ADDRESSING ENERGY INSECURITY UPSTREAM: ELECTRIC UTILITY RATEMAKING AND RATE DESIGN AS LEVERS FOR CHANGE

Emma Shumway, Diana Hernández, Qëndresa Krasniqi, Vivek Shastry, Abigail Austin, and Michael B. Gerrard[*]

Synopsis: Millions of Americans are impacted by energy insecurity each year, in part due to unaffordable and inequitable electricity rates. The electric ratemaking process presents opportunities to confront issues of affordability and equity or to instead entrench traditional approaches. State legislatures, public utility commissions (PUCs), and advocates all play vital roles in making the former a reality. Historically, ratemaking has been criticized as an insular and highly technical process that caters to utilities rather than customers. But states like California and New York are making strides by broadening PUC legal authority to include explicit consideration of equity issues, adjusting incentives and values within the rate formula, implementing novel rate designs alongside other low-income customer protections, and instituting measures to make ratemaking a more procedurally just process. Other states should replicate these efforts, and those that have started making progress must continue, as energy insecurity persists.

* Emma Shumway is a Climate Justice Fellow at the Sabin Center for Climate Change Law at Columbia Law School. Diana Hernández is the Managing Director of Domestic Programs at the Energy Opportunity Lab in the Center on Global Energy Policy (CGEP) and an Associate Professor of Sociomedical Sciences and Founding Principal Investigator of the Energy Equity, Housing and Health Program at Columbia University's Mailman School of Public Health. Qëndresa Krasniqi is a Research Associate at CGEP in the Columbia School of International and Public Affairs (SIPA). Vivek Shastry is a Senior Research Associate at CGEP. Abigail Austin is a Student Research Worker at CGEP. Michael B. Gerrard is the Andrew Sabin Professor of Professional Practice at Columbia Law School and the founder and faculty director of the Sabin Center. The authors wish to thank all of the experts who were consulted over the course of this project.

I. INTRODUCTION

The inability to adequately meet basic household energy needs, known as energy insecurity, is an increasingly prevalent problem in the United States.[1] Energy insecurity has economic, physical, and behavioral dimensions, but this article will focus on affordability of energy bills. With rising electricity prices, lower income households must dedicate a higher proportion of monthly income to electricity bills, contributing to cost of living disparity in America. Burdened by energy costs, households may be forced to choose between basic life necessities (the "heat or eat" dilemma)[2] or turn to dangerous electricity cost-saving measures– energy insecurity is thus a significant public health and social issue.

To date, the emphasis on understanding energy affordability gaps that fuel energy insecurity has been largely at the household level with a particular focus on income and energy consumption patterns. This article seeks to instead interrogate the structural drivers of unaffordable energy bills by examining electric utility rate design and the ratemaking process from an equity perspective. It examines substantive rate designs, as well as the procedural justice, or lack thereof, throughout the ratemaking process.[3] For the purposes of this article, energy equity is defined as a process toward the fair distribution of the benefits and burdens of energy production and consumption. Following the principles of environmental justice, energy equity aims to ensure that all communities, particularly disinvested, overburdened, and low-income groups, have fair access to affordable, reliable, and

1. *See* Diana Hernández, *Understanding 'energy insecurity' and why it matters to health*, SOC. SCI. & MED. (Aug. 21, 2016), https://www.sciencedirect.com/science/article/pii/S0277953616304658?via%3Dihub/.

2. Diana Hernández, *Energy insecurity and health: America's hidden hardship*, HEALTH AFFS.: HEALTH POL'Y BRIEF (June 29, 2023), https://www.healthaffairs.org/do/10.1377/hpb20230518.472953/; Robert Fleishman et al., *Energy Insecurity - What Is It, and Why Does It Matter?*, 45 ENERGY L. J. 67, 69 (2024).

3. The scope of this article does not reach all contributing factors to energy insecurity, such as inflation and rising fuel prices, as well as other aspects of ratemaking that impact bill prices, such as energy and capacity markets.

clean energy. This includes addressing disparities in how energy systems impact different populations in terms of cost, accessibility, and environmental burdens. Following these principles, equitable utility rates consider the varying abilities of different customer segments to pay, as well as their differing energy needs and consumption patterns. They prevent undue financial strain that could lead to chronic or acute energy insecurity, unhealthy coping mechanisms, or shut-offs which result in complete loss of access to power due to non-payment.[4] With the aid of ten expert interviews,[5] this article identifies numerous levers for equity intervention. To aid in conceptualization of these levers, it showcases efforts by public utility commissions (PUCs) in California and New York as present-day attempts to integrate equity considerations into the ratemaking process. The objective of this article is to stimulate discourse surrounding the regulatory and political barriers to equitable rates nationwide and provide potential paths of action for regulators and advocates.

II. UTILITY LAW LANDSCAPE

At the federal level, the Federal Energy Regulatory Commission (FERC) regulates the wholesale sale of electricity and transmission in interstate commerce pursuant to the Federal Power Act (FPA), which encompasses sale for resale by generators, conventional integrated public utilities, and power marketers, but not governmentally-owned utilities.[6] The FPA leaves the power to regulate the retail sale of electricity to state PUCs.[7] A retail sale is the final sale of electricity to consumers and thus is the focus of this article. As is the case at the federal level, municipal and cooperative utilities are often exempt from comprehensive PUC regulation,[8] so investor-owned utilities will also be the focus of this discussion. The regulatory authority of state PUCs is derived from state legislation or state constitutions,[9] and thus the precise scope of PUC duties and legal constraints varies by state. Procedurally, PUCs make regulatory decisions within their applicable statutory authority on a utility-specific case-by-case basis (rate cases) and through integrated resource planning and development and administration of programs

4. *See generally* Sonal Jessel et al., *Energy, Poverty, and Health in Climate Change: A Comprehensive Review of an Emerging Literature*, FRONTIERS PUB. HEALTH, Dec. 12, 2019; Diana Hernández & Jennifer Laird, *Surviving a Shut-Off: U.S. Households at Greatest Risk of Utility Disconnections and How They Cope*, 66 AM. BEHAV. SCIENTIST 856 (2022).

5. Interviewees included PUC and Department of Public Service staff, a former Administrative Law Judge, public advocate office staff, and energy attorneys at various nonprofit organizations. These interviews were conducted in accordance with procedures approved by the Columbia University Institutional Review Board and will therefore remain anonymous [hereinafter Expert interviews].

6. 16 U.S.C. § 824(b)(1) (2015).

7. *Id*. Some states refer to these regulatory bodies as public service commissions, public regulation commissions, or corporation commissions.

8. Danielle S. Byrnett & Daniel Shea, *Engagement Between Public Utility Commissions and State Legislatures*, NCSL (Oct. 28, 2019), https://www.ncsl.org/energy/engagement-between-public-utility-commissions-and-state-legislatures.

9. Jim Lazar, *Electricity Regulation in the US: A Guide. Second Edition*, REG. ASSISTANCE PROJECT 27 (July 12, 2016), https://www.raponline.org/wp-content/uploads/2023/09/rap-lazar-electricity-regulation-US-june-2016.pdf.

through generic proceedings.[10] Substantively, the core historic statutory legal duties of PUCs are relatively uniform nationwide and remain in place: serving customers, ensuring that rates are just, reasonable, and nondiscriminatory, providing safe and reliable service, and preventing undue financial risk in utility financing.[11] In carrying out these duties, PUCs are charged with protecting the "public interest."[12] One growing trend is the passing of state legislation to expand the subject-matter of these duties, by explicitly including consideration of climate change in PUC jurisdiction, for example, and critically, a few states have now done the same for equity.[13]

- In California, the CPUC must consider equity in a number of ways, which will be discussed in further detail below.[14]
- Colorado state law mandates that the PUC adopt rules to consider how to improve equity.[15]
- The Illinois' Climate and Equitable Jobs Act requires that the Commerce Commission conduct a study on low-income discount rates and authorizes the Commission to require utilities to establish low-income discount rates.[16]
- In Maine, state law requires all state agencies to incorporate equity considerations into decision-making, including the PUC.[17]
- In Massachusetts, state law requires the Department of Public Utilities to, in meeting greenhouse gas (GHG) emission reduction goals, prioritize equity, safety, security, reliability, affordability, and GHG emission reductions.[18]
- In New York, the Climate Leadership and Community Protection Act (CLCPA) requires that state agencies direct programmatic resources so that disadvantaged communities receive 35-40% of the benefits of spending on clean energy and energy efficiency programs, projects or investments.[19]
- Oregon state law authorizes the PUC to consider "[d]ifferential energy burdens on low-income customers and other economic, social equity or environmental justice factors that affect affordability for

10. Eric Filipink, *Serving the "Public Interest"- Traditional v. Expansive Public Utility Regulation*, NAT'L REGUL. RSCH. INST. 23 (2009).

11. *Id*. at 12-13.

12. *Id*. at 18.

13. Chandra Farley et al., *Advancing Equity in Utility Regulation*, FUTURE ELEC. UTIL. REGUL. 79 (Nov. 2021), https://live-lbl-eta-publications.pantheonsite.io/sites/default/files/feur_12_-_advancing_equity_in_utility_regulation.pdf.

14. *See infra* Part VII(A).

15. S.B. 21-272, 73rd Gen. Assemb., Reg. Sess. (Colo. 2021).

16. Amend. to S.B. 2408, 102nd Gen. Assemb., Reg. Sess. (Ill. 2021).

17. H.R. 1251, 130th Leg., 1st Reg. Sess. (Me. 2021).

18. H.R. 192nd Gen. Court, Reg. Sess. (Mass. 2021).

19. *See infra* Part VII(A).

certain classes of utility customers" when classifying utility service.[20]

- Washington state law requires the Washington Utilities and Transportation Commission to equitably distribute energy and non-energy benefits of the transition to clean energy.[21]

The passage of such legislation provides legal certainty regarding the scope of authority of PUCs. There are no universal guidelines or metrics to guide these equity-focused approaches, leaving room for interpretation and contestation of these efforts. Given the absence of precise legal definitions of the "public interest" and "just, reasonable, and nondiscriminatory," the contours of these standards have been subject to debate as PUCs confront new regulatory challenges such as widespread energy insecurity and climate change. If a PUC action is challenged in state court as beyond the scope of these duties, the court may strike it down as an illegal exercise of power, but as these duties derive from state statutes, state legislatures have the ultimate authority to change and expound upon these duties.

A. Public Interest

Historically, the courts identified natural monopolies like railroads and utilities as "clothed with the public interest"[22] and thus in need of government regulation to protect consumers. Similarly, the FPA declares that transmission and sale of electricity "for ultimate distribution to the public is affected with a public interest."[23] The meaning of public interest in the utility context as defined in the case law was traditionally limited to controlling the power of monopolistic utility companies to prevent price-gouging and to limit anticompetitive effects through regulation of rates and practices.[24] Today, the legal definition of the public interest is imprecise and evolving.[25] PUCs are increasingly asked to address complicated issues involving conservation, climate change, and energy insecurity absent a statutory definition and thus without legal certainty regarding whether these are within the scope of the public interest duty. The limited case law indicates that despite the evident reluctance to break from traditional practices on the part of PUCs,[26] enabling statutes charging PUCs to serve the public interest could be used to justify actions taken to address energy insecurity and promote energy equity. Moreover, where states have included language around equity, climate change, conservation, and other issues in PUC enabling statutes, PUCs likely have flexibility to take a more expansive approach to the meaning of the public interest.

20. H.B. 2475, 81st Leg. Assemb., Reg. Sess. (Or. 2021).
21. S.B. 5116, 66th Leg., Reg. Sess. (Wash. 2019).
22. Munn v. Ill., 94 U.S. 113, 126 (1876).
23. 15 U.S.C. § 717(a) (2012).
24. Filipink, *supra* note 10, at 40.
25. *Id.* at 3.
26. *Id.*

Absent legislative action to expand the scope of PUC roles, PUC actions that embody the traditional economic-based roles and policy goals are consistently upheld when challenged in court.[27] One key Supreme Court case indicates that PUCs may have broad latitude to go beyond these traditional goals. In *NAACP v. Federal Power Commission*, the Supreme Court held that regulation of discriminatory utility employment practices exceeded FERC's regulatory authority under the FPA and Natural Gas Act (NGA).[28] The Court found that FERC's public interest mandate had to be interpreted within the principal purpose of the NGA and FPA, which was to encourage the orderly development of plentiful supplies of electricity and natural gas at reasonable rates: "Thus, in order to give content and meaning to the words 'public interest' as used in the Power and Gas Acts, it is necessary to look to the purposes for which the Acts were adopted."[29] However, the Court did find FPA authority to consider employment practices to the extent that excessive costs resulted from the practices; for example, back pay recoveries by employees who proved they were discriminatorily denied employment, the costs of lost government contracts terminated due to discrimination, or litigation costs over discrimination claims.[30] Additionally, in coming to this decision, the Court interpreted public interest quite expansively within the confines of the animating statute by indicating FERC's authority to consider "conservation, environmental, and antitrust questions" as subsidiary purposes of the NGA/FPA.[31] Under this precedent, it appears that expansive policy goals are permitted under the public interest principle if tied to the enabling statute's purpose.[32] Thus, a court could in theory find that a narrow PUC enabling statute has the subsidiary purpose of promoting affordability and equity through rate regulation.

