated Stipulation & Settlement Agreement by Duke Energy Fla., Inc., No. 130208-EI, 2013 WL 6053492 (Fla. Pub. Serv. Comm'n Nov. 12, 2013).

273 *Id.* at *20.

sought an extension of these tariffs beyond a pilot basis.[274] In approving the tariffs, the Florida Commission found that the tariffs appeared to be successful in attracting new load and revenues within the service territory because the utility had added one customer under the economic re-development tariff and five customers under the economic development tariff since 2014, combining for potentially 968 new full-time employees.[275] The Florida Commission also approved a pilot economic development tariff for a different utility, Tampa Electric, before approving a permanent tariff in 2016.[276] In the 2016 proceeding, the Commission concluded that "economic development provides indirect positive impacts to ratepayers including economic and job growth."[277] Additionally, it stated that "any increased load as a result of the rider benefits the general body of ratepayers by spreading fixed cost among a larger customer base."[278]

In 2015, the Oklahoma Corporation Commission approved an economic development incentive credit (EDIC) for Oklahoma Gas & Electric (OG&E) similar to the incentive granted to Duke Energy Florida.[279] The Commission approved the EDIC as part of a joint stipulation and settlement agreement.[280] Two years later, in 2017, the Commission extended the EDIC by finding it was in the "public interest."[281] The Commission reached this conclusion based on the evidence and testimony provided in the proceeding; the testimony included statements that the purpose of the tariff "is to encourage new businesses to locate to Oklahoma in OG&E's service area" and that the impact on other rate classes "is expected to be negligible."[282]

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[274] Petition for Approval of Modification to & Extension of the Approved Econ. Dev. & Re-Dev. Rider Experimental Pilot Tariffs by Duke Energy Fla., LLC, No. 160173-EI, 2016 WL 5869985 (Fla. Pub. Serv. Comm'n Oct. 3, 2016).

[275] *Id.* at *2.

[276] Petition to Extend Econ. Dev. Rider on a Permanent Basis by Tampa Elec. Co., No. 160059-EI, 2016 WL 3031765 (Fla. Pub. Serv. Comm'n May 25, 2016).

[277] *Id.* at *2.

[278] *Id.*

[279] *Compare id.* at *1 (providing base rate discounts for new businesses who meet minimum load and work force requirements and whose customers' location or expansion decisions depend significantly on availability of the EDR), *with* Application of Okla. Gas & Elec. Co. for Comm'n Approval of an Econ. Dev. Credit Tariff, No. PUD 201400307, 2015 WL 4395296, at *3 (Okla. Corp. Comm'n July 16, 2015) (providing benefits to customers who meet job program and minimum load requirements).

[280] *Application of Okla. Gas & Elec. Co. for Comm'n Approval*, 2015 WL 4395296, at *1.

[281] Application of Okla. Gas & Elec. Co. for an Ord. of the Comm'n Seeking an Extension of the Econ. Dev. Incentive Credit Tariff Pursuant to the Streamlined Process, No. PUD 201700216, 2017 WL 3314210, at *3 (Okla. Corp. Comm'n July 27, 2017).

[282] *Id.* at *2.

Notably, the Kentucky Public Service Commission has relied on different authority for implementing EDRs than the states discussed above. In 2008, the Kentucky Commission approved a "Brownfield Development Rider" for Louisville Gas and Electric Company.[283] That rider provided customers with demand charge discounts for five years, but the electricity must be serving a "brownfield" site.[284] However, in 2011 Louisville Gas and Electric sought to expand eligibility for the rider by no longer limiting it to customers at brownfield sites.[285] Instead, qualifying customers must add large, steady new load to the grid.[286] In justifying the rider, the Commission referenced a statute which prohibits the Public Service Commission from granting unreasonable preferences and advantages regarding rates.[287] Rather than viewing this statute as a limitation, the Commission stated that this statute authorized it to "permit reasonable preferences."[288]

To support its argument further, the Commission concluded it had authority to make reasonable classification of its "service, patrons, and rates" based on another statute.[289] These arguments were supported by a ruling from the Kentucky Supreme Court in 2010.[290] In that case, the Kentucky Attorney General challenged the Commission's approval of EDRs for Duke Energy Kentucky in state court.[291] The Attorney General argued that such rates provided discounts that were not explicitly permitted by statute and that the classifications and rates were unjust and unreasonable.[292]

However, the Kentucky Supreme Court rejected that argument, reasoning that "'fair, just and reasonable' is not inconsistent with appropriate classifications that distinguish among customers, service,

283 Application of Louisville Gas & Elec. Co. & Ky. Utils. Co. for a New Tariff – Brownfield Dev. Rider, No. 2007-00192, slip op. at 15 (Ky. Pub. Serv. Comm'n Mar. 7, 2008).

284 *Id.* at 5–7. A brownfield site is "property that is abandoned or under-utilized due to contamination." Application of Louisville Gas & Elec. Co. & Ky. Utils. Co. to Modify & Rename the Brownfield Dev. Rider as the Econ. Dev. Rider, No. 2011-00103, 2011 WL 3571926, at *1 n.3 (Ky. Pub. Serv. Comm'n Aug. 11, 2011).

285 *Application of Louisville Gas & Elec. Co. & Ky. Utils. Co.*, 2011 WL 3571926, at *2.

286 *Id.*

287 *Id.* at *3; KY. REV. STAT. ANN. § 278.170 (West 1996) (stating that utilities may not grant any person an "unreasonable preference or advantage," subject any person to any "unreasonable prejudice or disadvantage," or "establish or maintain any unreasonable difference between localities or between classes of service . . . under the same or substantially the same conditions").

288 *Application of Louisville Gas & Elec. Co. & Ky. Utils. Co.*, 2011 WL 3571926, at *3.

289 *Id.*; KY. REV. STAT. ANN. § 278.030 ("Every utility may employ in the conduct of its business suitable and reasonable classifications of its service, patrons, and rates.").

290 Pub. Serv. Comm'n v. Commonwealth, 320 S.W.3d 660 (Ky. 2010).

291 *Id.* at 663.

292 *Id.*

and rates."[293] Further, the court stated that while the relevant statute did list specific rate discounts the Commission could offer, "nothing suggests that [customers receiving the rate discounts specified in the statute], and only they, may be the subject" of discounted rates.[294] Utilities may offer reduced rates to other customers "subject to [the Commission's] approval and compliance with general statutory guidelines regarding reasonableness."[295] Based on this authority, the Commission stated that if the Kentucky General Assembly had wanted to limit reduced rates to specific customers, then the General Assembly "could have employed limiting language."[296]

Likewise, in 2021, the Michigan Public Service Commission approved proposals by the state's two largest investor-owned utilities—DTE and Consumers Energy—to offer EDRs to its high-volume industrial utility customers in order to help them compete for new manufacturing opportunities such as electric vehicle (EV) and EV battery plants.[297] The request was prompted by Ford Motor Company's announcement only months earlier that it planned to invest over $11 billion in new EV and EV battery plants in Tennessee and Kentucky.[298] Ford cited lower electricity costs in those states as a reason it targeted them.[299] The rates will be based on the marginal costs of serving those loads, plus transmission and distribution system costs and surcharges.[300] A utility spokesman justified the lower rates on grounds that it would spur increased electricity usage, spread the costs of the overall system more broadly, and reduce costs for all customers.[301]

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293 *Id.* at 665–66 (citing KY. REV. STAT. ANN. § 278.030(3)).

294 *Id.* at 668; KY. REV. STAT. ANN. § 278.170(2)–(3) (specifying that officers, agents, or employees of a utility and charitable institutions, along with a few other customers, can receive reduced rates).

295 *Pub. Serv. Comm'n*, 320 S.W.3d at 667.

296 *Id.* at 668.

297 Application of DTE Elec. Co. for Approval of Rate Schedule D13 XL High Load Factor Rate, No. U-21163, slip op. at 1 (Mich. Pub. Serv. Comm'n Dec. 22, 2021); Application of Consumers Energy Co. for *Ex Parte* Approval of Econ. Dev. Tariff Rate LED, No. U-21160, 2021 WL 6134777, at *1 (Mich. Pub. Serv. Comm'n Dec. 22, 2021); *see also* Breana Noble, *Michigan Utilities Get Approval to Offer Special Rates for EV Plants*, DET. NEWS (Dec. 22, 2021, 6:20 PM), https://www.detroitnews.com/story/business/2021/12/22/consumers-energy-dte-special-rates-electric-vehicle-plants-consumers-hike-residential-electric-rates/8999346002 [https://perma.cc/3PZE-563Z]; *MPSC Approves DTE Electric, Consumers Energy Special Rates to Help Attract, Retain Advanced Manufacturing*, MICH. PUB. SERV. COMM'N (Dec. 22, 2021), https://www.michigan.gov/mpsc/commission/news-releases/2021/12/22/mpsc-approves-dte-electric-consumers-energy-special-rates [https://perma.cc/EE5F-HBDU].

298 *See* Noble, *supra* note 297.

299 *Id.*

300 *Id.*

301 *Id.*

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These cases show that when it comes to economic development rates for C&I customers, state public utility commissions are much more willing to offer special rates in the public interest because the focus, from the start, is on the overall economic benefits of such rates—even though it is not always clear that reduced industrial rates based on marginal costs are just, reasonable, and in the public interest. Our goal here is not to argue that economic development rates are never justified. However, we believe that economic development rates have more in common with low-income rates than stakeholders or utility commissions recognize. The economic rationale that supports economic development rates for commercial and industrial customers—that load growth is in the public interest—may apply equally or even with more force to load growth that expands energy services for low-income customers and also serves to promote energy equity and energy justice. We discuss this issue in more detail in Part IV.

IV
Regulating for Energy Justice

In this Part, we lay out an argument for public utility commissions to adopt a more active role in advancing the goals of distributional and procedural energy justice in alignment with their current public interest authority and ratemaking responsibilities. We set out specific pathways for doing so. These include new approaches to setting rates, implementing enhanced programs and policies which promote energy justice, and changing structures of utility regulation itself. While we acknowledge that additional legislative guidance can and should help advance many of these energy justice priorities, we argue that commissions need not wait for additional legislation before acting on theses urgent issues facing low-income and underrepresented customers.

A. Regulating Rates for Energy Justice

As described in Part I, utility rate setting involves a substantial degree of regulator discretion, involving "judgment on a myriad of facts . . . [with] no claim to an exact science."[302] Regulators can use this discretion to advance the public interest in many ways that could

[302] Colo. Interstate Gas Co. v. Fed. Power Comm'n, 324 U.S. 581, 589 (1945) (citing Walton H. Hamilton, *Cost as a Standard for Price*, 4 Law & Contemp. Probs. 321, 323 (1937)) (deciding that where Congress does not provide a formula for interstate wholesale gas rates, courts cannot reject the formula the Federal Power Commission creates unless it plainly contravenes the statutory scheme of regulation).

improve the livelihoods of low-income and marginalized populations. This regulatory discretion therefore implies that rate setting is social policy.

Yet despite a clear legal basis, agencies that regulate rates generally do not view rate setting as social policy; instead, they often apply standard technocratic frames and broadly applicable norms that obscure the social dimensions of rate setting. Inherent in standard practices for rate setting is the principle of cost causation.[303] Cost causation requires that consumers pay for the costs of providing them service.[304] Utilities will implement rates that follow cost-causal principles by conducting cost of service studies.[305] But cost-of-service studies are more of an art than a science.[306]

Our argument is not that rate design should abandon the principle of cost causation. Instead, our argument is that cost causation is one of several goals to balance in rate design; the benefits of service and ability to pay should also be considered. Further, in current common practice, perfect cost-causal rates are not just practically unattainable but also, in some cases, may effectively allow undue discrimination.[307] Recognizing that "[a]ll regulation is incentive regulation,"[308] a limited focus on cost causation ignores the fact that in practice rate design creates myriad incentives that apply to utilities and their customers; these incentives have created significant disparities in access to affordable essential energy services. And if we want to

303 *See supra* notes 78–79 and accompanying text (explaining cost causation principles).

