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Highly Charged: An Explainer on California's Income-Graduated Fixed Charge Debate

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I. Executive Summary

California's new income-graduated fixed charge is a narrow policy giving voice to fierce debates about the future of our electric power system. A 2022 California law requires the Public Utilities Commission to restructure the way electric system costs are recovered through residential electricity bills. The Commission must shift some costs currently recovered through the volumetric charge—the charge that apportions costs based how much electricity ratepayers use—into a separate fixed charge, with a commensurate reduction in the volumetric charge. The fixed charge is to be imposed on an income-graduated basis and must provide bill relief to low-income customers. Alongside the Public Utilities Commission proceeding delving into the details of implementation, a campaign to repeal the statutory provisions mandating the charge has emerged, elevating the tensions and stakes of the proceeding.

This is neither a single nor a simple debate. Parties to the Public Utilities Commission proceeding are grappling with multiple interrelated questions about equity, decarbonization, and reliability of the electric power system. The urgent challenge of climate change and the growth of new distributed energy resources has disrupted the electricity sector, creating space for new stakeholders and new visions. These debates over the energy transition are playing out against a cost-of-living crisis in California. The soaring costs of our electric power system are compounding this broader cost-of-living strain and burdening a substantial number of low- and middle-income customers.¹ Climate change is expected to increase these costs into the future, both generally and in the electric power system, as extreme weather events, wildfire risk, and electrification targets require upgrades to our aging infrastructure.²

Contested visions for the future of the electric power system sit at the center of the debates over how California should distribute its costs, which rate design will best support greenhouse gas emission reductions, and how the state can ensure reliable electricity service as essen-

1 Vanessa Rancaño, *Rising Utility Costs Compound California's Housing Crisis*, KQED (Dec. 19, 2023), <https://www.kqed.org/news/11970332/rising-utility-costs-compound-californias-housing-crisis>; Herman K. Trabish, *California's 'Affordability Crisis' Attracts Innovative Ratemaking and Regulatory Proposals*, UTILITY DIVE (May 19, 2022), <https://www.utilitydive.com/news/californias-affordability-crisis-attracts-breakthrough-ratemaking-and-re/622593/>.

2 For costs outside the electric power sector, see Maanvi Singh, *'We Can't Escape': Climate Crisis is Driving Up Cost of Living in the US West*, THE GUARDIAN (July 21, 2023), <https://www.theguardian.com/us-news/2023/jul/21/climate-crisis-cost-of-living-energy-water-california>; Brianna Sacks, *California Plans Big Insurance Shifts As Climate Change Hits Home*, WASHINGTON POST (Sept. 22, 2023), <https://www.washingtonpost.com/climate-environment/2023/09/21/california-insurance-risks-fire-climate/>.

tial electrification efforts increase strain on the grid. This paper analyzes how these contested visions interact with the material interests of major stakeholders and with the tools of electricity rate design to shape stakeholder positions in the income-graduated fixed charge debate.

Clarifying the contours of the income-graduated fixed charge debate is important. Even if the burgeoning campaign to repeal the income-graduated fixed charge is successful and the idea of an income-graduated fixed charge is put to rest, the material interests and contested visions driving these fierce debates aren't going anywhere. They will continue to play out in debates over future rate design, electrification strategy, and who should have to contribute to the costs of the energy transition.

Thus far, a relatively narrow subset of Californians has engaged on this issue, but important questions about equity and climate change are at stake. A broader constituency should feel informed and empowered to weigh in. The electric power system impacts all of us, not just the interest groups who stand to profit from it. But the details matter, and public messaging has repeatedly gotten it wrong on the income-graduated fixed charge. The paper clarifies and contextualizes the debates in play. The purpose of this paper is not to propose a particular outcome for the income graduated fixed charge proceeding—parties to the proceeding have spent close to two years developing thoughtful and detailed contributions to that debate. Instead, it makes several recommendations for research institutions, the California Public Utilities Commission, California lawmakers, and journalists interested in covering this issue:

The electric power system impacts all of us, not just the interest groups who stand to profit from it.

- **California lawmakers should not halt the ongoing income-graduated fixed charge proceeding**, wasting the time and resources that have been dedicated to this multi-year proceeding by parties on all sides of the issue. Repealing the income-graduated fixed charge mandate puts off essential discussions about the structure of rates without clarifying widespread misunderstandings about the policy, and delays much-needed bill relief.
- **The CPUC, for its part, must ensure that the income-graduated fixed charge—ideally the first version, but certainly those that follow—is meaningfully progressive.** This is aligned with AB 205's statutory mandate and should provide bill relief to low- and middle-income ratepayers. An inadequately progressive IGFC, on the other hand, risks undermining support for the policy overall and continuing to erode public trust.
- **Research institutions, public institutions, and state regulators bear the responsibility of making these important issues accessible to the public and to California lawmakers.** The misleading public discourse on the income-graduated fixed charge reflects a need for public education on the structure of the electric power sector and the competing values at play. **Future research and writing is needed, and should clearly convey: the competing values shaping rate design; the unavoidable tradeoff between electrification and conservation in rate design; the divergent material interests at stake; and the structure of the public utility model and alternative visions for the grid.**

II. Introduction

While certainly loud and hyperbolic, the disagreements at the core of the IGFC have not been clearly conveyed to a broader public.

The California Public Utilities Commission (CPUC) is in the midst of a contentious proceeding to restructure residential electricity rates in order to comply with a 2022 California law, Assembly Bill (AB) 205. The law requires the CPUC to shift some costs currently recovered through a volumetric charge³ into a new income-graduated fixed charge (IGFC), marking a change from past practice.⁴ A Sierra Club brief characterized the proceeding this way: “Responses on both ends of the extreme have been loud, hyperbolic, and based in theory, rather than in response to AB 205 or the realities of the current rate structure.”⁵ Joint filings from the Natural Resources Defense Council and Utility Reform Network (NRDC/TURN) have cited a “concerted misinformation campaign,”⁶ and at least one new coalition appears to have been formed to oppose the policy and discredit its supporters.⁷ The issue has, in short, been controversial.

WHAT IS AN INCOME-GRADUATED FIXED CHARGE?

An income-graduated fixed charge would restructure electricity bills in two ways. First, it would shift some of the costs currently bundled into customers’ volumetric charge into a separate fixed charge. Second, the fixed charge would be imposed on an income-graduated basis.

Investor-owned utilities recover their systemwide costs through our electric bills. The volumetric charge recovers costs on the basis of electricity use (dollars per kWh). Fixed charges recover costs through a fixed monthly fee (dollars per month). Currently, California IOUs recover virtually all systemwide costs through the volumetric charge, even though many costs don’t vary based on use. Shifting rates to recover some costs through a fixed charge instead of a volumetric charge is intended to accomplish three goals:

- a) **Reduce the price of electricity use and by extension, reduce the barrier to the electric vehicle and appliance adoption imposed by current very high volumetric prices;**
- b) **Ensure that all ratepayers contribute to the fixed costs of the electric power system;**
and
- c) **Reduce bill volatility.**

The income-graduated mechanism is intended to provide bill relief to low-income ratepayers and to ensure that overall systemwide costs are equitably distributed.

While certainly loud and hyperbolic, the disagreements at the core of the IGFC have not been clearly conveyed to a broader public. Filings in the IGFC proceeding are highly technical. The central theoretical and political debates are often buried under economic modeling and technical jargon. Media coverage, on the other hand, has frequently mischaracterized the policy. Some coverage has oversimplified the rate change to make it appear like an additional fee tacked onto existing bills rather than a restructuring of the same costs. Public figures have inaccurately stated or implied that the fixed charge directly increases revenue for investor-owned

³ A volumetric charge is a charge based on use, specifically how many kilowatt hours of electricity a customer consumes.

⁴ Assembly Bill (AB) 205, 2022 Leg. Serv. (Cal. 2022).

⁵ Track A Opening Brief of Sierra Club in Rulemaking 22-07-005 (Oct. 6, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K530/520530434.PDF>.

⁶ Reply Comments of TURN/NRDC on the Administrative Law Judge’s Ruling on Implementation Budget and Timing Issues (Track A) in Rulemaking 22-07-005 (Feb. 12, 2024), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M525/K361/525361958.PDF>.

⁷ The Coalition for Environmental Equity and Economics, <https://ceeetruth.org/>.

utilities even though it is revenue neutral. Others have proclaimed that the rate change will hurt low-income customers, even though the statute specifically mandates that low-income customers⁸ realize bill savings without changing their use.

A proposed decision issued earlier this spring cooled some of the rhetoric when it offered a conservative first-version, but the underlying questions persist and the stakes are high. California urgently needs to reduce greenhouse gas emissions from the energy sector at the same time the state shores up electricity reliability and resilience in the face of wildfires and other climate-related events. The costs of the electric power system are soaring, compounding the state's broader cost-of-living crisis. These high costs are being spread across a shrinking public as more Californians install rooftop solar panels, a climate benefit that generates savings for the owners of those panels but shifts many of those costs to remaining ratepayers. The IGFC is one concrete intervention intended to support electrification, increase bill stability, and more equitably distribute these rising costs, using the limited tools of electricity rate design.

Attempts to evaluate the potential impact of the IGFC have often fallen short. One reason is that, until the March 27 proposed decision issued a first version IGFC, there was only a broad statutory mandate, not a specific plan. Many different proposals were under consideration, and they differed substantially from one another. The proposed decision ultimately took elements from several proposals, rather than adopting one wholesale. There remain multiple different approaches to a second version IGFC, as the first version is intended as a transitional step in a "gradual implementation." Some analysis and stakeholder messaging, however, attempted to extrapolate the potential impact of an IGFC broadly based on these individual proposals.⁹ Conveying the likely outcomes of the policy is important work, but drawing conclusions about an IGFC broadly based on one of many divergent proposals often proved to be misleading. In practice, this approach has had the effect of generating misunderstanding and outright opposition, instead conveying the important, interrelated issues at stake.

This paper takes a different approach. Instead of comparing a few of the many potential proposals side-by-side, this paper identifies three core ideas that prompted the IGFC mandate in AB 205 and provides theoretical and political background to contextualize the role these ideas have played in the IGFC proceeding and public debate. Three questions at the heart of the IGFC proceeding are:

- How should rate design equitably distribute the costs of maintaining and operating the electric system?
- How should rate design support stable retail electricity rates?
- How should rate design balance new electrification goals with the longstanding electricity conservation and efficiency rate design principles in the interest of reducing greenhouse gas emissions?

The equitable distribution of our electric system's costs and rate stability are both goals named in AB 205.¹⁰ The appropriate balance between electrification and conservation or effi-

The costs of the electric power system are soaring, compounding the state's broader cost-of-living crisis.

8 The Administrative Law Judge in the proceeding has interpreted this mandate to mean that the average low-income ratepayer realizes bill savings. Proposed Decision of ALJ Wang Addressing Assembly Bill 205 Requirements for Electric Utilities in Rulemaking 22-07-005 (March 27, 2024), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M528/K422/528422138.PDF>.

9 A legislator letter of concern drafted in October of 2023, for example, argues that "analysis shows that rate payers just outside of the CARE and FERA income levels who consume less electricity will ultimately pay more..." but the letter neither acknowledges that there are many proposals under consideration nor identifies which party's proposal the referenced analysis is based on. Letter to President Alice Busching Reynolds RE: Income Graduated Fixed Charge Rate Design from Jacqui Irwin *et al.* (Oct. 27, 2023), available at <https://static.politico.com/0e/06/ae/7f527c4b848899a3f9b7d5c1ad/cpuc-fixed-charge-10-27-letter.pdf?nname=california-climate&nid=00000189-315c-d8dd-a1ed-797dc9f10000&nrid=704da4cd-5504-4fc3-9ed9-61002c020156&nlid=2745178>.

10 AB 205 (2022) ("In regards to Section 739.9 of the Public Utilities Code, as amended by this act, it is the intent of the Legislature to do both of the following: (1) Authorize the Public Utilities Commission to establish reasonable fixed charges on default residential customer rates to help stabilize rates and equitably allocate and recover costs among residential customers in each electrical corporation's service territory").



ciency has arguably been the most heated topic in the public and the proceeding respectively.

This paper begins by providing background on the purpose and tools of electricity rate design in Part III. In Part IV, the paper contextualizes the income-graduated fixed charge proceeding in its political and legal history and describes the policy's surging opposition. Part V covers the major stakeholders in the proceeding, describing their material investment in various rate designs. Part V also describes contested visions for the future of the electric power system, proposing four ideal types: the traditional public utility vision; the neoliberal, individualist vision; the public power vision; and the distributed, democratic vision. Finally, Part VI briefly summarizes how these competing visions and material interests are interreacting with the concrete rate design questions at stake in the income-graduated fixed charge proceeding and describes the first version IGFC issued in the March proposed decision. The paper concludes with several recommendations.

III. Introduction to Rate Design

The IGFC changes the current electricity rate design in California. Before diving into the details of the policy, this section provides an overview of the purpose of rate design, as well as the constraints and power of rate design to impact the core issues of equity, rate stability, and decarbonization (as debated in the context of electrification and conservation).

We often think of electric utilities as the companies that sell us electricity, but their function is broader than this. Investor-owned utilities (IOUs) are in the business of running our system of electricity provisioning, and our electricity bills reflect the costs not just of the electricity itself but of this system. This function dates back to the Progressive Era. Electric utilities were considered natural monopolies—entities that tended towards consolidation and operated most efficiently as a monopoly, but couldn't be adequately regulated by antitrust law.¹¹ Policymakers, thus, developed a new regulatory approach for industries marked by these characteristics: granting them monopolies to operate systems of publicly-regulated provisioning.

Instead of one utility's power lines slicing through your city, imagine the overlapping power line systems of a five or more competing utilities—this was what a competitive market for electricity utilities looked like prior to the public utility compromise. The early competitive market was inefficient, polluting, and unsightly. And the utilities ultimately tended to consolidate anyway. This compromise, sometimes called the “regulatory compact,” was adopted in the early 20th Century. The public utility compromise granted electricity companies monopoly rights to operate in specific jurisdictions, at prices set by the government to prevent the abuse of their monopoly status.¹² The compromise was between proponents of public power (publicly-owned utilities) and proponents of privately-owned and largely unregulated monopolistic utility companies. The compromise acknowledged that the electricity industry operated more efficiently as a monopoly and so protected regulated utilities from competition, at the same time it protected customers from the abuses associated with unregulated monopoly. Publicly-owned and cooperative utilities remain commonplace and have seen resurgent interest in recent years, but the regulated IOU became the dominant structure nationally, as measured by customers served.¹³

Under this model, public utilities commissions set each IOU's revenue requirement, the systemwide amount that an IOU needs to recoup in order to cover its costs and make a reasonable return on its prudent investments.¹⁴ Public utility commissions then conduct proceedings to determine how this revenue should be recovered through electricity rates. In California, the costs IOUs are authorized to collect from ratepayers are determined in Phase I of General Rate Cases. The allocation of those costs to different customer classes is determined in Phase II of the General Rate Cases.¹⁵ In Phase II, public utilities commissions also evaluate specific rate designs

Investor-owned utilities (IOUs) are in the business of running our system of electricity provisioning, and our electricity bills reflect the costs not just of the electricity itself but of this system.

- 11 See, e.g., Dan Awrey & Joshua C. Macey, *Open Access, Interoperability, and DTCC's Unexpected Path to Monopoly*, 132 YALE L. J. 1 (Oct. 2022), <https://www.yalelawjournal.org/article/open-access> (“But bigger sometimes really is better. When industries exhibit significant economies of scale, it is often more efficient for a small number of firms to supply the entire market. In fact, scholars and policymakers have argued over the past century that various industries are natural monopolies best served by a single firm.”)
- 12 See, e.g. Aneil Kovvali & Joshua C. Macey, *The Corporate Governance of Public Utilities*, 40 YALE J. REG. 569 (2023), <https://www.yalejreg.com/wp-content/uploads/Aneil-Kovvali-Joshua-C.-Macey-The-Corporate-Governance-of-Public-Utilities.pdf>.
- 13 There are actually more cooperative and publicly-owned utilities than IOUs, but IOUs serve many more customers. U.S. Energy Information Admin., *Investor-Owned Utilities Served 72% of U.S. Electricity Customers in 2017* (Aug. 15, 2019), <https://www.eia.gov/todayinenergy/detail.php?id=40913>.
- 14 The revenue requirement is “based on the cost of operating, maintaining, and financing the infrastructure used to run the utility; and on the cost of its procured fuel and power.” Cal. Pub. Util. Comm’n, *Electric Costs*, <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs>.
- 15 Cal. Pub. Util. Comm’n, *General Rate Case GRC Phase II*, <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-rates/general-rate-case-grc-phase-ii>.

that will recoup the allocated costs and meet various social and economic goals. Rate design can also be addressed in more general terms in separate public utilities commission proceedings, like the ongoing IGFC proceeding.

Rate design is a distributive policy mechanism—it’s about how the pie is sliced. This distributive quality constrains rate design in some important ways and compels it in others. On the one hand, rate design cannot change the underlying costs or affect the total revenue requirement. It cannot grow or shrink the size of the pie. This limits rate design’s ability to decrease costs or to completely address rate volatility, for example, on its own. On the other hand, because the exercise of rate design necessarily entails distributive decisions, there can be no neutral, pre-political rate design.¹⁶ No rate design can avoid favoring some kinds of electricity use and some users over others.¹⁷ When this inevitably occurs, it is called a “cross subsidy” (or, when undesirable, a “cost shift”).¹⁸

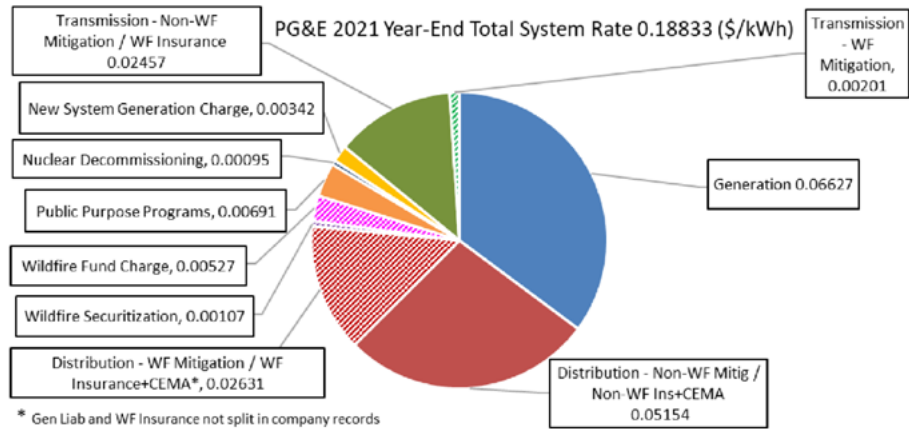
Rate design has evolved over time to meet new political and material challenges.¹⁹ Today, a range of tools and principles are available to tailor rate design to specific needs. Common rate design elements include volumetric charges (\$/kWh) and fixed charges (\$/month).²⁰ Sometimes regulators also include demand charges, which bill customers based on their peak use during a given period.

It’s important here to distinguish between charges and costs. The different charges described above can be used to recover different the costs that comprise IOUs’ revenue requirements. These costs include the cost of energy generation and distribution, but also transmission costs and the costs of connecting customers to the grid. In California, systemwide costs also include wildfire mitigation programs, nuclear decommissioning costs, and a range of “public purpose programs,” such as the Energy Savings Assistance program and the California Alternate Rates for Energy program. Fixed or volumetric charges can both be used to recover either fixed or variable costs, at least in theory. In California, IOUs typically recover all systemwide costs through the volumetric charge. Fixed charges were capped at \$10 per month until the passage of AB 205. Higher fixed charges are more common nationally, though these fixed charges are often limited to “customer costs,” like those associated with connecting to the grid.²¹

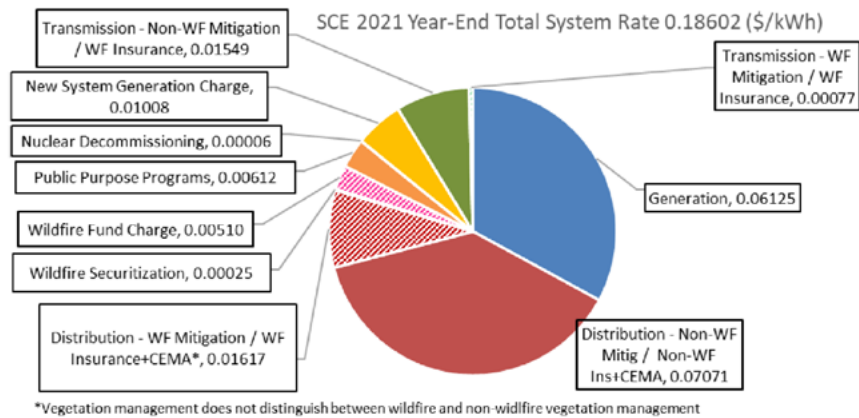
...because the exercise of rate design necessarily entails distributive decisions, there can be no neutral, pre-political rate design.

- 16 See, e.g., William Boyd, *Ways of Price Making and the Challenge of Market Governance in U.S. Energy Law*, 105 MINN. L. R. 739 (2020), <https://scholarship.law.umn.edu/mlr/3215>.
- 17 See James C. Bonbright, *Principles of Public Utility Rates*, COLUMBIA UNIV. PRESS (1ST ED., 1961) AT 377, available at <https://www.raonline.org/wp-content/uploads/2023/09/powellgoldstein-bonbright-principlesofpublicutilityrates-1960-10-10.pdf> (“Complete avoidance of discrimination is therefore impossible when rates in the aggregate are above marginal costs”).
- 18 See, e.g. Decision 23-04-040 Adopting Electric Rate Design Principles and Demand Flexibility Design Principles in Rulemaking 22-07-005 (April 27, 2023) at 12, 3.3 Electric Rate Design Principle 3, <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M507/K837/507837776.PDF>.
- 19 In the earliest days of electricity provisioning, fixed, flat charges (based, for example, on the size of the building or number of lights) were common because metering technology was expensive. Flat volumetric rates were adopted as metering technology improved, followed by split rates that included both a fixed charge to cover the capitol cost of extending service to new residences as well as the volumetric charge. Much like in the debates over fixed charges today, utilities at the time favored adding a separate fixed charge because it allowed them to lower their volumetric rate, therefore incentivizing use and building out the new market for electricity. See William J. Hausman and John L. Neufeld, *Time-of-Day Pricing in the U.S. Electric Power Industry at the Turn of the Century*, 15 RAND J. ECON. 116 (1984), <https://www.jstor.org/stable/3003674>.
- 20 Cal. Pub. Util. Comm’n, General Rate Case GRC Phase II, <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-rates/general-rate-case-grc-phase-ii> (“Rate design elements may include fixed charges (\$/month) as well as energy charges (\$/kWh). For larger non-residential customers, demand charges (\$/kW) may apply as well.”) Note that volumetric rates can be flat or variable. Variable rates include tiered rates, where increasing use puts ratepayers into different blocks with different volumetric rates, as well as time-of-use rates, where the volumetric rate shifts throughout the date or year in relation to peak and off-peak times.
- 21 See, e.g., Ahmad Faruqui and Kirby Leyshon, *Fixed Charges in Electric Rate Design: A Survey*, 30 *Electricity J.* 32 (2017), <https://www.sciencedirect.com/science/article/pii/S1040619017302828>; Lisa Wood et al., *Recovery of Utility Fixed Costs: Utility, Consumer, Environmental, and Economist Perspectives*, BERKELEY LAB (JUNE 2016), <https://eta-publications.lbl.gov/sites/default/files/lbnl-1005742.pdf>.