In the specific context of PUC ratemaking power, some courts at the state level have similarly allowed for expansive policy goals. In *Southern California Edison Co. v. California Public Utilities Commission*, the California Court of Appeals found that the CPUC had the authority to require electric utilities to collect a ratepayer surcharge to fund renewable energy projects.[33] The court found this authority was encompassed by the CPUC's "vast, inherent power to take any action that is cognate and germane to utility regulation, supervision, and rate setting, unless specifically barred by statute."[34] Along the same lines, in *Public Service Commission of Kentucky v. Commonwealth*, the Kentucky Supreme Court found the PSC had the authority to offer discounted electricity rates in disadvantaged communities and brownfields for the purpose of economic development, despite

27. *Id.*

28. NAACP v. FPC, 425 U.S. 662 (1976).

29. *Id*. at 669.

30. *Id*. at 666-67.

31. *Id*. at n.7. Indeed, many cases have required agencies charged with protection of the public interest to consider antitrust and environmental concerns. *See* Denv. & Rio Grande W. R.R. Co. v. U.S., 387 U.S. 485, 492-493 (1967); Gulf State Utils. v. FPC, 411 U.S. 747, 757-61 (1973); Udall v. Fed. Power Comm'n, 387 U.S. 428, 450 (1967).

32. Farley et al., *supra* note 13, at 79.

33. S. Cal. Edison Co. v. Pub. Utils. Comm'n, 227 Cal.App.4th 172 (2014).

34. *Id*. at 187.

their exclusion from a statutory list of entities eligible for discounted rates.[35] The court found that the prohibition on unreasonable prejudice indicated the legality of *reasonable* prejudice, including the rate discounts in question.[36] In *American Hoechst Corp. v. Department of Public Utilities*, the Massachusetts Supreme Court found authority to permit a utility's implementation of a discounted electricity rate for the elderly poor due to its general jurisdiction over rates.[37] In *Affiliated Construction Trades Foundation v. West Virginia Public Service Commission*, the court found that the PSC had broad authority for "comprehensive consideration" of the public interest and thus had the duty to investigate a power company's methods of financing and workforce composition in constructing a power plant.[38]

In contrast, in *Arkansas Gas Consumers, Inc. v. Arkansas Public Service Commission*, the Supreme Court of Arkansas found that the PSC did not have the authority to develop a program to provide gas service to disconnected families under its statutory ratemaking authority and statutory authorization to protect the public health.[39] The court relied on the fact that the program would be funded through a surcharge on all ratepayers which fell outside the PSC's delegated surcharge authority, which was limited to recovery of costs associated with existing facilities upon request of the utility.[40] The dissenting justices found the opposite to be true, arguing that the disconnection policy easily fit within the PSC's ratemaking authority.[41] In *Process Gas Consumers Group v. Pennsylvania Public Utility Commission*, the Pennsylvania Supreme Court struck down the PUC's industrial surcharge to fund conservation programs because it exceeded the scope of the state law authorizing the PUC to develop an energy conservation program.[42] Note that in July 2024, the Fifth Circuit struck down the use of customer surcharges to fund low-income telecommunications programs (Universal Service Fund) as an unconstitutional tax.[43] The Sixth and Eleventh Circuits upheld the same Fund, meaning the Supreme Court will likely have the last word.[44] If the surcharge structure is found unconstitutional, PUCs may be unable to fund low-income programs in the energy context with customer surcharges without explicit statutory authority.

A number of states have passed legislation providing PUCs with the authority to implement special rates in the public interest for commercial and industrial

35. Pub. Serv. Comm'n of Ky. v. Commonw., 320 S.W.3d 660 (Ky. 2010).

36. *Id*.

37. Am. Hoechst Corp. v. Dep't of Pub. Utils., 399 N.E.2d 1 (Mass. 1980).

38. Affiliated Constr. Trades Found. v. Pub. Serv. Comm'n of W. Va., 565 S.E.2d 778, 789 (W. Va. 2002).

39. Ark. Gas Consumers, Inc. v. Ark. P.U.C., 188 S.W.3d 109 (Ark. 2003).

40. *Id*.

41. *Id*. at 124.

42. Pa. Pub. Util. Comm'n v. Process Gas Consumers Grp., 502 Pa. 545 (1983).

43. Consumers' Rsch. v. FCC, No. 22-60008, 2024 WL 3517592, at *26 (5th Cir. July 24, 2024).

44. *See* Consumers' Rsch. v. FCC, 67 F.4th 773 (6th Cir. 2023), *cert. denied*, No. 23-456, 2024 WL 2883753 (U.S. June 10, 2024); Consumers' Rsch., Cause Based Com., Inc. v. FCC, 88 F.4th 917 (11th Cir. 2023), *cert. denied sub nom*; Consumers' Rsch. v. FCC, No. 23-743, 2024 WL 2883755 (U.S. June 10, 2024).

(C&I) customers due to their contributions to load growth.[45] Even absent such legislation, state courts have appeared amenable to PUC use of general ratemaking authority for this category of special rates. Economic development discounted rates have been authorized without legislation in Arizona,[46] Florida,[47] Kentucky,[48] Michigan,[49] and Oklahoma.[50] Experts have thus proposed using similar economic justifications for low-income rates, arguing that alleviating energy insecurity would lead to load growth.[51] In turn, decreasing energy insecurity would decrease the costs to utilities of managing customer debt and disconnections.[52]

B. Just, Reasonable & Nondiscriminatory

One way in which PUCs must protect the public interest is by ensuring that utility rates are "just and reasonable." Dating back to the Interstate Commerce Act of 1887 and railroad rates, the "just and reasonable" standard traditionally addresses whether the allocation of costs and benefits between public utilities and ratepayers is just and reasonable.[53] This inquiry loosely involves finding a balance in which rates are not "less than compensatory" nor "excessive."[54] However, in the same vein as the public interest principle, "just and reasonable" has no fixed legal definition.[55] In *Federal Power Commission v. Hope Natural Gas*,[56] the Supreme Court established the "end result" approach to judicial review of the ratemaking process under which the reviewing court refrains from requiring any rate formula and instead looks to the outcome when assessing whether a rate is "just and reasonable:" "Under the statutory standard of just and reasonable it is the result reached not the method employed that is controlling."[57] While the Supreme Court was considering FERC's rates in this case, state courts have since adopted

45. Gabriel Chan & Alexandra Klass, *Regulating for Energy Justice*, 97 N.Y.U. L. REV. 1426, 1450 (2022).

46. *In re* UNSE Elec., Inc., No. E-04204A-15-0142, 2016 WL 4467959 (Ariz. Corp. Comm'n Aug. 18, 2016) (order approving revised schedule of rates and charges); *In re* Tucson Elec. Power Co., No. 77856, 2020 WL 8257471, at *97 (Ariz. Corp. Comm'n Dec. 31, 2020) (approving revised schedule of rates and charges).

47. *In re* Duke Energy Fla., LLC, No. 160173-EI, 2016 WL 5869985 (Fla. Pub. Serv. Comm'n Oct. 3, 2016) (order approving economic development and re-development riders).

48. *In re* Louisville Gas & Elec. Co. & Ky. Utils. Co, No. 2011-00103, 2011 WL 3571926, at *1 n.3 (Ky. Pub. Serv. Comm'n Aug. 11, 2011) (order approving EDR tariffs).

49. *In re* 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) (order approving rate schedule).

50. *In re* Okla. Gas & Elec. Co., No. PUD 201400307, 2015 WL 4395296, at *3 (Okla. Corp. Comm'n July 16, 2015) (order approving joint stipulation and settlement agreement).

51. Chan & Klass, *supra* note 45, at 1486-87.

52. *Id*.

53. The standard has occasionally been extended to include allocation between different classes of customers. *Id*. at 1444; Farley et al., *supra* note 13, at 82

54. Farmers Union Cent. Exch., Inc. v. FERC, 734 F.2d 1486, 1502 (D.C. Cir. 1984).

55. *Id*. at 1501.

56. FPC v. Hope Nat. Gas, 320 U.S. 591 (D.C. Cir. 1944).

57. *Id*. at 602.

this highly deferential approach to judicial review of PUC ratemaking.[58] Although the Supreme Court recently overruled a mainstay of administrative law, *Chevron* deference, judicial deference to PUC interpretations of "just and reasonable" will likely survive. In *Loper-Bright*, the Court stated that "the statute's meaning may well be that the agency is authorized to exercise a degree of discretion" and pointed to words such as "reasonable" and "appropriate" as examples of terms that leave agencies with flexibility.[59] PUCs have chosen to employ cost causation principles and cost-of-service regulation in ratemaking by adhering to the goal of charging consumers rates that reflect their marginal cost of service. However, the rigidity of the legal requirement that this approach be utilized rather than an alternative that includes consideration of energy burden[60] depends on the state, both the statutory authority and level of discretion provided by the courts. Some experts posit that the pervasiveness of traditional cost-of-service regulation is the result of an enduring status quo.[61]

Another legal standard within the "just and reasonable" framework is the prohibition of undue discrimination found in most state statutes. While discrimination between classes of customers is generally accepted, different rates for similarly situated customers or charging *the same* rates or offering the same quality of service to customers who are dissimilarly situated, are at risk of being perceived as violating this principle, either by PUCs who choose not to use their general ratemaking authority to set preferential rates of some kind or state courts that have found attempts to do so to exceed their general ratemaking authority. That said, the meaning of undue discrimination varies greatly by state. For example, courts and/or PUCs in Massachusetts,[62] Ohio,[63] Rhode Island,[64] and Utah[65] have found authority to provide distinct rates or discounts for low-income, disabled, or elderly

58. Chan & Klass, *supra* note 45, at 1443; Ari Peskoe, *Unjust, Unreasonable, and Unduly Discriminatory: Electric Utility Rates and the Campaign Against Rooftop Solar*, 11 TEX. J. OIL GAS & ENERGY L. 211, 230 (2016).

59. Loper Bright Enters. v. Raimondo, 144 S. Ct. 2244, 2263 (2024).

60. Lester Baxter, *Electric Policies for Low-income Households*, 26 ENERGY POL'Y 247, 248 (1998).

61. *See* Farley et al., *supra* note 13.

62. Am. Hoechst Corp. v. Dep't of Pub. Util., 399 N.E.2d 1 (Mass. 1980) (upholding authorization of elderly, low-income electric rate).

63. Montgomery Cnty. Bd. of Comm'r v. Pub. Util. Comm'n of Ohio, 503 N.E.2d 167, 171 (Ohio 1986) (finding the percentage of Income Payment Plan (PIPP) was implemented by the PUC without legislative authority and upheld by the Ohio Supreme Court).

64. *In re* Duke Power Co., 26 P.U.R.4th 241 (Aug. 31, 1978) (order approving discount for blind, disabled, or elderly customers).

65. *In re* PacifiCorp, No. 97-035-01, 1999 WL 218118, at *70 (Utah Pub. Serv. Comm'n Mar. 4, 1999) (finding authority to provide low-income lifeline program for electric service); *in re* PacifiCorp., No. 99-035-10, 2000 WL 873337, slip op. at 77 (Utah Pub. Serv. Comm'n May 24, 2000) (requiring implementation of low-income lifeline program for electric service).

consumers while courts and/or PUCs in Alabama,[66] Arkansas,[67] Hawaii,[68] Indiana,[69] New Mexico,[70] and Oregon[71] have refrained from finding authority to implement similar forms of assistance as unduly discriminatory. Despite the uncertainty, at least twenty states offer low-income bill assistance in some capacity that have presumably gone without successful challenge.[72] Additionally, with adoption of time-of-use rates, special rates for new loads, technology-specific rates, and economic development rates, PUCs appear increasingly willing to allow for differentiated rates.[73] The justification for economic development rates, or negotiated discounts for industrial customers who might otherwise leave the utility system, is the theory that losing an industrial customer might leave remaining utility customers worse off—this same reasoning could be used to justify low-income rates in that loss of customers and disconnection costs hurt the system as a whole.[74]

The Supreme Court has placed one constitutional limit on the ratemaking authority of PUCs:

> Rates which are not sufficient to yield a reasonable return on the value of the property used at the time it is being used to render the service are unjust, unreasonable and confiscatory, and their enforcement deprives the public utility company of its property in violation of the Fourteenth Amendment.[75]

In *Federal Power Commission v. Hope Natural Gas Company*, the Supreme Court expounded upon the meaning of a fair return: "return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks."[76] Thus, a utility's right to a reasonable opportunity to earn a "fair rate of return" is a legal constraint inherent in all regulatory ratemaking decisions.

The most effective means of clarifying PUC authority to prioritize equity in the ratemaking process under the public interest duty and just and reasonable principle would be the enactment of a bill defining the public interest as explicitly

---

66. Greater Birmingham Unemployed Comm. v. Ala. Gas Corp., 86 P.U.R.4th 218, 220 (Ala. Pub. Serv. Comm'n Sept. 8, 1987) (rejected authority to set low-income gas rate).