304 *See, e.g.*, ARTHUR ABAL, BRIAN HEDMAN, BEN BUTTERWORTH & KELLY KNEELAND, NAT'L ASS'N OF REGUL. UTIL. COMM'RS, TARIFF TOOLKIT: PRIMER ON RATE DESIGN FOR COST-REFLECTIVE TARIFFS 14 (2021), https://pubs.naruc.org/pub.cfm?id=7BFEF211-155D-0A36-31AA-F629ECB940DC [https://perma.cc/FQM9-GK25]; *see also supra* Section I.C.1 (discussing cost causation principles).

305 *See supra* note 75 and accompanying text.

306 *See supra* note 89 and accompanying text.

307 For example, even though the cost of building rural distribution grids is higher than the cost of the urban portion of distribution grids, only some utilities have introduced differentiation between customers in dense urban areas and those in rural areas with relatively higher cost of service. *See* LAZAR ET AL., *supra* note 15, at 63–64 ("Customers in deeply rural areas tend to be more expensive to serve . . . . Although improved distributional equity from additional rate classes is a laudable goal, and . . . advances the primary goal of cost allocation . . . some utilities and parties in a rate case may propose rate classes that effectively allow undue discrimination.").

308 Gavin Purchas & Elizabeth B. Stein, *Utility 2.0: New York Draws Lessons on Utility Regulation from Across the Pond*, EDF BLOGS (Dec. 8, 2014), https://blogs.edf.org/energyexchange/2014/12/08/utility-2-0-new-york-draws-lessons-on-utility-regulation-from-across-the-pond [https://perma.cc/8WNF-ULLU] (quoting Alfred E. Kahn); *see also* STEVE KIHM, JANICE BEECHER & RONALD LEHR, REGULATORY INCENTIVES AND DISINCENTIVES FOR UTILITY INVESTMENTS IN GRID MODERNIZATION 36 & n.82 (2017), https://eta-publications.lbl.gov/sites/default/files/feur_8_utility_incentives_for_grid_mod_rev_062617.pdf [https://perma.cc/LW57-K9KB] (explaining this "well worn adage").

advance distributional equity as a component of advancing the public interest, we also need to think about how our regulation can be designed to incentivize distributional equity.

The distinction between rate design that would most effectively reflect cost causation and rate design that would most effectively incentivize equitable access to private and public benefits is reflected in debates around energy efficiency.[309] Whereas rate design that imposes fixed charges for fixed costs and volumetric charges for variable costs could be a simple approach to seek alignment with cost-causal principles in setting rates, such a design is not fully economically justified and could provide a significant disincentive to residential customers deploying energy efficiency.[310] As a result, many environmental advocates have argued against increasing fixed charges.[311] Further, low-income consumer advocates have also argued against a move towards higher fixed charges because higher fixed charges would increase costs for those low-income customers that consume relatively less electricity.[312]

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309 *See, e.g.*, RALPH CAVANAGH & JOHN HOWAT, ELECTRICITYPOLICY.COM, *Finding Common Ground Between Consumer and Environmental Advocates*, 1, 5 (2012), https://www.nmlegis.gov/handouts/WNR%20072715%20Item%206%20Finding%20Common%20Ground%20Between%20Consumers%20and%20Advocates.pdf [https://perma.cc/S2P9-MQ3S] (describing the "Tucson model" for energy efficiency programs which implements "inclining block rates, where decoupling surcharges are tied to higher usage blocks and bill credits to the initial usage block").

310 *See, e.g.*, Severin Borenstein, *What's So Great About Fixed Charges?*, ENERGY INST. AT HAAS: ENERGY INST. BLOG (Nov. 3, 2014), https://energyathaas.wordpress.com/2014/11/03/whats-so-great-about-fixed-charges [https://perma.cc/MAC6-KWSW] ("[T]hat 'the utility should cover fixed costs with fixed charges' has no basis in economics when it comes to system fixed costs."); MELISSA WHITED, TIM WOOLF & JOSEPH DANIEL, SYNAPSE ENERGY ECON., INC., CAUGHT IN A FIX: THE PROBLEM WITH FIXED CHARGES FOR ELECTRICITY 17 (2016), https://www.synapse-energy.com/sites/default/files/Caught-in-a-Fix.pdf [https://perma.cc/559G-LWCU] ("Increasing fixed charges can significantly reduce incentives for customers to reduce consumption through energy efficiency, distributed generation, or other means. By reducing the value of a kilowatt-hour saved or self-generated, a higher fixed charge directly reduces the incentive that customers have to lower their bills by reducing consumption.").

311 *See, e.g.*, Casey Roberts, *Fighting Back Against High Fixed Charges on Electricity Bills*, SIERRA CLUB (Jan. 28, 2015), https://www.sierraclub.org/planet/2015/01/fighting-back-against-high-fixed-charges-electricity-bills [https://perma.cc/SDX7-PPL9] (calling fixed rate schemes "a new strategy to discourage customers from going solar"); Herman K. Trabish, *Are Regulators Starting to Rethink Fixed Charges?*, UTIL. DIVE (Aug. 23, 2018), https://www.utilitydive.com/news/are-regulators-starting-to-rethink-fixed-charges/530417 [https://perma.cc/L8SQ-ANVS] (describing, for example, the successful efforts of "[c]onsumer and environmental advocates" to reduce fixed rate charges in Connecticut).

312 *See, e.g.*, Trabish, *supra* note 311; *Utility Rate Design*, NAT'L CONSUMER L. CTR., https://www.nclc.org/issues/energy-utilities-a-communications/utility-rate-design.html [https://perma.cc/9BCR-W2KK] (arguing that fixed charges "penalize low-volume consumers within a rate class and undermines consumers' ability to control the cost of utility service through energy efficiency or conservation," disproportionally harming lower

This debate highlights how regulators already commonly use cross-subsidization to deviate from approaches that would be most likely to fully reflect cost causality and instead incorporate considerations of other dimensions of the public interest based on private and public benefits, such as protecting the environment and promoting distributional equity. Our recommendation, though, is that regulators should go further in explicitly considering the private and public benefits of service. In doing so, they should think creatively about innovations in rate design that could fundamentally address energy insecurity among utilities' most vulnerable customers.

As demonstrated by the case studies in Part III, regulators have entertained arguments to introduce differentiation in rates based on a broader set of considerations, beyond strict cost causation. Economic development rates for C&I customers bring considerations of the spillover benefits of local job creation and tax revenue into rate setting. These arguments are made by sophisticated C&I electricity consumers. That sophistication enables these private interests to navigate the regulatory system to make compelling cases for why differentiation in rates advances the public interest.

We argue that residential customers, particularly low-income and marginalized residential customers, have not historically had the regulatory and technical sophistication to navigate regulatory rate-setting processes to the same degree. And therefore, there is a historic backlog of decisions never considered that have put low-income residential customers at a disadvantage. Over time, in nearly every utility in the United States, C&I customers pay a lower average rate than residential customers.[313] While there is a partial cost-based justification for this differentiation, it is plausible that higher relative rates for residential customers could also reflect a degree of procedural injustice.[314] Convincing regulators to create rate differentiation requires a

income households). One recent proposal suggests that fixed charges could instead vary by income to bring rates closer in alignment with cost-causal principles and avoid the regressivity of high fixed charges that do not vary with consumption. *See* SEVERIN BORENSTEIN, MEREDITH FOWLIE & JAMES SALLEE, ENERGY INSTITUTE, DESIGNING ELECTRICITY RATES FOR AN EQUITABLE ENERGY TRANSITION 33, 35 (2021), https://haas.berkeley.edu/wp-content/uploads/WP314.pdf [https://perma.cc/SAX8-6L2J] (advocating for an income-based fixed charge to distribute costs equitably).

313 *See Electric Power Monthly: Table 5.3. Average Price of Electricity to Ultimate Customers*, U.S. ENERGY INFO. ADMIN. (May 2022), https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=Epmt_5_3 [https://perma.cc/B5HV-CN96] (showing the U.S. average prices for electricity in 2020 were 13.15 cents per kilowatt-hour for residential customers, 10.59 cents per kilowatt-hour for commercial customers, and 6.67 cents per kilowatt-hour for industrial customers).

314 *See infra* Section IV.C.

level of technical sophistication, and C&I customers are more able to navigate the arcane regulatory system to seek differentiated rates.

A focus on rate design to advance distributional equity takes on particular importance at this moment in time when we are on the precipice of large-scale changes to the energy system to address climate change. Addressing climate change will require significant expansion of electrified end uses and significant load growth across the country.[315] To meet this demand, electricity transmission, distribution, infrastructure, and renewable energy generation will need to expand.

Further, with the impending large increase in electrified end uses, there is a unique opportunity to consider how to best spread the embedded costs of the system over many additional units of sales. Regulators can use the tools of rate design to consider how to best allocate costs in the face of growing load. As demonstrated by electric heat rates that were developed following the 1973 Oil Crisis,[316] rates that incentivize load growth can be viewed as advancing the public interest if they result in spreading fixed costs over more units of sales and lower costs for everyone. This form of incentive regulation to advance the public interest is also relevant today. Electrification of transportation and space and water heating is likely to unlock a similar dynamic of load growth that spreads the embedded fixed costs over many additional units of sales.[317]

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315 *See, e.g.*, Robert Walton, *Biden Decarbonization Goals Could Triple Reliance on Electric Grid: EPRI*, UTIL. DIVE (Jan. 14, 2022), https://www.utilitydive.com/news/biden-decarbonization-goals-could-triple-reliance-on-electricity-grid-epri/617188 [https://perma.cc/T9GU-QYH4] (citing analysis showing that "[a]bout 20% of end-use energy consumption in the United States today is electricity, but that could rise to 60% by 2050 as the country moves towards a carbon-neutral economy").

316 *See* Zachary Strauss, *Gas Reigns, Electricity Lags: A Brief History of Home Heating in the Northeast*, ATLAS BUILDINGS HUB (April 4, 2022), https://atlasbuildingshub.com/2022/04/04/gas-reigns-electricity-lags-a-brief-history-of-home-heating-in-the-northeast [https://perma.cc/73PF-SVPV] (explaining the increase of U.S. crude oil import in 1980 after the Second Oil Crisis); *see also* Greg Mazurkiewicz, *The 1970s: Heat Pumps Return, Solar Heats It Up In*, ACHR NEWS NETWORK (Nov. 6, 2001), https://www.achrnews.com/articles/87484-the-1970s-heat-pumps-return-solar-heats-it-up-in [https://perma.cc/DMB8-L5GX] (going through the history of electric heat, and touching on energy legislation arising from the 1970s); Sam Kennedy, *Feeling a Jolt from PPL's Past*, MORNING CALL (Dec. 26, 2004), https://www.mcall.com/news/all-n-l-dereg-122604-story.html [https://perma.cc/9R8W-JYJ3] (stating that the energy crisis in the 1970s dampened use of oil and gas while giving a boost to electric heat).

317 DAVID PICKLES, ICF, WHY ELECTRIFICATION BENEFITS CITIES, STATES, AND THE GRID—AND HOW UTILITIES CAN LEAD THE WAY 2 (2020), https://www.icf.com/insights/energy/electrification-benefits-cities-states [https://perma.cc/Q5DG-BWYD] ("ICF has found that for a typical utility beneficial electrification can grow system energy sales by 0.75% per year and put significant downward pressure on electric rates by spreading fixed costs over greater sales.").

B. Energy Programs and Policies for Energy Justice

In this Section, we describe pathways for regulators to advance energy justice through actions complementary to the issues of rate setting described in the previous Section. These include implementing new policies surrounding utility disconnection and arrearage management; creating low-income residential rates, based on rationales that strongly resemble those used to justify economic development rates for C&I customers; creating energy to shield households from future climate and physical disaster shocks; and designing policies to increase equity and justice in access to distributed energy resources.