PG&E 2021 Total System Rate by Components with Additional Wildfire Cost Breakout

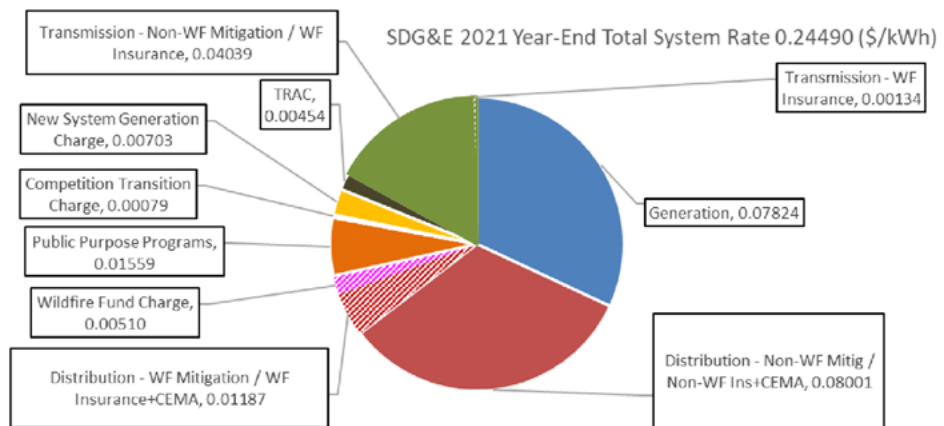


SCE 2021 Total System Rate by Components with Additional Wildfire Cost Breakout



These figures from the 2022 SB 695 Report reflect the breakdown of costs that California’s big three IOUs recouped through total system electricity rates in 2021. Only some of these costs vary based on use but virtually all are recovered through volumetric rates.²²

SDG&E 2021 Total System Rate by Components with Additional Wildfire Cost Breakout



22 2022 Senate Bill 695 Report: Report to the Governor and Legislature on Actions to Limit Utility Cost and Rate Increases Pursuant to Public Utilities Code Section 913.1, CAL. PUB. UTIL. COMM’N (May 2022), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2022/2022-sb-695-report.pdf>

...regulators have historically turned to rate design principles to guide the design process.

The task of rate design is to design charges that recover all systemwide costs—both fixed and variable—included in IOUs’ revenue requirement, in order to meet social and economic goals. Regulators and IOUs are constrained, however, by one additional factor: limited information upon which to base rates. IOUs have access to basic information about ratepayer households, like where they are located, but most important information comes from meters. Traditional meters record the total amount of electricity consumed, like an odometer.²³ With only a sum of total monthly use upon which to base rates, there are limited possible rate structures. Newer smart meters provide far more granular information about household use over time. Adding the additional variable of time to the information available upon which to base rates is helping facilitate dynamic pricing schemes and other demand response tools.

In order to design rates that allocate systemwide costs given these constraints and obligations, regulators have historically turned to rate design principles to guide the design process. The Bonbright Principles have served as the canonical guidelines for rate design since they were published in 1961.²⁴ James C. Bonbright’s seminal treatise took a pluralistic approach, identifying multiple values that should be considered in rate design. Bonbright was an economist and his principles included economic efficiency, but the treatise also highlighted what he called the “social” principles of ratemaking—those that made services “responsive to social needs and social costs.”²⁵ The Bonbright Principles are comprised of eight criteria for rates:

1. **The related, “practical” attributes of simplicity, understandability, public acceptability, and feasibility of application.**
2. **Freedom from controversies as to proper interpretation.**
3. **Effectiveness in yielding total revenue requirements under the fair-return standard.**
4. **Revenue stability from year to year.**
5. **Stability of the rates themselves, with a minimum of unexpected changes seriously adverse to existing customers. (Compare “The best tax is an old tax.”)**
6. **Fairness of the specific rates in the apportionment of total costs of service among the different consumers.**
7. **Avoidance of “undue discrimination” in rate relationships.**
8. **Efficiency of the rate classes and rate blocks in discouraging wasteful use of service while promoting all justified types and amounts of use: (a) in the control of the total amounts of service supplied by the company; and (b) in the control of the relative uses of alternative types of service.²⁶**

The balance of these principles has shifted over time and some of the principles have been updated to reflect our changing needs in response to climate change and new technologies.²⁷ The remainder of this section will describe some of these changes as they apply to the three major issues in the IGFC proceeding: equity, stability, and the electrification versus conservation and/or efficiency tension central to decarbonization.

²³ See, e.g., PG&E, SmartMeter, <https://www.pge.com/en/save-energy-and-money/energy-saving-programs/smartmeter.html>.

²⁴ James C. Bonbright, PRINCIPLES OF PUBLIC UTILITY RATES, *supra* note 18.

²⁵ Bonbright at 110.

²⁶ Bonbright at 291.

²⁷ See, e.g., Karl R. Rábago and Radina Valova, *Revisiting Bonbright’s Principles of Public Utility Rates in a DER World*, 31 ELECTRICITY J. 9 (2018), <https://doi.org/10.1016/j.tej.2018.09.004>.

A. Rate Design and Equitably Distributing Systemwide Costs

The question of how the costs of the electric system should be equitably distributed is linked to the distributive quality of rate design. Regulators must consider how to slice the pie, given the specific kinds of costs at stake, relying only on the information providing by meters and some basic household data, and considering the desirability of the resulting cross subsidies.

Fair cost apportionment is one of the primary criteria of concern to Bonbright.²⁸ Bonbright Principles 6 (“Fairness of the specific rates in the apportionment of total costs of service among the different consumers”) and 7 (“Avoidance of “undue discrimination” in rate relationships”) are particularly relevant to the question of how systemwide costs can be equitably distributed. Both implicate the question of how rates can be designed to reduce cross subsidies, in particular more undesirable cross subsidies.

Cross subsidies occur when higher rates for one group of customers subsidize lower rates for another group. They arise in many contexts and at various scales,²⁹ from broad to very granular. Cross subsidies aren’t always undesirable. Intentional cross subsidies include the California Alternative Rates for Energy (CARE) program—these rate reductions for lower-income customers are recouped through slightly higher rates for everyone else in order to ensure that everyone has access to enough electricity to meet their basic needs safely.³⁰ Another simple example of a cross subsidy is imposing the same rates on urban and rural ratepayers, even though it costs more to provide service to rural households. As a result, urban ratepayers end up subsidizing rural ratepayers.

Colloquial use of “subsidy” implies an artificially higher or lower price, but cross subsidies in electricity rates aren’t artificial dynamics operating against a natural landscape—after all, the rates are designed. *All* electricity rates are an artifact of policy and all ratemaking is social ratemaking.³¹ This is a necessary and desirable component of the public utility compromise in which IOUs are granted monopoly rights to operate but their rates must be set through public utility commission proceedings. The question, therefore, is not whether a given cross subsidy is artificial, but whether it is desirable.

One principle often implicated in the evaluation of whether a given cross subsidy is desirable, or at least acceptable, is “cost causation.” Cost causation “means that costs should be borne by those customers who cause the utility to incur the expense.”³² Cost causation is intended to help remove undesirable cross subsidies by ensuring the customers are charged only for the costs they impose on the system.

28 Bonbright at 292 (discussing the three primary objectives of rate design). Bonbright also called this fairness criteria “beyond the competence of professional economists,” citing a tendency of economist to refuse to recognize fairness issues, in favor of the “optimum-use or consumer rationing objective. Bonbright at 293.

29 See, e.g., Order Instituting Rulemaking 12-06-013 on the Commission’s Own Motion to Conduct a Comprehensive Examination of Investor Owned Electric Utilities’ Residential Rate Structures, the Transition to Time Varying and Dynamic Rates, and Other Statutory Obligations (June 21, 2012) at 15, https://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/169782.pdf (“Numerous variables, including climate, income, occupancy patterns, number of occupants, square footage per occupant, building shell efficiency, equipment efficiency, and building type, influence electricity consumption”). Cross subsidies can occur for each of these (and more) metrics, based on rate design and average use patterns along each metric.

30 *Id.*

31 See, e.g. William Boyd, *Ways of Price Making and the Challenge of Market Governance* in U.S. ENERGY LAW, 105 MINN. L. R. 739, 743–44 (2020); Alexandra B. Klass and Gabriel Chan, *Regulating for Energy Justice*, 7 NYU L. R. 1426, 1462-1463 (2022), <https://repository.law.umich.edu/cgi/viewcontent.cgi?article=3764&context=articles> (Part III, All Ratemaking is Social Ratemaking, arguing that “While advocates of economic development rates often contend that business rates do not implicate the same “social ratemaking” concerns associated with low-income rates, we argue that they are two sides of the same coin and merit close comparison.”)

32 Order Instituting Rulemaking 12-06-013 on the Commission’s Own Motion to Conduct a Comprehensive Examination of Investor Owned Electric Utilities’ Residential Rate Structures, the Transition to Time Varying and Dynamic Rates, and Other Statutory Obligations (June 21, 2012) at 13, https://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/169782.pdf.



A mismatch in cost causation is a key concern driving the IGFC. It is generally uncontroversial that ratepayers should pay the costs of the electricity they use (though determining precisely which costs actually vary based on use is a key point of contention). For those costs that do vary based on use, including many of the costs of electricity generation and distribution, a volumetric charge can capture their variation in a way a fixed charge cannot. Recouping these costs through a volumetric charge is aligned with the cost causation principle because it matches the costs ratepayers impose with the charges on their bill. Recovering the fixed costs of the electric power system, however, presents more challenging questions and contested responses. This is because fixed costs, definitionally, do not vary based on use. As a result, imposing those fixed costs based on use will necessarily create a cross subsidy.

In California, fixed cost recovery has come under scrutiny in recent years for violating the cost causation principle and failing to meet fairness goals, giving rise to calls for an IGFC. California IOUs recover essentially all systemwide costs through a volumetric charge. A 2021 study, however, found that over half of the costs included in California ratepayers' volumetric charges do not actually vary based on use.³³ That is, the costs to operate the electric power system, whether they vary based on use like electricity generation or they don't, like wildfire mitigation programs, are all recovered through a charge imposed on the basis of how much electricity ratepayers use. One result of this approach is a cross subsidy in which households that use more electricity subsidize the fixed costs of households that use less. In the past, this particular cross subsidy was deemed acceptable. It didn't generate a compelling equity argument because high electricity users were consistently wealthier households. The widespread adoption of rooftop solar panels, however, has changed this calculus.

³³ Severin Borenstein, Meredith Fowlie, and James Sallee, *Designing Electricity Rates for an Equitable Energy Transition*, ENERGY INSTITUTE AT HAAS AND NEXT 10 (2021), <https://www.next10.org/sites/default/files/2021-02/Next10-electricity-rates-v2.pdf>. This study served as the catalyst for public discussion of the IGFC, as Part IV will discuss.

Owners of rooftop solar receive bill credits for the electricity they generate, often resulting in volumetric charges that are very low, zero, or sometimes negative.³⁴ Owners of rooftop solar panels are also disproportionately high-income. To be clear: higher-income households in California have higher average electricity use than low-income households,³⁵ but this is not the relevant metric for evaluating the regressivity of the cross subsidy. The regressivity of the cross subsidy depends the proportion of rooftop solar owners who are high income, not the proportion of high-income people with rooftop solar panels. That is, it depends on the makeup of the group *from whom* costs are shifted and the makeup of the group *to whom* costs are shifted. The group from whom costs are shifted—owners of rooftop solar—is disproportionately wealthy relative to the group to whom costs are shifted—the rest of the ratepayers.

Current controversies aside, the general question of how best to recover the fixed costs of shared infrastructure is longstanding. The debate is informed by a robust academic and policy literature that current fixed charge concerns have made relevant once again. In the mid-20th century, a debate raged in economics departments about how the fixed costs of public infrastructure should be recovered. Marginal cost pricing, the idea that goods should be priced at the cost of producing one additional unit of that good, was gaining steam in academia and in policy. In industries with high fixed costs like the electric power sector, however, regulators struggled to determine how they could sell electricity at marginal prices while recovering the fixed costs of the extensive infrastructure buildout underway throughout the mid-century. The marginal cost of producing an additional unit of electricity was low, but the infrastructure required to safely and swiftly distribute that electricity was expensive. In order to base ratepayers' bills on the marginal cost of electricity, utilities would need to recoup the fixed costs of managing the electric system in some other way. Two proposals dominated the discussion: either those fixed costs should be imposed in a separate fixed charge alongside the volumetric charge, or those fixed costs could be recouped separately through tax revenue.³⁶

This theoretical discussion played out in practice at IOUs and in public utility commission proceedings several decades later, over the course of the 1970s and 1980s. Neither proposal was implemented wholesale. Taxes were politically untenable and large fixed charges were disfavored for several reasons. Environmental advocates were concerned that fixed charges would disfavor conservation at a time when electricity generation was comprised almost entirely of fossil fuel-based sources. Consumer protection advocates opposed high fixed charges on fairness grounds, because without a mechanism like the IGFC's income-graduation, fixed charges would be regressive. This meant that, despite the fact that setting rates at marginal cost was becoming a key rate design principle—and is still today one of the CPUC's Rate Design Principles³⁷—the fixed costs of

34 Recent reforms to California's net energy metering program (now called the Net Billing Tariff) are highly relevant and as controversial as the IGFC. An in-depth discussion of net energy metering is beyond the scope of this paper. In simple terms, however, recent changes to the program have reduced the rate at which new owners of rooftop solar are credited for the energy they generate and increased incentives for rooftop solar owners to adopt battery storage. See CPUC Modernizes Solar Tariff to Support Reliability and Decarbonization, Cal. Pub. Utilities Comm'n, <https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-modernizes-solar-tariff-to-support-reliability-and-decarbonization>.

35 See, e.g., Laura Bliss, *L.A.'s New 'Energy Atlas' Maps Who Sucks the Most Off the Grid*, BLOOMBERG (LA County Residential Energy Consumption by Median Income), <https://www.bloomberg.com/news/articles/2015-10-06/ucla-energy-atlas-maps-electricity-and-gas-consumption-in-l-a-county>.

36 Energy law scholar, William Boyd, describes Harold Hotelling's argument for cost recovery through the tax code as follows: "In an important 1938 article, Harold Hotelling took this problem head-on arguing that the best way to maximize "the general welfare" with respect to infrastructure investments marked by declining costs was for the government to use taxes on income, inheritances, and land to pay for the fixed (overhead) costs of the physical assets and to charge the public a price that was set at marginal cost, which in the case of most infrastructure would be very low or even zero. According to Hotelling, two groups would be likely to object to such a scheme: the wealthy and land speculators. But any losses they incurred would be more than offset by benefits accruing to the public at large." William Boyd, *Decommodifying Electricity*, forthcoming in 97 SOUTHERN CAL. L. R. 101 (2024).

37 This longstanding principle was readopted in the IGFC proceeding as Electric Rate Design Principle (2): *Rates should be based on marginal cost.*

our electricity system continued to be bundled into a volumetric charge alongside the cost of the electricity itself, at least in California.

The adoption of rooftop solar is positive, but it has reshaped the calculus about the political acceptability of a cost shift from higher to lower electricity users and reopened questions about the basis upon which the fixed costs of our electric system should be recovered. These concerns implicate policy far broader than just rate design. The IGFC is one intervention intended to use the limited tools of rate design to mitigate this cost shift and ensure that all ratepayers contribute to systemwide costs that don't vary based on electricity use.

B. Rate Stability

Volatility is a measure of prices determined by the degree of variation, rather than the overall level of prices.³⁸ Price volatility is a major concern for ratepayers and electricity regulators.³⁹ Volatility implies the potential for large and unexpected bill changes for customers, which can impose serious burdens, particular for low-income ratepayers. Large bill variation can also disincentivize major investments in electrical appliances. Bonbright Principle 5 prioritizes the stability of rates “with a minimum of unexpected changes seriously adverse to existing customers.”⁴⁰

From the flat monthly charges imposed in the earliest days of electricity provisioning to the newest real-time pricing, the structure of rates can shape the volatility of ratepayers' bills. Residential customers are buffered from the volatility of wholesale prices⁴¹ because retail rates are set based on monthly averages, but rate design still has an impact. Including costs in fixed charges is one tool that can be used stabilize monthly bills.

Rate stability can be in tension, however, with dynamic pricing schemes that intentionally vary volumetric rates over the course of the day or year.⁴² Dynamic pricing schemes, like time-of-use pricing, are designed to change rates regularly enough to incentivize ratepayers to use more electricity at some times and less at others. These programs can offer bill savings to households with an interest in and ability to adjust their electricity use in line with price signals. These programs can also help balance overall demand to support system reliability. For households with less control over their use or a less developed understanding of the dynamic rates, however, these pricing schemes could result in higher and more volatile bills. Regulators must balance the desire for price signals adequate to shift customer behavior with the need to avoid volatile rates.

Rate stability depends on two factors: the volatility of the costs being recovered, and the ability of the rate design scheme to buffer that volatility. The costs of retail electricity are impacted by supply costs, weather and climate-related events, geopolitical developments, and

From the flat monthly charges imposed in the earliest days of electricity provisioning to the newest real-time pricing, the structure of rates can shape the volatility of ratepayers' bills.

38 U.S. Energy Info. Admin., What Is Price Volatility, https://www.eia.gov/naturalgas/weekly/archivenew_ngwu/2003/10_23/Volatility%2010-22-03.htm (“The term “price volatility” is used to describe price fluctuations of a commodity. Volatility is measured by the day-to-day percentage difference in the price of the commodity. The degree of variation, not the level of prices, defines a volatile market”).

39 See, e.g., Ryan Hanna, Emily Carlton, Sean Smillie, *Opinion: Californians Need to Be Protected from Volatile Energy Prices*, SAN DIEGO UNION TRIBUNE (March 27, 2023), <https://www.sandiegouniontribune.com/opinion/commentary/story/2023-03-27/opinion-californians-need-to-be-protected-from-volatile-energy-prices>.

40 Bonbright at 291.

41 Wholesale electricity prices are more volatile than some other commodities because there are limited available substitutions.

42 A CPUC white paper that set the stage for the demand flexibility proceeding that includes the IGFC implementation notes that, “Several of the principles support dynamic pricing rates (based on marginal cost, encourages conservation during peak demand). However, other principles like stability and understandability are compromised by hourly or even daily price changes.” *Advanced Strategies for Demand Flexibility Management and Customer DER Compensation*, ENERGY DIVISION OF CAL. PUB. UTIL. COMM’N AT 107 (June 22, 2022), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/demand-response-workshops/advanced-der---demand-flexibility-management/ed-white-paper---advanced-strategies-for-demand-flexibility-management.pdf>.

the wholesale electricity and natural gas markets. As many filings in the IGFC proceeding have acknowledged, no rate design mechanism can fix the problem of price hikes or price volatility alone.⁴³ Cost reduction must occur alongside rate reform.⁴⁴

C. Conservation and Efficiency Alongside New Electrification Goals

Conservation is a longstanding rate design principle. Bonbright's Principle 8 discourages "wasteful use of service while promoting all justified types and amounts of use."⁴⁵ Conservation gained heightened importance generally in the wake of the energy crisis in the 1970s. In California, conservation is one of the enumerated Rate Design Principles the CPUC adopted in 2014. The 2014 principle asserts, "Rates should encourage conservation and energy efficiency."⁴⁶ Notably, and as this paper will discuss in Section VI, the CPUC's stance on conservation is changing to reflect new climate priorities. The conservation principle was recently amended to delete the word conservation altogether, along with several other changes, to reflect California's strategy to reduce greenhouse gas emissions through electrification.⁴⁷

Conservation of electricity has been a longstanding rate design priority for environmental advocates because electricity was primarily generated by the combustion of fossil fuels until very recently.⁴⁸ When this was the case, essentially all conservation of electricity meant a corresponding reduction in greenhouse gas emissions. As more and more renewable generation comes online,⁴⁹ however, this is less likely to be the case. When increased electricity use displaces natural gas use, it reduces greenhouse gas emissions due to California's increasingly renewables heavy generation portfolio. In fact, as California generation gets closer to 100% renewables, rate design designed to promote electricity conservation can have the counterintuitive effect of *increasing* greenhouse gas emissions if they deter or slow consumers from switching from gas to electric.

Conservation remains an important priority writ large. Conserving unnecessary or wasteful use of electricity can help counterbalance the beneficial increase in use that will come with electrification. However, in the narrow context of rate design, the limited rate design toolkit sets conservation in direct tension with electrification goals. Rates designed to promote conservation impose higher charges for greater electricity consumption. Tiered rates, where higher tiers of use impose higher rates per kilowatt hour, are a prime example. If rates are effectively designed to discourage electricity consumption overall, however, they will correspondingly discourage

As many filings in the IGFC proceeding have acknowledged, no rate design mechanism can fix the problem of price hikes or price volatility alone. Cost reduction must occur alongside rate reform.

43 The CPUC SB 695 Report, *supra* note 22, states, "Cost reduction strategies result in a direct impact on electric IOU revenue requirement savings because they reduce the size of the overall "pie" of costs that utilities are authorized to recover through rates, and this benefits all customers. Cost allocation and rate design strategies redistribute costs and have an indirect impact, because they reduce system costs only to the extent that they can alter customer incentives to achieve greater alignment between energy usage and grid conditions over time." 2022 Senate Bill 695 Report: Report to the Governor and Legislature on Actions to Limit Utility Cost and Rate Increases Pursuant to Public Utilities Code Section 913.1, CAL. PUB. UTIL. COMM'N AT 48 (May 2022), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2022/2022-sb-695-report.pdf>.

44 *Id.*

45 Bonbright at 291.

46 Order Instituting Rulemaking 22-07-005 to Advance Demand Flexibility Through Electric Rates at 5 (July 7, 2022, <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M496/K285/496285639.PDF>).