67. Ark. Gas Consumers, Inc. v. Ark. Pub. Serv. Comm'n, 118 S.W.3d 109 (Ark. 2003) (court struck down low-income arrearage forgiveness program).

68. *In re* Haw. Elec. Light Co., 207 P.U.R.4th 117 (Haw. Pub. Utils. Comm'n Feb. 8, 2001) (left low-income rate design to legislature).

69. Citizens Action Coal. v. Pub. Serv. Co., 450 N.E.2d 98 (Ind. Ct. App. 1983) (affirmed P.S.C. decision to refrain from offering a lifeline rate to low-income customers due to lack of authority).

70. Mountain States Legal Found. v. N.M. State Corp. Comm'n, 687 P.2d 92, 94 (N.M. 1984) (court struck down an elderly telephone rate).

71. *In re* Rate Concessions to Poor Persons and Senior Citizens, No. R-23, 1976 WL 419194, at *98 (Or. Pub. Util. Comm'n Jan. 16, 1976) (rejected authority to set low-income and elderly rates; legislature has since provided this authority).

72. *See Low Income Utility Program Working Group Report*, NW ENERGY COAL. 24-35 (Dec. 2018), https://www.oregon.gov/puc/utilities/Documents/LIUPWG-2018-Final-Report.pdf [hereinafter *Low Income Report*].

73. *See infra* Part III(B).

74. Chan & Klass, *supra* note 45, at 1485.

75. Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679, 690 (1923).

76. FPC v. Hope Nat. Gas Co., 320 U.S. 591, 603 (1944).

including considerations of equity by the state legislature.[77] In Washington State's 2019 Clean Energy Transition Act, the legislature included a list of items to be included in the meaning of public interest such as consideration of performance and incentive-based regulation to achieve fair, just, reasonable, and sufficient rates and the equitable distribution of energy benefits and reduction of burdens.[78] In Colorado, Senate Bill 19-236 passed in 2019 directs the PUC to consider specific factors when determining whether a utility's Clean Energy Plan is in the public interest, including the costs to consumers resulting from the plan.[79] On their faces, these statutes are broad enough that they arguably codify pre-existing authority, as discussed above, so more specific language would be more impactful. However, some PUCs are not prioritizing equity despite this arguable authority, so mere codification in vague terms may nonetheless be effective in motivating PUC action. With explicit legislative authority, PUCs would be able to address inequity without fear of litigation over lack of statutory authority.[80] However, even absent state legislative action, PUCs could pass regulations defining public interest in the same manner, acting under the legal authority of animating statutes and the unsettled case law regarding the meaning of public interest in the utility context, or alternatively, in the just and reasonable context. Even without defining public interest explicitly, taking actions that indicate equity is within the scope of PUC authority to consider would also be helpful. For example, according to a National Association of Regulatory Utility Commissioners (NARUC) study in 2021, Alabama, Colorado, Louisiana, Michigan, and Oklahoma mentioned equity in PUC mission statements.[81]

Moreover, due to the unclear law regarding the definition of "just and reasonable," it is arguably within the discretion of PUCs to promote equity under this umbrella duty. If challenged in court, PUCs could put forward a few novel arguments, the success of which is untested to-date. They could argue that if residents cannot afford to be energy secure, this in itself is evidence of unjust and unreasonable rates.[82] Additionally, PUCs could argue that the vast difference in energy burden between low and middle to high-income customers constitutes undue discrimination and thus requires distinct rates to remedy this discrimination. In fact, a UC Berkeley study found that in Baltimore, across all months of the analysis timeframe, the lowest-income households (below $60,000) paid the highest mean and median prices, and the highest-income households (above $80,000) paid the

77. *See* Jessie Ciulla et al., *Purpose: Aligning PUC Mandates with a Clean Energy Future*, RMI (June 2021), https://rmi.org/wp-content/uploads/2021/07/PUC-Clean-Energy-Goals-Report.pdf; *see also* Farley et al., *supra* note 12, at 77.

78. Wash. S.B. 5116.

79. S.B. 19-236, Gen. Assemb., Reg. Sess. (Colo. 2019).

80. *See* Filipink, *supra* note 10, at 6 (finding that risk of litigation decreases when the legislature explicitly delegates authority for expansive commission roles beyond the traditional) (Note that PUCs would still be required to provide a rate of return that is not impermissibly confiscatory and thus could face litigation of that nature).

81. Kiera Zitelman & Jasmine McAdams, *The Role of State Utility Regulators in a Just and Reasonable Energy Transition*, NARUC 13-14 (Sept. 2021), https://perma.cc/7MCF-EUEX.

82. Farley et al., *supra* note 13, at 82.

lowest mean and median prices, and marginal communities faced particularly high prices.[83] Additionally, as technological advances allow for more granular measurements of energy consumption, further delineation of customer classes based on usage, like use of energy for essential versus nonessential purposes, could allow for low-income rates within the traditional cost-of-service framework.[84]

The legal doctrines presented above are often cited as justifications for PUC inaction on issues of equity and energy insecurity, but in practice, there is limited case law considering whether action on these issues would exceed the statutory powers of PUCs. Some of the experts interviewed for this article indicated that it is more likely that PUCs are choosing to be cautious by continuing historic practices.[85] While operating under the status quo and avoiding promotion of equity through rate design protects PUCs from challenges in court, it is quite possible that PUC innovations on the equity front would be upheld as within the bounds of these legal principles, particularly given the tradition of the deferential treatment of PUCs by state courts. The likelihood of successful legal challenge may depend upon the politics of each state.

III. RATEMAKING

A. Revenue Requirement

The first step of traditional cost-of-service ratemaking is calculating how much a utility needs to receive from ratepayers to pay for operating expenses and capital investments (rate base) while also making a fair return on investment: this total constitutes a utility's revenue requirement.[86] The revenue requirement formula is thus: rate base x rate of return + operating expenses. The calculation of each of these values can have significant impacts on the bills faced by ratepayers, and as such, the acceptance of the status quo has at times faced criticism for its contribution to energy insecurity broadly.

As allowed return is a function of capital investments in the revenue requirement formula, utilities are incentivized to invest in capital. This phenomenon is called the Averch-Johnson effect and has been the subject of widespread discourse and critique.[87] If an investment does not pan out, utility shareholders will bear the cost if the PUC utilizes the "used and useful" standard which precludes ratepayer responsibility unless costs result in generation of electricity for actual use or other useful outcomes.[88] However, ratepayers will have to pay if the PUC adheres to the prudent investment rule; if the investment was prudent at the time it was made,

---

83. Jenya Kahn-Lang, *Competing for (In)attention: Price Discrimination in Residential Electricity Markets*, ENERGY INST. AT HAAS 14 (Nov. 2022), https://haas.berkeley.edu/wp-content/uploads/WP333.pdf.

84. *See* discussion *infra* Part III.C.1; Expert interviews, *supra* note 4.

85. Expert interviews, *supra* note 4.

86. Adrienne L. Thompson, *Protecting Low-Income Ratepayers as The Electricity System Evolves*, 37 ENERGY L.J. 265, 282 (2016).

87. Lazar, *supra* note 9, at 86.

88. Jonathan A. Lesser, *The Used and Useful Test: Implications for a Restructured Electric Industry*, 23 ENERGY L.J. 349 (2002).

the cost may be included in revenue requirement as a component of the rate base or an expense, even if the investment did not yield useful services.[89]

Under Supreme Court precedent discussed prior, a utility is entitled to an opportunity to earn a fair rate of return on its rate base commensurate with the risks it faces, rather than the risks of firms operating in competitive markets.[90] However, there is no science to determining the line between fair and unfair; this paired with the inherent imprecision in calculating the cost of equity (perceived publicly as a utility's profit but technically the amount a shareholder must be offered to invest in the utility) has rendered rate of return a controversial element of many rate cases, with experts from each party arguing for different percentages.[91] Economists vary in which calculation model they employ, and PUCs are tasked with determining whether the models and calculations put forth by utilities in rate cases are in fact "fair."[92] The economic sophistication required to determine the rate of return poses questions of information asymmetry between utilities and PUCs, and even more so between utilities and advocates for customers.[93] To combat this asymmetry, some states require utilities to pay for consumer advocates' hiring of expert witnesses.[94]

The average rate of return for electric utilities was 10% in 2023.[95] Rates have historically ranged from 6-16%.[96] Some experts have criticized the industry norm of 10% as being excessive.[97] One recent study observed that over time, the divide between authorized returns on equity and the riskless rate of return, which is the theoretical rate of return of a zero-risk investment, has deepened.[98] According to the study authors, this is a concerning development because "[a]n error or bias of merely one percentage point in the allowed return would imply tens of billions of dollars in additional cost for ratepayers in the form of higher retail power prices."[99] Lowering the rate of return is one method of reducing rates, but one risk of taking this approach is discouraging utilities from investing in much-needed clean energy

89. *Id.*

90. *See generally* Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679 (1923).

91. Lazar, *supra* note 9, at 55.

92. *Id.*

93. Expert interviews, *supra* note 4; *see Karl Dunkle Werner and Stephen Jarvis, Rate of Return Regulation Revisited*, ENERGY INST. AT HAAS (Apr. 2024), https://haas.berkeley.edu/wp-content/uploads/WP329.pdf; Ken Costello, *Alternative Rate Mechanisms and Their Compatibility with State Utility Commission Objectives*, NRRI (Apr. 2014), https://pubs.naruc.org/pub/FA86C519-AF31-D926-BE12-2AC7AE0CD8D6.

94. *Sustainable Funding for the Public Utility Commission and the Department of Public Service*, VT. PUB. SERV. DEP'T 4, 24, 29 (Sept. 26, 2018), https://ljfo.vermont.gov/assets/Meetings/Joint-Fiscal-Committee/2018-11-08/aa7a13d868/Sustainable-Funding-for-the-Public-Service-Department-and-the-PUC-_Sept-26-2018_-v4.pdf.

95. Dan Lowrey, *Electric beats gas in exceeding authorized equity returns over past 15 years*, S&P GLOB. (May 25, 2023), https://www.spglobal.com/marketintelligence/en/news-insights/research/electric-beats-gas-in-exceeding-authorized-equity-returns-over-past-15-years.

96. Lazar, *supra* note 9, at 56.

97. David C. Rode & Paul S. Fischbeck, *Regulated Equity Returns: A puzzle*, ENERGY POL'Y, Oct. 2019.

98. *Id.*

99. *Id.*

infrastructure.[100] An alternative method of shrinking the revenue requirement is removing some costs from the formula altogether; Colorado, Connecticut, Maine, and New Hampshire have passed bills prohibiting utilities from recovering costs of lobbying and similar political expenses through rates.[101] While these expenditures are likely not significant enough to make a major impact, some experts have argued that more considerable investments like infrastructure required for the clean energy transition should be paid for by sources other than ratepayers,[102] like revenues from carbon dioxide (CO_2) cap-and-trade schemes or carbon taxes, Electric Vehicle (EV) infrastructure projects, highway clean energy infrastructure projects, and distributed energy resource (DER) projects,[103] surcharges on the largest commercial customers or the wealthiest residential customers,[104] tax revenue,[105] or through other government funds.[106] The feasibility of relying on external sources of funding is highly dependent on the political circumstances in a specific state, but in states such as California where the price of electricity has been shown to far surpass the marginal cost of electricity,[107] the prospect of an innovative solution may be more palatable due to necessity.

An alternative to traditional cost-of-service ratemaking that alters utility incentives is performance-based regulation (PBR). As of 2023, seventeen states and Washington, D.C. had enacted legislation to enable PUC use of PBR.[108] PBR typically uses decoupling, multi-year rate plans (MRP) with incremental rate increases, and performance incentive mechanisms (PIM).[109] Most relevant to equity, PIMs tie revenue to metrics other than cost, thereby replacing consumption and capital investment incentives in the rate formula with other policy goals, such as affordability, sustainability, and energy efficiency.[110] PIMs are most commonly

100. See Ken Costello, *Alternative Rate Mechanisms and Their Compatibility with State Utility Commission Objectives*, NAT'L REGUL. RSCH. INST. (Apr. 2014), https://pubs.naruc.org/pub/FA86C519-AF31-D926-BE12-2AC7AE0CD8D6 (discussing how earning below the authorized rate of return discourages utility investments).

101. *Tracking State Legislation to Get Politics Out of Utility Bills*, ENERGY & POL'Y INST. (Apr. 15, 2024), https://energyandpolicy.org/tracking-states-getting-politics-out-of-utility-bills/.

102. Expert interviews, *supra* note 4.

103. Thompson, *supra* note 86, at 289-290.

104. *Id.*

105. Khan-Lang, *supra* note 83, at 8.

106. Expert interviews, *supra* note 4.

107. Khan-Lang, *supra* note 83, at 6.

108. Daniel Shea, *Performance-Based Regulation: Harmonizing Electric Utility Priorities and State Policy*, NCSL (Apr. 7, 2023), https://www.ncsl.org/energy/performance-based-regulation-harmonizing-electric-utility-priorities-and-state-policy#:~:text=On%20the%20one%20hand%2C%20state,enable%20performance%2Dbased%20regulatory%20approaches.