1. Equitably Enhancing Universal Access to Service

As described in Part II, public utilities have an obligation to serve customers. Reflecting the public interest of meeting this obligation, regulators rarely hesitate in approving the socialization of a significant fraction of the costs of connecting many types of new load, such as new residential load in a utility's existing service area.[318] Socializing the specific costs of serving loads is regularly approved when the loads being served either fall within the obligations of the utility to serve all customers or the regulator otherwise exerts authority to deem serving the load in the public interest. However, there is a clear difference between an obligation to serve and a guarantee that all customers of a utility have a right to affordable energy service.[319] Thus, regulators have not universally approved the socialization of additional costs of providing affordable service that considers customers' ability to pay.[320] One near-term approach that regulators could consider is to

[318] *See* LAZAR ET AL., *supra* note 15, at 149 (explaining that most utility companies have policies dictating when they will pay for the extension of service and providing the example of one utility company who includes "the first 100 feet of line extension for a residential customer into rate base"); Thompson, *supra* note 90, at 274 n.39 (listing cases where courts upheld government orders requiring utility companies to extend service to new customers within their territory).

[319] Although advocates have argued that affordable access to energy is a human right and that regulators should bar utilities from cutting off service based on ability to pay in all circumstances, that issue remains unresolved. *See, e.g.*, MARCUS FRANKLIN & CAROLINE KURTZ, NAACP, LIGHTS OUT IN THE COLD: REFORMING UTILITY SHUT-OFF POLICIES AS IF HUMAN RIGHTS MATTER, at iii (2017); Adrian J. Bradbrook & Judith G. Gardam, *Placing Access to Energy Services Within a Human Rights Framework*, 28 HUM. RTS. Q. 389, 392 (2006) (explaining that access to energy services has yet to be recognized by international human rights law); Rhett B. Larson, *Adapting Human Rights*, 26 DUKE ENV'T L. & POL'Y F. 1, 49 (2015) ("The human right to energy has perhaps not risen along with the others in part because energy has not been traditionally perceived as essential to human welfare as water and sanitation.").

[320] For a discussion of the limited application of the "ability-to-pay principle," in utility regulation, see generally Thompson, *supra* note 90, at 275 (citing BONBRIGHT, *supra* note 50, at 111–12).

socialize not all additional costs of providing affordable service, but just those customer-specific costs that disproportionately affect low-income customers. For example, regulators could consider forgiving a percentage of the costs of late fees, disconnection and reconnection fees, and the carrying costs of arrearage payment programs, thereby socializing these costs across the entire rate base of a utility. Many of these specific costs do not have a clear and scrutinized cost basis and carry a substantial degree of arbitrariness. For example, disconnection and reconnection fees can vary by an order of magnitude across utilities.[321] Further, utility arrearages can create spirals of debt unless reasonable payment plans are offered and partially funded by other ratepayers. Across all types of household bills, over half of Americans incur late fees each year, costing an average of $132 per household in direct late fees.[322] Spiraling utility debt hurts not only low-income customers but all ratepayers, as unpaid arrearage costs are ultimately imposed broadly on the system. Thus, reducing disconnection fees and other costs associated with nonpayment can reduce rates for all customers and provide benefits in the public interest.[323]

2. *Low-Income Rate Discounts as an Economic Development Opportunity*

It is well-documented that low-income households curtail their energy consumption due to household budget constraints.[324] Low-income households face tradeoffs in consuming energy or paying for medical necessities, food, and housing.[325] Therefore, alleviating

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[321] Systematic data for the United States is not readily available, but connection/disconnection fees in Canada can range from, for example, $5.35 to $94.15 for electric service and from $53.80 to $141.79 for natural gas service. Kelseigh Wrigley, *Energy Connection & Disconnection Fees Explained*, CANSTAR BLUE (Oct. 7, 2022), https://www.canstarblue.com.au/electricity/connection-disconnection-charges [https://perma.cc/S6T6-VDCM] (listing fees associated with electricity and natural gas connection and disconnection across different providers).

[322] DOXOINSIGHTS, THE HIDDEN COSTS OF BILL PAY 3 (2020), https://www.doxo.com/insights/doxoinsights-hidden-costs-of-bill-pay-report [https://perma.cc/8D4H-UYBY].

[323] Following the run-up in utility arrearages during the COVID-19 pandemic, electric and natural gas arrearages totaled $32 billion by the end of 2020, and regulators needed to "weig[h] equity and economic efficiency considerations." Kenneth W. Costello, *US Utilities Have Billions in Unpaid Customer Balances. What Should They Do?*, UTIL. DIVE (Oct. 6, 2021), https://www.utilitydive.com/news/us-utilities-have-billions-in-unpaid-customer-balances-what-should-they-do/607682 [https://perma.cc/87TR-6DSQ] (exploring who should bear the burden of paying unpaid balances).

[324] *See, e.g.*, Shuchen Cong, Destenie Nock, Yueming Lucy Qiu & Bo Xing, *Unveiling Hidden Energy Poverty Using the Energy Equity Gap*, NATURE COMMC'NS, May 4, 2022, at 3, No. 2456, https://www.nature.com/articles/s41467-022-30146-5 [https://perma.cc/E8VU-NGZ9] (investigating how low-income households limit their energy consumption).

[325] *See* Diana Hernandez, *Understanding 'Energy Insecurity' and Why It Matters to Health*, 167 SOC. SCI. & MED. 1, 2 (2016) ("The 'heat or eat' dilemma demonstrates the

energy insecurity would grow a utility's load, enabling utilities to spread their fixed cost across more units of sale and benefiting all ratepayers. The justification of load growth in the public interest is frequently utilized in setting economic development rates for C&I customers. Expanding energy services for low-income customers through low-income rate discounts would provide qualitatively similar benefits as growing load for C&I economic development. Both actions incentivize additional consumption that helps pay down some of the fixed costs of providing service to all customers.

Further, there is evidence that low-income customers tend to have a more even temporal load profile than other residential customers.[326] Adding flatter load to a utility's load lowers the overall average costs of the utility and benefits all consumers.[327] Indeed, the relative flatness of low-income customers' load suggests that low-income customers have a lower average cost of service than the residential class average. So not only are low-income customers paying above their cost of service, but also growing low-income loads would put those customers closer to their class average and reduce existing inequities.[328]

By targeting rate reductions, the budget constraints that low-income ratepayers face due to utility costs would be reduced. Reduced utility costs for low-income customers could also provide public benefits by minimizing both the uncollectible payments that a utility socializes across its entire customer base and the financing costs associated with arrearage management.

Finally, one possible approach to implementing low-income rate discounts aligned with costs could take inspiration from some C&I approaches to rate discounts. In some cases where C&I customers—particularly mobile C&I customers—have received rate discounts,

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trade-offs that low-income householders make in order to meet the basic necessities of life whereby at-risk groups are forced to decide between food and energy, often sacrificing one for the other." (citations omitted)).

326 *See* Jeff Zethmayr & Ramandeep Singh Makhija, *Six Unique Load Shapes: A Segmentation Analysis of Illinois Residential Electricity Customers*, 32 ELEC. J., Nov. 2019, at 1, 7 ("The high correlation between flat usage and lower incomes . . . has particularly harmful consequences, considering low-income households already pay a higher proportion of their income on utility bills . . . . [A] wider offering of dynamic rate designs . . . may more accurately reflect customers' cost of service, reducing this cross-subsidization.").

327 *See, e.g.*, Will Jolley, *Flattening the (Demand) Curve: Renewable Energy and COVID-19*, LEVELTEN ENERGY (Mar. 31, 2020), https://www.leveltenenergy.com/post/energy-demand-covid [https://perma.cc/9AE5-NH3R] (demonstrating that flatter load profiles reduce prices, specifically as applied to New York City in early 2020).

328 *See* Zethmayr & Makhija, *supra* note 326, at 7 (showing that certain groups of customers are overpaying for their energy).

regulators have applied the standard that special C&I rates are just and reasonable if they, at a minimum, cover the incremental cost of serving the load.[329] The outcome of this approach is that these special rates are lower than existing rates, as these new customers are effectively exempt from contributing much to the fixed costs of the legacy system. Regulators have approved such rates with the logic that they do not impact other customers relative to their current circumstances, as existing customers have already been allocated the full scope of legacy fixed costs under the status quo.[330] And if a discounted rate is decisive in causing the mobile C&I customer to locate in the utility's service area, the existing customers of the utility only stand to gain (either through economic development or the potential that the utility will contribute to paying for some of the utility's legacy fixed costs).

Certainly, low-income customers are not mobile in the same way that some C&I customers are, in the sense that they are unlikely to move primarily to seek low electricity rates.[331] However, we argue that low-income rate discounts could still be viewed as a form of incremental load growth that could be incentivized through lower electricity prices, just as mobile C&I customer load growth is incentivized. Amid growing evidence that low-income customers reduce their consumption below their desired levels due to budget constraints, it is plausible that the elasticity of demand of low-income residential customers could be directionally similar to that of mobile C&I customers.[332] And just as mobile C&I customers bring economic development spillover benefits, applying a similar approach for low-income customers would bring a wide spectrum of energy justice "spillovers." Further, amid the continuing decline in the cost of clean energy,[333] the incremental cost of serving new load will continue to decrease (a trend that has helped accelerate C&I procurement of

329 *See supra* Section III.B.2 (explaining the structure and requirements of commission-initiated economic development rates).

330 *See supra* Section III.B.2 (discussing the commission-approved economic development rates for DTE and Consumers Energy C&I customers based on incremental costs for new incremental load of an electric vehicle factory); *see also* Huntington, *supra* note 69, at 715 ("The lowering of some specific rates . . . will benefit . . . consumers of other company services as long as the revenues from the low rates cover incremental costs and contribute more towards the constant and joint costs of the enterprise than would be the case under rates based on fully distributed costs.").

331 *See supra* note 298 and accompanying text (discussing Ford Motor Company proposal to build new facilities in states with low electricity prices); *see also supra* Section III.B (discussing C&I rates to retain or attract C&I customers and encourage them to expand their facilities which results in load growth).

332 *See, e.g.*, Cong et al., *supra* note 324, at 3.

333 *See, e.g.*, *Majority of New Renewables Undercut Cheapest Fossil Fuel on Cost*, INT'L RENEWABLE ENERGY AGENCY (June 22, 2021), https://www.irena.org/newsroom/pressreleases/2021/Jun/Majority-of-New-Renewables-Undercut-Cheapest-Fossil-Fuel-on-

clean energy to meet their own energy needs and enable many C&I customers to explicitly incorporate sustainability into their missions[334]). As this trend continues, a low-income rate discount could be tied to the incremental cost of new clean-energy generation. Such a proposal would link the goals of energy justice and decarbonization.

3. Building Resilience to Shield Households from Future Shocks

Addressing energy insecurity also requires considering not just the average rates low-income and marginalized customers face but also the volatility of rates. Regulators in nearly every state have considered proposals for electric rate design that would vary prices by time of day, in various degrees of alignment with cost of service.[335] These proposals could introduce a significant degree of unpredictability in energy bills, and regulators have taken steps to protect low-income consumers from large swings.[336]

Recent events have revealed that consumers are vulnerable to extreme price shocks, particularly in the natural gas system. In February 2021, Winter Storm Uri created significant short-term price spikes in natural gas markets.[337] Varying degrees of increased fuel

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Cost [https://perma.cc/4AZP-XSR4] (reporting that renewable power generation had lower costs than fossil fuels in 2020).

334 *See, e.g.*, JAMES KOBUS, ALI IBRAHIM NASRALLAH & JIM GUIDERA, CTR. ON GLOB. ENERGY POL'Y, THE ROLE OF CORPORATE RENEWABLE POWER PURCHASE AGREEMENTS IN SUPPORTING US WIND AND SOLAR DEPLOYMENT 19–20, 25 (2021), https://www.energypolicy.columbia.edu/research/report/role-corporate-renewable-power-purchase-agreements-supporting-us-wind-and-solar-deployment [https://perma.cc/8JNB-HKKP] ("Growth in renewable energy deployment among corporate players has been largely preceded by drops in both wind and solar system costs.").