47 The new principle is: Electric Rate Design Principle (4): Rates should encourage economically efficient (i) use of energy, (ii) reduction of greenhouse gas emissions, and (iii) electrification.

48 This paper is focused on the California context and refers here to the generation portfolio of California IOUs.

49 2017 was the first year that California drew most of its electricity from "carbon-free" sources. 2021 California Clean Energy Almanac, https://www.energy.ca.gov/sites/default/files/2022-02/2021_EnergyAlmanac_ADA.pdf. In 2019, 63% of California's electricity came from non-fossil fuel sources. Liz Gill, Aleecia Gutierrez, and Terra Weeks, *SB 100 Joint Agency Report: Charting a path to a 100% Clean Energy Future*, CAL. ENERGY COMM'N AT 40 (2021), available at <https://www.energy.ca.gov/publications/2021/2021-sb-100-joint-agency-report-achieving-100-percent-clean-electricity>. SB 100 requires 60% of California's electricity to be generated by renewables by 2030 and 100% of California's electricity to be "zero-carbon" by 2045. "The 100 Percent Clean Energy Act of 2018," Senate Bill 100 (SB 100, De León).



the adoption of electric appliances—the two go hand-in-hand. Rate design can only distribute costs on the basis of the information provided by existing metering technology: time and quantity of use. Meters do not distinguish between an equivalent increase in electricity consumption because someone replaced their gas stove with an electric stove versus because they’ve started an amateur cryptomining operation from their basement.⁵⁰ An equivalent increase is an equivalent increase and an equivalent decrease is an equivalent decrease.

While these characteristics make rate design a crude tool for encouraging beneficial electricity use and discouraging use deemed wasteful overall, they do make rate design well suited to incentivizing or disincentivizing use *at particular times*. Dynamic rates, for example, can help balance load by encouraging ratepayers to shift their use to certain times of day. Balancing load through efficient use, however, is not the same as discouraging use overall. Efforts to promote systemwide conservation still have an essential role to play. These broader conservation efforts, however, are better suited to policy mechanisms that can more precisely target reductions in electricity consumption without creating barriers to the electrification we need to reduce emissions.

Encouraging rapid electrification is a key piece of California’s strategy to reduce greenhouse gas emissions. California lawmakers have adopted a number of concrete targets and policies to this end. California is aiming for 100% of new cars and passenger trucks sold in the state to be zero-emissions by 2035.⁵¹ The state is engaged in multiple efforts to reduce greenhouse gas emissions from buildings, including an ongoing Building Decarbonization proceeding at

50 Technological changes, and in particular the adoption of artificial intelligence-operated smart home systems could identify end uses on the basis of load profile, but these technologies are not common nor is the information necessarily available to IOUs. Moreover, there would likely be significant pushback and potentially legal challenges to rate design that relies on artificial intelligence to identify the kind of end uses for ratepayers’ electricity and assigns prices on that basis.

51 Cal. Air Res. Board, California Moves to Accelerate to 100% New Zero Emission Vehicle Sales by 2035, <https://www2.arb.ca.gov/news/california-moves-accelerate-100-new-zero-emission-vehicle-sales-2035>.

the CPUC,⁵² a California Energy Commission plan for building decarbonization that pushes for efficient electric appliances,⁵³ and changes to the state building code like a shift to electric heat pump space and water heating.⁵⁴ Policymakers can employ a wide range of tools to promote (or deter) the adoption of electric vehicles and appliances. Electricity rate design is one such tool.

Regulators can design rates that reduce the price of electricity use (through the volumetric charge) and, by extension, reduce the cost of operating electric vehicles and appliances. (Both operating cost and the upfront capital cost of these investments matter, but rate design can only impact the former.) Reducing the volumetric rate to decrease the cost of running electric appliances, however, conflicts with the older rate design principle to promote conservation of electricity, as discussed above. The 2023 update to the conservation Rate Design Principle reflects this new tension and has shifted the focus away from conservation across the board towards a more precisely targeted goal: “(i) economically efficient use of electricity, (ii) reduction of greenhouse gas emissions, and (iii) electrification.”⁵⁵

An increase in electricity use relative to gas is desirable from a climate mitigation perspective, but it presents serious challenges to ensuring that this new demand doesn’t overload the grid. The transition from gas to electric must be accompanied, therefore, by investments in new grid infrastructure and the development of tools to balance increasing demand. Increasing generation and transmission capacity will ensure that higher peaks from more electrical use overall are covered, while tools to balance demand, including demand flexibility, can shift load over the course of the day so the highest peak isn’t quite so high. The inclusion of “economically efficient use of electricity” and “reduction of greenhouse gas emissions” both support the adoption of demand flexibility tools. The IGFC implicates these concerns because the policy is intended to promote electrification, alongside equity and rate stability. As a result, the IGFC debate is one of many places these broader concerns about the tension between reliability, efficiency, and electrification are finding voice.⁵⁶ We need both new infrastructure and improved demand response—the current (lively) debates in the IGFC context and more broadly are over how much of each.

52 R1901011 Order Instituting Rulemaking Regarding Building Decarbonization, https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP:57:RIR:P5_PROCEEDING_SELECT:R1901011.

53 CAL. ENERGY COMM’N, *California Building Decarbonization Assessment – Final Commission Report*, available at <https://www.energy.ca.gov/publications/2021/california-building-decarbonization-assessment>.

54 Pierre Delforge, *California Forging head on Zero Emission Buildings*, NAT’L RES. DEFENSE COUNCIL, <https://www.nrdc.org/bio/pierre-delforge/california-forging-ahead-zero-emission-buildings>.

55 Updated Rate Design Principle, *supra* note 47. See *infra* part VI(c) for more discussion of the recent update to the conservation rate design principle.

56 See, e.g., Evan Symon, *Income Based Electric Rate System Proposed by California Energy Companies*, CAL. GLOBE (April 15, 2023), <https://californiaglobe.com/fr/income-based-electric-rate-system-proposed-by-california-energy-companies/> (suggesting that encouraging more electricity use means introducing greater strain on the grid); Nadja Popovich and Brad Plumer, *A Key Part of America’s Plan to Slash Emissions: Plug in Cars and Trucks*, N.Y. TIMES (April 14, 2023), <https://www.nytimes.com/interactive/2023/04/14/climate/electric-car-heater-everything.html> (asking the question of “can the grid handle it?” in the context of general electrification efforts as a tool to fight climate change). Implications for system reliability are playing out and related to the IGFC in many ways beyond the scope of the proceeding. The debate over the impact of AB 205 on peaking power plants (or “peaker plants”) is directly related to covering the peak demand, which is expected to increase with electrification, for example.

IV. IGFC Background and Context

In the span of just a few years, the idea of an income-graduated fixed charge was popularized in policy circles, passed into law without debate, and incorporated into a CPUC proceeding. Shortly thereafter, the IGFC faced increasing backlash and became the object of a legislative repeal campaign. This section explains where the idea of an IGFC came from and how we got here, but begins with a basic explanation of what an “income-graduated fixed charge” is.

In California, we generally cover the costs of our electric system through the volumetric charge on our electricity bills. The more electricity you use, the more you pay to cover the costs of that electricity, but also to cover range of other costs related to the operation of our electric system. California’s new IGFC policy marks a change from this practice.⁵⁷ The policy will shift a portion of costs that are currently recovered through the volumetric charge into a new fixed charge. This does not change the total costs recovered, it changes how the cost recovery is structured. The fixed charge itself must be “income-graduated” in order to avoid disproportionately burdening lower-income Californians and to affirmatively provide bill relief to those who need it most.

A. Berkeley White Paper Origins

The idea for a California IGFC was popularized in a Berkeley Haas Institute report in 2021. The authors of the Berkeley report, “Designing Electricity Rates for an Equitable Energy Transition,”⁵⁸ are economists, and the report proposes a technical solution to a technical problem. The authors found that more than half of the costs that California IOUs charge ratepayers don’t change based on how much electricity a ratepayer uses, even though they are recovered through rates based on how much electricity ratepayers use (in the volumetric rate).⁵⁹ The report further concluded that the recovery of these fixed costs through volumetric rates is regressive in part due to the rooftop solar cost shift describe in Part III(a). The report explains that lower- and average-income households are having to “cover high fixed costs from a shrinking base as wealthier customers leave for rooftop solar.”⁶⁰

The Berkeley paper and a follow-up report proposed two possible interventions to mitigate these harms: reducing volumetric rates and recovering the difference through either

57 The national trend towards greater interest in fixed charges dates to a 2013 Edison Electric Institute report that identified the disruptive challenge distributed resources pose for the traditional invest-owned utility model. Peter Kind, *Disruptive Challenges: Financial Implications and Strategic Response to a Changing Retail Electric Business*, EDISON ELECTRIC INSTITUTE (2013), <https://www.ourenergypolicy.org/wp-content/uploads/2013/09/disruptivechallenges-1.pdf>. Many of utility-supported pushes for increased fixed charges have been squashed due to their regressive impacts. The new IGFC’s income-graduated mechanism is responsive to these shortcomings. As a result, this policy has generated new political alliances and fierce pushback as the traditional arguments opposed to fixed charges have lost some of their power and supporters. The changing stances on this issue are described in the joint opening brief of the Utility Reform Network and the National Resources Defense Council—two organizations that have traditionally opposed higher fixed charges, but have supported the new IGFC in California. TURN/NRDC Joint Opening Brief in Rulemaking 22-07-005 (Oct. 6, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K533/520533300.PDF> (“TURN/NRDC have historically opposed the adoption of any fixed charges for residential electricity customers... Current support for an IGFC by TURN and NRDC reflects an important evolution in perspective driven by changed circumstances. These changed circumstances include significantly higher average rates, the recognition that a growing portion of costs in retail rates are unaffected by changes in customer consumption, a shift in state policy to support aggressive transportation and building electrification, a binding state commitment to achieve a 100% zero carbon electric sector target by 2045, and the opportunity to promote equity and affordability (in the form of reduced bills for low-income customers) by distributing some grid and policy costs based on income”).

58 Severin Borenstein, Meredith Fowlie, and James Sallee, *Designing Electricity Rates for an Equitable Energy Transition*, *supra* note 33 at 5. 59 66 to 77 percent of the costs investor-owned utilities (IOUs) recover from California ratepayers are associated with costs that don’t change based on how much electricity a ratepayer uses. *Id.*

60 *Id.* at 4, 10 (“That analysis suggests that the current approach to cost recovery by increasing volumetric rates—essentially a volumetric tax—is quite regressive.”)

a) tax revenue (the classic Hotelling method described in Section III) or b) an income-graduated fixed charge on customers' electricity bills.⁶¹ Both interventions attempt to reduce the costs of operating electric appliances and vehicles relative to gas appliances and vehicles. Shifting costs out of the volumetric rate to either a fixed charge on electric bills or to tax revenue reduces the price per kilowatt hour customers are charged. All systemwide costs still need to be recovered, but because the shifted costs are no longer apportioned on the basis of electricity use, they no longer disincentive electricity use. Both interventions also mitigate the regressive distribution of fixed costs associated with increasing adoption of rooftop photovoltaic panels. The authors have freely conceded that recovering electric system costs through the tax code is politically untenable and therefore they favored the income-graduated fixed charge as the more practical option.⁶²

The debate over the appropriate role for fixed charges on electricity bills is by no means new. The Berkeley papers changed the terms of this old debate, however, by proposing an *income-graduated* fixed charge to correct for the regressivity of fixed charges. In addition to the regressivity problem, higher fixed charges have been historically disfavored because they reduce the incentive to conserve electricity, but California's new climate goals for electrification have turned the conservation conversation on its head.

B. AB 205 Actions and Goals

In 2022, AB 205 authorized the new income-graduated fixed charge and required the CPUC to implement the charge by July 2024.⁶³ When AB 205 was up for debate, little attention was paid to the IGFC provisions in Section 14. There were no recorded comments on or objections to the IGFC provisions.⁶⁴ Most legislator attention focused on another part of the bill that created a reserve fund that some legislators worried would perpetuate the use of peaking power plants.⁶⁵

The Legislature's stated intent in shifting a portion of the costs currently collected in a volumetric charge to an income-based fixed charge was to "help stabilize rates, equitably allocate and recover costs among residential customers," and to "ensure that the fixed charges are established to more fairly distribute the burden of supporting the electric system and achieving California's climate change goals..."

The statute mandated several actions to implement the IGFC. First, it authorized the CPUC to increase fixed charges, repealing the preexisting cap that had been set at \$10. Second, it required the CPUC to authorize a fixed charge for residential rates no later than July 1, 2024.⁶⁶

61 Severin Borenstein, Meredith Fowle, and James Sallee, *Paying for Electricity in California: How Residential Rate Design Impacts Equity and Electrification*, NEXT 10, <https://www.next10.org/sites/default/files/2022-09/Next10-paying-for-electricity-final-comp.pdf>.

62 See Severin Borenstein, *Rebalancing Rates for Electrification and Equity*, ENERGY INSTITUTE BLOG (May 1, 2023), <https://energyathaas.wordpress.com/2023/05/01/rebalancing-rates-for-electrification-and-equity/>.

63 Severin Borenstein, Meredith Fowle, and James Sallee, *Designing Electricity Rates for an Equitable Energy Transition*, *supra* note 33.

64 Cal. State Assembly, Media on Demand, Assembly Floor Session, Wednesday, June 29, 2022, <https://www.assembly.ca.gov/media/assembly-floor-session-20220629> (discussion of AB 205 begins at about 3:18:40).

65 The peaker plant issue is related to the IGFC through concerns about system reliability. As we electrify, we will need to increase electric system capacity to ensure reliability. Peakers are power plants that only come online to meet peak demand. Peakers can impose environmental justice concerns and localized air pollution, so an important question is how we can reduce our reliance on peaker plants, even as we increase electricity use. For this reason, some measures aimed at promoting electrification can be seen as in tension with efforts to close peaker plants.

66 Some opponents have argued that the law does not actually require, but merely authorizes, the CPUC to create the new IGFC. Motion of Alexis K. Wodtke for Commission Ruling Following a Residential Customer of PG&E to Participate in a Hearing on Whether Changed and New Rates of Public Utilities are Authorized in Rulemaking 22-07-005 (June 19, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M511/K719/511719413.PDF>. This argument was rejected by the Administrative Law Judge (ALJ) assigned to the proceeding and did not gain much traction overall. Instead, the pushback to the new policy has accepted the CPUC's statutory obligation and, in response, coalesced around legislative fixes.

Third, the law required these fixed charges to “be established on an income-graduated basis with no fewer than three income thresholds.” Finally, the law required that any new fixed charges meet three criteria. The fixed charge was required to: 1) Reasonably reflect an appropriate portion of the different costs of serving small and large customers; 2) Not unreasonably impair incentives for conservation, energy efficiency, and beneficial electrification and greenhouse gas emissions reduction; 3) Be set at levels that do not overburden low-income customers.⁶⁷

C. IGFC Implementation in Demand Flexibility Rulemaking 22-07-005

The CPUC proceeding dealing with the implementation of the IGFC is a bit confusing, in part because it has been folded into a broader proceeding on demand flexibility.⁶⁸ AB 205 was signed by the governor on June 30, 2022.⁶⁹ An Order Instituting Rulemaking for a CPUC proceeding “To Advance Demand Flexibility Through Electric Rates” was filed less than a month later, on July 22, 2022. The proceeding has two tracks, one focused on the IGFC implementation (Track A) and one focused on demand flexibility (Track B).⁷⁰ The two-track structure keeps these issues distinct, but proceeding filings reveal how parties are analyzing the IGFC in the context of demand flexibility concerns.⁷¹

Demand flexibility⁷² relies on new technologies to make granular, automated changes to customer load in response to various market signals.⁷³ Changing the profile of ratepayer use can accom-

67 AB 205.

68 The order instituting the demand flexibility rulemaking also came on the heels of a CPUC whitepaper that proposed strategies for advancing demand flexibility “through a universally accessible, dynamic, and economic signal” that had been published in June. ALJ/S9/sgu, Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates (July 14, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M496/K285/496285639.PDF>; Achintya Madduri et al., *Advanced Strategies for Demand Flexibility Management and Customer DER Compensation: Energy Division White Paper and Staff Proposal*, CAL. PUB. UTIL. COMM’N (June 22, 2022), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/demand-response-workshops/advanced-der---demand-flexibility-management/ed-white-paper---advanced-strategies-for-demand-flexibility-management.pdf>.

69 Assembly Bill (AB) 205, History, Leg. Info, https://leginfo.ca.gov/faces/billHistoryClient.xhtml?bill_id=202120220AB205.

70 Track A of the proceeding is set to establish the new IGFC, while Track B is intended to “streamline and expedite the adoption of demand flexibility rates for large investor-owned electric utilities.” Assigned Commissioner’s Phase 1 Scoping Memo and Ruling, CPUC Rulemaking 22-07-005 (Nov. 02, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M498/K072/498072273.PDF>.

71 The CPUC Energy Division’s Demand Flexibility Whitepaper published in the lead up to the proceeding noted that stakeholders “have suggested that a comprehensive review of the underlying electricity rate policies is needed to address a range of serious issues” in the CPUC’s demand response programs. Such issues included “the proliferation of “boutique” technology-specific rates (e.g., for solar, electric vehicles, and storage), incentives for uneconomical load management, non-equitable fixed cost recovery and related cost shifts, and inability to monetize DER capabilities.” Achintya Madduri et al., *Advanced Strategies for Demand Flexibility Management and Customer DER Compensation: Energy Division White Paper and Staff Proposal*, CAL. PUB. UTIL. COMM’N (June 22, 2022), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/demand-response-workshops/advanced-der---demand-flexibility-management/ed-white-paper---advanced-strategies-for-demand-flexibility-management.pdf>.

72 The CPUC has defined demand response as “reductions, increases, or shifts in electricity consumption by customers in response to economic or reliability signals.” Decision (D)17-12-003. Demand flexibility takes the traditional idea of demand response and shifts it into overdrive. Traditional demand response programs have used pricing schemes to encourage customers to shift their electricity use to times of day when overall demand is lower or when more electricity is available. Demand flexibility programs are responsive to the shortcomings of this approach.

73 Demand flexibility “uses communication and control technology to shift electricity use across hours of the day while delivering end-use services (e.g., air conditioning, domestic hot water, electric vehicle charging) at the same or better quality but lower cost.” Peter Bronski et al., *The Economics of Demand Flexibility*, ROCKY MOUNTAIN INST. (Aug. 2015) at 5, https://rmi.org/wp-content/uploads/2017/05/RMI_Document_Repository_Public-Reperts_RMI-TheEconomicsofDemandFlexibilityFullReport.pdf. See also Lisa Cohn, *Is Load Flexibility the New Demand Response?*, MICROGRID KNOWLEDGE (July 12, 2019) (defining load flexibility as a form of demand response “that controls electricity usage in real time, sometimes using common household appliances like smart thermostats and water heaters”), <https://www.microgridknowledge.com/distributed-energy/article/11429571-is-load-flexibility-the-new-demand-response>.

plish several goals related to electric system reliability and decarbonization, including reducing overall peak load, balancing load over the course of the day, and integrating intermittent renewables.⁷⁴ The purpose of the CPUC demand flexibility rulemaking is to develop new policies and rates that use this approach to shape electricity consumption.⁷⁵ The demand flexibility proceeding is expected to address “updates to rate design principles, fixed charge reform, guidance principles for demand flexibility, and approaches to streamline the patchwork of niche rates and demand-side programs to expand the use of demand flexibility beyond early adopters.”⁷⁶

Proceeding parties have highlighted how specific IGFC proposals could impact load management.⁷⁷ Shifting a portion of costs from a volumetric charge to a fixed charge has the potential, as opponents have pointed out, to diminish the price signal that traditional demand response programs rely on to shift consumer behavior. This also means, however, that the two issues should be considered together to avoid rates that work at cross purposes with demand flexibility mechanisms. In addition to this connection, the technologies needed for demand flexibility programs, such as smart devices and distributed energy resources, must be “inexpensive and ubiquitous” in order to effectively shift overall demand.⁷⁸ The structure of retail rates impacts how accessible and appealing these technologies are to customers. The inclusion of both topics in a shared proceeding reflects their reciprocal impact, and their linked impact on equitable electricity bills and system reliability.

- 74 Demand response and demand flexibility mechanisms can incentivize a shift in use from peak hours to times of lower system-wide usage. This kind of shift can both help balance load over the course of a given day, reducing the likelihood that the grid will be overloaded at any one moment, and can decrease overall peak load—the greatest amount of electricity required at any one moment—reducing systemwide capacity requirements. Reducing overall load has the potential to reduce the need for new infrastructure investments. Ratepayer consumption can also be shifted to improve the integration of renewable resources. Solar and wind resources generally come online at particular times of day and in particular seasons (solar peaks at midday and in the summer months, wind is highly site-specific, but generally peaks at night in the winter and the springtime). Shifting consumption throughout the day and year can help integrate these patterns, working with them instead of against them. Peter Bronski *et al.*, *The Economics of Demand Flexibility*, *supra* note 73; *Wind Generation Seasonal Patterns Vary Across the United States*, U.S. ENERGY INFO. ADMIN. (Feb. 25, 2015), <https://www.eia.gov/todayinenergy/detail.php?id=20112>; Matthew Samuel Lave, Abraham Ellis, and George Nail, *Comparison of Solar and Wind Power Generation Impact on Net Load Across a Utility Balancing Area*, IEEE 43rd Photovoltaic Specialists Conference (2016), <https://www.osti.gov/biblio/1368867>. A Rocky Mountain Institute Brief explains: “While solar generation reaches its peak around midday when the sun is high in the sky, peak demand usually occurs later in the afternoon and early evening as temperatures peak and families return home. To adjust this misalignment, demand flexibility technologies can shift electricity consumption from times of high load to hours with high renewable availability.” *Insight Brief: Demand Flexibility, the Key To Enabling a Low-Cost, Low-Carbon Grid*, ROCKY MOUNTAIN INST. (Feb. 2018) https://rmi.org/wp-content/uploads/2018/02/Insight_Brief_Demand_Flexibility_2018.pdf.
- 75 These goals are to: “A) Enhance the reliability of California’s electric system; B) Make electric bills more affordable and equitable; C) Reduce the curtailment of renewable energy and greenhouse gas emissions associated with meeting the state’s future system load; D) Enable widespread electrification of buildings and transportation to meet the state’s climate goals; E) Reduce long-term system costs through more efficient pricing of electricity; and F) Enable participation in demand flexibility by customers of investor-owned utilities, community choice aggregators, and direct access providers.” Cal. Pub. Util. Comm’n CPUC Sets Stage to Enable Widespread Demand Flexibility (July 14, 2022), <https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-sets-stage-to-enable-widespread-demand-flexibility>; Assigned Commissioner’s Phase 1 Scoping Memo and Ruling, CPUC Rulemaking 22-07-005 (Nov. 02, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M498/K072/498072273.PDF>.
- 76 Cal. Pub. Util. Comm’n, CPUC Sets Stage to Enable Widespread Demand Flexibility (July 14, 2022), <https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-sets-stage-to-enable-widespread-demand-flexibility>.
- 77 See, e.g., Joint Testimony of SCE, PG&E, and SDG&E Describing IGFC Proposals at 15 (Apr. 7, 2023), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/demand-response-workshops/advanced-der---demand-flexibility-management/joint-iou-opening-testimony-exhibit-1.pdf>. Compare with Prepared Direct Testimony of R. Thomas Beach on behalf of SEIA, at ii (Apr. 7, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/SupDoc/R2207005/5907/505462900.pdf> (critiquing the IGFC and arguing that “[f]ar more important to promoting electrification are cost-based, time-sensitive volumetric rates, with low off-peak rates to encourage incremental usage in low-demand hours and high on peak rates to signal when customers should avoid using energy to maintain system reliability”).
- 78 Cal. Pub. Util. Comm’n, Demand Flexibility Rulemaking (R.22-07-005), <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/demand-response-dr/demand-flexibility-rulemaking> (CPUC’s demand flexibility webpage explains: If the State is to fully capture the significant demand-side potential enabled by electrification and customer DERs, a key “chicken-and-egg” problem related to demand response and retail rates must be resolved. For large numbers of customers (both residential and commercial) to adopt flexible demand management solutions at the scale necessary to support the future electricity grid, automation technologies for controlling various end-uses and DERs must be inexpensive and ubiquitous. For this to be true, there must exist a robust and stable policy pathway that is standardized, easy to implement, and allows the industry to develop low-cost, flexible demand management capabilities and integrate them into smart end-use devices and DERs by default for use by all customer classes.”