109. Occasionally, other miscellaneous incentives for underused practices are included. *See id.*

110. Thompson, *supra* note 86, at 301; Lazar, *supra* note 9, at 7; Shea, *supra* note 108, at 13; Herman K. Trabish, *Performance-based regulation: Seeking the new utility business model*, UTILITY DIVE 3 (July 23, 2019), https://www.utilitydive.com/news/performance-based-regulation-seeking-the-new-utility-business-model/557934/.

put in place for energy efficiency, reliability, and clean energy investments while those geared at equity are less common.[111]

According to a 2024 Rocky Mountain Institute (RMI) report, at least six states, Colorado, Hawaii, Illinois, Massachusetts, New Jersey, and New York, and Washington, D.C., have adopted equity PIMs.[112] Hawaii was the first state to require a PBR framework that ties revenue to performance metrics.[113] The PBR framework established pursuant to the Hawaii Ratepayer Protection Act of 2018 and the following PUC stakeholder process includes:

- A Renewable Portfolio Standard (RPS) PIM to incentivize accelerated achievement of RPS goals,
- An Interconnection Approval PIM to incentivize fast interconnection for small-scale solar and storage,
- An AMI Utilization PIM to incentivize utilization of advanced meters,
- A Grid Services PIM to incentivize utilization of DERs for grid services capabilities, and
- For its equity PIM, an LMI Energy Efficiency PIM to incentivize providing energy efficiency opportunities to low income customers.[114]

All of these PIMs include monetary rewards while only the RPS and Interconnection PIMs include monetary penalties.[115] The risk of penalties is one way to ensure the efficacy of PIMs; without a downside risk, PIMs may insulate utilities from cost reduction incentives without adequately motivating them to achieve the policy goals. In Illinois, the legislature passed the Climate and Equitable Jobs Act (CEJA) in 2021, which directs the Illinois Commerce Commission to establish a comprehensive performance-based regulation framework for electric utilities with over 500,000 customers.[116] In this statute, the legislature requires that affordability be considered whenever discussing PIMs and lists affordability of electric delivery as an objective of the performance-based ratemaking framework. Critically, the law requires the Commission to approve at least one metric from each of six categories, including achieving affordable customer delivery service costs and reducing disconnections, reliability and resiliency, peak load reductions using demand response, expanded supplier diversity, timeliness to customer requests for interconnection, and customer service experience.[117]

---

111. Rachel Gold & Carina Rosenbach, *Transforming the Way We Serve Vulnerable Communities: Performance Incentive Mechanisms and Beyond*, RMI (Apr. 26, 2024), https://rmi.org/transforming-the-way-we-serve-vulnerable-communities-performance-incentive-mechanisms-and-beyond/; Trabish, *supra* note 110, at 3, 5.

112. Gold & Rosenbach, *supra* note 111.

113. Trabish, *supra* note 110, at 9-11.

114. PBR Docket No. 2018-0088, HAWAII PUB. UTILS. COMM'N, (June 1, 2021), https://puc.hawaii.gov/energy/pbr/; *see Performance-Based Regulation: Hawai'I Pioneers a New Energy Regulatory Framework to Accelerate Renewable Energy Innovation and Utility Efficiency*, ULUPONO INITIATIVE 15 (Jan. 2021), https://ulupono.com/media/8d8b904d3490289/pbr-white-paper-final-01-14-21-web.pdf.

115. *Id.*

116. 220 ILL. COMP. STAT. ANN. 5/16-108.18(a)(8) (2021).

117. *Id.*

B. Allocation Between Classes

The intervention opportunities detailed above focus on the revenue requirement stage of ratemaking, but opportunities exist at subsequent phases of the ratemaking process as well. After the revenue requirement is determined, it must be allocated among classes of customers. PUCs define classes of customers and all customers within each class are charged the same rate.[118] Classes are identified based on cost of service, so typically the amount of energy consumption and number of users, with the most common categories being commercial, industrial, and residential customers with sub-categories of commercial and industrial (C&I) based on size or voltage.[119] Some commissions have created classes based on type of technology such as EV charging,[120] agricultural classes, institutional classes for government buildings, or classes for specific usage requirements like street lighting.[121]

Differentiation by rate class is legally permitted as long as it is not undue discrimination, as discussed prior. The economic justification behind rate classes is the minimization of "cross-subsidization," which occurs when one customer effectively subsidizes another by paying more than the costs for which it is responsible.[122] Elimination of cross-subsidization would require a unique rate for each utility customer, which is infeasible, so classes of similarly situated customers are grouped together such that cross-subsidization is minimal enough to avoid undue discrimination. Some experts disagree with the goal of minimizing cross-subsidization and argue that cross-subsidization can be desirable to reach certain policy objectives like energy efficiency.[123] Others point out that cross-subsidization is impossible to avoid and already prevalent, both within and between classes; cost-of-service studies are based on class averages which inherently leads to some subsidization within a class, and new loads often do not contribute to the embedded costs already allocated to existing customers.[124] Additionally, C&I customers nearly universally pay a lower average rate than residential customers,[125] and experts disagree as to whether this is strictly justified by cost of service.[126]

PUCs have recently shown a renewed interest in differentiation between customers in the same class with the goal of more accurately aligning rates with system costs; for example, opt-in and opt-out time-of-use rates allow customers to choose a rate structure where cost is based on time of electricity use, and new customers or users of new technology like EV can sometimes receive discounted

---

118. Chan & Klass, *supra* note 45, at 1452-53.

119. Thompson, *supra* note 86, at 282; Chan & Klass, *supra* note 45, at 1449.

120. Chan & Klass, *supra* note 45, at 1477.

121. Lazar, *supra* note 9, at 61.

122. Chan & Klass, *supra* note 45, at 1434, 1449.

123. *Id.* at 1451; *see* Troy A. Rule, *Solar Energy, Utilities, and Fairness*, 6 SAN DIEGO J. CLIMATE & ENERGY L. 115, 132 (2015).

124. Chan & Klass, *supra* note 45, at 1451; *see* Rule, *supra* note 123, at 132.

125. *Id.* at 1449; *see generally Electric Power Monthly, 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=table_5_03.

126. Chan & Klass, *supra* note 45, at 1449; *see* Rule, *supra* note 123, at 132.

rates.[127] Additionally, although mainstream literature does not point to establishment of a low-income customer class as a step in aiding effective equitable rate design, some utilities do this in practice when allocating the funds of discount programs between customers, for example.[128] In a different conceptualization but same end result, California's income-graduated fixed charge applies different fixed charge prices to tiers of customers in the same residential class with one ultimate revenue requirement.[129] Creating a low-income class based on factors like energy burden could allow for easier implementation of special rates, as we see with C&I economic development rates.

The allocation between customer classes is based on cost-of-service studies (COSS) and the methods used are often challenged in rate cases.[130] Upon proposal of a rate design in a rate case, utilities provide a COSS as evidence of alignment between the proposed rates and its costs.[131] Costs are then apportioned based on number of customers, peak demand, and total customer usage.[132] In determining how to weigh these factors, as well as whether to classify costs as demand or usage-related, PUCs have some discretion that could be used to improve or hinder equity.[133]

C. Rate Design

Following allocation between customer classes, parties engage in "rate design": determining how to collect from the ratepayers within each class.[134] Residential rates typically include a fixed monthly service charge in addition to a volumetric charge for each unit of energy used.[135]

1. Rates Based on Energy Usage

The most basic rate design, a flat rate, charges the same rate regardless of usage.[136] Under an inclining block rate structure, energy costs increase with use; typically, upon reaching an identified threshold of energy use, energy becomes more expensive.[137] This structure is effective in reducing energy consumption, a common environmental goal of rate design. However, advocates disagree as to

---

127. Chan & Klass, *supra* note 45, at 1453.

128. *See* Robert Hoglund, *Schedule for Electricity Service: Rider S Low Income Program*, CONSOL. EDISON CO. OF N.Y. 255.1 (Mar. 29, 2012), https://lite.coned.com/_external/cerates/documents/elecPSC10/electric-tariff.pdf.

129. *Proposed Decision of ALJ Wang: Decision Addressing Assembly Bill 205 Requirements for Electric Utilities*, CAL. PUB. UTILS. COMM'N (May 9, 2024), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M531/K094/531094134.pdf.

130. Lazar, *supra* note 8, at 61.

131. Ari Peskoe, *Unjust, Unreasonable, and Unduly Discriminatory: Electric Utility Rates and the Campaign Against Rooftop Solar*, 11 TEX. J. OIL GAS & ENERGY L. 211, 230 (2016).

132. *Id*. at 272.

133. *Id.*

134. Thompson, *supra* note 86, at 283.

135. Lazar, *supra* note 9, at 68-69.

136. Thompson, *supra* note 86, at 283.

137. *Id.*

whether inclining block rates benefit low-income consumers. The origins of inclining block rates can be traced to a Public Utility Regulatory Policies Act (PURPA) requirement that PUCs consider "lifeline rates"[138] and the assumption that the first block of electricity would be most affordable and cover the most essential needs.[139] Studies do show that low-income customers tend to use less energy than their wealthier counterparts,[140] but there is a risk that this is due to attempted cost savings rather than lower need. One study found that low-income households were taking undesirable measures to lower their electricity usage and related costs,[141] such as enduring extreme indoor temperatures.[142]

A declining block rate reduces the price when energy usage surpasses a designated level[143] and therefore encourages higher energy consumption. A more novel rate design bases certain charges on customer connection size; because "more customers are served per service connection line" and because "line transformers are sized based on estimated diversified load" with small and multi-family dwellings, the cost of service is higher for larger, single-family homes.[144] Burbank, a municipal utility near Los Angeles, assesses a service size charge based on customer electric panel capacity (typically, apartments have 100-amp service panels, single-family homes have 200-amp panels, and large homes have 400-amp panels).[145] In theory, this structure could lead to a lower rate for low income customers who reside in apartments or small homes. It has also been suggested by one expert that a charge could be made based on type of electricity use– either essential or nonessential.[146] At the time of writing, we are not aware of an example of this in practice, but the Maine PUC has approved a pilot program of rates "tailored to the operational characteristics of ratepayer appliances" to incentivize use of heat pumps.[147] The same tailoring to operational characteristics of specific appliances could aid in designing rates for essential use.

2. Rates Based on Time of Use

Time-of-use (TOU) pricing sets a higher price for consumption during peak times and a lower price for off-peak times.[148] Given that TOU rates have been

138. 16 U.S.C. § 2624(b) (1988).

139. S. COMM. ON AGING, 96TH CONG., ENERGY ASSISTANCE PROGRAMS AND PRICING POLICIES IN THE 50 STATES TO BENEFIT ELDERLY, DISABLED, OR LOW-INCOME HOUSEHOLDS (Comm. Print 1979).

140. Lazar, *supra* note 9, at 70.

141. Hernández, *supra* note 1, at 9.

142. *See* Shucen Cong et al., *Unveiling Hidden Energy Poverty Using the Energy Equity Gap*, NATURE COMMC'NS, May 4, 2022; Miranda Simes et al., *Vigilant Conservation: How Energy Insecure Households Navigate Cumulative and Administrative Burdens*, ENERGY RSCH & SOC. SCI., July 2023.

143. Lazar, *supra* note 9, at 68.

144. Paul Zummo, *Leadership in Rate Design*, PUBLIC POWER 20 (May-June 2019), https://www.publicpower.org/system/files/documents/Leadership-in-Rate-Design.pdf.

145. *Id.*

146. Expert interviews, *supra* note 4.

147. Edward Yim & Sagarika Subramanian, *Equity and Electrification-Drive Rate Policy Options*, AM. COUNS. FOR AN ENERGY-EFFICIENT ECON. 8 (Sept. 2023), https://www.aceee.org/sites/default/files/pdfs/equity_and_electrification-driven_rate_policy_options_-_encrypt.pdf.