335 AMAN CHITKARA, DAN CROSS-CALL, BECKY LI & JAMES SHERWOOD, ROCKY MOUNTAIN INST., A REVIEW OF ALTERNATIVE RATE DESIGNS 19 (2016), https://rmi.org/wp-content/uploads/2017/04/A-Review-of-Alternative-Rate-Designs-2016.pdf [https://perma.cc/V76P-ECDG] (describing the basic structure of time-based rates, including rates that reflect historical variation in use ("time-of-use") or vary over short intervals ("real-time pricing")).

336 *See, e.g.*, Press Release, *Notice of Change to Residential Rates*, MINN. POWER, https://www.mnpower.com/ResidentialRates [https://perma.cc/F9EU-ZNWT] (stating that Minnesota Power will move from block rates to flat rates to time-of-day rates for residential customers); Brian Edstrom, *Minnesota Power to Transition to Time-of-Day Rates*, CITIZENS UTIL. BD. (Aug. 3, 2021), https://cubminnesota.org/minnesota-power-to-transition-to-time-of-day-rates [https://perma.cc/B6BA-2J35] ("[S]hifting to TOD rates will cause some customers—particularly high energy use customers—to experience a rate increase. Fortunately, MP's plan includes a low-income discount that will help ensure most low-income customers will not experience a rate increase as a result of this transition."); Welton & Eisen, *supra* note 3, at 364 ("[D]uring times of transitions to pricing systems based on time of consumption, [regulators should] include a guarantee against extreme volatility in low-income consumers' rates.").

337 *See Winter Storm Uri's Impacts & Pathways to Resilience in Texas*, HOUS. ADVANCED RSCH. CTR., https://experience.arcgis.com/experience/cc48fcfebfae414b

costs were passed through to most residential customers served by regulated utilities.[338] For example, in Oklahoma, customers will pay over ninety dollars per year for twenty-five years to recover the costs incurred over the few days of the storm.[339]

While regulators have approved plans to reduce the experience of large-scale volatility by spreading the costs of specific price spikes over long time periods, our regulatory system has not done enough to protect the most vulnerable customers who have limited financial hedging capabilities. Cost-based regulation provides only very limited incentives for utilities to contain consumer price variability that arises from the passthrough of volatile fuel costs. This is a fundamental misalignment of a regulated utility's interests with the public interest. Utilities have made extensive arguments to invest ratepayer-backed capital into natural gas plants intended to operate only during periods of high demand to improve system resilience,[340] but these resources

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99b3d18f86c72c27/page/Natural-Gas-Pricing/?views=NATURAL-GAS-IMPACTS [https://perma.cc/XS8P-B5B9] (showing that the price of natural gas at Henry Hub, "a major natural gas trading point," increased ten-fold between January and February 2021, when Winter Storm Uri hit); AM. PUB. POWER ASS'N, WINTER STORM URI, EXTREME WINTER EVENTS, AND NATURAL GAS REFORMS 1 (2022), https://www.publicpower.org/system/files/documents/January%202022%20-%20Winter%20Storm%20Uri.pdf [https://perma.cc/8AVZ-PSC8] ("As a result [of Winter Storm Uri], there was a massive decline in natural gas production with natural gas fuel supply struggling to meet both residential heating load and electric generating unit demand for natural gas. . . . [N]atural gas prices spiked to unimagined levels.").

338 *See* GUY SHARFMAN & JEFFREY MEROLA, INTELOMETRY, BEYOND TEXAS: EVALUATING CUSTOMER EXPOSURE TO ENERGY PRICE SPIKES: A CASE STUDY OF WINTER STORM URI, FEBRUARY 2021, at 29 tbl.14 (2021), https://www.nrg.com/assets/documents/energy-policy/Energy_Choice_Protecting_Customers.pdf [https://perma.cc/8H2D-LSD6] (indicating the average cost increases borne by residential customers by utility type, ranging from $86 for competitive suppliers to $450 for gas utility monopolies).

339 Paul Monies & Amanda Green, *The Winter Gas Bill from Hell: Oklahomans Face Paying $1.4 Billion Over Snow Storm*, OKLA. WATCH (Jan. 20, 2022), https://oklahomawatch.org/2022/01/19/the-winter-gas-bill-from-hell-oklahomans-face-paying-1-4-billion-over-snow-storm [https://perma.cc/GSS3-F9QD]. Some states that experienced price spikes from Uri have exempted low-income customers. *See, e.g.*, Comm'n Investigation into the Impact of Severe Weather in Feb. 2021 on Impacted Minn. Nat. Gas Utils. and Customers, No. G-999/CI-21-135, 2021 MINN. PUC LEXIS 262, at *45 (Minn. P.U.C. Aug. 30, 2021) ("The Gas Utilities are authorized to recover February Event extraordinary costs from all sales customer classes, with the exception of low-income customers . . . .").

340 *See, e.g.*, Amanda Levin, *Planned Gas Plants & Pipelines Likely "Stranded" in Future*, NAT'L RES. DEF. COUNCIL (Sept. 10, 2019), https://www.nrdc.org/experts/amanda-levin/planned-gas-plants-pipelines-likely-stranded-future [https://perma.cc/7LT9-NYQ9] (reviewing the economics of gas plants in comparison to cleaner alternatives, which are likely to outcompete gas plants on price by 2035); Stephanie Tsao & Richard Martin, *Overpowered: Why a US Gas-Building Spree Continues Despite Electricity Glut*, S&P GLOBAL (Dec. 2, 2019), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/overpowered-why-a-us-gas-building-spree-continues-despite-

are underutilized for reducing the volatility of customer bills, highlighting the customer impact of this misalignment.[341]

Moreover, this is a missed opportunity because the energy system is built on a foundation of long-lived capital. Regulators should focus on developing cost-stability programs that prioritize low-income households. For example, regulators could require or incent utilities to deploy more demand-side management technologies, enroll more C&I customers in interruptible load programs, and require utilities to utilize these capabilities to reduce fuel price volatility (in addition to improving system reliability).

4. Increasing Equity and Justice in Distributed Energy Resource (DER) Policies and Rates

The legacy energy system, built on centralized power stations and large-scale transmission infrastructure, requires centralized decision-making to direct capital to large-scale infrastructure investments. Thus far, we have focused on priorities for reforming centralized decision-making processes, primarily in state public utility commissions, to better recognize energy justice.[342] However, technological change in small-scale, distributed energy resources (DERs) has the capacity to disrupt the economics of centralized energy systems, creating a parallel pathway to transform the energy system to increase equity and justice.[343]

DERs are energy generation technologies and load-modifying resources on the "grid edge."[344] The scale and diversity of DER

electricity-glut-54188928 [https://perma.cc/393K-7JXT] (explaining that natural gas plants will likely become stranded assets before the end of their useful lives).

[341] *See* Albert Lin & Joe Daniel, *Electricity Customers Are Getting Burnt by Soaring Fossil Fuel Prices*, RMI (June 23, 2022), https://rmi.org/electricity-customers-are-getting-burnt-by-soaring-fossil-fuel-prices [https://perma.cc/C5JR-XUEW] (describing how fuel cost sharing could have saved customers money during spikes in energy cost); Karlee Weinmann, *Minnesota Gas Utilities Criticized for Making Uri Crisis Worse on Customers*, ENERGY & POL'Y INST. (June 13, 2022), https://www.energyandpolicy.org/centerpoint-xcel-uri-cost-recovery [https://perma.cc/ZN3E-82KE] (explaining that customers were negatively impacted by volatile fossil gas prices).

[342] *See supra* Sections IV.A–B.3.

[343] *See, e.g.*, Baker, *supra* note 18, at 389 (observing that a small-scale distribution network, rather than a centralized method, could still be consistent with energy justice approaches in New Mexico).

[344] Distributed energy resources are "physical and virtual assets that are deployed across the distribution grid, typically close to load, and usually behind the meter, which can be used individually or in aggregate to provide value to the grid, individual customers, or both" and include "solar, storage, energy efficiency, and demand management." Tanuj Deora, Lisa Frantzis & Jamie Mandel, *Distributed Energy Resources 101: Required Reading for a Modern Grid*, ADVANCED ENERGY ECON. (Feb. 13, 2017), https://blog.aee.net/distributed-energy-resources-101-required-reading-for-a-modern-grid [https://perma.cc/7Y9S-6W2H]. For a recent court decision discussing and upholding FERC's energy storage

deployment has accelerated in the past decade,[345] spurring a wide array of legal scholarship[346] and regulatory decisions.[347] DERs have the potential to decentralize ownership and democratize control of the energy system.[348] DERs also offer the potential for cost savings, energy savings, and resilience benefits.[349] However, the decentralization of technology does not guarantee more decentralized governance or more just outcomes.[350] Regulators, sometimes supported by legislation, have taken important steps to integrate energy justice-aligned

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pricing regulation, see Nat'l Ass'n of Regul. Util. Comm'rs v. FERC, 964 F.3d 1177, 1190 (D.C. Cir. 2020) (holding that FERC's order, which prohibited state-imposed bans on electric storage resources participating in state distribution and retail markets, was not arbitrary and capricious because the potential benefits outweighed any negative effects from additional administrative burdens on the states).

345 *See* FED. ENERGY REGUL. COMM'N, AD18-10-000, DISTRIBUTED ENERGY RESOURCES: TECHNICAL CONSIDERATIONS FOR THE BULK POWER SYSTEM 7 (2018), https://www.ferc.gov/sites/default/files/2020-05/der-report_0.pdf [https://perma.cc/XCT5-Z8GV] (presenting a study by Navigant, now Guidehouse, showing historic and projected growth in distributed energy resources); *see also* Jan Vrins, *Take Control of Your Future, Part II: The Power of Customer Choice and Changing Demands*, GUIDEHOUSE INSIGHTS (May 9, 2016), https://guidehouseinsights.com/news-and-views/take-control-of-your-future-part-ii-the-power-of-customer-choice-and-changing-demands [https://perma.cc/BLB6-5XLX].

346 *See, e.g.*, JUSTIN GUNDLACH & BURCIN UNEL, GETTING THE VALUE OF DISTRIBUTED ENERGY RESOURCES RIGHT (2019), https://policyintegrity.org/files/publications/Getting_the_Value_of_Distributed_Energy_Resources_Right.pdf [https://perma.cc/7AHZ-P6A6]; Priyanka Paliwal, *Comprehensive Analysis of Distributed Energy Resource Penetration and Placement Using Probabilistic Framework*, 15 IET RENEWABLE POWER GEN. 794 (2021); Deora et al., *supra* note 344.

347 *See, e.g.*, Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators, 172 FERC ¶ 61,247 (Sept. 17, 2020) (codified at 18 C.F.R. pt. 35) (Order No. 2222); Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators, 162 FERC ¶ 61,127 (Feb. 15, 2018) (codified at 18 C.F.R. pt. 35) (Order No. 841); *see also* STATE ENERGY & ENV'T IMPACT CTR., N.Y. UNIV. SCH. OF L., ARE WE THERE YET? GETTING DISTRIBUTED ENERGY RESOURCES TO MARKET (July 2021), https://www.law.nyu.edu/sites/default/files/AreWeThereYet-GettingDistributedEnergyResourcestoMarkets-TheStateImpact Center.pdf [https://perma.cc/N4UP-ZQTR] (describing how FERC Orders No. 2222 and 841 have prompted progress in RTO/ISO implementation and pointing to areas for continual improvement).

348 *See* Matthew J. Burke & Jennie C. Stephens, *Political Power and Renewable Energy Futures: A Critical Review*, 35 ENERGY RES. & SOC. SCI. 78 (2018) (exploring the relationship between renewable energy and political power through the lens of the energy democracy movement).