The order instituting the demand flexibility rulemaking tackled a broader range of issues than just fixed charges, but fixed charges were explicitly named. The order posed this general question: How should the Commission reform fixed charges for recovery of certain authorized utility costs in accordance with the adopted rate principles and demand flexibility guidance? The order instituting rulemaking also cited a spring 2022 CPUC en banc at which “[m]ultiple participants proposed income-differentiated fixed charges as an opportunity to recover fixed costs and prevent cost shifts in an equitable way.”⁷⁹

The IGFC proceeding has been progressing quickly to meet the statutory implementation deadline of July 1, 2024.⁸⁰ A proposed decision in late March of 2024 offered a first look at the Administrative Law Judge’s proposed first version IGFC. This first version is intended to be one step in a gradual implementation process and is theoretically, expected to be succeeded by future versions. The first version is expected to be adopted into customer bills during the fourth quarter of 2025. The proposed decision has no legal effect until it is heard and voted on by the Commission, however, at the May 9, 2024 business meeting at earliest.⁸¹

Momentum gathered against the IGFC over the course of 2023, culminating in an October 2023 legislator letter of concern and the introduction of a bill to repeal the IGFC provisions of AB 205 in January of this year (AB 1999, Irwin 2024).

D. IGFC Repeal Campaign and AB 1999

In the months after AB 205 passed and the CPUC proceeding was initiated, what began as quiet concern over the new policy became increasingly fervent pushback. Concerns were fueled by a few interrelated factors, including: popular mistrust of the IOUs;⁸² skepticism of CPUC’s ability to keep the new fixed charge in check; concerns about grid reliability; higher-income owners of rooftop solar who feared a reduced return on their investments; privacy concerns about income data; and conservative pushback to the equity mechanisms in the policy.⁸³ Momentum gathered against the IGFC over the course of 2023, culminating in an October 2023 legislator letter of concern⁸⁴ and the introduction of a bill to repeal the IGFC provisions of AB 205 in January of this year (AB 1999, Irwin 2024).⁸⁵ In March, a contingent of California’s congressional delegation also wrote to the CPUC expressing concern that an IGFC “is not the best tool to keep costs down and meet our climate goals.”⁸⁶

Aside from the substantive rate design disagreements this paper discusses, the campaign against the IGFC has also focused on privacy concerns about income verification and related critiques that the income-graduated part of the policy will be infeasible to administer. These concerns have impacted the IGFC proceeding concretely. Based on concerns regarding barriers to implementing income verification processes and AB 205’s tight statutory deadline, Admin-

79 ALJ/S9/sgu, Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates (July 14, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M496/K285/496285639.PDF>.

80 Assigned Commissioner’s Phase 1 Scoping Memo and Ruling in Rulemaking 22-07-005 (Nov. 2, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M498/K072/498072273.PDF>.

81 Proposed Decision Addressing Assembly Bill 205 Requirements for Electric Utilities in Rulemaking 22-07-005, *supra* note 8.

82 Astrid Kane, *People Really Hate PG&E, as Utility Ranks Dead Last in Customer Satisfaction Survey*, THE SAN FRANCISCO STANDARD (Mar. 23, 2023), <https://sfstandard.com/2023/03/23/people-really-hate-pge-as-utility-ranks-dead-last-in-customer-satisfaction-survey/>.

83 As the Republican minority leader Senator Brian Jones put it, the IGFC is “un-American”, “unconstitutional”, and “a bad idea” that “just needs to go away.” Sam Ribakoff, *California Utility Regulator Eyes Progressive Fee to Lower Electricity Bills*, COURTHOUSE NEWS SERV. (Apr. 26, 2023), <https://www.courthousenews.com/california-utility-regulator-eyes-progressive-fee-to-lower-electricity-bills/>. See also Susan Shelley, *Opinion, California’s Absurd Energy Policies*, L.A. DAILY (Apr. 22, 2023), <https://www.dailynews.com/2023/04/22/californias-absurd-energy-policies/> (calling the IGFC scheme “blithering idiocy” and contesting the alleged equity component of the IGFC by arguing that “increasing the fixed charge could mean the total bill paid by many, if not most, customers will eventually be higher than what they’re paying now”).

84 Legislator Letter to President Alice Busching Reynolds RE: Income Graduated Fixed Charge Rate Design (Oct. 27, 2023), *supra* note 9.

85 AB 1999 (Irwin, 2024).

86 Letter to President Alice Busching Reynolds from Members of the Cal. Congressional Delegation (March 25, 2024), https://levin.house.gov/imo/media/doc/letter_to_cpuc.pdf.



Administrative Law Judge Wang embraced a “gradual approach” to implementation with multiple phases.⁸⁷ The general decision to embrace a gradual approach to IGFC implementation became a specific mandate to limit proposals for the first version of the IGFC to those that “reduce volumetric rates and rely on existing income verification processes used by the Commission for the California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance Program (FERA) programs.”⁸⁸ The existing CARE and FERA income verification processes rely on either proving existing enrollment in another public assistance programs or customer self-certification. In practice, this constraint essentially limited first version proposals income-graduated mechanisms that relied exclusively on CARE and FERA income data.

This phased approach may have been an attempt to invite collaboration⁸⁹ and to sidestep some of the thornier concerns about obtaining income data in light of the tight statutory deadline. Unfortunately, however, the first-version constraints also stymied the income-graduated

87 Proceeding filings referenced the choice to take a gradual approach in the recent adoption of time-of-use rates (*see, e.g.* Opening Comments of the Solar Energy Industries Association on the Implementation Pathway for Income-Graduated Fixed Charges in Rulemaking 22-07-005, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M515/K967/515967373.PDF>). ALJ Wang noted that some of the proposals “acknowledged that a transition to IGFCs will require a gradual approach to implementation,” and concluded that “A gradual approach will allow the Commission to gain experience from the first version of IGFCs and conduct research and solicit stakeholder input before providing design guidance for the next version of IGFCs.” Administrative Law Judge’s Ruling on the Implementation Pathway for Income-Graduated Fixed Charges in Rulemaking 22-07-005 (June 19, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M511/K720/511720058.PDF>.

88 Administrative Law Judge’s Ruling Addressing the Track A Procedural Schedule, Opening Briefs Guidance, and Exhibits in Rulemaking 22-07-005 (Aug. 22, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M517/K847/517847523.PDF>.

89 One of the ALJ’s stated reasons for limiting the first version of the IGFC in this way was to ensure adequate stakeholder input before implementing a final version. Many filings from stakeholders opposed to the general idea of an IGFC highlighted that ratepayers either already were opposed to the policy or argued that ratepayers would be opposed to the policy. *See, e.g.* Opening Comments of the Solar Energy Industries Association on the Implementation Pathway for Income-Graduated Fixed Charges in Rulemaking 22-07-005 (July 31, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M515/K967/515967373.PDF> (“the initial introduction of the concept of an income graduated fixed charge to customers was not favorable...”); Notice of Written Ex Parte Communication of Ahmad Faruqi in Rulemaking 22-07-005 (May 30, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M510/K287/510287693.PDF> (“Most customers would not like their income data to be discovered by a third party acting on behalf of the utility. The IGFC concept will almost certainly raise issues which will be litigated all the way up to the highest state court”).

Unfortunately, however, the first-version constraints also stymied the income-graduated mechanism of the policy. Parties have interpreted “rely[ing] on existing income verification processes” used by CARE and FERA differently, but most parties proposed plans that would rely exclusively on existing CARE and FERA income data.

mechanism of the policy. Parties have interpreted “rely[ing] on existing income verification processes” used by CARE and FERA differently, but most parties proposed plans that would rely exclusively on existing CARE and FERA income data. The Joint-IOUs explained that this approach, “avoids complications and potential legal exposure around how to perform “income verification” for millions of non-CARE and non-FERA customers for whom household-level income data is not available for purposes of assigning these customers to any household income tier other than a single tier for all non-CARE/non-FERA customers.”⁹⁰ This approach eases implementation but generates inadequately progressive income brackets since the only income data included is for low-income ratepayers already enrolled in CARE and FERA. Although some parties explicitly highlighted the major shortcoming of their constrained first-version proposals, these inadequately progressive proposals generated a new wave of backlash.

WHAT ARE THE CALIFORNIA ALTERNATIVE RATES FOR ENERGY (CARE) AND FAMILY ELECTRIC RATE ASSISTANCE (FERA) PROGRAMS?

- CARE and FERA provide discounted electricity bills to low-income Californians.
- CARE provides a 30-35 percent discount. Eligibility is based on income or enrollment in other public assistance programs. For a four-person household, customers with an income at or below \$60,000 are eligible.
- FERA provides an 18% bill discount for customers with slightly higher incomes than CARE. FERA’s income eligibility guideline is 250 percent of Federal Poverty Guidelines, making four-person households with income at or below \$75,000 eligible.
- For more information on CARE and FERA eligibility and applications see: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/care-fera-program>

The repeal campaign has reflected substantive, good faith debates over rate design, persistent disagreements about the benefits of rooftop solar,⁹¹ as well as the opposing material interests of IOUs and distributed energy resources. It has also reflected a public debate that has struggled to capture the nuance of the policy, at times to a misleading extent. These persistent mischaracterizations have done a disservice to the real and important disagreements at stake. In recent proceeding filings, TURN and NRDC have referenced a “concerted misinformation campaign” against the policy.⁹² Distributed energy resources advocates, on their part, have long accused IOUs of astroturfing on related rate design issues.⁹³ One of the barriers to nuance on

90 Track A Opening Brief of PG&E, SCE, and SDG&E in Rulemaking 22-07-005 (Oct. 6, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K530/520530748.PDF>.

91 See, e.g., the comments section in Severin Borenstein’s blog, where a number of national experts in the field battle it out on some basics. Severin Borenstein, Rebalancing Rates for Electrification and EQUITY ENERGY INSTITUTE BLOG, (May 1, 2023), <https://energyathaas.wordpress.com/2023/05/01/rebalancing-rates-for-electrification-and-equity/>.

92 TURN/NRDC Reply Comments on Administrative Law Judge’s Ruling on Implementation Budget and Timing Issues (Track A) in Rulemaking 22-07-005 (Feb. 12, 2024), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M525/K361/525361958.PDF>.

93 Anne Marshall-Chalmers and Dan Gearino, *Is the California Coalition Fighting Subsidies for Rooftop Solar a Fake Grassroots Group*, INSIDE CLIMATE NEWS (Feb. 8, 2022), <https://insideclimatenews.org/news/08022022/is-the-california-coalition-fighting-subsidies-for-rooftop-solar-a-fake-grassroots-group/>.

this issue is the fact that there are well-funded private industries on both sides and genuine substantive disagreements on some of the core issues at stake, providing plenty of fodder for stakeholders seeking to advance their respective interests by providing partial information or inadequate context.

One of the barriers to nuance on this issue is the fact that there are well-funded private industries on both sides and genuine substantive disagreements on some of the core issues at stake, providing plenty of fodder for stakeholders seeking to advance their respective interests by providing partial information or inadequate context.

CORRECTING THE RECORD ON THE IGFC

- Some coverage and statements by public figures have mischaracterized the new fixed charge as a new fee added on top of existing volumetric rates. This coverage has used language like “add a fixed rate on to” or “set fees...that are added on top of what you’re charged based on usage.”⁹⁴ This is misleading. The IGFC shifts costs out of volumetric charge and into a fixed charge with a commensurate reduction in the volumetric charge. ***It’s not an additional fee.***
- Some statements have gone so far as to claim that an IGFC would directly impede the state’s climate goals because of its intended effect of incentivizing electrification.⁹⁵ There are important and nuanced debates about the appropriate magnitude of these incentives, but electrification is a key mitigation strategy. ***It’s intended to promote electrification, in line with climate goals.***
- Some coverage has inaccurately stated that the IGFC would directly increase utility revenue. The rate change is revenue neutral—it restructures how the existing revenue requirement is collected. ***It will not increase utility revenue.***
- Despite the fact the fact that AB 205 mandates the IGFC be designed such “that a low-income ratepayer in each baseline territory would realize a lower average monthly bill without making any changes in usage,”⁹⁶ some public messaging has insisted that it will increase bills for low income customers.⁹⁷ ***It is statutorily required to reduce bills for low-income Californians.***

⁹⁴ See, e.g. Assemblymember Jacqui Irwin’s statement, “Rates have increased tremendously... To add a fixed rate on to that, without thoroughly looking at what else we can do to drive down costs, is a mistake.” Jeff St. John, *Bill Would End California Experiment with Income-Based Electric*, CANARY MEDIA (Feb. 7, 2024), <https://www.canarymedia.com/articles/utilities/bill-would-end-california-experiment-with-income-based-electric-bills>. See also Lynn La, *Legislators Fight Proposed California Utility Fees*, CALMATTERS (Jan. 31, 2024), <https://calmatters.org/newsletter/utility-bills-california-legislature/> (“The debate centers on “fixed charges” — set fees included in your monthly electric bills that are added on top of what you’re charged based on usage”).

⁹⁵ See Steven Greenhut, *Income-Based Utilities Plan Is the Most California Plan Ever*, RSTREET (April 19, 2023), <https://www.rstreet.org/commentary/income-based-utilities-plan-is-the-most-california-plan-ever/> (“Simply put, the new rules directly work against the state’s climate change goals of shifting toward a non-fossil-fuel future” given how the IGFC “incentivizes electrical use [and] will only increase the stress on the state’s creaking system.”).

⁹⁶ AB 205.

⁹⁷ In an opinion piece, Assemblymember Marc Berman and Senator Josh Becker suggest that utility companies are using the IGFC to increase profits, despite it being revenue neutral, and further allege that the IGFC would harm low-income customers the most, an outcome which is expressly avoided through the language of AB 205 mandating that an IGFC provide bill relief to low-income customers. Senator Josh Becker & Asm. Marc Berman, Opinion, *The Income-Based Electricity Bill Provision Is a Mistake That Will Raise Your Rates. Let’s Not Shy Away From Real Solutions*, PALO ALTO ONLINE (Nov. 8, 2023), <https://www.paloaltoonline.com/news/2023/11/03/opinion-the-income-based-electricity-bill-provision-is-a-mistake-that-will-raise-your-rates-lets-not-shy-away-from-real-solutions>. Assemblymember Irwin announced her bill to repeal the IGFC behind a podium with a sign that said, “Lights Out on the Utility Payday.” See photo at Jacqui Irwin, Press Releases, Assemblymember Irwin Calls for Halt to CPUC Proposed Income Graduated Fee, (Jan. 30, 2024), <https://a42.asmdc.org/press-releases>. Severin Borenstein, one of the authors of the Berkeley report, dedicated a blog post to “addressing some misunderstandings” about the IGFC, highlighting more mischaracterizations than those addressed here. Severin Borenstein, *Rebalancing Rates for Electrification and Equity*, ENERGY INSTITUTE BLOG (May 21, 2023), <https://energyinstitute.wordpress.com/2023/05/01/rebalancing-rates-for-electrification-and-equity/>.

V. Understanding the Political Economy of the IGFC

The high-level disagreements at stake in the IGFC proceeding center on how both costs and power, the political kind, should be distributed in our system of electricity provisioning. How should we recover the costs of our common electric system? Should anyone be exempt from paying and on what basis? How will the allocation of costs impact other important goals, like reliability and greenhouse gas emission reductions? And how do the contested visions for the grid of the future impact what the underlying costs will be and who will pay them?

In the context of rate design, the technical debates often elevate what appear to be empirical disagreements, but the core issues are political. These disagreements are shaped by stakeholders' material interests and lived experience (whether that's being unable to pay one's electricity bill or the still-stinging memory of California's rolling blackouts in the early 2000s). In policy, these debates are constrained by the legal structure of the power sector and the public utility model. In the public sphere, however, the debates absorb a broader array of rhetoric and narrative frames, regardless of how well those frames apply to the electricity context. These influences have converged into several competing visions for the future of the power sector. This section broadly characterizes the interests and views of key stakeholders and their competing visions, as they provide essential context for the technical debates playing out in the IGFC proceeding.

A. A Taxonomy of Stakeholder Views

The most vocal stakeholders in the IGFC proceeding include the investor-owned utilities, distributed energy resources (DER) stakeholders, and public interest advocates of various stripes.⁹⁸ Where IOUs and DER stakeholders each have a material interest in specific outcomes, the public interest advocates represent varied interests, values, and ideas. The former constituencies are participating in the proceeding through formal filings, but a fourth constituency, owners of rooftop solar, has been vocal in the proceeding's public comments. Divergent interests are expressed both explicitly through stakeholder rhetoric and implicitly through the issues they choose to address (or ignore) in their filings.

1. Investor-Owned Utilities

Investor-owned utilities are the companies that manage the provisioning of electricity. They are profit-driven and have a fiduciary duty to their shareholders.⁹⁹ IOUs don't make money from the electricity they sell. This is by design: As public utilities, IOUs are not supposed to profit off of the public service they've been granted monopoly rights to provide. Instead, IOUs are permitted to make a reasonable return on their prudent investments in the infrastructure to provide that service.¹⁰⁰

⁹⁸ Close to 50 opening and reply comments were submitted in response to the order initiating the rulemaking. The plurality of these comments were submitted by private companies or trade groups in distributed energy resources (or associated technologies). The remaining comments were split between investor-owned utilities (and stakeholders in the utilities, like the Coalition of California Utility Employees), public interest advocates, and a smattering of other private interests (including the Small Business Utility Advocate or joint comments from the California Farm Bureau Federation, the California Large Energy Consumers Association, and others). Over the course of the proceeding, the initial group of commenters has winnowed, leaving fewer key representatives from each stakeholder group.

⁹⁹ This is a structural fact. However, alternative structures have been raised, see e.g. Anil Kovvali and Joshua Macey, *The Corporate Governance of Public Utilities*, 40 YALE J. REG. 569 (March 20, 2023), <https://ssrn.com/abstract=4394608>.

¹⁰⁰ *The Federal Power Commission v. Hope Natural Gas Company*, 320 U.S. 591 (1944) and *Bluefield Water Works & Improvement Company v. Public Service Commission of the State of Virginia*, 262 U.S. 679 (1923).

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Because IOUs are for-profit companies that only profit on capital investments, they have an incentive to invest in infrastructure.



Because IOUs are for-profit companies that only profit on capital investments, they have an incentive to invest in infrastructure. This incentive was broadly aligned with the massive infrastructure buildout required to electrify the country over the course of the 20th Century. Today, these incentives are aligned with needed upgrades to that aging infrastructure and to new electrification goals, but could over-incentivize infrastructure development. We need new grid infrastructure to manage increases in electricity use that displace natural gas, but not necessarily an increase in use beyond that. There is no upper limit to IOUs' incentive to build, however, beyond whatever the CPUC deems to be reasonable return on prudent investments. This dynamic also incentivizes IOUs to generally support policies that will encourage the adoption of electric vehicles or appliances that will result in increased reliance on the grid.

The flipside of this incentive structure is that IOUs are threatened by a distributed energy future that would sideline the need for the electric power infrastructure they provide. These concerns will surely play out for IOUs over the long term, but DERs are also disrupting the status quo today. Even though IOUs don't profit from the electricity they sell, as rooftop solar customers draw less energy from the grid, those customers reduce their contribution to IOUs revenue requirement, shifting costs to the remaining customer base, as discussed above.¹⁰¹ This has prompted some IOUs to advocate for changes that would ensure that their revenue require-

¹⁰¹ See, e.g., Edison International and Southern California Edison 2022 Annual Report at 44-45, available at <https://www.edison.com/investors/financial-reports-information/annual-reports> (stating, "SCE's ongoing financial results depend on its ability to recover its costs from its customers, including the costs of electricity purchased for its customers, through the rates it charges its customers as approved by the CPUC and FERC. SCE's financial results also depend on its ability to earn a reasonable return on capital, including long-term debt and equity. SCE's ability to recover its costs and earn a reasonable rate of return can be affected by many factors, including the time lag between when costs are incurred and when those costs are recovered in customers' rates and differences between the forecast or authorized costs embedded in rates (which are set on a prospective basis) and the amount of actual costs incurred").

ments will be met smoothly.¹⁰² One such change includes larger fixed charges, which IOUs around the country have been calling for since a report called attention to the issue in 2013.¹⁰³

To be clear: the IGFC does not impact the IOUs' revenue requirement. By ensuring that rate recovery is more broadly distributed among ratepayers, however, the IGFC supports the IOUs' operational stability and shores up their position against attempts to marginalize their role as the power sector decarbonizes. As discussed above, the smaller the pool of ratepayers from which IOUs recover their revenue requirement, the more volatile rates may be and the more expensive bills will be for the customers who have to pay.