148. Lazar, *supra* note 9, at 71.

shown to successfully reduce demand at peak times,[149] they are a desirable model from the environmental perspective. Residential TOU rates are often provided as optional opt-in or opt-out rates while it is more common for C&I customers to have mandatory TOU pricing due to their larger loads.[150] Occasionally seasonal rates offer different prices based on season.[151] Rates that embody dynamic pricing change in response to power market price changes and are almost always optional at the retail level.[152] These include real-time rates, critical period pricing, variable peak pricing, and peak-time rebates.[153] Real-time rates are usually only offered to large C&I customers and include frequent cost changes with limited notice throughout the day based on changes in wholesale market prices.[154] Critical period pricing rates are most often add-ons to TOU rates; rates are set for critical periods in advance and customers are notified, but the rates are typically only implemented when the system is under extreme stress.[155] Variable period pricing involves division of a day into peak, off-peak, and interim periods with varying prices by period, and in at least one period, the price will vary daily based on system conditions.[156] Peak-time rebates give customers discounts for reducing consumption during critical periods rather than raising the price of consumption during that time.[157] While pricing based on time of use has been shown to on average benefit low-income households because of household size and energy intensity of appliances,[158] research shows an information gap– when TOU rates are offered as optional opt-in programs, low-income customers may be missing out on discounts, and when offered as opt-out programs, low-income customers may be unaware of the incentive to adjust use based on time of day.[159] Moreover, wealthier households and homeowners are more able to invest in and benefit from energy efficiency measures[160] and advanced metering infrastructure (AMI) and other smart technologies that aid in reducing energy consumption.[161] Additionally, some low-income customers do not have the flexibility to reduce energy consumption at peak hours[162] and others may benefit from TOU rates through dangerous methods of

149. *Id.*

150. *Id.*

151. Yim & Subramanian, *supra* note 147, at 13.

152. Lazar, *supra* note 9, at 75.

153. *Id.*

154. *Id.*

155. *Id.*

156. Mina Badtke-Berkow et al., *A Primer on Time-Variant Electricity Pricing*, ENV'T DEF. FUND at ii (2015), https://www.edf.org/sites/default/files/a_primer_on_time-variant_pricing.pdf.

157. *Id.*

158. Jordan Folks & Zac Hathaway, *Assessing Equity in TOU: How Low-Income Customers Fare on Time of Use Rates*, OP. DYNAMICS (2021), https://opiniondynamics.com/wp-content/uploads/2021/06/2020_ACEEE-Summer-Study_Assessing-Equity-How-Low-Income-Customers-Fare-on-TOU_Rates_Folks.pdf.

159. *Id.*

160. Lazar, *supra* note 9, at 71.

161. Herman Trabish, *An emerging push for time-of-use rates sparks new debates about customer and grid impacts*, UTIL. DIVE (Jan. 28, 2019), https://www.utilitydive.com/news/an-emerging-push-for-time-of-use-rates-sparks-new-debates-about-customer-an/545009/.

162. Thompson, *supra* note 86, at 283.

reducing energy consumption.[163] An additional risk posed by TOU rates for low-income customers is the inability to pay abnormally high bills due to peaks in the short-term;[164] for example, annual savings may result due to low usage in winter months but prices during summer months could be cost-prohibitive. This will become an increasingly significant problem as climate change exacerbates extreme weather.

3. Fixed Charges

As previously mentioned, fixed charges are monthly charges that do not vary with customer energy usage and aim to recoup a utility's fixed costs.[165] Without impacting the total revenue requirement, rate design can be used to adjust the proportion of revenue recovered through a volumetric basis versus fixed charges by determining which utility costs should be recovered through each mechanism. Fixed charges can be a tool for equity in that they ensure that customers who use low amounts of energy at peak periods contribute to the fixed costs that they impose on the system. That said, historically low-income customer advocates have opposed increased fixed charges as they are typically regressive, requiring a larger proportion of household income for low-income households.[166] Environmental advocates have also opposed fixed charge increases in the past due to the disincentive to conserve electricity.[167] However, as the grid has become increasingly electrified, the conversation around conservation has become more nuanced, and crucially, as more consumers have invested in DER like rooftop solar, the risk of a disproportionate impact on low-income customers of higher volumetric prices due to lower fixed charges has complicated the equity implications.[168]

In 2022, California was the first state to introduce a novel approach to fixed charges that accounts for impacts on low-income customers: an income-graduated fixed charge.[169] The merits of this model in practice have yet to be seen as implementation by utilities has yet to occur,[170] but groups that had typically opposed increased fixed charges as inequitable and unsustainable in the past have voiced their support for this particular rate design.[171]

---

163. Hernández, *supra* note 1, at 6.

164. Folks & Hathaway, *supra* note 158.

165. Thompson, *supra* note 86, at 304.

166. Severin Borenstein et al., *Designing Electricity Rates for an Equitable Energy Transition*, ENERGY INST. AT HAAS (Feb. 2021), https://haas.berkeley.edu/wp-content/uploads/WP333.pdf.

167. Chan & Klass, *supra* note 45, at 1480.

168. Borenstein et al., *supra* note 166, at 7.

169. *See infra* Part VII(B); A.B. NO. 205, at 95 (2022).

170. *Demand Flexibility Rulemaking (R.22-07-005)*, CAL. PUB. UTILS. COMM'N, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/demand-response-dr/demand-flexibility-rulemaking (last visited Oct. 15, 2024).

171. Jeff St. John, *Income-based electric bills: the Newest Utility Fight in California*, CANARY MEDIA (May 9, 2023), https://www.canarymedia.com/articles/energy-equity/income-based-electric-bills-the-newest-utility-fight-in-california; *Flat Rate Resources*, THE PUB. ADVOCATES OFFICE (Jan. 18, 2024), https://www.publicadvocates.cpuc.ca.gov/press-room/reports-and-analyses/income-graduated-fixed-charge-qa

4. Renewable Energy Rates

With the rapid increase in generation of renewable energy, rate designs unique to renewable energy have subsequently developed. Some utilities allow customers to choose to source all or some of their energy from renewable sources by opting into green rates.[172] Net-metering allows customers who generate their own electricity via DER like rooftop solar to pay only for the electricity delivered by the utility minus the power returned to the grid by the consumer's generation, net consumption at the retail rate.[173] Similar to net-metering, value of solar tariffs compensate onsite generators using a predetermined rate determined by the PUC or utility to reflect the costs and benefits of solar generation to the overall system rather than using the retail rate.[174] A newer development in renewable energy rates is the design of technology-specific rates. A 2022 Lawrence Berkeley National Laboratory study identified 217 electric vehicle (EV) rates in thirty-seven states and Washington, D.C.,[175] and in 2022, the Maine PUC approved a pilot for two heat pump-based rates.[176]

The equity of renewable energy rates often depends on access to DER or specific technologies. Barriers to entry include the up-front costs of installation or temporarily increased energy bills, lack of autonomy over utilization of renewable energy due to renting rather than owning. Low-income customers must be made aware of renewable energy rate opportunities through engagement and education, and barriers to entry must be addressed. Although renewable energy programs are beyond the scope of this article, initiatives like community solar programs are essential to ensuring an equitable green transition.[177]

IV. PROTECTIONS INDEPENDENT FROM RATE DESIGN

A. Bill Assistance Programs

Occasionally referred to as low-income rate designs, bill discounts based on income are generally applied to the entire bill, rather than at the revenue requirement or rate design stages, and can thus be seen as distinct from, but complementary to, equitable rate designs. Given that these discounts are not built into the rate itself, eligible customers must apply for these programs unless there is auto-enrollment. Eligibility for low-income programs is determined through various methods, the selection of which can have a significant impact on the efficacy of a

172. *Utility Green Tariffs*, WORLD RES. INST., https://www.wri.org/initiatives/utility-green-tariffs (last visited Oct. 15, 2024).

173. Lazar, *supra* note 9, at 138.

174. *Id.* at 79-80.

175. Peter Cappers et al., *Snapshot of EV-Specific Rate Designs Among U.S. Investor-Owned Electric Utilities*, LAWRENCE BERKELEY NAT'L LAB. (April 2023), https://eta-publications.lbl.gov/sites/default/files/ev_rate_snapshot_report-final-20230424.pdf

176. Yim & Subramanian, *supra* note 147, at 12.

177. For an in-depth discussion on solar programs and low-income customers, *see* Priya Patel, *Energy Equity: A Framework for Evaluating Solar Programs Targeting Low-Income Communities*, 43 ENERGY L. J. 299 (2002).

program in addressing energy insecurity. Measures include household income[178] (via percentage of Federal Poverty Level or state median income, energy burden, or a set number),[179] eligibility for Low Income Energy Assistance Program (LIHEAP) assistance,[180] eligibility for other state or federal public assistance programs,[181] enrollment in other utility assistance programs,[182] and evidence of vulnerable or disabled household members.[183] While any form of bill assistance is positive from an equity perspective, compared to a structural change to the ratemaking process or rate designs implemented on a more permanent basis, bill assistance could be considered a band-aid approach to energy insecurity.[184] In short, bill assistance programs will only be effective as long as electricity rates are unaffordable, and they are depend on accurate identification of needy customers, securing a steady funding source, and ongoing political support.

1. Straight Bill and Tiered Discounts

Straight discount programs reduce the bills of customers who qualify as low-income by one single percentage regardless of energy burden level. The California Alternative Rate for Energy (CARE) program discounts the electricity bills of low-income customers by 30-35% and natural gas bills by 20%.[185] Examples of straight discount programs can also be found in Alabama, Arizona, Georgia, Illinois, Kansas, Kentucky, Maine, Maryland, Massachusetts, and Rhode Island.[186] Tiered discount programs offer different percentage discounts depending on income level.[187] Consumption-based discounts, in effect, a hybrid between inclining block rates and tiered discounts, decrease as energy usage increases.[188]

2. Percentage of Income Payment Plan (PIPP)

Under PIPPs, an affordable energy burden is established based on a percentage of household income and the burden is then calculated based on the annual household income of customers. Energy costs that surpass the resulting threshold

178. *PIPP Plus*, OHIO PUB. UTIL. COMM'N, https://puco.ohio.gov/utilities/gas/resources/pipp-plus (last visited Oct. 15, 2024).

179. Lee Hansen, *Utility Rate Discounts for Low-Income Customers in Other States*, OFF. OF LEGIS. RSCH., https://www.cga.ct.gov/2018/rpt/pdf/2018-R-0051.pdf

180. *Energy Affordability Program*, N.Y. DEPT. OF PUB. SERV., https://dps.ny.gov/energy-affordability-program (last visited Oct. 15, 2024).

181. *Id.*

182. Hansen, *supra* note 179.

183. *Id.*

184. Robert Walton, *The energy system is 'inherently racist,' advocates say. How are utilities responding to calls for greater equity?*, UTIL DIVE (Oct. 26, 2022), https://www.utilitydive.com/news/energy-system-inherently-racist-utilities-responding-equity-ej-justice40/634203/.

185. *CARE/FERA Program*, CAL. PUB. UTILS. COMM'N, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/care-fera-program

186. Thompson, *supra* note 86, at 276.

187. *Id.* at 277.

188. *Id*. at 278.

are funded by ratepayers or state or federal LIHEAP funds.[189] Examples of early PIPPs can be found in Illinois, Ohio, and Pennsylvania.[190]

3. LIHEAP

The Low Income Energy Assistance Program (LIHEAP) is a federal assistance program that provides block grants derived from annual Health and Human Services (HHS) appropriations to states and tribes upon application.[191] Grantees then administer the funding through their own energy assistance programs; each state at least in part funds a low-income energy assistance program through LIHEAP.[192] LIHEAP has been criticized for underutilization[193] and underfunding.[194]

State bill assistance programs often mirror LIHEAP; funded by both LIHEAP and ratepayers, they are often administered through bill credits or other one-time payments. Other bill assistance programs focus on the form of billing and are offered by utilities themselves; prepaid metering programs allow customers to use only energy they have paid for in advance,[195] budget billing spreads energy costs evenly over a twelve-month period to avoid price spikes associated with temperature or other demand factors,[196] and arrearage management plans allow for gradual debt forgiveness when customers adhere to certain payment plans.[197] Forgiveness of customer debt through arrearage programs takes various forms based on state or utility, but the two primary models are a one-time forgiveness of full or partial debt and gradual forgiveness of customer debt after a number of timely payments.[198]

B. Other Protections

Other vital low-income assistance programs that exist outside of the rate design framework, and are therefore not the focus of this paper, include disconnection protections and funding assistance for weatherization and energy efficiency programs. Most states have disconnection moratoriums derived from the state

189. *Id.*

190. Thompson, *supra* note 86, at 277.

191. Andrea Nishi et al., *Energy Insecurity Mitigation: The Low Income Home Energy Assistance Program and Other Low-Income Relief Programs in the US*, CTR. ON GLOB. ENERGY POL'Y (Nov. 15, 2023), https://www.energypolicy.columbia.edu/publications/energy-insecurity-mitigation-the-low-income-home-energy-assistance-program-and-other-low-income-relief-programs-in-the-us/#LIHEAP.

192. *Id.*

193. Thompson, *supra* note 86, at 272; *see also* Nishi et al., *supra* note 191, at 19.

194. Thompson, *supra* note 86, at 286.

195. *Bridging the Gaps on Prepaid Utility Service*, U.S. DEP'T OF ENERGY (Sept. 2015), https://www.energy.gov/oe/articles/bridging-gaps-prepaid-utility-service#:~:text=Prepaid%20utility%20service—which%20allows,area%20where%20these%20changes%20converge.&text=Prepay%20is%20an%20alternative%20payment,balance%20as%20it%20is%20used.

196. *Budget Billing*, NYSEG, https://www.nyseg.com/w/budget-billing (last visited Oct. 15, 2024).