349 *See* NAT'L ASS'N OF REGUL. UTIL. COMM'RS, THE VALUE OF RESILIENCE FOR DISTRIBUTED ENERGY RESOURCES: AN OVERVIEW OF CURRENT ANALYTICAL PRACTICES 3, 5–6 (2019), https://pubs.naruc.org/pub/531AD059-9CC0-BAF6-127B-99BCB5F02198 [https://perma.cc/B6BD-L7E6] (explaining that DERs can offer resilience benefits and evaluating methods to determine the value of those benefits).

350 *See* Burke & Stephens, *supra* note 348, at 83 ("Distributed renewable energy systems do not necessarily imply a distinct social or political order.").

goals into DER policies in two notable areas: (1) energy efficiency and (2) distributed solar policy, which we address in turn below.[351]

a. Equitable Energy Efficiency

As of 2017, thirty states and Washington D.C. had adopted energy efficiency savings targets,[352] and all fifty states and Washington D.C. have taken actions to require or approve utilities to direct ratepayer-funded programs to increase energy efficiency.[353] While these targets and programs vary widely by state, in total ratepayer-funded energy efficiency programs saved the equivalent of 7.69% of total electricity consumption in 2020.[354] Many states also require utilities to direct a certain amount of ratepayer funds specifically toward low-income energy efficiency programs.[355] These programs are often linked with federal funds for low-income energy efficiency programs provided to states through the Weatherization Assistance Program.[356] Targeted efficiency programs for low-income ratepayers seek to

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[351] Regulators and legislators have also considered energy justice-aligned goals for other DERs, including electric vehicles and supporting charging infrastructure and energy storage. *See* PETER HUETHER, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON., SITING ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) WITH EQUITY IN MIND 10 (2021), https://www.aceee.org/sites/default/files/pdfs/siting_evse_with_equity_final_3-30-21.pdf [https://perma.cc/J2X4-9AUT] (documenting six state laws or utility commission orders regarding electric vehicle charging infrastructure with consideration of equity); Will McNamara, Howard Passell, Marisa Montes, Robert Jeffers & Imre Gyuk, *Seeking Energy Equity Through Energy Storage*, 35 ELEC. J., Jan.–Feb. 2022, at 4–5 (documenting five states' legislative and regulatory efforts regarding energy storage and equity).

[352] Carol B. White, *Many States Have Adopted Policies to Encourage Energy Efficiency*, U.S. ENERGY INFO. ADMIN. (Aug. 3, 2017), https://www.eia.gov/todayinenergy/detail.php?id=32332 [https://perma.cc/S699-2H2B].

[353] *Customer Energy Efficiency Programs*, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON., https://database.aceee.org/state/customer-energy-efficiency-programs [https://perma.cc/TCZ5-XWDV] (listing all of the energy efficiency programs available in each state).

[354] WESTON BERG, EMMA COOPER & MARIANNE DIMASCIO, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON., STATE ENERGY EFFICIENCY SCORECARD: 2021 PROGRESS REPORT 14 (2022), https://www.aceee.org/research-report/u2201 [https://perma.cc/PB97-KCSM].

[355] *See Guidelines for Low-Income Energy Efficiency Programs*, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON., https://database.aceee.org/state/guidelines-low-income-programs [https://perma.cc/2FRX-HJSF]; BERG ET AL., *supra* note 354, at 34–41 (describing state efforts and metrics of energy efficiency programs to address equity).

[356] *See RESOURCE SUMMARY: Leveraging Weatherization Assistance Program Funds for Greater Impact*, U.S. DEP'T OF ENERGY (Aug. 2018), https://www.energy.gov/sites/default/files/2018/08/f54/WAP-leveraging-factsheet-final.pdf [https://perma.cc/V7W5-UNJA] ("[F]ederal [Weatherization Assistance Program] dollars stretch further by pooling with funding from other sources . . . . For every dollar of [Weatherization Assistance Program] funding in 2016, $1.62 of non-federal funds were leveraged by states and local agencies.").

address inequities in access to efficiency technologies,[357] the relatively higher cost of retrofitting low-income homes,[358] and the potential to advance restorative justice by addressing disparities rooted in historic policies, such as redlining, discriminatory lending practices, and disinvestment.[359] These historic policies manifest in disproportionately lower access to energy services, poorer housing quality, and lower rates of home ownership in historically redlined neighborhoods.[360] These historically rooted trends have led to cycles of underinvestment of resources for home improvements in marginalized communities—cycles that could start to be reversed through an intentional focusing of the investments needed for energy transition through an energy justice lens.[361] While federal and state legislatures have adopted policies to fund and require low-income energy efficiency investments, regulators also have an important role to play.

Regulators generally review utility energy efficiency plans or efficiency expenditure categories to assess whether directing revenue from ratepayers would advance the public interest or otherwise meet legislative requirements.[362] But narrowly construed criteria for bene-

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357 *See* Hiroko Tabuchi, *Old-Fashioned, Inefficient Lightbulbs Live on at the Nation's Dollar Stores*, N.Y. TIMES (Jan. 23, 2022), https://www.nytimes.com/2022/01/23/climate/led-light-bulbs-dollar-store.html [https://perma.cc/6UXV-YAC7] (discussing how low-income households spend a disproportionate amount of their income on utilities due to lack of access to energy-efficient technology); Tony G. Reames, Michael A. Reiner & M. Ben Stacey, *An Incandescent Truth: Disparities in Energy Efficient Lighting Availability and Prices in an Urban U.S. County*, 218 APPLIED ENERGY 95 (2018) (discussing racial inequities in the price and availability of energy-efficient lightbulbs and other energy-efficient products).

358 *See Supporting Low-Income Energy Efficiency: A Guide for Utility Regulators*, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON. (Apr. 28, 2021), https://www.aceee.org/toolkit/2021/04/supporting-low-income-energy-efficiency-guide-utility-regulators [https://perma.cc/US2Y-CGKQ] ("[I]n order to deliver effective energy efficiency programs to low-income customers, it is often necessary to simultaneously address issues associated with health, safety, and home durability. Because of this, many low-income programs include measures . . . such as roof repairs, mold remediation, and asbestos removal.").

359 *See* Jamal Lewis, Diana Hernández & Arline T. Geronimus, *Energy Efficiency as Energy Justice: Addressing Racial Inequities Through Investments in People and Places*, 13 ENERGY EFFICIENCY 419 (2020) (arguing that equitable energy efficiency investment can be a form of restorative justice, by addressing, in part, racial disparities in housing insecurity, racial residential segregation, and disparate health vulnerabilities stemming from decades of structural racism).

360 *See* Benjamin Goldstein, Tony G. Reames & Joshua P. Newell, *Racial Inequity in Household Energy Efficiency and Carbon Emissions in the United States: An Emissions Paradox*, ENERGY RSCH. & SOC. SCI., Feb. 2022, at 1 (estimating energy use to show that energy efficiency and carbon emission can vary by race, ethnicity, and home ownership).

361 *Id.* at 7.

362 *See* NAT'L ENERGY SCREENING PROJECT, NATIONAL STANDARD PRACTICE MANUAL FOR BENEFIT-COST ANALYSIS OF DISTRIBUTED ENERGY RESOURCES 2–4 (2020) (noting that regulators typically evaluate the public interest of efficiency programs by applying different forms of cost-benefit analysis).

fits can exclude many of the intersectional benefits associated with energy efficiency upgrades, such as mold remediation, increased comfort, and respiratory benefits.[363] Nevertheless, regulators and legislators have taken steps to align evaluation criteria for energy efficiency investments with energy justice goals.

At the time of writing, seven states and Washington, D.C. have adopted energy efficiency screening criteria that include health and safety benefits.[364] For example, the Vermont Public Utility Commission evaluates energy efficiency programs with a screening tool that includes a fifteen percent adder, which captures, in part, "the perceived, financial, or intangible benefits accrued by energy efficiency measures including, from a customer's perspective, increased comfort, convenience, and health."[365]

At the time of writing, twenty-three states and Washington, D.C. have adopted evaluation criteria for energy efficiency based on benefits to low-income ratepayers.[366] For example, the Maryland Public Service Commission ordinarily requires cost-effectiveness screening for all ratepayer-funded energy efficiency investments but creates an exception to separately treat efficiency investments in a sub-portfolio for income-qualified households so that they are not precluded from efficiency programs.[367]

More equitable access to energy efficiency programs would reduce the energy burden of low-income households. In advancing the public interest, regulators should continue to explore opportunities to think holistically about how their responsibility to direct ratepayer funds can create the greatest benefits through investments in the households with the most to gain.[368]

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[363] *See* Bridgett Ennis, *How Energy-Efficiency Upgrades Can Improve Your Health*, YALE CLIMATE CONNECTIONS (June 22, 2022), https://yaleclimateconnections.org/2022/06/how-energy-efficiency-upgrades-can-improve-your-health [https://perma.cc/GE5R-LPPW].

[364] *Database of Screening Practices*, NAT'L ENERGY SCREENING PROJECT, https://www.nationalenergyscreeningproject.org/state-database-dsp/database-of-state-efficiency-screening-practices [https://perma.cc/J6WU-G5RH] (select "Impacts Summary").

[365] Investigation to Update Screening Values for Use by the Energy Efficiency Utils. When They Perform Cost-Effectiveness Screening of Energy Efficient Measures, No. 19-0397-PET, 2020 WL 5884975, at *25 (Vt. P.U.C. July 6, 2020).

[366] *Database of Screening Practices*, *supra* note 364.

[367] *See* Potomac Edison Co., No. 9153, 2015 WL 4400444, at *6 (Md. Pub. Serv. Comm'n July 16, 2015) (explaining that low-income programs will be allowed even if they are not cost effective).

[368] *See, e.g.*, Walton, *supra* note 7 (reporting on a state commission-approved settlement, which directed an investor-owned utility to add $40 million to its energy efficiency budget in 2022 and 2023; the funds were to be used to promote energy equity by specifically targeting geographic communities with high energy burdens resulting from past discrimination); DTE Electric, No. U-20876, 2022 WL 216728, at *5 (Mich. Pub. Serv.

In addition to the argument above, regulators could also consider socializing some of the customer-specific costs necessary to allow low-income customers to access utility energy efficiency incentive programs that are offered to (and paid by) all ratepayers. And short of socializing the costs of accessing energy efficiency programs, regulators could consider creating tailored de-risking programs, such as tariffed on-bill financing or pay-as-you-save programs,[369] that enable low-income customers to participate in the efficiency programs that often are paid for by all customers.

b. Equitable Distributed Solar Energy

Since 2010, solar power deployment increased over forty-fold in the United States, and solar was the largest contributor to new generating capacity in 2021.[370] Reflecting improved economics,[371] more residential customers are deploying solar systems on their rooftops.[372] By 2021, approximately twenty percent of all solar deployed in the United States was in the residential sector, representing significant capital deployment for energy infrastructure by, or backed by, opting-in residential customers.[373] Rooftop solar has the technical potential to provide about seventy-five percent of total residential electricity

Comm'n Jan. 20, 2022) (approving agreement setting forth financial investment and geographically-targeted energy efficiency measures).

[369] *See generally* BETTER BUILDINGS, U.S. DEP'T OF ENERGY, ISSUE BRIEF: LOW-INCOME ENERGY EFFICIENCY FINANCING THROUGH ON-BILL TARIFF PROGRAMS 2 (n.d.), https://betterbuildingssolutioncenter.energy.gov/sites/default/files/IB%20L-I%20EE%20Financing%20through%20On-Bill%20Tariffs_Final_0.pdf [https://perma.cc/8P7B-XCTD] (explaining tariffed on-bill financing, where the utility company pays for home improvements that lower energy consumption, and then recovers that cost over time by adding a surcharge each month to the bill of that home); Robert Walton, *Pay as You Save: Co-ops Are Reaching New Customers with a Novel Way to Pay for Efficiency*, UTIL. DIVE (Aug. 17, 2016), https://www.utilitydive.com/news/pay-as-you-save-co-ops-are-reaching-new-customers-with-a-novel-way-to-pay/424234 [https://perma.cc/S5KM-ZKEC] (explaining how smaller utility companies are implementing pay-as-you-save programs, another name for tariffed on-bill financing).