IOUs do not have a structural interest in ensuring an equitable distribution of costs or rate stability as long as their revenue requirement is recouped. They do, however, have an incentive to ensure that ratepayers can afford to pay their bills. Amidst the current cost-of-living crisis and as wealthier Californians been able to exit this pool by way of rooftop solar panels, affordability is becoming an increasingly dire issue. The following excerpt from Southern California Edison's 2022 Annual Report explains this dynamic in the context of its risk to Southern California Edison's bottom line:

“Distributed energy industry” refers to small-scale sources of electricity generation located near sites of use and related technologies.

Customer-owned generation and load departures to CCAs or Electric Service Providers each reduce the amount of electricity that customers purchase from utilities and have the effect of increasing utility rates unless customer rates are designed to allocate the costs of the distribution grid across all customers that benefit from its use. For example, some customers in California who generate their own power are not currently required to pay all transmission and distribution charges and non-bypassable charges, subject to limitations, which results in increased costs for those customers who do not own their generation. If regulations aren't changed such that customers pay their share of transmission and distribution costs and non-bypassable charges and the demand for electricity reduces so significantly that SCE is no longer effectively able to recover such costs from its customers, SCE's business, financial condition and results of operations will be materially impacted.¹⁰⁴

California's IOUs have, predictably, filed proposals that include higher fixed charges in the IGFC proceeding. Where DER stakeholders tended to ignore the fixed charge issue in the first round of proceeding comments, IOUs were more likely to express affirmative support if they mentioned fixed charges. Two of the big three also expressed concern that the proceeding would need to move quickly in order to meet the July 1, 2024 deadline.¹⁰⁵

¹⁰² These changes include “rate designs that feature higher non-bypassable customer charges to increase the certainty of revenue recovery (and weaken the incentive for efficiency and self-generation), demand charges intended to generate the revenue to pay for infrastructure and grid modernization investments, access charges and reduced compensation rates for customer-generators to address alleged cost shifts and lost revenues, and standby fees that increase charges for self-generators who interact with the grid less frequently than customer-generators.” K.R. Rábago, R. Valova, *supra* note 27, at 10.

¹⁰³ Peter Kind, *Disruptive Challenges: Financial Implications and Strategic Response to a Changing Retail Electric Business*, *supra* note 57.

¹⁰⁴ Edison International and Southern California Edison 2022 Annual Report, *supra* note 101 at 52.

¹⁰⁵ See, e.g., PG&E's statement that “the hard deadline of July 1, 2024, mandated in Assembly Bill (AB) No. 205 (2021-2022 Reg. Sess.) § 10(e)(1) is likely to be challenging to meet, given the complexity and novelty of implementing income graduated residential fixed charges” and Southern California Edison's assertion that if the proceeding is to address the fixed charge requirement outlined by AB 205, “such issues should be addressed at the beginning of this proceeding, in order to provide adequate time for investor-owned utilities (IOUs) to develop and file the necessary rate case applications.” Comments of PG&E in Response to Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates (Aug. 15, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K442/496442153.PDF>; Opening Comments of So. Cal. Edison C. on Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates (Aug. 15, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K439/496439910.PDF>.

The three smaller California IOUs supported addressing the fixed charge issue in the proceeding as well, as did the Coalition of California Utility Employees.¹⁰⁶

2. The Distributed Energy Industry

“Distributed energy industry” refers to small-scale sources of electricity generation located near sites of use and related technologies.¹⁰⁷ This includes the companies that sell small-scale generation resources themselves, like rooftop photovoltaic panels or wind turbines, and also technologies that facilitate the use, storage, and distribution of the energy these resources generate. This stakeholder group, accordingly, includes both solar industry trade groups, like the Solar Energy Industries Association (SEIA), and companies like Google Nest, “a smart home technology manufacturer,”¹⁰⁸ and Armada Power, which sells technology that can “aggregate residential water heaters to respond to the needs of the grid in a measurable manner.”¹⁰⁹

The distributed energy industry is more heterogeneous than the IOUs, but generally, these are for-profit companies that make money through the sale of distributed energy resources and associated technologies. While some customers are drawn to these technologies for purely environmental reasons or to reduce their reliance on the grid, these technologies generally appeal to customers when they can provide long-term electricity bill savings by generating energy that households would otherwise have to buy from utilities. As a result, the industry is invested in electricity rate design that promotes customer savings based on the use of their technologies.

In rate design, these stakeholders generally prioritize conservation and/or efficiency principles, because rates that incentivize less electricity use increase the value of on-site, privately-owned generation. They also generally favor dynamic pricing schemes that allow customers to adjust their use over the course of the day or the year in order to optimize their savings. Exact orientations to the fixed charge vary but generally, these stakeholders have advocated for a very low fixed charge and a higher volumetric charge, in order to increase the price signal from the volumetric rate.

SEIA describes itself as “the national trade association for the U.S. solar industry,” and the group’s website states, “We embody the innovation and entrepreneurship that defines solar energy.”¹¹⁰ The SoCalEdison Annual Report cited above described a vision “to lead the transformation of the electric power industry,” and SEIA takes a similar tack, asserting that the group “is leading the transformation to a clean energy economy.”¹¹¹ In contrast, however, to SoCalEdison’s statement that the IOU would lead by “delivering clean energy, advancing electrification, building a modernized and more reliable grid, and enabling customers’ technology choices,” SEIA’s stated work is to “fight for policies that create jobs in every community and shape fair market rules that promote competition and the growth of reliable, low-cost solar power.”¹¹² This statement is set against a photo of homes with rooftop solar panels.

In one of the trade group’s filings early in the IGFC proceeding, SEIA asserted its concerns with the IGFC directly:

SEIA issued a warning echoed by a number of DER industry and rooftop solar stakeholders: “The only demand flexibility that fixed charges will promote is for customers to move their demand off the grid,” leaving the electric system entirely.”

¹⁰⁶ Joint comments from Bear Valley, Liberty Utilities, and PacifiCorp asserted, “addressing reforms to fixed charges is particularly appropriate at this time given that Governor Newsom signed Assembly Bill 205 on June 30, 2022, which eliminates the cap on the amount of the fixed charge that the Commission may authorize.” Bear Valley, Liberty Utilities, and PacifiCorp Joint comments. Coalition of California Utility Employees Comments: “Implementing an income-based fixed charge for residential customers is an essential part of updating electric rate design to better align California’s energy policies and goals.”

¹⁰⁷ Unlocking the Potential of Distributed Energy Resources, Int’l Energy Agency, <https://www.iea.org/reports/unlocking-the-potential-of-distributed-energy-resources>.

¹⁰⁸ Opening Comments of Google Nest on the Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates 22-07-005 (Aug. 15, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K433/496433453.PDF>.

¹⁰⁹ Opening Comments of Armada Power on the Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates 22-07-005 (Aug. 15, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K435/496435880.PDF>.

¹¹⁰ The Solar Energy Industries Alliance, <https://www.seia.org/>.

¹¹¹ About SEIA, The Solar Energy Industries Alliance, <https://www.seia.org/about>.

¹¹² *Id.*



Like the IOUs, the stakeholders in the DER industry don't have a direct material interest in equity outcomes or in rate stability, beyond rate structures that promote the adoption of their products.

SEIA recognizes that fixed charges allow volumetric rates to be reduced, which is important to supporting DERs that increase electric use and that compete with fossil fuels (such as EVs and heat pumps). However, from a demand flexibility perspective, fixed charges lack time sensitivity and fail to send a price signal to reduce or time-shift electric use. As a result, fixed charges are harmful to those DERs that reduce or shift the use of energy from the grid – energy efficiency, demand response, renewable DG, and storage.¹¹³

In the same filing, SEIA issued a warning echoed by a number of DER industry and rooftop solar stakeholders: “The only demand flexibility that fixed charges will promote is for customers to move their demand “off the grid,” leaving the electric system entirely.”¹¹⁴ Concretely, SEIA’s point is that fixed charges don’t offer a signal to customers to change their electricity use in a particular way, since the charges are fixed and imposed across the board. Customers seeking to avoid those charges, therefore, can only do so by defecting from the grid. The statement is more rhetorical than technical, however: it is a warning raising the prospect of widescale grid defection by DER-owners if they are charged fees they cannot reduce through their own generation. Grid defection is often theorized alongside a utility “death spiral,” as defection decreases the quality of service leading to more defection.

¹¹³ Opening Comments of the Solar Energy Industries Association in Rulemaking 22-07-005 (Aug. 15, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K439/496439907.PDF>.

¹¹⁴ *Id.*

The support for fixed charges by some environmental and consumer advocates is notable and relatively new.

Like the IOUs, the stakeholders in the DER industry don't have a direct material interest in equity outcomes¹¹⁵ or in rate stability, beyond rate structures that promote the adoption of their products. Where the IOUs are regulated as a public utility and charged with providing electricity to virtually all households in their jurisdictions, DER companies' customers are accountable only those who install or rely on their technologies. As a result, DER stakeholders' direct interests are limited to the rates, behavior, and attitudes of a narrower subset of ratepayers (a subset that skews wealthier than ratepayers on the whole).

3. Public Interest: Environmental, Equity, and Consumer Rights Stakeholders

Public interest filings in the IGFC proceeding can be more revealing than those of DER-stakeholders or IOUs, because where the DERs and IOUs have clearcut material interests shaping their views, public interest advocates are seeking to prioritize specific and sometimes contested values rather than profits and financial obligations to investors. Public interest advocates are primarily driven by organizational mission. The advocacy groups participating in the IGFC proceeding include a range of environmental, environmental justice, and consumer rights advocates and take a range of stances.

In short, environmental and environmental justice advocates that prioritize overall electricity conservation are, like DER industry advocates, seeking a lower fixed charge, while environmental and environmental justice advocates prioritizing equity and rate stability are generally seeking a moderate or higher fixed charge. Consumer advocates are generally seeking a higher fixed charge, because they represent lower-income ratepayers. The support for fixed charges by some environmental and consumer advocates is notable and relatively new. The opening brief from The Utility Reform Network and the Natural Resources Defense Council directly acknowledges this change, commenting on the two groups' historical aversion to fixed charges and describing the new circumstances that have motivated their support for the IGFC now.¹¹⁶

While IOUs and DER stakeholders are more focused on the size of the fixed charge relative to the volumetric charge, equity and consumer-oriented groups are relatively more focused on the income brackets that will determine just how progressive, or regressive, the final version of the policy will be.

Here are two examples of public interest advocates in the proceeding:

The Utility Reform Network (TURN) describes itself as "the only independent statewide utility consumer advocacy organization in California."¹¹⁷ The organization has a membership-based structure¹¹⁸ and is funded through primary through attorney reimbursement and foundation grants.¹¹⁹ TURN describes its work as follows: "For 50 years we have challenged California's pow-

115 One PG&E filing accuses IGFC opponents of inadequate consideration for low-income customers and equity outcomes, stating "Ms. Wodtke's claim that this "constitutes an unreasonable subsidy" reflects status quo bias. As CUE has observed, the cost studies show that the status quo without a fixed charge has caused low-income customers to pay too much to subsidize solar customers, who tend to be higher income households. Parties like Wodtke, as well as SEIA, are dismissive of the beneficial impacts that the Fixed Charges will have on low-income customers." Reply Comments of the Joint Investor-Owned Utilities in Response to Party Opening Comments Responding to Questions Posed in Administrative Law Judge's Ruling on Implementation Budget and Timing Issues (Track A) in Rulemaking 22-07-005 (Feb. 12, 2024), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M525/K333/525333761.PDF>.

116 Joint Opening Brief of the Utility Reform Network and the Natural Resources defense Council on Phase 1 Track A Issues relating to the First Version Income-Graduated Fixed Charges in Rulemaking 22-07-005 (Oct. 6, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K533/520533300.PDF>.

117 About Us, The Utility Reform Network, <https://www.turn.org/about-turn>.

118 *Id.* ("Member support allows TURN to advocate for affordable and dependable utility services, and to stand up for consumers across the state as an independent and unbiased voice. TURN's effectiveness is largely due to the fact that we are not beholden to any corporate or government funding sources").

119 Financials, The Utility Reform Network, <https://www.turn.org/financials>.

Once rooftop solar panels have been installed, they generate a new material interest for households to maximize their investment, structurally diverging their interests from those of ratepayers who do not own their own generation and from the IOUs.

erful energy and telephone companies, saving consumers and small businesses millions, standing up for vulnerable Californians, and demanding reliable service and livable communities.”¹²⁰ In the IGFC proceeding, TURN has submitted joint filings with the Natural Resources Defense Council, an environmental non-profit. The filings have supported the IGFC and engaged in the technical debates on electrification economics at the same time they insist on the importance of bill affordability and equity.

The California Environmental Justice Alliance (CEJA) describes itself as “a statewide, community-led alliance that works to achieve environmental justice by advancing policy solutions.”¹²¹ CEJA is primarily grant-funded, and its funders include a range of environmental and government groups, as well as individual donors.¹²² CEJA’s filings, typically in conjunction with Communities for a Better Environment or Sierra Club, have relentlessly insisted on the importance of bill affordability and equity in the IGFC proceeding. The organization has dedicated significant focus to the income-graduated mechanism of the IGFC and has proposed the most progressive first-version IGFC. CEJA was one of the only parties in the proceeding to insist on a first version IGFC with more than three tiers, forcing this conversation despite the ALJ’s constraint to limit the first version to existing CARE and FERA income-verification processes.¹²³

4. Homeowners with Rooftop Solar Panels

Aside from the formal parties to the proceeding, individuals who own solar panels have not been shy about participating in the public discussion. This group, more than most other segment of residential ratepayers, has material interests at odds with the IGFC. This is because homeowners with rooftop solar panels tend to be higher-income people who may not benefit from a progressively graduated system. Additionally, the money they save or earn from their DERs is greater with a larger volumetric and lower fixed charge. Comments like these typify the public stance of this group on the IGFC:

■ **A commenter from Berkeley states:**

*For the hundreds of thousands of rate payers who have invested a lot of money in solar and other electrification technology in their homes, expecting to recoup their costs through minimal electrical bills, this change in the rules of the game would be a slap in the face. Everyone I mention this change to is outraged and there will be serious political repercussions if it goes through.*¹²⁴

■ **A commenter from Poway states:**

*This is the most BS proposal ever. Class warfare at its finest. I paid a lot of money for Solar so I would not have an electric bill and to help the environment. Now you want me to pay almost \$200 a month? For what? Vote NO! NO! NO!*¹²⁵

120 About Us, The Utility Reform Network, <https://www.turn.org/about-turn>.

121 Mission and Vision, California Environmental Justice Alliance, <https://caleja.org/about-us/vision-and-history/>.

122 *Growing the Statewide Movement for Environmental Health and Social Justice: Annual Report 2018*, CALIFORNIA ENVIRONMENTAL JUSTICE ALLIANCE, https://caleja.org/wp-content/uploads/2019/04/CEJA_Annual-Report-2018_final.pdf.

123 CEJA’s income-graduated first version hinges on a bold interpretation of the ALJ’s constraint that the first version rely on existing CARE and FERA income graduation processes. It’s not clear whether this approach will be deemed in compliance with that mandate, but regardless, it displays CEJA’s commitment to a truly progressive IGFC.

124 Public Comment of Jason Gardner (Oct. 17, 2023) available at R.22-07-005 Docket Card.

125 Public Comment of Cynthia Dobies (Nov. 19, 2023), available at R.22-07-005 Docket Card.

■ **A commenter from San Diego states:**

*This is a terrible plan. It will put solar power companies out of business. It penalizes responsible home owners who have invested in solar. It incentivizes lower income households to use as much power as they like, stressing the system. This should be blocked in its entirety.*¹²⁶

Distrust of IOUs is one reason some ratepayers install rooftop photovoltaic panels to begin with.¹²⁷ Once rooftop solar panels have been installed, they generate a new material interest for households to maximize their investment, structurally diverging their interests from those of ratepayers who do not own their own generation and from the IOUs. As the constituencies of homeowners with rooftop solar panels grows, this political divergence is likely to become increasingly salient.

In addition to the many individuals who have participated in the proceeding's public comments, some organizations have organized responses on behalf of this stakeholder group. The Solar Rights Alliance, for example, has followed the IGFC proceeding, which it calls "the Utility Tax," issuing alerts to its members and offering proposed language for advocacy. The Solar Rights Alliance website describes its vision as follows: "We envision a California in which millions of everyday people and communities including homeowners, renters, farmers, and schools can benefit from the freedom of rooftop solar energy."¹²⁸ The organization's website assures, "We alert you when there is a threat or opportunity to your solar investment, and provide you with simple and clear ways that you can make your voice heard."¹²⁹

The IGFC proceeding is grounded in narrow questions of rate design, but the parties and members of the public are making sense of the issue in a broader landscape of competing visions for the electric power sector.

B. Competing Visions of the Electric Power System

The IGFC proceeding is grounded in narrow questions of rate design, but the parties and members of the public are making sense of the issue in a broader landscape of competing visions for the electric power sector. These competing visions shape public understanding and are shaped in turn by evolving stakeholder interests, life experiences, and conventional wisdoms. They reflect debates internal to the electricity sector, but also incorporate ideas and rhetoric from broader contexts. Unsurprisingly, the visions that seek a more marked departure from the traditional public utility model tend to adopt frameworks and rhetoric from outside the electric power context.

This subsection describes several ideal types for future visions of the electric power sector: the neoliberal, individualist vision; the traditional public utility vision; the public power vision; and the distributed, democratic vision. These simplified types are intended to identify several of the guiding visions, explanatory frames, and rhetorical tools frequently employed in public debates about the future of the grid in California.¹³⁰ In practice, various hybrid forms are common, and stakeholders (of course) have more nuanced visions than these ideal types suggest. Stakeholders also can and do borrow the rhetoric from other visions when politically convenient.

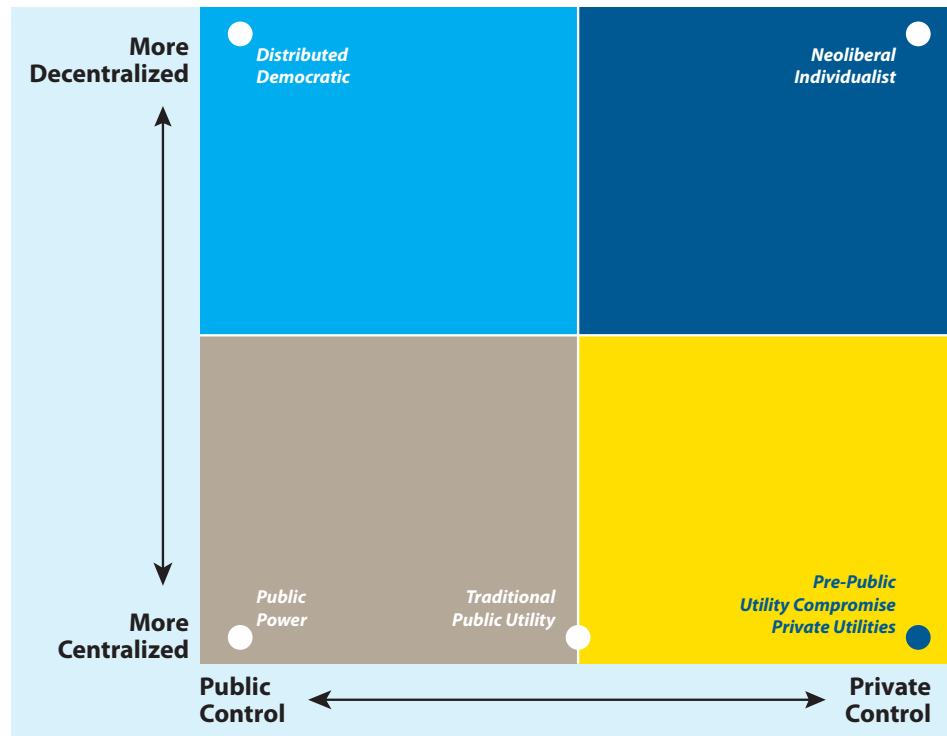
¹²⁶ Public Comment of Marc Thacher (Nov. 21, 2023), *available at* R.22-07-005 Docket Card.

¹²⁷ One California study on attitudes around rooftop solar adoption described that, "Interview participants spoke at length about how they felt about their utility companies – explaining their high levels of distrust and desire to distance themselves from their utility company – and linking their distrust with interest in solar energy." Christina Horne, Emily Huddart Kennedy, and Thomas Familia, *Rooftop Solar in the United States: Exploring Trust, Utility Perceptions, and Adoption Among California Homeowners*, 82 ENERGY RESEARCH & Soc. Sci. (2021), <https://www.sciencedirect.com/science/article/pii/S221462962100400X>.

¹²⁸ Solar Rights Alliance, <https://solarrights.org/>.

¹²⁹ Our Mission, Solar Rights Alliance, <https://solarrights.org/about/>.

¹³⁰ Such debates can vary significantly state-by-state, depending on the viability of rooftop solar and the existing structure of utilities. This paper as a whole and this section specifically is grounded in the CA context, which is shaped by the existing makeup of electricity providers, climate, weather, urban versus rural development, and demographics.

Figure 1: Visions for the Future of the Power System.

The most important elements of the neoliberal vision are private control of the energy sector and the use of law and policy to construct a competitive electricity market insulated from public control through the state.

The four visions differ on the degree of physical centralization of the power sector, the underlying structure of control over the electric power system, and the question of who wields that control. While particular technologies, like DERs, lend themselves more easily to particular structures of control, each of the four visions is more committed to the underlying structure of control and to the controlling constituency than to any particular technology.

1. The Neoliberal, Individualist Vision: Decentralized System, Privately-Owned and Controlled

The neoliberal, individualist vision seeks an electric power sector that is decentralized, controlled by private actors, and legally protected from public intervention through the state. This vision conceives of electricity as a commodity. It seeks to replace the provisioning of electricity as a public service through centralized infrastructure with a decentralized, market-based system by which individuals obtain their electricity through individual consumption decisions. The most important elements of the neoliberal vision are private control of the energy sector and the use of law and policy to construct a competitive electricity market insulated from public control through the state.

This vision is described as neoliberal¹³¹ because it rejects, rather than engages with, the public part of the public utility model. The neoliberal, individualist vision is essentially an inversion of the traditional public utility model:¹³² Instead of regulating utilities' prices to achieve

¹³¹ Neoliberalism here refers to a revival, expansion, and intensification "of the doctrines of classical economic liberalism, also called laissez-faire, in politics, ideas, and law." See David Singh Grewal and Jedediah Purdy, *Introduction: Law and Neoliberalism*, 77 L. AND CONTEMPORARY PROBLEMS 1, <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=4705&context=lcp>.

¹³² William Boyd, *Decommodifying Electricity*, *supra* note 36, at 153 ("The overarching goal of neoliberal electricity was to subordinate electricity to the magic of the price system... It was, in essence, an inversion of the relationship between infrastructure and the price system that earlier state-owned and regulated systems had embrace, where rates were set at a level sufficient to recover long-term averages in order to pay for ongoing investment.")