197. Charlie Harak, *Helping Low-Income Utility Customers Manage Overdue Bills through Arrearage Management Programs (AMP)*, NCLC (Sept. 2013), https://www.nclc.org/wp-content/uploads/2022/09/amp_report_final_sept13.pdf

198. Farley et al., *supra* note 13, at 31.

legislature or PUC, based on season, weather conditions, life-threatening medical conditions and COVID-19 emergency policies.[199] While protections against severe cold are generally comprehensive, the same cannot be said for protections for severe heat.[200] States also require varying levels of communication from utilities before disconnecting customers.[201]

Similar to LIHEAP's structure, through its congressional appropriations-funded Weatherization Assistance Program (WAP), the federal government distributes grant funding to the states to administer for weatherization in the homes of low-income customers.[202] Additionally, many states offer complementary low-income energy efficiency programs. Energy efficiency is a key avenue to addressing equity outside of the constraints of rate design as energy efficient technologies and retrofits are often cost prohibitive, preventing low-income customers from benefiting from the lower electricity bills that would result from lower energy usage due to increased energy efficiency.[203]

VI. PROCEDURAL JUSTICE

Equity is not only implicated by the substance of the ratemaking process and rate designs, but also in the access, or lack thereof, to the process. Given that decisions made in formal proceedings are based on the record of evidence developed in the proceeding itself, facilitating participation is critical to ensuring all perspectives are considered.[204] To this end, states have implemented a variety of measures to improve public access to utility proceedings.

A. State Efforts to Combat Information and Resource Asymmetry

To address the inherent disparity in resources between large utility companies and those who represent consumers, most states have created offices with the mission of representing the public in PUC proceedings: consumer advocates. Although consumer advocates represent all residential consumers, they are a critical voice for bill affordability and other interventions that help low-income consumers specifically.[205] As of 2021, forty-four states and the District of Columbia had consumer advocate offices either as independent state agencies, state attorneys general

199. Chan & Klass, *supra* note 45, at 1454; *see Disconnect Policies*, LIHEAP CLEARINGHOUSE, https://liheapch.acf.hhs.gov/Disconnect/disconnect.htm (last updated July 2024) (disconnection policies by state).

200. Chan & Klass, *supra* note 45, at 1454; *see* Matthew Flaherty et al., *Electric Utility Disconnection Policy and Vulnerable Populations*, 33 ELEC. J., 10, 1, 4 (Dec. 2020).

201. Chan & Klass, *supra* note 45, at 1454.

202. Thompson, *supra* note 86, at 278.

203. *See* Tony G. Reames, *A community-based approach to low-income residential energy efficiency participation barriers*, 21 INT'L J. OF JUST. & SUSTAINABILITY 1449, 1455 (2015).

204. Jacob Becker et al., *Regulatory Process Design for Decarbonization, Equity, and Innovation*, RMI 20 (July 2022), https://rmi.org/wp-content/uploads/dlm_uploads/2022/07/regulatory_process_design_for_decarbonization_equity_and_innovation.pdf.

205. Some consumer advocates even represent non-residential customers, but this is less common. *See* Michael Murphy & Francine Sevel, *The Role of Utility Consumer Advocates in a Restructured Regulatory Environment*, NAT'L REG. RSCH. INST. (Sept. 2004), https://pubs.naruc.org/pub/FA8626E1-0000-871D-4660-18F3E7238C8A.

divisions, nonprofits, or positions in the legislature.[206] Consumer advocates (CAs) are established by state statute excluding a few nonprofit CAs, with the statutory directive generally being to represent consumers and to operate independently from the PUC.[207] The enabling legislation will also define the scope of the CA's legal right to participate in PUC proceedings.[208] Some states have more than one consumer advocate, such as a state agency or division within the Attorney General's office in addition to a nonprofit.[209] Funding sources vary by state, and include state budgets, utilities, intervenor compensation, member dues, and philanthropic funding.[210] Persistent underfunding is an often cited barrier to efficacy of consumer advocates, in addition to the broad mandate of representation of all customers, rather than just low-income customers.[211] Nonetheless, consumer advocates have been highly effective in making rates more equitable and play an essential role in bridging the gap between PUCs and their low-income customers.[212]

Some states have also created advisory boards and other governmental bodies with the purpose of addressing procedural justice. For example, New York launched the Energy Affordability Policy Working Group consisting of representatives from state government, utilities, and other interest stakeholders pursuant to a 2021 PSC order,[213] and California created the Low Income Oversight Board (LIOB) with Senate Bill 2 from the Second Extraordinary Session (SBX2 2).[214] The LIOB advises the CPUC on low-income customer issues and serves as a liaison to low-income ratepayers for the CPUC. It consists of representatives of low-income consumers, state government, utilities, and private weatherization companies.[215] In Massachusetts, the Energy Efficiency Advisory Council (EEAC) established an equity working group to include the environmental justice perspective in future energy efficiency rulemakings.[216] FERC's establishment of an Office of Public Participation (OPP) in 2021 indicates a growing trend of facilitating public participation in utility proceedings.[217] In addition to designating specific bodies

206. Jake Duncan & Julia Eagles, *Public Utilities Commissions and Consumer Advocates: Protecting the Public Interest*, NAT'L COUNCIL ON ELEC. POL'Y 2 (Dec. 2021), https://pubs.naruc.org/pub/21475F72-1866-DAAC-99FB-1E3EE0593D06.

207. *Id.* at 2-3.

208. *Id.*

209. *Id.*

210. Duncan & Eagles, *supra* note 206, at 2.

211. *Id.* at 3, 6; *see* Elin Swanson Katz & Tim Schneider, *The Increasingly Complex Role Of The Utility Consumer Advocate*, 41 ENERGY L. J. 1, 2-3 (2020).

212. *See* Katz & Schneider, *supra* note 211, at 3.

213. *See generally Arrears Report*, N.Y. DEP'T OF PUB. SERV.: ENERGY AFFORDABILITY POL'Y WORKING GRP. (May 20, 2022), https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={C94E6142-5E56-469E-B85F-77B636C2D583}.

214. *Low Income Oversight Board, State of California*, CAL. PUB. UTILS. COMM'N, https://liob.cpuc.ca.gov/ (last visited Oct. 15, 2024).

215. *Id.*; S.B. 2, 2001 Leg., Reg. Sess. (Cal. 2001).

216. Becker et al., *supra* note 204, at 19.

217. *See generally Office of Public Participation*, FERC, https://www.ferc.gov/OPP (last updated Sept. 5, 2024).

to consider issues of affordability and equity, some PUCs have initiated generic proceedings with the specific purpose of considering issues of affordability.[218]

To support consumer advocacy efforts from intervenors, including but not limited to consumer advocates offices, some states have implemented intervenor compensation programs. These programs are funded by utilities themselves and thus ratepayers[219] and compensate non-utility stakeholders like nonprofits representing low-income consumers, typically as reimbursement after the proceedings have closed.[220] As of 2021, sixteen states had authorized these programs through legislation, but only California, Idaho, Michigan, Minnesota, Oregon, and Wisconsin were actively utilizing them.[221] Accessibility of these programs can vary with different eligibility requirements, funding amounts, and application processes depending on the state.[222] Some states allow consumer advocates to apply for compensation while others require intervenors to be utility customers; eligibility criteria typically include a showing of financial hardship and lack of prior adequate representation.[223]

Another disparity exists in information access between utility and nonutility representatives. Utilities often have the advantage of sole access to their modeling assumptions, data, and methodologies.[224] Additionally, utilities have the advantage of more funding to dedicate to experts, and experts are necessary for the effective utilization of data and analysis before the PUC. The path of least resistance thus becomes to accept utility characterizations as conclusive.[225] In New Mexico and Oregon, PUCs have required that intervenors be given free access to utility modeling software in an attempt to combat this problem.[226] In California, utilities must share their spreadsheets of assumptions as attachments to Integrated Resource Plans (IRPs) and the code of the publicly available IRP modeling software, RESOLVE, along with the assumptions, are published on the CPUC's website.[227] A 2019 NARUC resolution is indicative of the information access problem when it comes to various categories of data that speak to energy insecurity:

> states should consider requiring utilities to (1) collect monthly data that tracks uncollectibles, number of payment arrangements, number of payment arrangement defaults, number of revised payment arrangements, disconnections, reconnections, duration and frequency of disconnections, and other relevant data points; (2) make the data publicly available on a monthly basis, delineated by general residential customers and those receiving low-income assistance; and (3) file the data with State public utility commissions to be published on the public utility commission's website so that

218. *See supra* Part VII(B).

219. *State Approaches to Intervenor Compensation*, NARUC 13 (Dec. 2021), https://pubs.naruc.org/pub/B0D6B1D8-1866-DAAC-99FB-0923FA35ED1E; Becker et al., *supra* note 204.

220. *State Approaches to Intervenor Compensation*, *supra* note 216, at 22.

221. Chan & Klass, *supra* note 45, at 1501 (citing *State Approaches to Intervenor Compensation*, *supra* note 219, at 14–21).

222. Becker et al., *supra* note 204, at 16.

223. *State Approaches to Intervenor Compensation*, *supra* note 219, at 12.

224. Becker et al., *supra* note 204, at 22.

225. *See id*.

226. *Id*. at 23.

227. *Id*. at 24.

> policy makers might have access to sufficient, objective and granular data for forming public policy aimed at protecting the public health, safety and welfare.[228]

B. State Efforts to Improve Accessibility

Consumers may face obstacles in accessing energy assistance programs and PUC proceedings. Although some energy assistance programs provide for auto-enrollment, this is not always the case. Consumers may be unaware of the programs for which they qualify or unable to navigate the application process. Underutilization of energy assistance is an often-cited barrier to widespread energy security, and auto-enrollment as well as more effective outreach to low-income consumers are important tools to continue using alongside more structural changes to the ratemaking process. PUC dockets are notoriously difficult to navigate with many even lacking a keyword search function.[229] PUCs like the California PUC, New York PSC, Arkansas PSC, Illinois Commerce Commission, and Oregon PUC have established more accessible websites for featured proceedings.[230] Other methods of improving procedural justice in PUC proceedings include providing more translation options and increased flexibility in modes and times for attendance.[231]

C. Other Influences

It is important to acknowledge that influences that ultimately shape the outcomes of rate cases and generic proceedings are not always visible in the standard procedure discussed. Rate design reform often originates with consumer advocates who successfully persuade the legislature to direct PUC action or less commonly, advocates who persuade PUCs to take action.[232] PUC commissioners are appointed in 40 states while they are elected in the remaining ten,[233] and the corresponding political dynamics may impact how willing PUCs are to stray from the status quo.[234] On paper, rulemaking proceedings present an opportunity to focus solely on specific issues of equity and affordability, making them a better forum for these considerations than rate cases. But the political will of PUCs and the executive branch can impact the efficacy of advocacy in proceedings. Some of the experts consulted for this article cited experiences of being told questions of

---

228. *2019 Annual Meeting and Education Conference: Final Resolutions*, NARUC 3 (Nov. 19, 2019), https://pubs.naruc.org/pub/5B694F5B-D52A-A964-2EF3-8C734C18FC89.

229. Becker et al., *supra* note 204, at 16.

230. *Id.*; *see generally Proceedings and Rulemaking*, CAL. PUB. UTILS. COMM'N, https://www.cpuc.ca.gov/proceedings-and-rulemaking (last visited Oct. 15, 2024); *Notable Cases and Matters*, N.Y DEP'T OF PUB. SERV., https://dps.ny.gov/notable-cases-and-matters (last visited Oct. 15, 2024).

231. Becker et al., *supra* note 204, at 21.

232. Expert interviews, *supra* note 4.

233. *See Public Service Commissioner (state executive office)*, BALLOTPEDIA, https://ballotpedia.org/Public_Service_Commissioner_(state_executive_office)#:~:text=In%20all%2050%20states%2C%20the,appointed%20in%20the%20other%2040 (last visited Oct. 15, 2024).

234. Expert interviews, *supra* note 4.

equitable rate design are outside the scope of both rate cases and generic proceedings, thus being left with no forum to discuss the issue.[235] Additionally, as generic proceedings lack the concrete deadlines and self-executing binding impact of rate cases, absent legislative direction, the success of generic proceedings is largely dependent on the political will of the PUC. Although some utilities have shown genuine interest in aiding in addressing energy insecurity, ultimately, the best interest of the shareholders will be prioritized, and utilities push these interests with a large lobbying presence.[236] Many states have passed legislation to preclude treatment of lobbying costs as operating expenses to be paid for by ratepayers,[237] but the disparity between utility and customer advocate lobbying resources remains.

VII. NEW YORK AND CALIFORNIA

What follows is a snapshot of California and New York, two states that are largely considered to be at the forefront of integrating equity considerations into the work of PUCs but nonetheless boast high energy insecurity statistics. Operating based on the definition of energy insecurity as the inability to meet household energy needs, nearly 30% of New York City residents were found to be energy insecure in 2022,[238] and approximately 25% of Californians were found to be impacted by energy insecurity before COVID-19 exacerbated affordability issues.[239] Moreover, a 2023 CSR report shows that the median low-income energy burden in the Mid Atlantic is 9.4%, and on the west coast, is 6.8%,[240] both above 6%, which is defined as a "high" energy burden.[241]

A. Governing Laws

The enabling statutes of the New York PSC (NY PSC) and California PUC (CPUC) both generally provide for the standard PUC legal duties: ensuring safe and adequate service, just and reasonable charges, and prohibiting unjust discrimination, and unreasonable preference.[242] The California Public Utilities Code, enacted by the state legislature, includes explicit equity language in a number of provisions. In section 382, "Funding programs provided to low-income electricity customers; assessment of needs of low-income ratepayers," subsection B includes

235. Expert interviews, *supra* note 4.

236. Hernández, *supra* note 1, at 9.

237. Akielly Hu, *8 states move to ban utilities from using customer money for lobbying*, GRIST (Feb. 21, 2024), https://grist.org/politics/8-states-move-to-ban-utilities-from-using-customer-money-for-lobbying/.