[370] *See, e.g.*, *Solar Industry Research Data*, SOLAR ENERGY INDUS. ASS'N, https://www.seia.org/solar-industry-research-data [https://perma.cc/DE9Y-8PM3] (showing 2.7 gigawatts-DC of cumulative solar deployment in 2010 and 113.6 gigawatts-DC in the third quarter of 2021); Suparna Ray, *Renewables Account for Most New U.S. Electricity Generating Capacity in 2021*, U.S. ENERGY INFO. ADMIN. (Jan. 11, 2021), https://www.eia.gov/todayinenergy/detail.php?id=46416 [https://perma.cc/J6HK-PA8N] (finding that solar represented 39% of new capacity added in 2021, followed by wind at 31%, natural gas at 16%, batteries at 11%, and nuclear at 3%).

[371] The total installed cost of solar photovoltaic systems declined by over sixty percent from 2010 to 2020. *Solar Industry Research Data*, *supra* note 370.

[372] *See id.* (stating that 2021 was the fifth consecutive year of record growth in residential solar installations with 4.2 gigawatts installed, a thirty percent increase over 2020).

[373] *Id.*

needs.[374] However, some stakeholders—particularly utilities but also some consumer advocates—have raised the concern that the transition to clean energy through residential-sited solar and other DERs may place unequal burdens on low-income households and communities.[375] Debates around the impact of "net metering" (i.e., compensating customer-owned solar at retail electricity prices) on rates of non-solar adopters exemplify these concerns.[376] However, studies that have attempted to quantify a potential cost shift from customer-sited solar have found that any potential impact on customer bills from solar net metering is likely to be significantly less than other factors, such as energy efficiency standards, renewable portfolio standards,

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[374] BENJAMIN SIGRIN & MEGHAN MOONEY, NAT'L RENEWABLE ENERGY LAB'Y, ROOFTOP SOLAR TECHNICAL POTENTIAL FOR LOW-TO-MODERATE INCOME HOUSEHOLDS IN THE UNITED STATES 5 (2018), https://www.nrel.gov/docs/fy18osti/70901.pdf [https://perma.cc/CMN6-DKFY].

[375] *See, e.g.*, JANINE MIGDEN-OSTRANDER & JOHN SHENOT, DESIGNING TARIFFS FOR DISTRIBUTED GENERATION CUSTOMERS 5 (2016), https://www.raponline.org/knowledge-center/designing-tariffs-for-distributed-generation-customers [https://perma.cc/8DSY-85FH] ("Consumer advocates raise concerns that the [distributed generation] have-nots (notably those who cannot afford PV) will be burdened with the responsibility of making up the revenue deficit through higher rates."); Welton & Eisen, *supra* note 3, at 326–28 (noting that several states have recognized that net metering is vulnerable to "cross subsidization" critiques and thus have attempted to transition to "'value-of-solar' proceedings to quantify the value of distributed solar to the grid" in order to "eliminate arguments that rooftop solar policies are punitive to those who cannot install their own panels"); Gabe Eisner, *Edison Electric Institute Campaign Against Distributed Solar*, ENERGY & POL'Y INST. (Mar. 7, 2015), https://www.energyandpolicy.org/edison-electric-institute-campaign-against-distributed-solar [https://perma.cc/72P9-4H96] (describing the plans of private utility companies to maintain their market share by convincing lawmakers and others that net metering is unfair).

[376] As of 2021, thirty-nine states and Washington, D.C. have implemented net metering policies that allow customers with solar to sell the energy their panels produce back to the utility at the full retail electricity rate, facilitating the economics of distributed solar. *Net Metering*, DSIRE: NC CLEAN ENERGY TECH. CTR. (Aug. 2021), https://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2021/08/DSIRE_Net_Metering_August2021.pdf [https://perma.cc/H9KH-5FVW] (flagging that two states, Illinois and Indiana, are transitioning to policies other than net metering); *see also* Felix Mormann, *Clean Energy Equity*, 2019 UTAH L. REV. 335, 362–66 (describing how net metering can cause non-solar customers to pay a higher percentage of the utilities' fixed costs, though it can also reduce the absolute amount of those fixed costs); Herman K. Trabish, *Amid Rising Rooftop Solar Battles, Emerging Net Metering Alternatives Could Shake Up the Sector*, UTIL. DIVE (Mar. 18, 2021), https://www.utilitydive.com/news/rooftop-solar-battles-emerging-net-metering-alternatives-duke-energy/596676 [https://perma.cc/JQ33-VEUM] (describing how utilities, activists, and regulators are discussing various proposals to try and increase the equity of net metering, such as paying less money to people who generate solar electricity or charging them additional fees); Jeff St. John, *The Controversies at the Heart of California's Solar Net-Metering Fight*, CANARY MEDIA (Dec. 10, 2021), https://www.canarymedia.com/articles/solar/the-controversies-at-the-heart-of-californias-solar-net-metering-fight [https://perma.cc/Y7U7-28PA] (describing political fights in California over net metering, between utility companies and some equity groups on one side, and solar system builders and installers and different equity groups on the other side).

and natural gas price fluctuations.[377] Stepping back, however, the narrow focus on the issue of potential cost-shifting from distributed solar obfuscates a more systemic analysis of the transformative potential of DERs.[378]

While there is active debate on the impact of distributed solar on non-adopters, the declining cost of solar creates the potential for significant benefits to residential adopters over the lifetime of a solar project.[379] However, customer-owned solar generation is capital-intensive, requiring significant up-front costs or access to finance.[380] As a result, low-income and Black- and Hispanic-majority areas have seen significantly lower residential solar adoption than higher-income, white-majority areas.[381] During 2018, low- and moderate-income households comprised fifteen percent of solar adopters despite representing forty-three percent of all households and a roughly similar fraction of the technical potential for rooftop solar.[382]

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[377] *See* GALEN BARBOSE, LAWRENCE BERKELEY NAT'L LAB'Y, PUTTING THE POTENTIAL RATE IMPACTS OF DISTRIBUTED SOLAR INTO CONTEXT 31 (2017), https://eta-publications.lbl.gov/sites/default/files/lbnl-1007060.pdf [https://perma.cc/4JUM-JL9Z] (concluding that net metering will only have a small effect on the bills of households who do not install solar panels, compared to other factors). *But see* ASHLEY J. LAWSON, CONG. RSCH. SERV., R46010, NET METERING: IN BRIEF 7 (2019), https://sgp.fas.org/crs/misc/R46010.pdf [https://perma.cc/H9XJ-BVYT] (noting the "lack of a consensus view on the magnitude of cross-subsidies").

[378] *See* Shalanda H. Baker, *The Energy Justice Stakes Embedded in the Net Energy Metering Policy Debates*, *in* BEYOND ZERO-SUM ENVIRONMENTALISM 57, 61–62 (Sarah Krakoff et al. eds., 2019) (describing how critics of net metering rely on a "zero-sum frame, wherein the discrete benefits offered to one group harm another group in proportionate measure," which "misses the broader transformation occurring within the energy system and leaves undisturbed the features of the energy system, which themselves are unfair, unequal, and unjust").

[379] *See, e.g.*, *The Benefits of Solar Panels: Why Go Solar?*, ENERGYSAGE, https://www.energysage.com/solar/benefits-of-solar [https://perma.cc/7QYJ-G2KR] (describing the financial, environmental, and local job-creation benefits of adopting solar).

[380] *See* Rebecca Brill & Lexie Pelchen, *How Much Do Solar Panels Cost?*, FORBES (July 7, 2022), https://www.forbes.com/advisor/home-improvement/average-cost-of-solar-panels [https://perma.cc/6YBZ-DPMD] ("Solar panels cost, on average, about $16,000, or between $3,500 to $35,000 depending on the type and model.").

[381] *See, e.g.*, GALEN BARBOSE, SYDNEY FORRESTER, ERIC O'SHAUGHNESSY & NAÏM DARGHOUTH, LAWRENCE BERKELEY NAT'L LAB'Y, RESIDENTIAL SOLAR-ADOPTER INCOME AND DEMOGRAPHIC TRENDS: 2021 UPDATE 11, 32–33 (2021), https://eta-publications.lbl.gov/sites/default/files/solar-adopter_income_trends_final.pdf [https://perma.cc/R7RK-PJM5]; Deborah A. Sunter, Sergio Castellanos & Daniel M. Kammen, *Disparities in Rooftop Photovoltaics Deployment in the United States by Race and Ethnicity*, 2 NATURE SUSTAINABILITY 71, 71 (2019).

[382] *See* GALEN BARBOSE, SYDNEY FORRESTER, NAÏM DARGHOUTH & BEN HOEN, LAWRENCE BERKELEY NAT'L LAB'Y, INCOME TRENDS AMONG U.S. RESIDENTIAL ROOFTOP SOLAR ADOPTERS 5 (2020), https://eta-publications.lbl.gov/sites/default/files/solar-adopter_income_trends_report.pdf [https://perma.cc/VZ89-83UX] (finding that fifteen of those households who adopted solar during 2018 had income less than eighty percent of the area median); SIGRIN & MOONEY, *supra* note 374, at 4–5 (defining low-to-

Recognizing these inequalities and the obstacles for already-disadvantaged communities,[383] many states have begun to consider and adopt policies through which low-income households can participate in and benefit from solar energy. Recently, several states have adopted legislation to overcome the barriers to solar adoption for low-income single-family households and multi-family buildings.[384] However, it remains that at least half of all households cannot install rooftop solar because they are renters, do not own their rooftop, or do not have suitable rooftop space for solar.[385]

For consumers who lack the independent ability to attain their own solar power resources, community solar is a promising approach to make the benefits of distributed solar accessible.[386] Community solar allows customers to subscribe to or purchase shares of electricity

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moderate income households as those earning eighty percent or less of the area median income).

383 *See* JENNY HEETER, ASHOK SEKAR, EMILY FEKETE, MONISHA SHAH & JEFFREY J. COOK, NAT'L RENEWABLE ENERGY LAB'Y, AFFORDABLE AND ACCESSIBLE SOLAR FOR ALL: BARRIERS, SOLUTIONS, AND ON-SITE ADOPTION POTENTIAL 3–9 (2021), https://www.nrel.gov/docs/fy21osti/80532.pdf [https://perma.cc/H33B-VTDH] (presenting twenty-four barriers that low income people face in converting to solar, e.g., little access to wealth or credit to pay upfront costs).

384 *See, e.g.*, *Spreadsheet of State Legislation*, LOW-INCOME SOLAR POL'Y GUIDE, https://www.lowincomesolar.org/wp-content/uploads/2020/09/LISPG-SF-Policy-Chart_2020-update.pdf [https://perma.cc/6LYX-PCFH] (describing, as one example, Hawaii's government programs that provide loans to make it easier for low-income households to convert to solar); *Multifamily Housing*, LOW-INCOME SOLAR POL'Y GUIDE, https://www.lowincomesolar.org/best-practices/multifamily-housing [https://perma.cc/6LFY-KNGK] (describing, as one example, a Massachusetts program that pays community solar projects more if they serve a certain amount of low-income customers).

385 *See* DAVID FELDMAN, ANNA M. BROCKWAY, ELAINE ULRICH & ROBERT MARGOLIS, NAT'L RENEWABLE ENERGY LAB'Y, SHARED SOLAR: CURRENT LANDSCAPE, MARKET POTENTIAL, AND THE IMPACT OF FEDERAL SECURITIES REGULATION, at v (2015), https://www.nrel.gov/docs/fy15osti/63892.pdf [https://perma.cc/9MWT-XW4N] (estimating that "49% of households are currently unable to host a [photovoltaic] system"); Forrest Watkins, *A Shocking 80 Percent of Americans Can't Access Rooftop Solar. Here's Why*., SOLSTICE (Aug. 8, 2017), https://blog.solstice.us/solstice-blog/why-americans-cant-access-rooftop-solar [https://perma.cc/WU8Q-DLAT] (estimating that seventy-seven percent of households cannot install solar).