According to this vision, ratepayers are (and should be) consumers of a commodity, not members of a public paying their share for common infrastructure and essential public services.

social goals, the neoliberal, individualist vision understands social outcomes¹³³ as the result of aggregated individual preferences, expressed through the consumption of electricity as a commodity. In order to facilitate this dynamic, the neoliberal, individualist vision both presumes and actively strives for the market-mimicking conditions thought to make this model work (including introducing competition, the adoption of marginal cost pricing, and viewing ratepayers as individual agents acting in their own self-interest). The vision therefore seeks a legal and policy apparatus that will construct and protect this idealized market.

A neoliberal vision for the electric power system is by no means new. Both restructuring in the 1990s to early 2000s and the push to adopt marginal cost pricing since the 1970s reflect somewhat successful attempts to transform the electricity sector from the traditional public utility model to a competitive market. Restructuring sought to create contestable wholesale power markets that could provide competitive pricing by unbundling vertically integrated utilities.¹³⁴ The push for marginal cost pricing in the electricity sector has, since the 1970s, marked the application and rising prominence of economic efficiency in power sector. Along with other policy tools, these projects were intended to optimize the electricity system by allowing customers to “see and respond to the actual wholesale cost of electricity as it fluctuated in real time.”¹³⁵

Restructuring effectively ended after California’s energy crisis in the early 2000s and marginal cost pricing was never fully adopted, but both have left an impact on the sector. The ongoing embrace of marginal cost pricing, at least as a persistent goal, displaced some of the traditional redistributive aims of the public utility model.¹³⁶ Like in other sectors, efficiency has been embraced (erroneously)¹³⁷ as a neutral value, in contrast to the existing redistributive cross subsidies which were viewed as artificial and imposed.

This vision is individualist in that it sees individual actors as the meaningful constituents. In the context of decarbonizing, for example, this vision evaluates environmental impacts in individualized terms (how has my personal GHG emissions footprint changed based on my action?), rather than societal terms (how has my action helped or hindered the societal effort to reduce GHG emissions?).¹³⁸ The normative implications of the vision’s individualist approach are apparent in the individual rights-based rhetoric that often accompanies it. According to this vision, ratepayers are (and should be) consumers of a commodity, not members of a public paying their share for common infrastructure and essential public services. The neoliberal, individualist vision has little to say about distributive concerns or equity implications of the electric power system writ large, except to the extent that systemwide impacts infringe

133 The primary social outcome is intended to be “lower costs by using competitive forces to drive efficiency improvements relative to the well-known inefficiencies of regulated monopolies.” William W. Hogan, *Electricity Market Design and Zero-Marginal Cost Generation*, 9 CURRENT SUSTAINABLE/RENEWABLE ENERGY REPORTS 15 (2022), <https://link.springer.com/article/10.1007/s40518-021-00200-9>.

134 See, e.g. Boyd, *Decommodifying Electricity* from 114. These efforts focused on “unbundling generation from transmission and distribution, imposing new open access requirements on transmission, and opening up the wholesale generation market to competition.”

135 *Id.* at 164.

136 Concretely, elevating efficiency “made visible the cross-subsidies that had long operated in the shadows of flat rates based on historical average costs.” *Id.* at 123.

137 See generally, Zachary Liscow, *Is Efficiency Biased*, 85:7 UNIV. CHICAGO L. REV. 4 (2018), <https://lawreview.uchicago.edu/print-archive/efficiency-biased>.

138 In the California study on solar attitudes, residents referenced decreasing their household footprints and personal consumption. Christina Horne et al., *Rooftop Solar in the United States: Exploring Trust, Utility Perceptions, and Adoption Among California Homeowners*, *supra* note 127 (“Similarly, Karen, a higher-income Democrat, when asked about her reasons for being interested in solar said, “Mostly environmental. We’ve tried to decrease our footprint.”)

on the potential for private capital accumulation.¹³⁹ It embraces a future of individual rights, without obligation to a broader community.

Electricity systems have historically been constrained by the physical need to balance supply and demand of electricity in real time, which has required a centralized operation.¹⁴⁰ Distributed generation, however, offers a new model. DERs are meant to be implemented at a small scale, in many different locations. Distributed generation is usually integrated into a centralized grid, but it also offers a technological vehicle for power generation, potentially outside of the constraints of public control through public utility regulation.¹⁴¹

Even grid-integrated DERs raise questions about the extent to which owners of grid-integrated distributed generation should be accountable to versus considered outside of the existing public system of electricity provisioning. The neoliberal, individualist vision insists on individuals' ability not just to generate their own electricity but to profit from that generation.¹⁴² This vision both reproduces and trades on¹⁴³ longstanding skepticism of government involvement and support of individual rights and consumer choice.¹⁴⁴

2. The Traditional Public Utility Vision: Centralized System, Publicly-Regulated and Privately-Owned

The traditional public utility vision seeks centralized control of a centralized grid, with control in the hands of a public regulator. The most important element of the public utility vision is public control of privately-owned utilities through state regulators like public utility commissions. This view understands electricity as an essential public good that should be universally accessible.

The traditional public utility vision assumes the constraints of the power sector's natural monopoly features and accepts the large regulatory apparatus required to counter IOU's granted market power. This view is traditional in that it seeks to perpetuate longstanding choices about how the electricity system should be broadly structured and regulated. Where the neoliberal, individualized model seeks to disrupt, the traditional public utility vision either seeks or assumes a decarbonized future within the confines of the existing legal structure of a publicly regulated electric utility and the grid.

The core elements of the traditional public utility vision are the structural relationships between profit-driven IOUs, a public utility regulator duty-bound to keep those IOUs in check, and a public with the right to access the service IOUs provide and to participate in the regulatory process. It is this structure that defines the public utility vision, not the IOUs themselves. For example, ratepayer advocacy organizations, which are generally pitted against IOUs, rely on

The most important element of the public utility vision is public control of privately-owned utilities through state regulators like public utility commissions.

139 Many public comments on the IGFC are illustrative of these concerns. See, e.g., Public Comment of Dan Peter (May 22, 2023) available at R.22-07-005 Docket Card (described the IGFC as discriminatory against owners of solar generation).

140 See Boyd, *Decommodifying Electricity* at 125 ("Because electricity networks operate as a single integrated machine, where supply and demand must be balanced in real time, this required centralized systems operations that would embed any sort of market arrangement within the basic engineering requirements of the grid").

141 See, e.g., the Solar Rights Alliance proclaiming, "You have the *right* to make energy from the sun without unreasonable interference by the utility." Our Mission, Solar Rights Alliance <https://solarrights.org/about/>.

142 One IGFC filing, for example, described its vision as "An open participatory distribution network that fully compensates customers and DER for the value they provide..." Climate Center Comments in Response to Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates, in Rulemaking 22-07-005 (Aug. 15, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K517/496517221.PDF>.

143 Christina Home et al., *Rooftop Solar in the United States: Exploring Trust, Utility Perceptions, and Adoption Among California Homeowners* ("Interview participants spoke at length about how they felt about their utility companies – explaining their high levels of distrust and desire to distance themselves from their utility company – and linking their distrust with interest in solar energy").

144 The same California study highlighted consumer choice focused concerns as well. *Id.* ("In a context where most people have quite a bit of choice with respect to consumer purchases, the lack of choice for electricity bothered our participants. As Karen, a higher-income Democrat, noted, not having that choice makes "you feel powerless" and yet because, "you have to use electricity to survive," households are left with very little sense of control over their consumption of electricity").



While the regulation of private utilities is intended to keep private power in check, the flipside is that the public utility model combines the two bogeyman of the American people—the government and corporate power—making it an easy target from both ends of the political spectrum.

the public utility model precisely because it builds in formal structures by which to counter the market power of IOUs.

The public utility model is linked to the ongoing presence of a centralized grid through which utilities deliver electricity to ratepayers in their jurisdictions. The public utility model, can integrate distributed generation, however. The traditional public utility vision is at odds with distributed generation only to the extent this technology is used to displace, rather than integrated into, the core function of the public utility model—the provisioning of electricity as a regulated public good.

Expressions of the traditional public utility view are often implicit in both filings and public media. This vision may be assumed because it is, roughly, the structure that exists today, with the increasing incorporation of neoliberal, individualist elements. However, with the originating debates over the public utility model over a century old, the unique public-private structure of the public utility model is decreasingly familiar to a broader public. At the same time, ratepayers have personal, negative experience to draw on and a century to collectively critique the effectiveness of this approach. While the regulation of private utilities is intended to keep private power in check, the flipside is that the public utility model combines the two bogeyman of the American people—the government and corporate power—making it an easy target from both ends of the political spectrum.

In recent years, academic and policy circles have seen a resurgence in interest in Progressive Era ideas like antitrust and the public utility concept.¹⁴⁵ Scholars like Sabeel Rahman, William Boyd, and William Novak have injected the public utility concept back into legal academic liter-

¹⁴⁵ See, e.g., Lina Kahn, *Amazon's Antitrust Paradox*, 126 YALE L. J. 710, https://www.yalelawjournal.org/pdf/e.710.Khan.805_zuvfyeh.pdf; William Boyd, *Public Utility and the Low Carbon Future*, 61 UCLA L. REV. 1614 (2014), <https://www.uclalawreview.org/pdf/61-6-1.pdf>; Sabeel Rahman, *The New Utilities: Private Power, Social Infrastructure, and the Revival of the Public Utility Concept*, 39 CARDOZO L. REV. 5 (2018), <https://ssrn.com/abstract=2986387>.

The public power vision seeks utilities owned and controlled by public entities (municipalities, community groups, or the state).

ature. Rahman writes: “public utility-style concepts can help us conceptualize and respond to a range of contemporary problems where private actors have concentrated control over essential goods and services.” Boyd writes about how a “broader concept of public utility was substantially diminished by a confluence of external challenges and a sustained intellectual assault mounted by economists and lawyers starting in the 1960s.”¹⁴⁶ The recent return of the public utility model in academic literature has often been in the context of tech companies and the internet as a new public utility.¹⁴⁷ While tech companies are just now “becoming the backbone infrastructure of all communication,”¹⁴⁸ electric utilities are arguably seeing an erosion of their status as the backbone, or at least the exclusive option, for electric service.

2. Public Power Vision: Centralized System, Publicly-Owned and Controlled

The public power vision seeks utilities owned and controlled by public entities (municipalities, community groups, or the state). This view understands electricity as an essential public service that should be universally accessible. The most important element of the public power vision is public ownership and control of utilities.

Publicly-owned utilities are commonplace.¹⁴⁹ In California, the Los Angeles Department of Water and Power and Sacramento Municipal Utility District are publicly-owned utilities. In the early 20th Century, a strong movement for public power competed with privatized electricity for public favor and legitimacy. The public utility model was the political compromise between these two models. Renewed interest in the public power model has spurred several recent municipalization attempts. In these municipalization campaigns, cities¹⁵⁰ or states¹⁵¹ attempt to buy out existing IOUs. The public power movement pushes back on efforts to privatize goods and services¹⁵² over the past several decades. Rather than displace IOUs with a distributed network of electricity generation, the public power movement seeks to coopt IOUs for public control and ownership instead of shareholder profits.

Both the public power vision and versions of the distributed, democratic vision below are sometimes referenced in the context of “energy democracy.”¹⁵³ Both visions prioritize community empowerment, control, and participation in their systems of electricity provisioning. Some conceptions of energy democracy specifically embrace public power,¹⁵⁴ while others eschew publicly-owned but centralized utilities, insisting on decentralized and distributed energy sys-

146 William Boyd, *Public Utility and the Low Carbon Future*, 61 UCLA L. REV. 1614 (2014), <https://www.uclalawreview.org/pdf/61-6-1.pdf>.

147 See, e.g., Sabeel Rahman and Zephyr Teachout, *From Private Bads to Public Goods: Adapting Public Utility Regulation for Informational Infrastructure*, KNIGHT FIRST AMENDMENT INST. AT COLUMBIA UNIV. (Feb. 4, 2020), <https://knightcolumbia.org/content/from-private-bads-to-public-goods-adapting-public-utility-regulation-for-informational-infrastructure>

148 *Id.*

149 The American public power association explains, “Like public schools and libraries, public power utilities are owned by the community and run as a division of local government. These utilities are governed by a local city council or an elected or appointed board. Community citizens have a direct voice in utility decisions, including the rates it charges and its sources of electricity.” Public Power, the American Public Power Association, <https://www.publicpower.org/public-power>.

150 Nathanael Johnson, *Lessons from Boulder’s Bad Breakup*, GRIST (Jan. 19, 2018) <https://grist.org/technology/lessons-from-boulders-bad-breakup/>.

151 David Sharp, *Maine Considers Electrifying Proposal That Would Give the Boot to Corporate Electric Utilities*, AP (Nov. 4, 2023), <https://apnews.com/article/maine-electric-utility-referendum-9bdf113f345c3b93de0f5fc59f791c19>.

152 Judith Clifton, Mildred E. Warner, Raymond Gradus & Germà Bel, *Re-Municipalization of Public Services: Trend or Hype*, 24:3 J. OF ECON. POLICY REFORM 293 (2021), <https://labs.aap.cornell.edu/sites/aap-labs/files/2022-01/Clifton%20et%20al%282021%29-Re-municipalization%20of%20public%20services.pdf>.

153 See, e.g., Energy Democracy—Taking Back Power, The Next System Project, <https://thenextsystem.org/sites/default/files/2019-03/EnergyDemocracy-2-star-Final.pdf>; and What is Energy Democracy, Climate Justice Alliance, <https://climatejusticealliance.org/workgroup/energy-democracy/> (“Energy Democracy represents a shift from the corporate, centralized fossil fuel economy to one that is governed by communities, is designed on the principle of no harm to the environment, supports local economies, and contributes to the health and well-being for all peoples”).

154 Laura Williamson and Lew Daly, *Energy Democracy: Building a Green, Resilient Future Through Public and Community Ownership*, DEMOS, https://www.demos.org/sites/default/files/2020-12/Energy%20Democracy%20-%20Building%20a%20Green%20Resilient%20Future%20through%20Public%20and%20Community%20Ownership_0.pdf.

A key distinction between the neoliberal, individualist view and the distributed, democratic view is the answer to the question: energy democracy for whom?

tems.¹⁵⁵ This paper distinguishes between the two visions here because of the important strategic implications of the structural differences between centralized publicly-owned utilities and distributed, community-controlled electricity.¹⁵⁶ Namely, the public power vision seeks to use existing IOUs as a platform for energy democracy through transitioning them to public ownership, while a distributed, democratic vision seeks to directly displace IOUs.

3. Distributed, Democratic Vision: Decentralized System, Public/Common Control

The disruption of the energy transition has opened space for more radical, utopian visions of the energy future. The distributed, democratic vision is one such vision. The distributed, democratic vision seeks decentralized control of a distributed grid, where control is held by collectives. Electricity is viewed as a commons.

This vision is skeptical of both the state and of corporate power. Like the neoliberal vision, the distributed, democratic vision sees opportunity in the disruptive nature of climate change and new distributed technologies to reclaim power from the centralized public utility model. In stark contrast to the neoliberal vision, however, this view seeks to shift power to communities as collectives, rather than to private actors, and is critical of growth-based economies.¹⁵⁷ Like the public power vision, this view seeks greater public or common control over electricity provisioning, but unlike the public power vision, the distributed, democratic vision eschews a role for the state and seeks to erode and displace the utility structure through the use of distributed generation resources. This view embraces electricity provisioning controlled at the local or regional scale, in opposition to state or federal control.¹⁵⁸

A key distinction between the neoliberal, individualist view and the distributed, democratic view is the answer to the question: energy democracy for whom? The neoliberal vision posits untrammled control and empowerment for those who can afford their own generation. The distributed, democratic vision posits control and empowerment for all. Despite these marked ideological differences, however, there is no clear, actionable path to the latter vision in the short term. While the neoliberal, individualist vision believes that households should be *free to choose* how they generate electricity, the distributed, democratic vision replaces households with communities, and adds that all communities should *actually have access* to electricity.

155 John Farrell, *Energy Democracy in 4 Powerful Steps*, INSTITUTE FOR LOCAL SELF RELIANCE (March 2017), <https://ilsr.org/energy-democracy-in-4-steps/>.

156 One proponent of public power, for example, writes “Energy utilities’ control over so much of the energy supply chain make these entities a strategic platform for bringing energy democracy tactics to scale. Harnessing energy utilities for the people could fuel projects from expansive low-income housing efficiency projects (such as PUSH Buffalo), [2] to community solar programs (such as the solar gardens of Cooperative Energy Futures in Minnesota), [3] to stopping gas pipelines (such as the resistance to Dominion Power’s Mountain Valley Pipeline in Virginia).” Johanna Bozuwa, *Public Ownership for Energy Democracy*, DEMOCRACY COLLABORATIVE, <https://democracycollaborative.org/blog/public-ownership-for-energy-democracy>.

157 Matthew J. Burke and Jennie C. Stephens, *Political Power and Renewable Energy Futures: A Critical Review*, 35 ENERGY RESEARCH & SOC. SCI. 79 (Jan. 2018), <https://www.sciencedirect.com/science/article/pii/S2214629617303468> (“eschews not only centralized commodity-based energy models based on fossil fuels and nuclear energy but also historical inequalities, neoliberal ideologies, alliances with large corporate profit interests, privatization, market-driven and growth-based approaches and concentrations of economic and political power”).

158 *Id.* (“According to energy democracy advocates, decentralized energy supports decentralization of authority, favoring community control and ownership of renewable energy resources rather than extending the legacy of corporate ownership [104,18]. Decentralized authority means greater self-reliance, local approval and planning, as well as greater local accountability and responsibility for social and environmental impacts of electricity use”).

VI. Proceeding 22-07-005 Debates: Equity, Stability, and Electrification

This section describes how debates over the three core issues identified above—equitable distribution of costs, rates stability, and the tension between electrification and conservation—are evolving in the ongoing CPUC proceeding and in the public sphere.

CPUC proceedings are facilitated by Administrative Law Judges. These Administrative Law Judges issue rulings that shape the timeline and structure of the proceeding, ask parties to respond to specific questions essential to the policy issue at hand, and demand information from IOUs. Ultimately, Administrative Law Judges issue proposed decisions that the Commission votes to approve or deny. Over the course of the IGFC implementation in Track A of rulemaking 22-07-005, Administrative Law Judge Stephanie Wang has issued several rulings requesting comments on a wide range of issues. These issues include statutory interpretation of AB 205's mandates,¹⁵⁹ the "implementation pathway" for the IGFC, and a range of detailed questions about how the CPUC should structure the IGFC and balance competing interests.¹⁶⁰

Early in the IGFC proceeding Administrative Law Judge Wang issued a proposed decision adopting rate design principles to be applied throughout the proceeding.¹⁶¹ In order to "better [fit] today's fast-changing electrical grid,"¹⁶² Administrative Law Judge Wang updated the ten "Electric Rate Design Principles" that have been commonly used by CPUC since 2014. Many of the 2014 principles themselves were based on Bonbright Principles. Administrative Law Judge Wang also issued a new set of Demand Flexibility Principles.¹⁶³ Parties participated in the development of these updated and new principles.

On March 27, 2024, Administrative Law Judge Wang issued a proposed decision for a first version IGFC.¹⁶⁴ The proposed decision put forward a moderate fixed charge of \$24.15 for the highest income tier, and a minimal income-graduated mechanism constrained, as expected, by the reliance on existing CARE and FERA income verification processes. The three-tiered system grouped customers enrolled in CARE into Tier 1, customers enrolled in FERA or who live in affordable housing restricted to residents with income at or below 80 percent of Area Median Income into Tier 2, and all other ratepayers into Tier 3.

159 Administrative Law Judge's Ruling Requesting Track A Briefs on Statutory Interpretation in Rulemaking 22-07-005 (Dec. 9, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M499/K772/499772918.PDF>.

160 Administrative Law Judge's Ruling on the Implementation Pathway for Income-Graduated Fixed Charges in Rulemaking 22-07-005 (June 19, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M511/K720/511720058.PDF>.

161 Decision 23-04-040 Adopting Electric Rate Design Principles and Demand Flexibility Design Principles in Rulemaking 22-07-005, *supra* note 18; Cal Pub. Utilities Comm'n, To Parties of Record in Rulemaking 22-07-005 (March 17, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M503/K824/503824406.PDF>. That proposed decision also adopted a series of new "Demand Flexibility Design Principles." The rate design principles are intended to be used to assess rate design proposals from the big three IOUs (Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company), and that the new Demand Flexibility Design Principles are intended "to guide the development of demand flexibility tariffs, systems, processes, and customer experiences of [the big three IOUs]." Pub. Utilities Comm'n, To Parties of Record in Rulemaking 22-07-005 (March 17, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M503/K824/503824406.PDF>.

162 ALJ Wang explained: "The 2014 Rate Design Principles were based upon the Bonbright Principles³ and previous Commission decisions, including D.08-07-045.4 Since the adoption of the 2014 Rate Design Principles, the Commission has applied these principles to the assessment of electric rate design proposals of the IOUs across customer classes." Decision 23-04-040 Adopting Electric Rate Design Principles and Demand Flexibility Design Principles, *supra* note 18. The 2014 Principles had been based on the Bonbright Principles.

163 These principles, since their amendments/adoption in D.14-06-029, have been "benchmarks by which to measure the success of California's ratemaking proceedings and policies, frequently referenced and reinforced by the CPUC and parties." Assigned Commissioner's Phase 1 Scoping Memo and Ruling in Rulemaking 22-07-005 (Nov. 2, 2022), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M498/K072/498072273.PDF>.

164 Proposed Decision Addressing Assembly Bill 205 Requirements for Electric Utilities in Rulemaking 22-07-005, *supra* note 8.

A. An Equitable Distribution of Costs and the IGFC

In the IGFC proceeding, the debate over how systemwide costs should be equitably distributed¹⁶⁵ has focused on two main questions. The first question is about the proportion of the fixed charge relative to the volumetric charge, that is, what amount of the total systemwide costs currently recovered in the volumetric charge will be shifted into the fixed charge. Since the new fixed charge is intended to be income-graduated but the volumetric charge is not,¹⁶⁶ the relative size of the fixed charge will determine the proportion of total charges based on income. The relative size of the fixed charge will also impact the degree to which the new IGFC will restructure the existing cost shift from owners of rooftop solar. Both of these issues have implications for equity. The second question focuses on how the policy's income-graduated mechanism should be structured.

The cost causation principle asserts that costs should be borne by the customers that impose them.