238. *See* Eva Laura Siegel et al., *Energy Insecurity Indicators Associated With Increased Odds Of Respiratory, Mental Health, And Cardiovascular Conditions*, 43 HOUS. & HEALTH 260 (Feb. 2024), https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2023.01052.

239. *Living Without Power: Health Impacts of Utility Shutoffs in California*, UTIL. REFORM NETWORK 5 (2018), https://static1.squarespace.com/static/63c1c8c8e9c7381c9319452b/t/64d6badac0a93c195c86c626/1691794164104/2018_TURN_Shut+Off+Report_FINAL.pdf.

240. *Electric Utility Disconnections*, CONG. RSCH. SERV. (Jan. 31, 2023), https://crsreports.congress.gov/product/pdf/R/R47417.

241. *National and Regional Energy Burdens*, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON. (2020), https://www.aceee.org/sites/default/files/pdfs/ACEEE-01%20Energy%20Burden%20-%20National.pdf.

242. *See* N.Y. Pub. Serv. Law § 65 (Consol. 2024); CA. PUB. UTIL. CODE § 451 (2023).

the phrases "recognizing that electricity is a basic necessity, and that all residents of the state should be able to afford essential electricity and gas supplies" before requiring that the commission "shall ensure that low-income ratepayers are not jeopardized or overburdened by monthly energy expenditures" and explicitly authorizing the CPUC to reduce energy expenditures "through the establishment of different rates for low-income ratepayers, different levels of rate assistance, and energy efficiency programs."[243] Subsection F later specifies that "the commission shall allocate funds necessary to meet the low-income objectives in this section."[244] Section 739(d)(2) states that the CPUC shall observe "the principle that electricity and gas services are necessities, for which a low affordable rate is desirable" while ensuring that rates recover a just and reasonable amount of revenue.[245] In section 739.9, which governs adoption of fixed charges, the CPUC is required to "ensure that any approved charges . . . Are set at levels that do not overburden low-income customers."[246] In 2022, the California legislature amended this section to introduce the income-graduated fixed charge, which will be discussed in further detail below. The CPUC is also required to "[e]nsure that the energy burden of low-income electricity and gas customers is reduced" in conjunction with the LIOB.[247] In enacting California's low-income assistance program, CARE, the intent of the Legislature explicitly included "that the commission ensure CARE program participants receive affordable electrical and gas service that does not impose an unfair economic burden on those participants."[248]

The New York Public Service Law does not include similar equity-based language, but on July 18, 2019, New York passed the Climate Leadership and Community Protection Act (CLCPA). The CLCPA requires that disadvantaged communities receive no less than 35% of the overall benefits of spending on clean energy and energy efficiency programs, that agency decisions not disproportionately burden disadvantaged communities, and that reductions of greenhouse gas emissions and co-pollutants be prioritized in disadvantaged communities, and these requirements apply to all state agencies, including the PSC.[249] Specific to the PSC, the CLCPA requires the PSC to "design [renewable energy] programs in a manner to provide substantial benefits for disadvantaged communities . . . including low to moderate income consumers, at a reasonable cost while ensuring safe and reliable electric service."[250] Additionally, the PSC is assigned specific duties related to energy storage, solar deployment, and most relevant to this report, the allocation of ratepayer funds for clean energy; the provision provides that the PSC must direct NYSERDA and utilities "to develop and report metrics for energy

243. CAL. PUB. UTIL. CODE § 382(b).
244. *Id.*
245. *Id.* § 739(d)(2).
246. *Id.* § 739.9(e).
247. CAL. PUB. UTIL. CODE § 382.1.
248. *Id.* § 739.1(g).
249. S. 6599, 2019-20 Leg., Reg. Sess. § 75-0117 (N.Y. 2019).
250. N.Y. PUB. SERV. LAW § 66-p(7) (2020).

savings and clean energy market penetration in the low and moderate income market and in disadvantaged communities."[251] To fulfill these duties, the PSC initiated a proceeding entitled *In the Matter of Assessing Implementation of and Compliance with the Requirements and Targets of the Climate Leadership and Community Protection Act* that is ongoing at the time of writing this article.[252] Even more explicit about equity in the utility context than the CLCPA, the proposed New York Home Energy Affordable Transition (HEAT) Act would give explicit statutory authority to the PSC to pursue climate justice and would require the initiation of a proceeding on climate justice, including a specific inquiry into ratemaking strategies.[253]

B. Notable Approaches to Rate Design and Affordability Programs

In 2022, California became the first state to establish an income-based fixed charge by state statute. With AB 205, the California legislature amended the fixed charges section of the Public Utility Code to require that the CPUC authorize a fixed charge, which "shall be established on an income-graduated basis with no fewer than three income thresholds so that a low-income ratepayer in each baseline territory would realize a lower average monthly bill without making any changes in usage," by July 1, 2024.[254] Income-graduated was defined as "low-income customers pay a smaller fixed charge than high-income customers."[255] The bill also removed the cap on the amount of chargeable fixed charges by utilities.[256] On January 30, 2024, the California Assembly introduced AB 1999 to cap the potential fixed charge at $10 a month.[257] As of the writing of this article, AB 1999 remains in committees, but its introduction highlights the polarizing nature of an income-based fixed charge. The CPUC approved a plan on May 9, 2024,[258] under which high-income households will pay a fixed charge of $24.15 while households enrolled in CARE will pay $6 a month, and those enrolled in FERA or who live in affordable housing restricted to residents with incomes at or below 80 percent of Area Median Income will pay $12 a month.[259] This plan will reduce volumetric prices by 5 to 7 cents per kilowatt-hour.[260] Before approving this plan, the CPUC

---

251. *Id.*

252. Order on Implementation of the Climate Leadership and Community Protection Act, N.Y. PUB. SERV. COMM'N (2022).

253. S.B. 2016-A, 2023 Leg., Reg. Sess. (N.Y. 2023).

254. CAL. PUB. UTIL. CODE § 739.9(e)(1)(F).

255. *Id.*

256. A.B. 205, 2022-23 Leg., Reg. Sess. (Cal. 2022).

257. A.B. 1999, 2023-24 Leg., Reg. Sess. (Cal. 2024).

258. *CPUC Approves A New Billing Structure That Will Cut Residential Electricity Prices And Accelerate Electrification*, CAL. PUB. UTILS. COMM'N (May 9, 2024), https://www.cpuc.ca.gov/news-and-updates/all-news/cut-residential-electricity-prices.

259. CAL. PUB. UTIL. COMM'N, PROPOSED DECISION OF ALJ WANG, DECISION ADDRESSING ASSEMBLY BILL 205 REQUIREMENTS FOR ELECTRIC UTILITY (2024).

260. *CPUC Approves A New Billing Structure That Will Cut Residential Electricity Prices And Accelerate Electrification*, *supra* note 258.

rejected a utility-proposed plan that would have had the highest-income customers paying a fixed charge of $128 and five income-based tiers.[261]

California's low-income discount program, the California Alternate Rates for Energy (CARE) was established in section 739.1 of the Public Utilities Code. This section requires the PUC to "ensure that low-income ratepayers are not jeopardized or overburdened by monthly energy expenditures" and "that the level of the discount for low-income electricity and gas ratepayers correctly reflects the level of need" as determined by a low-income needs assessment outlined in section 382(d).[262] The CARE discount must be between 30 and 35% of the revenues that would have been produced for the same billed usage by non-CARE customers for utilities with 100,000+ customers and 20% with those with fewer than 100,000 customers.[263] The CPUC is required to examine methods to improve enrollment and participation in CARE and to ensure that customers who are eligible for public assistance programs in California are enrolled in the CARE program.[264] To aid in accessibility, the regulation requires utilities to use a single application form for CARE and other commission-approved programs.[265] CARE is funded by a ratepayer surcharge.[266] In addition to CARE, families whose household income exceeds that of the CARE allowances (250% of Federal Poverty Guidelines rather than the 200% required by CARE) can receive an 18% electric bill discount through the Family Electric Rate Assistance Program (FERA).[267] FERA is limited to California's three largest electric utilities, Pacific Gas and Electric Company, San Diego Gas and Electric Company, and Southern California Edison.[268] To aid in accessibility, the CPUC is required to ensure that utilities use a single application form for all commission-approved assistance programs.[269]

Independent from CARE and FERA, the CPUC initiated a more comprehensive affordability rulemaking on July 12, 2018.[270] Phase 1 established an affordability framework by establishing a definition of affordability, identifying the residential essential service level for electric, natural gas, water, and communications services, and in turn, adopting metrics to assess the services' affordability: the Affordability Ratio, Hours-at-Minimum-Wage, and SocioEconomic Vulnerability

261. Ahmad Faruqui, *How will the income-graduated fixed charges (IGFC) proposed by California's investor-owned utilities affect customer bills?*, ENERGY CENTRAL (Apr. 17, 2023), https://energycentral.com/c/um/how-will-income-graduated-fixed-charges-igfc-proposed-california%E2%80%99s-investor-owned.

262. CAL. PUB. UTIL. CODE § 739.1(b).

263. *Id.* § 739.1(c).

264. *Id.* § 739.1(e).

265. *Id.* § 739.1(f)(2).

266. *California Alternate Rates for Energy (CARE)*, CAL. PUB. UTILS. COMM'N, https://www.cpuc.ca.gov/consumer-support/financial-assistance-savings-and-discounts/california-alternate-rates-for-energy (last visited Oct. 23, 2024).

267. CAL. PUB. UTIL. CODE § 739.12.

268. *Id.*

269. *Id.* § 739.1(f)(2).

270. *Affordability Rulemaking*, CAL. PUB. UTILS. COMM'N, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/affordability (last visited Oct. 15, 2024).

Index.[271] The concluding order of this phase also directed the CPUC staff to publish an Annual Affordability Report.[272] Phase 2 determined how the affordability metrics will be implemented into CPUC efforts.[273] Adopted recommendations in the Implementation Staff Proposal of particular relevance include that the responsibility to scope and request accompanying affordability analysis be clarified as being within the purview of individual proceedings, that the affordability metrics be introduced in the first large electric IOU GRC Phase 2 proceeding, that affordability metrics be included by utilities in all applications that seek to increase revenues by at least one percent, and that for proceedings that do not trigger the one percent threshold, the implementation of the affordability metrics in rate design and revenue allocation be tested in the first Phase 2 proceeding.[274] Phase 3 is scheduled to conclude on December 31, 2024,[275] and aims to consider strategies to mitigate future energy rate increases.[276] As part of this phase, the CPUC held public town hall-style listening sessions and asked for feedback regarding how to best vet affordability issues to be considered in a future workshop.[277] The CPUC also has an ongoing disconnections proceeding that began in 2018 with the goal of reducing electric and gas utility disconnections and improving reconnection processes.[278]

In 2015, the New York PSC initiated a proceeding to examine the low-income programs offered by the major electric and gas utilities in New York with the cited primary purposes of standardizing utility low-income programs to reflect best practices, streamlining the regulatory process, and ensuring consistency with the PSC's statutory and policy objectives.[279] In 2016, the PSC adopted a statewide Energy Affordability Program (EAP) pursuant to an examination and resulting report by the PSC's staff.[280] The EAP sets a target energy burden of 6% of household income.[281] Through this proceeding, the PSC required New York utilities to implement a default tiered discount presented by the PSC or an equally protective

271. *Id.*

272. Decision Adopting Metrics and Methodologies for Assessing the Relative Affordability of Utility Service, Decision 20-07-032, at 74 (Cal. Pub. Util. Comm'n July 22, 2020) (Rulemaking 18-07-006).

273. *Affordability Rulemaking*, *supra* note 266.

274. Decision Implementing the Affordability Metrics, Decision 22-08-023, at 46-47, 58, 61 (Cal. Pub. Util. Comm'n Aug. 4, 2022) (Rulemaking 18-07-006).

275. Order Extending Statutory Deadline, Decision 23-12-026, at 1 (Cal. Pub. Util. Comm'n Dec. 20, 2023) (Rulemaking 18-07-006).

276. Assigned Commissioner's Ruling Amending Ruling of May 20, 2022 and Further Updating Proceeding Schedule for Phase 3 of Proceeding, at 1 (Cal. Pub. Util. Comm'n June 9, 2022) (Rulemaking 18-07-006).

277. *Id.*

278. Administrative Law Judge's Ruling Requiring Data From Respondent Utilities, (Cal. Pub. Util. Comm'n July 12, 2018) (Rulemaking 18-07-005).