386 *See Community Solar*, LOW-INCOME SOLAR POL'Y GUIDE, https://www.lowincomesolar.org/best-practices/community-solar [https://perma.cc/33TY-KFFV] (explaining the details and benefits of community solar programs); JENNY HEETER, KAIFENG XU & EMILY FEKETE, NAT'L RENEWABLE ENERGY LAB'Y, COMMUNITY SOLAR 101 (n.d.), https://www.nrel.gov/docs/fy20osti/75982.pdf [https://perma.cc/Q69N-B4QY] (describing how community solar helps low-to-moderate income households); ABBE RAMANAN, CLEAN ENERGY STATES ALL., EXPANDING ACCESS TO SOLAR FOR LOW-TO-MODERATE INCOME HOUSEHOLDS AND COMMUNITIES: LESSONS LEARNED FOR STATE AGENCIES (2021), https://www.cesa.org/resource-library/resource/solar-lessons-learned-for-state-agencies [https://perma.cc/EEF5-F94A] (describing lessons learned from helping states create community solar programs).

generated in offsite solar farms.[387] As of December 2021, community solar projects totaling over 5.2 gigawatts were located in forty states and Washington, D.C., and twenty-one states and Washington, D.C. had specific legislation supporting the development of community solar.[388] Further, legislators, regulators, and utilities in twenty states and Washington, D.C. have enacted specific provisions in community solar programs to "carve out" a specified minimum capacity for low- and moderate-income consumers or provide financial incentives and other policy support for low- and moderate-income consumers.[389]

Community solar reduces the barriers for individual energy customers to benefit from the improving economics of solar energy, but in some existing programs, community solar subscriptions have benefitted a greater proportion of wealthier and commercial customers than some stakeholders originally envisioned.[390] Minnesota,

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[387] Gabriel Chan, Isaac Evans, Matthew Grimley, Ben Ihde & Poulomi Mazumder, *Design Choices and Equity Implications of Community Shared Solar*, 30 ELEC. J., Nov. 2017, at 37, 40. Community solar raises several additional issues pertaining to energy justice not discussed herein, such as consumer protection against unfair subscription contracts and securities regulation. *See, e.g.*, Richard J. Wallsgrove, *Is Community Solar Really a Security?*, 43 VT. L. REV. 777 (2019) (arguing that treating community solar investments as a security could prioritize utility interests over energy justice interests); FELDMAN ET AL., *supra* note 385, at 12 (suggesting that community solar contracts should be standardized to increase transparency to consumers). Community solar projects also vary in the extent to which participating subscribers and communities retain the benefits. *See* JENNY HEETER, KAIFENG XU & GABRIEL CHAN, NAT'L RENEWABLE ENERGY LAB'Y, SHARING THE SUN: COMMUNITY SOLAR DEPLOYMENT, SUBSCRIPTION SAVINGS, AND ENERGY BURDEN REDUCTION 34–36 (2021), https://www.nrel.gov/docs/fy21osti/80246.pdf [https://perma.cc/EVX6-74Y4] (comparing the savings from subscribing to community solar projects in Massachusetts and Washington, D.C.).

[388] HEETER ET AL., *supra* note 387, at 5, 13; *see also* Gabriel Chan, Jenny Heeter & Kaifeng Xu, *Sharing the Sun Community Solar Project Data*, NAT'L RENEWABLE ENERGY LAB'Y (Feb. 2, 2022), https://data.nrel.gov/submissions/185 [https://perma.cc/X2DW-QTVB] (download the spreadsheet located under "1 Data Resource"; select the "State Summary" tab; locate cell T55) (supporting the proposition that community solar programs constitute 5.2 gigawatts of generation capacity). For comparison, the size of the average residential rooftop solar project was 6.5 kilowatts in 2020. GALEN BARBOSE, NAÏM DARGHOUTH, ERIC O'SHAUGHNESSY & SYDNEY FORRESTER, LAWRENCE BERKELEY NAT'L LAB'Y, TRACKING THE SUN 1 (2021), https://emp.lbl.gov/sites/default/files/3_tracking_the_sun_2021_summary_factsheet.pdf [https://perma.cc/DH5P-9FS4]. That average project size implies that the total community solar capacity in the country was the size of 490,000 rooftop solar projects.

[389] NAT'L RENEWABLE ENERGY LAB'Y, EQUITABLE ACCESS TO COMMUNITY SOLAR: PROGRAM DESIGN AND SUBSCRIPTION CONSIDERATIONS 1–2, 4 (2021), https://www.nrel.gov/docs/fy21osti/79548.pdf [https://perma.cc/ZV69-CVW7].

[390] *See, e.g.*, INITIATIVE FOR ENERGY JUST., THE ENERGY JUSTICE WORKBOOK 33–35 (2019), https://iejusa.org/wp-content/uploads/2019/12/The-Energy-Justice-Workbook-2019-web.pdf [https://perma.cc/Z4NY-UCA9] (awarding the California Enhanced Community Renewables Program a low score under energy justice principles, in large part because the program does not focus on individuals from marginalized communities, is prohibitively expensive for low-income consumers, and is difficult for consumers to navigate); S. ENV'T

which had the largest community solar program as of the end of 2020,[391] is a case in point regarding both the problem and potential solution. The Minnesota legislation enacted in 2013 that enabled community solar for customers of Xcel Energy also created authority for the Minnesota Public Utilities Commission to "approve, disapprove, or modify a community solar garden program" and required that a plan for community solar "reasonably allow for the creation, financing, and accessibility of community solar gardens."[392]

By September 2018, residential customers held only eleven percent of the program's community solar garden subscription capacity.[393] Citing the Minnesota Legislature's policy goals that a community solar garden program be "accessib[le]" while "balancing" the establishment of incentives and minimizing costs, the Commission exercised its authority under the statute to create a financial incentive to increase residential participation in community solar by adopting a pilot 1.5 cent per kilowatt hour adder, an additional reimbursement on top of the existing tariff for solar generation paid to residential subscribers.[394] As of November 2021, over 1,000 residential customers became community solar subscribers under the residential adder incentive.[395] This case illustrates how regulatory commissions can act to more equitably direct the benefits of DERs under relatively broad legislative guidance.

In other states, regulators have had to defend their regulatory authority to expand access to the benefits of solar in the absence of a

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L. CTR., COMMUNITY SOLAR: BEST PRACTICES FOR UTILITIES IN THE SOUTH 1, https://www.southernenvironment.org/wp-content/uploads/legacy/publications/CommSolar_Utility_Best_Practices.PDF [https://perma.cc/44RE-VPGN] ("[D]ue to structural constraints, shading from trees, and other issues, about 75% of residential rooftop area in America is not suitable for hosting a solar system." (citation omitted)).

391 *See* HEETER ET AL., *supra* note 387, at 18 ("Minnesota leads community solar deployment in the U.S.").

392 MINN. STAT. ANN. § 216B.1641 (West, Westlaw through 2022 Sess.).

393 Monthly Compliance Report at 6, Petition of N. States Power Co. for Approval of its Proposed Cmty. Solar Gardens Program, No. E002/M-13-867 (Minn. P.U.C. Nov. 14, 2018), https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={A0311467-0000-CD1B-8B34-B6A16F5A865B}&documentTitle=201811-147785-01 [https://perma.cc/8SGM-8LL3] (stating that, while residential customers made up 93% of subscribers, and 82% of subscriptions, they only made up 11% of the subscribed number of mega-watts of electricity); *see also supra* note 386 and accompanying text (describing community solar programs).

394 Petition of N. States Power Co. for Approval of its Proposed Cmty. Solar Gardens Program, No. E-002/M-13-867, 2018 WL 6062302, at *7–8 (Minn. P.U.C. Nov. 16, 2018).

395 Quarterly Compliance Report at 3, Petition of N. States Power Co. for Approval of its Proposed Cmty. Solar Gardens Program, No. E002/M-13-867 (Minn. P.U.C. Jan. 28, 2022), https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={509EA27E-0000-C015-BA8F-C2EB5C6A3E6C} [https://perma.cc/5U24-73DU].

prior legislative policy, with critics arguing that such actions are improper "social ratemaking." For instance, in 2020, the New Mexico Public Utilities Commission approved a utility's proposal to create a voluntary solar program for government and commercial customers.[396] After hearings for the proposal, the parties briefed the issue of whether providing monthly credits on electricity bills for only certain customers would constitute discriminatory social ratemaking by the Commission.[397] The Commission rejected that contention and reasoned that because the program did not "result in preferential treatment for one class of customers" the Commission was not "creat[ing] a special rate for any group it determined to be deserving."[398] Although only one example, the New Mexico case suggests that public utility commissions may be more open to using their ratemaking discretion more creatively when it comes to new programs like community solar and other DERs that, for now, act outside of or parallel to the traditional utility regulatory system.

C. Structural Changes to Utility Regulation

While public utility regulators already have substantial authority to advance the goals of energy justice, structural changes to the system of utility regulation would empower regulators to be more effective. In this Section, we first consider how regulators can enhance procedural justice by opening regulatory processes to greater public participation. We then suggest that—with a long-run perspective—opportunities to align utility incentives with energy justice principles abound.

1. Enhancing Procedural Justice

Some states and utilities themselves have recognized the injustice that can occur through unequal participation in public utility commission regulatory proceedings and have established advisory committees

396 Application of Pub. Serv. Co. of N.M. for Approval of PNM Solar Direct Voluntary Renewable Energy Program, Power Purchase Agreement, and Advice Note Nos. 560 and 561, No. 19-00158-UT, 2020 WL 1656366, at *1 (N.M. Pub. Regul. Comm'n Mar. 10, 2020) ("Participating customers will receive a monthly fuel credit and a variable operation and maintenance (O&M) credit for each kWh of PPA production based on their subscription level. Solar Direct is available to governmental customers of any size and large commercial customers with aggregate demand of at least 2.5 MW."), *modified*, 2020 WL 1865995 (N.M. Pub. Regul. Comm'n Mar. 25, 2020).

397 *Id.* at *30.

398 *Id.* at *37 (citing Mountain States Legal Found. v. N.M. State Corp. Comm'n, 687 P.2d 92, 94 (N.M. 1984)).

or other mechanisms to bolster the representation of low-income customers or other underrepresented groups.[399]

Several states have legislatively authorized intervenor compensation programs designed to reimburse individuals or nonprofit groups for advocating in state public utility regulatory proceedings.[400] These programs recognize that funding is necessary so that such groups can "advocate for views and issues that may otherwise not be introduced into the proceedings by the utility, large customers, state utility consumer advocates, attorneys general offices, or others."[401] According to a 2021 report by the National Association of Regulatory Utility Commissioners, sixteen states have legislatively authorized intervenor compensation programs but only six state programs were actively in use (California, Idaho, Michigan, Minnesota, Oregon, and Wisconsin), and two were newly established (Illinois and Washington).[402]

States have recently created new bodies to increase public participation in utility proceedings. In 2017, the Connecticut Legislature established a Low-Income Energy Advisory Board consisting of government actors, representatives from each public utility, and representatives from various low-income groups and other energy groups.[403]

In 2017, the Oregon Legislature directed the Public Utility Commission to convene stakeholders to investigate broad trends in the regulatory system.[404] Through expansive outreach, new and diverse participants focused the stakeholder engagement process on the importance of equity in utility regulation, including building consensus on the finding that "equal/non-discriminatory is not the same as equity/affordability" in utility regulation.[405] Such programs can help low-income utility customers and communities have a greater

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399 *See, e.g.*, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON., *supra* note 358 (describing how states have tried to increase the procedural representation of people with low incomes); *see also* Welton & Eisen, *supra* note 3, at 342–43 (describing the structural issues that give utilities great power in utility commission proceedings).