The debates over the size of the fixed charge have proceeded on multiple levels. Some of this discussion has been grounded in the material needs of California ratepayers. These conversations have focused on the cost-of-living crisis and the needs of low- and middle-income ratepayers. Most of these points have been raised by parties specifically focused equity and affordability.¹⁶⁷

This debate has also played out in the context of cost causation or the question of which costs are fixed and therefore eligible for the IGFC.¹⁶⁸ The cost causation principle¹⁶⁹ asserts that costs should be borne by the customers that impose them.¹⁷⁰ Cost causation and the question of which costs are fixed are distinct concepts but they are related for the purposes of this debate. If a cost is fixed, it should not vary based on customer use. If it doesn't vary based on customer use, it becomes more challenging to argue that a particular customer group has imposed that cost and so should be the one to pay it based on the cost causation principle.

In an early proceeding reply brief,¹⁷¹ Sierra Club noted that "the legislature defined "fixed charge" in section 739.9(a) by providing a list of examples and qualifying each of those examples as charges "not based on the volume of electricity consumed.""¹⁷² The Sierra Club brief further pressed that, "Whether certain charges are in fact tied to consumption or are "fixed" can and should be litigated in this proceeding."¹⁷³ And indeed, this debate has played out over

165 The debate about how best to recover costs of shared infrastructure has necessarily evolved along with the infrastructure itself. The distributed energy industry and utility-scale renewables are changing the terms of the debate. Renewables like wind and solar power offer the promise of generation with almost zero marginal costs. Unlike electricity from coal or oil, there are no fuel costs for these renewables. This shift offers great potential, but the specter of fixed costs remains. What would a volumetric only electricity bill look like in an era of zero-marginal cost electricity generation?

166 See TURN/NRDC Amended Reply Brief on Statutory Interpretation of the Requirements of Assembly Bill 205 in Rulemaking 22-07-005 (June 20, 2023) at 2 ("Parties generally agree that any "fixed charge" defined in Public Utilities Code §739.9(a) is subject to the income-differentiation requirements of §739.9(e).") <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M511/K720/511720091.PDF>.

167 See, e.g., CEJA Opening Brief in Rulemaking 22-07-005 (Oct. 6, 2023) at 1, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K532/520532749.PDF> ("California's residents are facing an energy emergency – rates are high and projected to continue rising fast, families are crushed by utility debt, and climate change is pushing our energy system to the limit when people most need affordable power to survive extreme weather. In response, AB 205 demands that the Commission step in so that low-income customers will realize lower bills without making any changes in usage.")

168 Due to the zero-sum nature of the fixed versus volumetric debate, equity (or stability or efficiency or electrification) implications of the debate necessarily become proxy battles for all of the above.

169 This new cost causation principle changed from the 2014 principle in one minor way: the 2014 principles stated that rates should be based on "cost causation principles," and the new principle deleted "principles." The staff rationale for the change was "to clarify that this principle does not refer to an additional set of principles." Decision 23-04-040 Adopting Electric Rate Design Principles and Demand Flexibility Design Principles, *supra* note 18.

170 See section III for more discussion of cost causation.

171 In contrast to later filings submitted on behalf CEJA and sometimes alongside CBE.

172 Sierra Club Reply Brief in Rulemaking 22-07-005 at 2, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M502/K200/502200566.PDF>.

173 *Id.*

the course of the proceeding, invoking the cost causation principle and questions about what constitutes a fixed cost.¹⁷⁴

On one end of the spectrum, SEIA argued that the principles of cost causation and of basing rates on marginal costs, “dictate that the only costs which should be included in a fixed charge are marginal customer access costs – i.e., the costs of the transformer, service drop, and meter required to provide a customer with access to the grid, plus the associated operating costs for revenue cycle services such as billing and customer care.”¹⁷⁵ This kind of charge is common in other states and sometimes referred to as a “customer charge.” SEIA further noted that “all but one party agree that these should be included in a new residential fixed charge.” But other parties add quite a few other costs to that list.

NRDC/TURN responded that SEIA’s limitation to customer-specific costs was “excessively narrow in light of many categories of utility costs recovered in rates that are neither “customer-specific” nor tied to customer usage.”¹⁷⁶ In the category of costs that are neither customer-specific, nor tied to customer usage, later filings from NRDC/TURN include a long list of costs that could be recovered through a fixed charge, including “sunk costs of legacy generation resources that are unaffected by changes in retail customer consumption”; the “costs of connecting new residential customers to the system”; “fixed distribution costs that are unaffected by customer usage”; Public Purpose Programs including the Self-Generation Incentive Program; the Wildfire Hardening Charge; and the fixed costs of nuclear decommissioning costs, among others. The debate around which costs to include is also constrained by some costs that, while clearly fixed, are legally or contractually required to be recovered volumetrically.¹⁷⁷

A key technical point in this debate hinged on whether to include costs that vary based on demand versus only costs that vary based on volume. The distinction zeroes in on how individual ratepayers’ use actually impacts systemwide costs. Do those systemwide costs scale proportionally to the total volume of individual use or are systemwide costs impacted more precisely by an individual ratepayer’s peak demand? Sierra Club cited testimony making the rhetorical point that “demand is a measure of usage.”¹⁷⁸ In terms of the practical impacts of ratepayer use on systemwide infrastructure, it is also accurate that these needs scale according to peak demand, not overall volume. Utilities are charged with ensuring every time you flip the light switch, the lights turn on. This means managing a system that can handle not just regular use but the peak time of day on the peak day of the year. Infrastructure investments are accordingly made based on peak use and so individual ratepayers’ personal peak—their highest use at any given time—determines their contribution to those costs. This doesn’t include, however, additional costs like nuclear decommissioning or wildfire mitigation, which aren’t impacted by use at all.

The second equity issue addressed in the proceeding is how the income-graduated mechanism should be structured. AB 205’s IGFC provisions were explicitly intended to address regres-

Infrastructure investments are accordingly made based on peak use and so individual ratepayers’ personal peak—their highest use at any given time—determines their contribution to those costs.

174 Sierra Club, for example, argued, “If utility costs that are largely driven by customer usage are included in a fixed charge, then those charges will be not be cost based and will be out of step with Commission principles.” Sierra Club Reply Brief in Rulemaking 22-07-005 at 3 <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M502/K200/502200566.PDF>.

175 Opening Comments of the Solar Energy Industries Association on the Implementation Pathway for Income-Graduated Fixed Charges in Rulemaking 22-07-005 (July 31, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M515/K967/515967373.PDF>.

176 TURN/NRDC Reply Brief in Rulemaking 22-07-005 at 4 (June 20, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M511/K720/511720091.PDF>.

177 See Opening Comments of the Solar Energy Industries Association on the Implementation Pathway for Income-Graduated Fixed Charges in Rulemaking 22-07-005 (July 31, 2023) at 19, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M515/K967/515967373.PDF> (“Certain costs are required by statute or contract to be recovered volumetrically, such as the Wildfire Fund Charge, Wildfire Hardening Charge, the Recovery Bond Charge/Credit, the Competition Transition Charge, and charges for continued operation of Diablo Canyon.”)

178 Sierra Club Track A Opening Brief in Rulemaking 22-07-005 (Oct. 6, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K530/520530434.PDF> (citing the testimony of Sierra Club witness, John Wilson).



...many of the public interest advocates have focused extensive efforts on the progressivity of proposed income brackets.

sivity in electricity rates. This mandate has been broadly acknowledged in proceeding filings.¹⁷⁹ There have been widely varying proposals for just how progressive the income brackets should be, however. Some parties had little to say about this issue, focusing their advocacy instead on the initial question of the proportion of fixed versus volumetric cost recovery. By contrast, many of the public interest advocates have focused extensive efforts on the progressivity of proposed income brackets.¹⁸⁰

As discussed in Section IV, the first version of the IGFC was constrained to existing income verification processes used for the CARE and FERA programs in order to meet the tight statutory deadline. This has stymied the ability of parties to offer adequately progressive income brackets. Most parties offered three-tiered proposals that clearly complied with the Administrative Law Judge's first version constraints. The joint filing of the big three IOUs (Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric), for example, proposed a three-tiered structure including one tier for customers enrolled in CARE or FERA with an income 100% the Federal Poverty Line or less, a second bracket for all other CARE and FERA customers, and a third bracket for everyone else. The Public Advocates Office proposed a first version with the same three tiers.¹⁸¹ NRDC/TURN proposed a three-tiered structure with CARE customers in the first tier, FERA customers in the second tier, and all other residential customers in the third.¹⁸²

179 See, e.g., Opening Comments of the Solar Energy Industries Association on the Implementation Pathway for Income-Graduated Fixed Charges in Rulemaking 22-07-005 ("The imposition of an IFGC will result in a cross subsidy between higher-income and lower-income customers. However, it is consistent with the goal set in AB 205 and prior statutes that have established the CARE and FERA programs").

180 CEJA noted that "One of the most important questions in this phase of the proceeding is the definition of low-income." CEJA Opening Brief, *supra* note 167.

181 Opening Brief of the Public Advocates Office Regarding Track A of the Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates in Rulemaking 22-07-005 (Oct. 6, 2023) at 19, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K541/520541138.PDF>.

182 Joint Opening Brief of TURN/NRDC on Phase 1 Track A Issues for the First Version Income-Graduated Fixed Charges in Rulemaking 22-07-005 (Oct. 6, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K533/520533300.PDF>

These income structures are all regressive because they do not distinguish between middle-, high-, and very high-income customers. Most also recommend collecting a lower percentage of income from middle- and high-income customers than from low-income customers.¹⁸³ But they do clearly fit within the first version constraints of relying on existing CARE and FERA income-verification processes. The income graduation adopted by Administrative Law Judge Wang in her proposed decision for the first version, likewise, shares these shortcomings.

Two parties that branched beyond a three tiered-structure for the first version were Sierra Club and CEJA, which both proposed a five-tiered structure. CEJA argued for a more expansive interpretation of the first version constraints and stated that its “income verification proposal closely mirrors CARE and FERA income verification practices and can be implemented with minor changes.”¹⁸⁴

Income Tier and Verification Proposals

This table from the March 27 Proposed Decision characterized proceeding parties’ approaches to the IGFC’s income-graduated mechanism. Proposed Decision, supra note 8.

Party Proposal	Income Tiers	Income Verification
Large Utilities, Cal Advocates	<ol style="list-style-type: none"> 1. Up to 100% of Federal Poverty Guidelines (enrolled in CARE) 2. Enrolled in CARE or FERA 3. Not enrolled in CARE or FERA 	Modify CARE verification to collect income data on customers at or below 100% of Federal Poverty Guidelines
TURN/NRDC	<ol style="list-style-type: none"> 1. CARE-eligible or residing in deed-restricted affordable housing 2. FERA-eligible 3. Above FERA eligibility 	<p>No modifications to CARE or FERA processes</p> <p>Use database to automatically include customers in deed-restricted affordable housing in lowest tier</p>
SEIA	<ol style="list-style-type: none"> 1. CARE eligible 2. FERA eligible 3. Above FERA eligibility 	No modifications to CARE or FERA processes
Sierra Club	<p>Five tiers</p> <p>The threshold for the top tier is 200% of Area Median Income</p>	Self-attestation with proof of income
CEJA	<p>Five tiers</p> <p>The threshold for the top tier is \$2 million</p>	Self-verification and property tax assessment value

183 See Prepared Track A Reply Testimony of Tyson Siegle on Behalf of CEJA in Rulemaking 22-07-005 (June 2, 2023) at 9, <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/demand-response-workshops/advanced-der---demand-flexibility-management/track-a-reply-testimony/r2207005-ceja-siegle-track-a-reply-testimony.pdf> (“Every proposal that recommends collecting a lower percentage of income from high-income customers than from low-income customers is, by definition, financially regressive”).

184 Opening Brief of CEJA in Rulemaking 22-07-007 (Oct. 6, 2023) at 7, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K532/520532749.PDF>.

The original proposals, it is important to note, were far more varied¹⁸⁵ and included more income brackets, since they were not constrained at that time. In addition to Sierra Club and CEJA's five-tiered proposals, other parties asserted the shortcomings of an inadequately progressive first version alongside their proposal,¹⁸⁶ astutely anticipating the political backlash to come. Many argued that the second version should be implemented as quickly as possible.¹⁸⁷ Here, like in the debates over the which costs should be shifted to a fixed charge, quite a few filings were grounded in the financial realities for many Californians.

B. Rate Stability and the IGFC

The CPUC and the Legislature have made multiple efforts to reduce bill volatility in recent years. SB 711 required the CPUC to reduce bill volatility for residential customers and authorized the CPUC to modify the length of or add baseline seasons to rates in order to accomplish this goal.¹⁸⁸ Several CPUC decisions have been intended to reduce volatility by restructuring rates. Reducing bill volatility is of particular concern to lower-income customers.

One of the stated goals of AB 205 was to “help stabilize rates.” The statute contextualizes this goal:

*The current default residential customer rate structure in electrical corporation territories leads to a situation in which rates must rise to recover sufficient revenue to support certain fixed utility costs and can lead to year-to-year rate increase volatility, especially with declines in electricity sales that result from greater adoption of distributed energy resources.*¹⁸⁹

The statute identifies two reasons for volatile rate increases: First, prices are increasing to cover “certain fixed utility costs” and second, the customer base across which these costs are spread is shrinking as more households decrease their electricity bills through the use of rooftop solar panels. This makes overall cost increases greater for the remaining customer base. Including fixed costs in volumetric rates means that a ratepayer’s increase in electricity use doesn’t just increase their energy costs, but proportionally increases their share of costs to cover nuclear decommissioning, wildfire mitigation, public purpose programs like energy efficiency programs and the AB 841 School Energy Efficiency Stimulus Program, and more.¹⁹⁰

One of the stated goals of AB 205 was to “help stabilize rates.”

185 See, e.g., Opening Brief of the Public Advocates Office Regarding the Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates in Rulemaking 22-07-007 (Oct. 6, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K541/S20541138.PDF> (“there is a wide range of proposals for income verification and tiers for the second version of IGFCs”).

186 The Public Advocate’s Office noted, “Adoption of a high income bracket with a higher IGFC would have allowed for adoption a lower IGFC for a moderate income bracket with minimal bill impacts for moderate income customers.” Opening Brief of the Public Advocates Office Regarding the Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates in Rulemaking 22-07-007 at 20; Joint Opening Brief of TURN/NRDC on Phase 1 Track A Issues for the First Version Income-Graduated Fixed Charges in Rulemaking 22-07-005 at 8 (“[recognizing] that a first version IGFC can only accomplish modest steps towards achieving the ultimate goals of rate reform”).

187 See e.g., Opening Brief of the Public Advocates Office Regarding the Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates in Rulemaking 22-07-007 at 17 (“The Commission should consider the design of the second version of the IGFCs as expeditiously as possible”); Joint Opening Brief of TURN/NRDC on Phase 1 Track A Issues for the First Version Income-Graduated Fixed Charges in Rulemaking 22-07-005 at 9 (“emphasiz[ing] the importance of expeditiously developing and implementing a second version IGFC that includes one or more high-income tiers, can allow for greater volumetric rate reductions to promote electrification and efficient usage, and provides larger bill reductions for low-income customers”).

188 Bridget Sieren-Smith et al., *Utility Costs and Affordability of the Grid of the Future: An Evaluation of Electric Costs, Rates, and Equity Issues Pursuant to P.U. Code Section 913.1*, CAL. PUB. UTIL. COMM’N. (May 2021), https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2021/senate-bill-695-report-2021-and-en-banc-whitepaper_final_04302021.pdf.

189 AB 205 § 14(a)(3).

190 *2022 Senate Bill 695 Report: Report to the Governor and Legislature on Actions to Limit Utility Cost and Rate Increases Pursuant to Public Utilities Code Section 913.1* (May, 2022), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2022/2022-sb-695-report.pdf>.

...parties grappled with the tensions between rates that are designed to vary regularly and ratepayers' interest in stability.

This issue is only becoming more dire, because the underlying costs of power line investments and wildfire mitigation costs are expected to increase in the future as California works to bring more utility-scale renewables online, upgrade infrastructure, and contend with the impacts of climate change.¹⁹¹ Bundling more fixed costs into volumetric rates increases the potential volatility of electricity bills, shifting costs out of the volumetric rate and into a fixed charge, where they will be a more stable component of ratepayer bills, should decrease volatility, all else equal.

Generally, rate stability has not been particularly animated issue in the proceeding. One of the new Demand Flexibility Design Principles addressed stability, citing concerns that “Dynamic prices can, in some cases, increase the monthly variance in customer bills.”¹⁹² Several parties objected to the removal of “Rates should be stable”¹⁹³ from Rate Design Principle 7,¹⁹⁴ arguing this language was important “to address rate shock which can happen irrespective of options for bill management. Rate stability helps protect against negative impacts to a customer’s ability to plan for and pay their bills.”¹⁹⁵ The Public Advocates Office tackled the tension between stability and dynamic pricing head on in this conversation, stating, “dynamic rates can offer varying price signals and still offer rate stability” and that rate stability was not addressed by the other rate design principles so should be kept. The language, “Rates should be stable,” were ultimately not adopted in the rate design principle.

The stability issue did heat up in the context of dynamic pricing more generally, as parties grappled with the tensions between rates that are designed to vary regularly and ratepayers’ interest in stability. Another new Demand Flexibility Design Principle specifically prioritized dynamic pricing.¹⁹⁶ The Climate Center, for example, cited the Winter Storm Uri disaster, when customers’ retail rates were exposed to skyrocketing dynamic wholesale pricing resulting in astronomical bills.¹⁹⁷ PG&E also expressed concern that “rates like real-time pricing carry a risk of much greater bill volatility than other types of more predictable rate plans.”¹⁹⁸

191 *Id.* at 9 (stating that, “Over the next several years it is anticipated that there will be higher than historical annual average growth rates for transmission and distribution infrastructure to account for climate change-driven investments, and most notably wildfire mitigation costs”).

192 Assigned Commissioner’s Phase 1 Scoping Memo and Ruling in Rulemaking 22-07-005 (Nov. 2, 2022) at 5 (“Customers should have access to tools and mechanisms (such as load shape subscriptions, forward transactions, bill protection, etc.) that enable them to plan and schedule their energy use while managing the monthly variability of their bills”); *Id.* at 1 (staff justification for proposal).

193 Opening Comments of the Public Advocates Office on the Proposed Decision Advancing Demand Flexibility Through Electric Rates in Rulemaking 22-07-005 (April 6, 2023).

194 *See also* Center for Accessible Technology Opening Comments on Proposed Decision Adopting Electric Rate Design Principles and Demand Flexibility Design Principles in Rulemaking 22-07-005 (April 6, 2023) at 3, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M505/K727/505727211.PDF>.

195 *Id.*

196 Demand Flexibility Principle (2): *Demand flexibility tariffs should provide a dynamic price signal in a standardized format that can be integrated into third-party distributed energy resource and demand management solutions.*

197 Climate Center Comments in Response to Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates 22-07-005 (Aug. 15, 2022) at 4, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K517/496517221.PDF> (“We note that the extremely high ERCOT spot prices during the Texas freeze and blackout of February 2021 caused many customers to run up massive energy bids under retail tariffs that exposed them to dynamic wholesale prices for their entire consumption. As a result, this event raised serious concerns and triggered some political backlash against exposing retail customers to dynamic prices. The CalFUSE proposal would seem to mitigate the Texas concern by limiting a customer’s price exposure to their kWh deviation from their hedge profile”).

198 Comment of Pacific Gas and Electric Company in Response to Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates 22-07-005 (Aug. 15, 2022) at 3, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K442/496442153.PDF> (“In addition, PG&E heartily agrees with Energy Division that movement toward dynamic pricing should be optional, given that rates like real-time pricing carry a risk of much greater bill volatility than other types of more predictable rate plans, such as Time-of-Use (TOU)”).

C. Electrification, Electricity Conservation, and the IGFC

...the debates in proceeding 22-07-005 and over AB 205 are some of the first high profile discussions over how the tension between the old conservation goal and the new electrification goal should be resolved in rate design.

One of the most heated IGFC debates centers on the relationship between the state’s electrification goals and electricity conservation and efficiency. AB 205 requires that the new fixed charge does “[n]ot unreasonably impair incentives for conservation, energy efficiency, and beneficial electrification and greenhouse gas emissions reduction.”¹⁹⁹ This broad mandate has left open significant space for contestation around what exactly constitutes unreasonably impairing incentives for each of these goals, as well as how they sit in tension with one another. A core debate within proceeding filings grapples with the extent to which electricity conservation reduces GHG emissions, what encouraging electrification means, and how rates should be designed to reduce emissions.

1. Conservation

Parties to the CPUC proceeding have given relatively little emphasis to conservation overall. Instead, the debate in the proceeding filings has focused more narrowly on how efficiency measures like demand response—incentivizing ratepayers to use less electricity at specific times of day or year and more at others—can mitigate the increasing strain on the grid from our drive to electrify. Insistence on the importance of conservation has played out largely in the public sphere, where rate designs that incentivize conservation have sometimes been inaccurately equated with measures reducing GHG emissions. The two are related, to be sure, but the relationship is nuanced.

Older CPUC proceedings and case law do not grapple with the conservation-electrification tension because the electrification goal is so recent. Given the pre-AB 205 statutory cap on fixed charges, there had been very little discussion of how fixed charges specifically could impact conservation prior to the ongoing proceeding.²⁰⁰ As a result, the debates in proceeding 22-07-005 and over AB 205 are some of the first high profile discussions over how the tension between the old conservation goal and the new electrification goal should be resolved in rate design. It is especially important that the stakes of this debate are clarified publicly, so Californians focused on reducing GHG emissions can accurately identify policies in line with their values.

One concrete way this tension has been addressed in the proceeding is through the updated Rate Design Principles. After receiving comments from proceeding parties, the Administrative Law Judge updated the 2014 conservation Rate Design Principle to: “Rates should encourage GHG emissions reduction, beneficial electrification, and cost-effective energy efficiency.”²⁰¹ The word conservation was removed entirely and replaced with an emphasis on GHG reduction and electrification, while efficiency was qualified as needing to be “cost-effective.” In their rationale for the change, the CPUC staff explained:

¹⁹⁹ AB 205.

²⁰⁰ A 2015 proposed decision on residential rate structures discussed the relationship between conservation and fixed charges, but didn’t address the tension between electrification and conservation, as it preceded the current electrification goal. Proposed Decision of ALJs McKinney and Halligan in Rulemaking 12-06-013 at 32-33 (April 21, 2015), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M153/K024/153024891.PDF>.

²⁰¹ Proposed Decision Addressing Assembly Bill 205 Requirements for Electric Utilities in Rulemaking 22-07-005, *supra* note 8 at 13.