279. Proceeding on Motion of the Commission to Examine Programs to Address Energy Affordability for Low Income Utility, Case 14-M-0565 (Cal. Pub. Util. Comm'n Jan. 9, 2015) (Instituting Order).

280. *Energy Affordability Program*, N.Y. DEP'T OF PUB SERV., https://dps.ny.gov/energy-affordability-program (last visited Oct. 15, 2024).

281. *Id.*

rate discount in their rate cases.[282] Utilities have since done so.[283] The PSC also established identification and enrollment requirements and mandated automatic enrollment in budget billing by utilities through this proceeding.[284] Households that receive assistance from a number of public assistance programs are eligible, including but not limited to the Home Energy Assistance Program (HEAP), the Supplemental Nutrition Assistance Program (SNAP), Medicaid, and Supplemental Security Income (SSI).[285] Some utilities provide for automatic enrollment in the EAP if a consumer receives benefits from a government assistance program.[286] EAP's mode of cost recovery is determined in rate cases on a case-by-case basis, but according to the PSC, the costs must be borne by all classes of customers.[287] Most recently, the PSC approved a one-time credit for eight million customers in February 2024.[288] In contrast to California's codification of CARE in the Public Utilities Code, EAP exists only as a function of NY PSC orders. The proposed NY HEAT Act would change that by codifying the goal of 6% in state law.[289]

C. Procedural Justice

Both New York and California have state agency and nonprofit consumer advocates as well as bodies that are specifically dedicated to low-income issues. The California Low-Income Oversight Board (LIOB) advises the commission on low-income customer issues and serves as a liaison for the commission to low-income ratepayers and representatives. The provided duties of the board are to monitor and evaluate implementation of programs provided to low-income customers, to aid in the development and analysis low-income customer need assessments, to encourage collaboration between state and utility programs "to maximize the leverage of state and federal energy efficiency funds" for low-income customers, to provide reports to the Legislature as requested, to assist in streamlining the application and enrollment process of low-income programs, and to "encourage the usage of the network of community service providers" for low-income energy efficiency programs.[290] As mentioned prior, the CPUC is required to work in conjunction with the LIOB to increase participation in low-income programs

---

282. Order Adopting Low Income Program Modifications and Directing Utility Filings 3-4 (N.Y. Pub. Serv. Comm'n May 20, 2016).

283. *Financial Assistance Programs*, CONSOL. EDISON CO. OF N.Y., https://www.coned.com/en/accounts-billing/payment-plans-assistance/help-paying-your-bill (last visited Oct. 15, 2024).

284. *Id.*

285. *Id.*

286. *Id*.; *see Energy Affordability Program*, NAT'L GRID, https://www.nationalgridus.com/Upstate-NY-Home/Monthly-Bill-Credits/Energy-Affordability-Program (last visited Oct. 15, 2024).

287. Order Adopting Low Income Program Modifications and Directing Utility Filings, *supra* note 282, at 4

288. *Governor Hochul Announces $200 Million in Utility Bill Relief for 8 Million New Yorkers*, N.Y. STATE (Feb. 15, 2024), https://www.governor.ny.gov/news/governor-hochul-announces-200-million-utility-bill-relief-8-million-new-yorkers.

289. S. 2016-A, 2023-2024 Leg. Reg. Sess. § 2 (2023).

290. CAL. PUB. UTIL. CODE § 382.1(a)(6).

with interested parties and community-based organizations, to provide technical support to the LIOB, critically, to "[*e*]*nsure that the energy burden of low-income customers is reduced*," and to provide formal notice of LIOB meetings.[291] Pursuant to Assembly Bill 205, the LIOB must periodically aid the CPUC in conducting an assessment of the needs of low-income ratepayers as well as an evaluation of low-income, weatherization, and energy efficiency program implementation measured by energy expenditures, hardship, language needs, and economic burdens.[292] California also has a group designed to ensure that CPUC and California Energy Commission (CEC) clean energy programs and policies benefit disadvantaged communities: the Disadvantaged Communities Advisory Group (DACAG).[293] DACAG was created by the Clean Energy and Pollution Reduction Act of 2015, SB 350.[294]

In New York, the Energy Affordability Policy Working Group was established by order in 2021 as part of the low income proceeding with the cited purpose of cooperation and coordination among the utilities, the Office of Temporary and Disability Assistance, Department of Public Service Staff (Staff), and other stakeholders.[295] The working group consists of state agencies, utilities, nonprofits, community groups, and municipal governments and has been convened to discuss improvement of the EAP and produce recommendations for the PSC.[296]

California and New York differ when it comes to intervenor compensation. According to a 2021 study by NARUC, California's intervenor compensation program is the most comprehensive in the country, paying the most in awards and issuing the most decisions.[297] The compensation program covers three categories of customers: category one customers are utility customers, category two are authorized representatives of utility customers, and category three are organization representatives who have received authorization to represent the interests of residential customers or small commercial customers via organization by-laws or articles of incorporation.[298] Compensation occurs after the completion of the proceeding upon the filing of a NOI and claim by the intervenor; categories one and two must prove undue hardship without compensation, and category three custom-

291. *Id.* § 382.1(e)(3).

292. *Id.* § 382(d).

293. *See generally Disadvantaged Communities Advisory Group*, CAL. PUB. UTILS. COMM'N, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/disadvantaged-communities/disadvantaged-communities-advisory-group (last visited Oct. 15, 2024).

294. *Id.*

295. Order Adopting Energy Affordability Policy Modifications and Directing Utility Filings 51 (N.Y. Pub. Serv. Comm'n Aug. 12, 2021).

296. New York State Energy Bill Credit Report, N.Y. DEP'T OF PUB. SERV.: ENERGY AFFORDABILITY POL'Y WORKING GRP. 2 (Nov. 21, 2023).

297. *State Approaches to Intervenor Compensation*, *supra* note 219, at 14.

298. *Id.*

ers must prove that the costs of effective participation outweigh the economic interests of their members.[299] Despite the overall success of this program, the administering CPUC ALJ Division has a backlog of claims.[300] In contrast to California, New York does not offer intervenor compensation, but a proposed New York law would have "permit[ted] groups of individuals or not-for-profit organizations that represent residential or small business customers to apply for reimbursement of its costs for reasonable advocate's fees, reasonable expert witness fees, and other reasonable costs in a proceeding before the Public Service Commission (PSC)."[301] The bill passed both the Assembly and Senate but was vetoed by Governor Hochul in November 2023.[302]

D. Other Interventions

Two remaining miscellaneous actions that impact rate equity are implementation of equity-based PIMs and prevention of recovery of utility political costs from ratepayers. New York's Reforming Energy Vision (REV) Proceeding[303] is exploring comprehensive implementation of PBR, including PIMs, decoupling, multiyear rate plans, and shared savings mechanisms.[304] According to RMI's new Emergent PIMs Database, New York electric utilities and Orange & Rockland and National Grid have implemented PIMs designed to incentivize use of energy efficiency measures to assist low-income customer savings and Central Hudson Gas & Electric has implemented a PIM designed to incentivize low-income customer savings more broadly.[305] In a separate article, RMI highlighted that New York utilities have also utilized PIMs to reduce residential service disconnections, uncollectible expenses, and customer arrears.[306] The RMI database does not report any PIMs in California that can be categorized under the emergent topics of "affordability" or "equity."[307] California does utilize PIMs based on energy efficiency[308] and self-generation using distributed energy resources[309] but does not

299. *Id.*

300. *Id.*

301. S.B. S405, 2023-2024 Leg., Reg. Sess. (N.Y. 2023).

302. *Id.*

303. *See* Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Matter No. 14-00581, N.Y. DEP'T OF PUB. SERV., https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=14-m-0101 (last visited Oct. 15, 2024).

304. Dan Cross-Call et al., *Navigating Utility Business Model Reform: A Practical Guide to Regulatory Design*, RMI (Nov. 2018), https://rmi.org/wp-content/uploads/2018/10/RMI_Navigating_Utility_Business_Model_Reform_2018-1.pdf.

305. *See PIMs Database: Emergent Performance Mechanisms across the United States*, RMI, https://pims.rmi.org/ (last visited Oct. 15, 2024).

306. *See* Gold & Rosenbach, *supra* note 111.

307. *Id.*

308. *See Energy Efficiency Shareholder Incentive Mechanism*, CAL. PUB. UTILS. COMM'N, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/energy-efficiency-shareholder-incentive-mechanism (last visited Oct. 15, 2024).

309. *Self-Generation Incentive Program (SGIP)*, CAL. PUB. UTILS. COMM'N, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/self-generation-incentive-program (last visited Oct. 15, 2024).

currently have an equivalent to New York's REV proceeding. Both New York[310] and California[311] introduced bills to preclude recovery of utility lobbying costs through rates; New York's remains in Senate committees at the time of writing while California's failed a Senate committee vote in April 2024.

VIII. CONCLUSION

Energy insecurity in the United States is a formidable problem. Solving it will require the collaborative efforts of legislators, regulators, and advocates. A number of state PUCs have made progress in addressing energy insecurity by incorporating equity considerations into their regulatory schemes. Some have relied on new statutory authority, but others have relied on broadly worded enabling statutes under which they operate.

California and New York PUCs have in particular made commendable moves towards increasing equity. Both legislatures have taken action to provide PUC authority on equity; California with language in the Public Utilities Code and New York with the CLCPA. Both have initiated affordability proceedings and have robust state bill assistance programs. Both have shown a willingness to push the boundaries when it comes to traditional cost-of-service ratemaking, with California's Income-Graduated Fixed Charge and New York's Reforming Energy Vision (REV) Proceeding.[312] Both have taken measures to improve procedural justice that set them apart from many states. Other states should look to and try to replicate their success.

State legislatures should consider enacting legislation that (1) expands PUC authority to endorse explicit consideration of equity in ratemaking and in the rate case forum, (2) requires PUCs to implement specific equitable rate designs, (3) forms specific bodies and proceedings to establish a dedicated forum for consideration of equity in the ratemaking context, (4) makes structural changes by using performance-based regulation to alter utility incentives or by determining which costs may be excluded from the rate formula, (5) funds intervenor programs and Consumer Advocate Offices, and (6) requires public access to utility modeling assumptions, data, and methodologies. Even absent new state legislation, PUCs should interpret existing authority broadly considering the historical deference provided to PUC actions and pursue many of these same actions independently.[313] PUCs should also pursue measures outside of the formal regulatory context, including, but not limited to, instituting auto-enrollment, improving educational outreach, implementing more user-friendly PUC websites and dockets, providing translation options, and increasing flexibility in modes and times of PUC proceedings.

When it comes to rate design, there is no objectively most equitable model. While inclining block rates generally benefit low-income customers as they use

310. S.B. 7637, 2023-2024 Leg., Reg. Sess. (N.Y. 2023).

311. S.B. 938, 2023-2024 Leg., Reg. Sess. (Cal. 2023).

312. However, the former is explicitly an equity-based rate design while the latter has so far excluded equitable rate design considerations.

313. Excluding performance-based ratemaking, which likely does require statutory authorization.

less electricity, affordability of the lowest tier is critical to avoid undesirable energy saving measures by customers. Additionally, more granular use-based rates based on appliance or building type may present an opportunity for innovative rate design to benefit low-income customers. While time-of-use rates can be inequitable due to information asymmetry, outreach and education efforts can allow for low-income customers to take advantage of these rates as a cost-saving measure. Historically advocates have understood fixed charges to disproportionately harm low-income customers, but novel approaches like the income-graduated fixed charge can make increasing fixed charges a more equitable measure. Finally, the equitability of renewable energy rates often turns on consumer access to distributed energy resources like rooftop solar. The potential for either equitable or inequitable outcomes depending on technical implementation of each mainstream rate design underlines the importance of explicit consideration of equity in, and improved accessibility to, the ratemaking process.

Even with the improvements documented in this article, energy insecurity persists. An estimated 25% of California families are impacted by energy insecurity,[314] and approximately 1 million New Yorkers faced energy poverty between 2015 and 2019 according to the most recent U.S. census data.[315] State efforts must continue with the ultimate goal of a more transformational paradigm-shift within the ratemaking process: equity should be an explicit consideration in all rate cases and effective participation in the ratemaking process should be made feasible for all. The equity measures considered in this article depend in part on state-specific political amenability. Less common interventions may face significant political opposition from utilities and regulators, but identification of these opportunities is an essential first step. Advocates and regulators should prioritize equity in ratemaking just as economic efficiency and energy efficiency have been in the past. This article provides a number of possible avenues to get started.

314. *Energy Insecurity and Health: Reducing and Avoiding Disconnections*, ALAMEDA CNTY. DEP'T OF PUB. HEALTH (Dec. 2018), https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_website/content/utilities_and_industries/energy/energy_programs/electric_rates/alameda-county-department-of-public-health-brief.pdf.

315. Jonathan A. Lesser, *Energy Poverty in New York: The Adverse Impacts of the State's Green Power Mandates*, MANHATTAN INST. (June 30, 2022), https://manhattan.institute/article/energy-poverty-in-new-york.