400 *See* NAT'L ASS'N OF REGUL. UTIL. COMM'RS, STATE APPROACHES TO INTERVENOR COMPENSATION 14–21 (2021), https://pubs.naruc.org/pub/B0D6B1D8-1866-DAAC-99FB-0923FA35ED1E [https://perma.cc/Z8NX-GE64] (describing intervenor compensation systems in California, Idaho, Michigan, Minnesota, Oregon, and Wisconsin).

401 *Id.* at 4.

402 *Id.* at 5; *see, e.g.*, CAL. PUB. UTIL. CODE §§ 1801–1812 (West, Westlaw through ch. 134, 2022 Reg. Sess. 2022) (establishing California's intervenor compensation program).

403 CONN. GEN. STAT. ANN. § 16a-41b (West, Westlaw through 2022 Reg. Sess.).

404 *See* SMART ELEC. POWER ALL., BENEFITS OF A COMPREHENSIVE PUBLIC STAKEHOLDER PROCESS: THE OREGON SENATE BILL 978 EXPERIENCE 5 (2019), https://sepapower.org/resource/benefits-of-a-comprehensive-public-stakeholder-process-the-oregon-senate-bill-978-experience [https://perma.cc/HWG3-BJPU]; 2017 Or. Laws ch. 741, 1–2.

405 SMART ELEC. POWER ALL., *supra* note 404, at 6.

voice in a broad range of utility-related regulatory proceedings that impact their daily lives.

At the federal level, in 2021, FERC announced the creation of an Office of Public Participation (OPP), designed to "assist the public with Commission proceedings."[406] Energy justice advocacy groups have worked with OPP and FERC Commissioners to "leverage the national focus on racial equity and environmental justice to inform how FERC could work with marginalized communities and consumer advocates."[407]

Broader stakeholder access is also important in proceedings specifically related to the clean energy transition. For example, the Massachusetts Roadmap Act directs the state's Department of Energy Resources to "address solar energy access and affordability for low-income communities" and requires the Department to consult with "a diverse range of stakeholders to inform the design of any such solar incentive program, including low-income ratepayers and organizations representing their interests."[408]

We recognize that there are drawbacks for advocates attempting to accomplish energy justice and equity goals through federal and state regulatory commissions. Participating in state and federal regulatory processes requires attorneys, experts, and financial resources that many might argue would be better spent on influencing federal and state legislation, which can have a more widespread, beneficial impact on low-income communities than individual utility ratemaking proceedings.

However, as we have emphasized throughout this Article, utility regulators, including at the state level, are developing policy through rate proceedings that can have broad impacts on the lives of low-income citizens. These include rate reductions or policies specifically directed at low-income residents as well as rate reductions or policies directed at C&I customers through economic development rates.[409] Energy justice advocates need to be at the table to ensure that these policies reflect their needs and interests.[410] And regulators need to acknowledge that their actions go far beyond technocratic ratemaking,

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406 *See About OPP*, FED. ENERGY REGUL. COMM'N, https://www.ferc.gov/OPP [https://perma.cc/8YFT-T75P].

407 FARLEY ET AL., *supra* note 17, at 6.

408 An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy § 94, 2021 Mass. Acts 7, 35.

409 *See supra* Part III.

410 *See, e.g.*, Walton, *supra* note 7 (discussing work of energy justice advocates at the Michigan Public Service Commission to obtain a settlement requiring a utility to target energy efficiency initiatives and to direct one million dollars to areas of Detroit and other parts of Michigan with historically high energy burdens due to past discrimination).

whether the action in question is attempting to spur economic development in the state through preferential utility rates for C&I customers or the action is authorizing or requiring more beneficial rates for low-income utility customers that can economically benefit all ratepayers.

Finally, energy justice advocates can look to the successes of national environmental groups like the Sierra Club,[411] Natural Resources Defense Council,[412] and Center for Biological Diversity,[413] all of which have focused time, resources, money, and personnel on state regulatory commissions to accomplish their goals—including reducing pollution from power plants across the country, supporting a clean energy transition at FERC, and promoting equity. Many of these same advocacy groups have now turned their attention to utility ratemaking proceedings impacting low-income residential customers and have obtained successful settlements in utility rate cases.[414] These settlements have resulted in significant funding and program enhancement for distributed energy resources directed at historically marginalized communities.[415] These efforts can be replicated across

411 *See* Michael Grunwald, *Inside the War on Coal*, POLITICO (May 26, 2015, 11:45 PM), https://www.politico.com/agenda/story/2015/05/inside-war-on-coal-000002 [https://perma.cc/9UJB-H6GV] (detailing Sierra Club's "Beyond Coal" strategy focusing on state regulatory utility commissions and describing it as "the most extensive, expensive and effective campaign in the Club's 123-year history, and maybe the history of the environmental movement"); Lisa Friedman, *Michael Bloomberg Promises $500 Million to Help End Coal*, N.Y. TIMES (June 6, 2019), https://www.nytimes.com/2019/06/06/climate/bloomberg-climate-pledge-coal.html [https://perma.cc/9FTE-XU3F] (describing Bloomberg's and the Sierra Club's "Beyond Carbon" initiative to participate in state legislative regulatory utility proceedings regarding coal plants).

412 *See About the Project*, SUSTAINABLE FERC PROJECT, https://sustainableferc.org/about-the-project [https://perma.cc/Z6FC-72SX] (describing an NRDC partnership project to advocate that FERC "remove barriers to clean energy and build energy systems that support a carbon-free future").

413 *See Energy Justice*, CTR. FOR BIOLOGICAL DIVERSITY, https://www.biologicaldiversity.org/programs/energy-justice [https://perma.cc/2EFP-R47U] (describing the Center for Biological Diversity's efforts to participate in state and federal energy regulatory proceedings to support clean energy, "advance distributed and community solar programs and hold utility regulators accountable," and advocate for "strong energy justice policies and regulations on state, federal and international levels").

414 *See, e.g.*, Roberts, *supra* note 311 (describing the Sierra Club and other advocacy groups' opposition to proposals to increase fixed rate charges); Trabish, *supra* note 311 (noting that advocacy groups and stakeholders have successfully reduced fixed rate charges in three states).

415 *See, e.g.*, Walton, *supra* note 7 (discussing the role of environmental advocacy groups in a utility settlement that created new energy efficiency programs for regions of Detroit subject to past racial discrimination); Application of San Diego Gas & Elec. Co. (U902E) for Approval of Its Elec. Vehicle-Grid Integration Pilot Program, No. 14-04-014, 2016 WL 537766, at *80 (Cal. P.U.C. Feb. 4, 2016) (discussing a proposed settlement that would require a San Diego electrical company to install ten percent of its new electric vehicle charging stations in disadvantaged communities).

the country with an enhanced focus on procedural justice through private and public funding for ratepayer advocates and other intervenors.

2. *Political Economy of Regulating for Energy Justice*

Throughout this Part, we have emphasized the actions that utility regulators can take to advance energy justice under their existing and expanded authorities of advancing the public interest and setting just, reasonable, and nondiscriminatory rates and practices. We recognize that such actions could be perceived as an improper expansion of the delegated or constitutional authority of a public utility commission, leading to the politicization of utility regulation. To address such concerns, multiple states have attempted to navigate a transition toward a more comprehensive approach to regulating for the public interest (inclusive of energy justice) more deliberatively. At least nineteen states and Washington, D.C. are pursuing new frameworks for utility regulation under the heading of "performance-based regulation" (PBR).[416] Hailed as a way to "align utility incentives with policy objectives," PBR allows regulators to specify metrics of utility performance aligned with the public interest and tie compensation for the utility to those metrics.[417] PBR thus provides an additional pathway for regulators to advance the goals of energy justice.[418]

With or without the deliberativeness of a PBR framework, regulatory actions to advance energy justice might also be perceived as conflicting with the organizational and individual incentives of stakeholders in utility regulation, which may lead to litigation.[419] It is certainly true that regulators' decisions based solely on their inherent authority to set just and reasonable rates may be vulnerable to litiga-

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416 *See* Herman K. Trabish, *Performance-Based Regulation: Seeking the New Utility Business Model*, UTIL. DIVE (July 23, 2019), https://www.utilitydive.com/news/performance-based-regulation-seeking-the-new-utility-business-model/557934 [https://perma.cc/SQ36-WL9K] (showing a map of the nineteen states and Washington, D.C. by the status of their development of performance-based regulation).

417 *See id.*

418 For example, Hawaii's PBR model collaboratively built a set of utility performance outcome metrics, which require consideration of "how customer equity can be built into each Outcome across the full portfolio." Pub. Utils. Comm'n, No. 2018-0088, 2021 WL 2073415, at *53 (Haw. P.U.C. May 17, 2021). The PBR framework adopted by the Hawaii Public Utilities Commission also includes a performance incentive mechanism for energy savings for low-to-moderate income customers through energy efficiency and for low-to-moderate income customer participation in rooftop solar, community solar, time-of-use rate programs, and demand response programs. *See* 2018 Haw. Sess. Laws 33–35 (enacting PBR proposals from Hawaii's Public Utilities Commission).

419 *See* Filipink, *supra* note 1, at 17 (providing examples of litigated cases in Arkansas and Utah related to "expansive" regulation).

tion in the absence of express legislative authorization for a particular program or rate discount.[420] But regulators often win these cases, as shown above.[421] As a result, we argue the risks are worth it.

Still, it is instructive to consider the political economy of regulating for energy justice and the potential to align the incentives of actors. We argue that utilities, which are most often the opponents to changes in regulatory practices, could stand to gain in a more just energy system—particularly if evaluated over the long run. C&I customers and wealthier residential customers may also oppose regulating for energy justice due to concerns about short-run cross-subsidization, but we argue that this again is likely to only be the case from a narrow perspective that evaluates costs and benefits from a siloed, short-run perspective.

Over the long run, a more just energy system aligns the interests of many public stakeholders, high- and low-income residential customers, C&I customers, and even utilities, by creating community wealth and collective prosperity. Narrowly, a more just energy system has lower costs of managing customer debt and disconnections. But more meaningfully, a financially healthier customer base that thrives on clean energy stimulates beneficial electric load growth through more accessible and affordable energy services. In turn, a financially healthier customer base would provide more stable returns to the utility and its shareholders, improving the utility's financial health and ability to pursue investments in the long-run interest of their customers and shareholders. And thus, a clean energy transition that centers energy justice could kick off a virtuous cycle of financially healthier customers bolstering the financial health of their utility, and in turn, utilities being able to lower their cost of service for all customers.

Conclusion

Despite the deep integration of energy in modern life—or perhaps because of this integration—in too many communities, energy systems act to reinforce historic oppression of marginalized communities. Energy justice offers a frame to reimagine energy systems as tools for revitalization and systems change. In this Article, we focus on the

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420 *See, e.g.*, *id.* at 40 (discussing risks of regulatory commissions acting without express legislative authorization); *see also* Lazar et al., *supra* note 15, at 64 ("Although improved distributional equity from additional rate classes is a laudable goal, and indeed advances the primary goal of cost allocation, there are countervailing considerations . . . . [S]ome utilities and parties in a rate case may propose rate classes that effectively allow undue discrimination.").

421 *See supra* Section III.A.

role that energy regulators can play under their existing authority to exert a vision of energy justice that would better align their practices with a contemporary understanding of the public interest. We explore and critique the foundational norms that shape U.S. federal and state energy utility regulation and suggest reforms that can incorporate principles of energy justice. In doing so, we articulate pathways to more fully incorporate energy justice in advancing the public interest; these pathways include setting just, reasonable energy rates that consider benefits as well as costs; enhancing universal and affordable access to service; alleviating income constraints on residential energy consumption as an economic development opportunity; increasing equitable access to distributed energy resources; building resilience to shield households from future energy price shocks; and enhancing procedural justice in engaging with federal and state regulators. We recognize that legislation can often accomplish many of the goals of energy justice directly. However, we contend that public utility regulators have both the authority and the obligation to make significant progress to advance energy justice under their existing authority to set "just and reasonable" rates in the public interest.