For California to achieve its GHG emissions reduction goals at least cost, rates should discourage consumption during high cost or high GHG-emissions periods and should encourage consumption when the grid is supplied predominantly by renewable resources. Electric rates should encourage customers to transition away from fossil fuels and adopt electrified transportation and building technologies. Rates should also continue to provide appropriate incentives for cost-effective energy efficiency.²⁰²

CPUC Staff further relected on the disagreements at stake:

A few parties opposed the removal of conservation from the principle. CEDMC argued that conservation remains important for reducing customer consumption, mitigating the need for incremental resource and infrastructure investments. 350/Climate Center asserted that conservation is essential for reducing both financial and environmental costs. We recognize the continued importance of conserving energy during high cost and high-GHG emissions hours. However, the Commission's strategies for reducing GHG emissions have shifted from a focus on conserving electricity at all times to reducing usage during certain hours, and electrifying buildings and transportation rather than reducing overall electricity consumption. We also agree that the concept of energy efficiency is limited and does not capture the concept of conserving electricity during peak periods. Accordingly, we will replace the reference to "energy efficiency" with "economically efficient use of energy" to encourage conservation of energy during high-cost periods in addition to energy efficiency.²⁰³

The worry is that broad incentives for conservation that impact the behavior of the wealthy may amount to rationing for the poor.

The parties who favor the ongoing elevation of a general conservation principle argue that, even if all electricity is generated from wind and solar, promoting electricity use across the board is counterproductive. This is because incentives only need to be adequate to make electricity use more appealing than natural gas use. Rates should not incentivize use beyond the point at which electricity becomes more appealing than natural gas use. Increasing overall electricity demand will require new infrastructure including new transmission and generation, that will impose climate and other environmental impacts. The difficulty, as noted in section III, is that rate design cannot precisely identify which end uses of electricity are beneficial and which are not. Another challenge is designing rates that encourage conservation without imposing regressive impacts. Advocates in support of the IGFC, like NRDC and TURN argue that: "Rates should incentivize electrification, efficiency, and distributed generation alike, *without penalizing necessary electricity usage, such as life-sustaining air conditioning use during increasingly common periods of extreme heat.*"²⁰⁴ The worry is that broad incentives for conservation that impact the behavior of the wealthy may amount to rationing for the poor.²⁰⁵

Despite some disagreement over the changes to the old conservation principle, this update was not terribly controversial in the scope of the proceeding, even among distributed energy industry stakeholders.²⁰⁶ It reflects the policy consensus that the best way to reduce emissions

²⁰² Decision 23-04-040 Adopting Electric Rate Design Principles and Demand Flexibility Design Principles, *supra* note 18.

²⁰³ *Id.*

²⁰⁴ NRDC/TURN Reply Brief (emphasis added) at 8.

²⁰⁵ The rationing impact of broad conservation incentives has also drawn fire from disability rights advocates, for whom concerns about access the life-sustaining medical equipment (which arguably can include air conditioning in some cases) is paramount.

²⁰⁶ For instance, the testimony of R. Thomas Beach for SEIA acknowledged in its opening testimony that "[c]ustomer adoption of electrification measures is an essential element of the state's effort to reduce greenhouse gas (GHG) emissions and to fight climate change." To reach the state's carbon neutral goals is "only achievable in a 'High DER' future in which all Californians make personal, long-term investments in the distributed energy resources (DERs) . . . Electrifying vehicles . . . and buildings . . . is widely viewed as the least-cost means to reduce carbon emissions in the transportation and building sectors . . ." Prepared Direct Testimony of R. Thomas Beach on Behalf of the Solar Energy Industries Association in Rulemaking 22-07-005 (July 14, 2022) at 8-9, <https://docs.cpuc.ca.gov/PublishedDocs/SupDoc/R2207005/5907/505462900.pdf>.



is to replace the use of natural gas with electrification, as we aggressively add renewables to our generation portfolio. Additionally, most of the proceeding filings are necessarily nuanced—they acknowledge the competing interests even if they advocate strongly for the priority of one.

The public debate has been a different story. Across a broad range of outlets, popular writing on the IGFC has frequently raised the conservation issue but failed contextualize this in the consensus over prioritizing electrification to reduce emissions. The October 2023 Legislator Letter of Concern highlighted conservation concerns, stating, “we are concerned that this proceeding, and its subsequent decision, could ultimately steer the state away from a conservation focus to that of increased electrical consumption, by sending the wrong signal to rate payers.”²⁰⁷ The Legislator Letter identifies the benefit of conservation to reduce the risk of rolling blackouts—an important and valid concern—but fails to mention that increasing electricity consumption to displace gas is directly aligned with California’s climate goals, rather than opposed to them. Public figures and stakeholders have repeatedly given statements to press raising concerns about conservation without mention of electrification’s benefits.²⁰⁸

The disconnect is understandable. The urgent push to electrify is new and the conservation principle is intuitive and longstanding. Additionally, concerns about reliability and increased electricity

²⁰⁷ Letter to President Alice Busching Reynolds RE: Income Graduated Fixed Charge Rate Design from Jacqui Irwin et al., *supra* note 9.

²⁰⁸ See Erik Anderson, *SDG&E Proposes Adding Flat Fee to Utility Bills*, KPBS (April 10, 2023), <https://www.kpbs.org/news/economy/2023/04/10/sdg-e-proposes-adding-flat-fee-to-utility-bills> (quoting David Rosenfeld of the Solar Rights Alliance stating, “In general, high fixed charges discourage people from reducing their energy use whether through energy efficiency, conservation or rooftop solar. . . . We know that. That’s like, hands down, a proven thing.”); Sammy Roth, *Column: Who Should Pay For Climate Solutions? The Debate is Heating Up*, L.A. TIMES (Feb. 8, 2024), <https://www.latimes.com/environment/newsletter/2024-02-08/column-higher-electric-bills-for-the-wealthy-sounds-great-boiling-point> (quoting Bernadette Del Chiaro, executive director of the California Solar & Storage Association, “They squashed rooftop solar last year. They’re now trying to squash efficiency and conservation,” citing Assemblymember Irwin’s insistence that the IGFC would reduce the financial incentive to conserve, and quoting her stating, “We want to continue to push as hard as we can to meet our climate goals. . . . This pushes in the wrong direction”); Lynn La, *Legislators Fight Proposed California Utility Fees*, CAL MATTERS (Jan. 31, 2024), <https://calmatters.org/newsletter/utility-bills-california-legislature/> (citing lawmakers concerns that the IGFC would “set back energy conservation”).

use beyond “beneficial electrification” are valid—but they need to be conveyed accurately in the broader context. Each of these factors highlights the need for more dedicated public writing and education on the nuanced relationship between conservation, electrification, and reducing emissions.

2. Cost-Effective Energy Efficiency

Rather than focus primarily on electrification’s tension with conservation, most of the debate in proceeding filings has focused more narrowly on electrification’s tension with efficiency, where significant substantive disagreements are alive and well. Unlike conservation, “cost-effective energy efficiency” currently has a place in California’s Rate Design Principles.²⁰⁹

In the context of electrification and efficiency, lowering the volumetric charge accomplishes two things. First, lowering the volumetric rate decreases the operating costs of electric vehicles and appliances since they run on electricity. This should increase their financial appeal relative to gas appliances, all else being equal. Second, lowering the volumetric rate decreases the economic value of more efficient electricity use. This dual impact makes the debate over lowering the volumetric charge—or increasing the fixed charge, since this is zero-sum—particularly complicated because, even if framed in terms of electrification or efficiency alone, one debate always implicates a proxy debate about the other.

Filings have argued over just how large the volumetric rate must be to incentivize the adoption of electric vehicles and appliances, and at what point that rate risks negatively impacting important efficiency and conservation measures. Efficiency and conservation measures are important tools to manage the new load that will accompany rapid electrification, in addition to values in their own right.²¹⁰ Rather than elevate electrification or conservation and/or efficiency alone, therefore, most proceeding parties have sought rate designs that balance these competing priorities. One particular point of contention has centered on when and to what extent volumetric rate decreases will actually increase the likelihood that customers will purchase electric vehicles or electric appliances.

Section 739.9(d)(2) of AB 205 requires any approved fixed charges to “[n]ot unreasonably impair incentives for conservation, energy efficiency, and beneficial electrification and greenhouse gas emissions reduction.” Regarding this section, the Administrative Law Judge asked parties to the proceeding: 1) how the Commission should address this requirement for IGFCs in the context of state policy goals of encouraging strategic electrification and improved grid utilization; and 2) how the Commission should incentivize beneficial electrification and greenhouse gas emissions reductions during off-peak periods while meeting general conservation and efficiency goals.²¹¹

Rather than elevate electrification or conservation and/or efficiency alone, therefore, most proceeding parties have sought rate designs that balance these competing priorities.

209 ALJ Wang applied the qualifier “economically efficient” to all elements of Rate Design Principle 4 (proposing RDP 4 to state “Rates should encourage economically efficient (i) use of energy, (ii) reduction of GHG emissions, and (iii) electrification”). Proposed Decision of ALJ Wang Adoption Electric Rate Design Principles and Demand Flexibility Design Principles on Rulemaking 22-07-005 (March 17, 2023) at 15, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M503/K824/503824406.PDF> (later to be adopted by the CPUC in an April 2023 business meeting). ALJ Wang explained, “the Commission’s strategies for reducing GHG emissions have shifted from a focus on conserving electricity at all times to reducing usage during certain hours, and electrifying buildings and transportation rather than reducing overall electricity consumption. We also agree that the concept of energy efficiency is limited and does not capture the concept of conserving electricity during peak periods. Accordingly, we will replace the reference to “energy efficiency” with “economically efficient use of energy” to encourage conservation of energy during high-cost periods in addition to energy efficiency.” *Id.* at 14–15. In this way, the ALJ suggested that economically efficient energy use means consumption that shifts to accommodate grid capacity and affordability concerns. This is to be balanced with the goal of electrification, which is the idea of incentivizing electricity use more broadly and without the restraints of efficiency concerns. See also Opening Comments of SEIA on the Scoping Memo Questions in Rulemaking 22-07-005 (Dec. 2, 2022) at 7–8, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M499/K459/499459343.PDF> (“The key to the most cost-effective and beneficial electrification is to focus the increased electric use by electrification technologies in off-peak periods when excess grid capacity is available, costs are lower, and incremental generation is clean.”).

210 Camille Von Kaenel and Blanca Begert, *Problems in Paradise*, POLITICO (Nov. 2, 2023), <https://www.politico.com/newsletters/california-climate/2023/11/02/problems-in-paradise-00125158>.

211 ALJ’s Ruling on the Implementation Pathway for Income-Graduated Fixed Charges (June 19, 2023) at 4, *supra* note 160.

The proposed decision offered a moderate fixed charge and failed to fulfill the policy's potential to equitably distribute the costs of the electric power system.

In parties' responses to this call, analyses of electrification goals often frame the debate in subtly different terms, making it challenging to evaluate them side-by-side. For example, one analyst might ask whether a policy erects new barriers to electrification, while another might ask whether a policy will affirmatively "increase the pace of electrification."²¹² Even where the question is framed the same way, analyses use different metrics to determine what constitutes, for example, "promoting electrification."²¹³ Parties disagree on just how much more cost competitive a volumetric rate decrease must make a given electrification investment relative to a fossil fuel investment in order to promote electrification.²¹⁴

There's a political angle to these metrics as well. Debates about the ideal rates for electrification and efficiency are independently important policy questions but they also have concrete material stakes for both IOUs and DER stakeholders that pitch themselves on efficiency, like photovoltaic panels. Supporters of the IGFC might want to frame the question in a way that creates a lower bar for the IGFC's success, while opponents would want to establish a higher bar for success. It's not surprising then, that Clean Coalition—a DER advocate and IGFC skeptic—asks whether the IGFC savings would allow ratepayers to recoup the *entire cost* of their electrification investments. NRDC and TURN, on the other hand, ask only whether the savings from the IGFC would provide an *additional incentive* for ratepayers to make that initial investment.

D. March 27 Proposed Decision

Administrative Law Judge Wang issued a proposed decision for the first version IGFC on March 27, 2024. The proposed decision offered a moderate fixed charge and failed to fulfill the policy's potential to equitably distribute the costs of the electric power system.

212 Clean Coalition Reply Comments on ALJ's Ruling in Implementation Budget and Timing Issues (Track A) in Rulemaking 22-07-005 (Feb. 12, 2024), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M525/K128/525128836.PDF>.

213 Clean Coalition filings, for example, evaluated whether customers' annual savings under the proposed rates would be sufficient "to justify the [electric] equipment upgrades within a reasonable payback period" under various electrification scenarios. Rebuttal Testimony of Ben Schwartz on Behalf of the Clean Coalition in Rulemaking 22-07-005 (June 2, 2023) at 12, available at <https://clean-coalition.org/wp-content/uploads/2023/06/R-22-07-005-Clean-Coalition-Rebuttal-Testimony.pdf>. TURN/NRDC, on the other hand, evaluated the annual operating cost savings under an electrification scenario to determine whether the savings from proposed rates would "provide an additional incentive for electrification and meaningfully reduce the payback period for electric appliances and vehicle." TURN/NRDC Joint Opening Brief on Phase 1 Track A Issues Relating to the First Version Income-Graduated Fixed Charges in Rulemaking 22-07-005 (Oct. 6, 2023), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K533/520533300.PDF>. The scenario included electric space heating, electric water heating, and an electric vehicle. Sierra Club took yet another approach. That organization's brief evaluated whether "the average customer in PG&E and SCE territory would see [monthly] bill savings" under various electrification scenarios but did not compare these savings to the cost of electric investments. Sierra Club Track A Opening Brief in Rulemaking 22-07-005 (Oct. 6, 2023) at 17, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K530/520530434.PDF>. Each of these framings answers a slightly different question. Different analyses also defined electrification scenarios differently—some included simply switching from a gas to electric stove while others define electrification as full home electrification plus an electric vehicle.

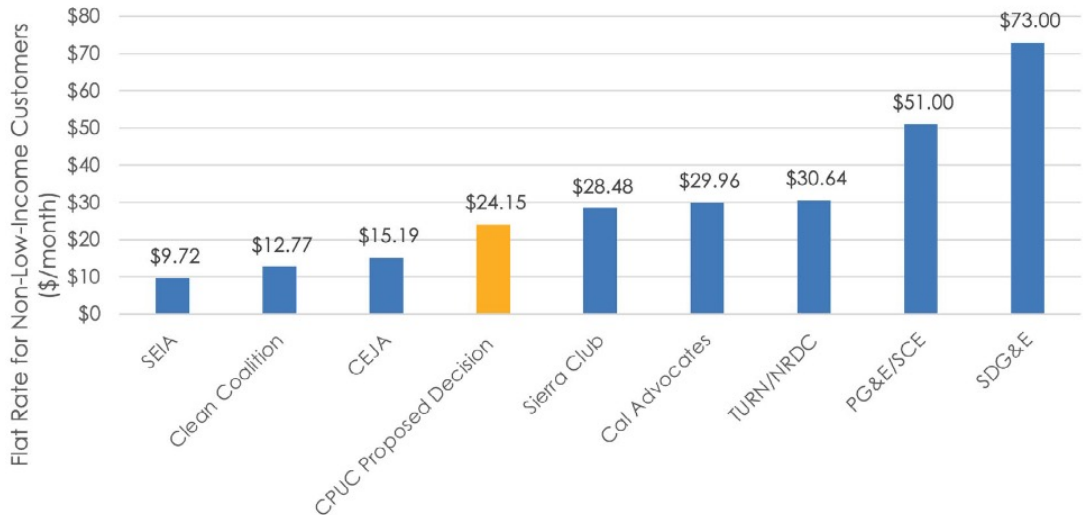
214 See the debate between Bay Area 350's tipping point theory and TURN/NRDC's critique of this approach in favor of a linear or cumulative understanding of incentives to electrify. Comments of 350 Bay Area in Response to Administrative Law Judge's Ruling and Question on Implementation Budget and Timing Issues (track A) in Rulemaking 22-07-005 at 6, 5 ("Electrification is only incentivized if the total customer costs are lower than continued reliance on fossil fuels." And, "Until that tipping point can be achieved, there simply is no economic incentive for customers to electrify, and no impact on achieving electrification goals"). TURN/NRDC Reply Comments on Administrative Law Judge's Ruling on Implementation Budget and Timing Issues (Track 1) in Rulemaking 22-07-005 (Feb. 12, 2024), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M525/K361/525361958.PDF> ("The same goes for 350 Bay Area's claim that the state needs to achieve some fictional market 'tipping point' for electrification measures to be adopted, and until California arrives at that tipping point all marginal incentives to adopt electrification are futile. 350 Bay Area then contradicts this idea by suggesting that California should explore an alternative way to incentivize electrification by "improving the savings or relative value and payback of the electric option," a result that the IGFC is specifically designed to achieve").

KEY TAKEAWAYS FROM THE PROPOSED DECISION ADDRESSING AB 205 REQUIREMENTS

- The proposed decision issued conclusions regarding AB 205 statutory requirements, the IGFC implementation pathway, and the specific fixed charges and income tiers to be imposed. The proposed decision ordered the IOUs to take a series of actions to facilitate the adoption of the first version IGFC.
- The proposed decision included a comparison and analysis of various parties’ first version proposals.

The first version is set to be adopted in the fourth quarter of 2025. The proposed decision set forth an income graduation with three tiers:

- Tier 1: CARE Customers \$6 fixed charge
- Tier 2: FERA Customers & People Living in Affordable Housing Restricted to People with Income at or Below 80% Area Median Income \$12 fixed charge
- Tier 3: All Other Ratepayers \$24.15 fixed charge



Comparison of Proposed Fixed Charges (Referred to as Flat Rates) from CPUC Information Sheet on the Proposed Decision. CPUC, Energy Division Fact Sheet (March 27, 2024), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/demand-flexibility-oir/ab205-pd-032724.pdf>.



The first version fails to achieve the goal of equitably distributing costs, continues to impose regressive rates (despite essential gains for low-income Californians), and continues to leave the PUC and the policy open to inaccurate critiques that equity is simply a red herring in this conversation. But Administrative Law Judge Wang’s gradual implementation and constrained first version may turn out to have been a fair assessment of what the current politics allow. The CPUC and IGFC supporters have been receiving fire from all sides. It is hard to contemplate the implementation of a truly progressive income-graduated mechanism in the IGFC, for example, without the strong support of California progressives, many of whom have remained quiet or expressed concerns over the IGFC.

The story isn’t over yet. The proposed decision can be revised in the lead up to the Commission’s voting meeting, likely in May. Additionally, due to the incrementalist approach, future IGFCs are anticipated, leaving space for future battles over an adequately progressive income graduation. If, that is, the statutory basis for the policy isn’t repealed. This gradual rollout also leaves time for a more nuanced public debate over the underlying issues and a clarification of the key points of disagreement.

VII. Recommendations

The meaty questions about what an IGFC could look like have made the proceeding a rich, complex, and useful exercise, if controversial.

There is no simple answer to how competing rate design principles should be balanced against the complex policy and material landscape in IGFC implementation. The ongoing proceeding at the CPUC is an effort to explore these principles and the competing visions for the future of our electric power system. The meaty questions about what an IGFC could look like have made the proceeding a rich, complex, and useful exercise, if controversial. The proceeding currently includes over 500 filings engaging with these and other challenging questions.

The repeal effort seeks to end this proceeding and this conversation. While kicking the can down the road on rate design may be politically expedient for elected officials hearing from angry constituents today, it won't help California resolve these essential questions or clarify misunderstandings about how to electrify swiftly while managing system reliability and ensuring that electricity bills do not disproportionately impact the state's most vulnerable residents. The public and our system of electricity provisioning would benefit from a more informed and nuanced debate on these issues. In the interest of these discussions and this unfolding issue, this paper recommends:

- **California lawmakers should not halt the ongoing income-graduated fixed charge proceeding**, wasting the time and resources that have been dedicated to this multi-year proceeding by parties on all sides of the issue. Repealing the IGFC mandate puts off essential discussions about the structure of rates without clarifying widespread misunderstandings about the policy, and delays much-needed bill relief.
- **The CPUC, for its part, must ensure that the income-graduated fixed charge—ideally the first version, but certainly those that follow—is meaningfully progressive.** This is aligned with AB 205's statutory mandate and should provide bill relief to low- and middle-income ratepayers. An inadequately progressive IGFC, on the other hand, risks undermining support for the policy overall and continuing to erode public trust.
- **Research institutions, public institutions, and state regulators bear the responsibility of making these important issues accessible to the public and to California lawmakers.** The misleading public discourse on the income-graduated fixed charge reflects a need for public education on the structure of the electric power sector and the competing values at play. **Future research and writing is needed, and should clearly convey:**
 - **The competing values shaping rate design:** The CPUC proceeding is evaluating income-graduated fixed charge proposals on the basis of multiple values—this is a good thing. It's important for regulators to consider equity in addition to efficiency, and reliability in addition to emissions reductions. Cherry picking single values to characterize the impact of a rate design will fail to accurately assess the potential impacts.
 - **The unavoidable tradeoff between electrification and conservation in rate design:** Rate design may no longer be the best tool to encourage electricity conservation across-the-board because it cannot successfully do so without also increasing the operating costs of electric vehicles and appliances, working at cross purposes with California's electrification goals. Electricity conservation remains a crucial goal. In fact, the new tension between electrification and con-

servation in the narrow context of rate design may mean we need stronger policy mechanisms outside of rate design to counterbalance beneficial increases in electricity consumption and to avoid unnecessarily straining the grid. Either way, the public should be clear-eyed about the tradeoffs between conservation and electrification in rate design and about the fact that this tradeoff doesn't necessarily extend to other policy tools.

- o **The divergent material interests at stake:** Lawmaker critiques and media coverage have consistently zeroed in on how investor-owned utilities' profit motive shapes their stance on this issue, as well they should. But a stakeholder analysis should cover the all major stakeholder groups to avoid the inaccurate implication that only investor-owned utilities are advocating for policies that benefit their bottom lines. The distributed energy industry and owners of rooftop solar also have clearcut financial interests in this discussion and are advocating for positions in line with those interests. Having a financial stake does not discredit any particular view, but it is essential context for understanding the major stances in this debate.
- o **The structure of the public utility model and alternative visions for the grid:** Climate change and new technologies are disrupting the power sector, clearing space for new visions. We need to be able to clearly identify the differences between the competing visions for electricity provisioning and to characterize the system we have if we hope to accurately assess the pros and cons of these divergent models.



VIII. Conclusion

Questions about electrification, reliability, and about how costs of our electric power system should be distributed are not going away, even if the repeal effort is successful.

Even as climate change poses existential threats, its challenge invites unparalleled opportunities for growth. As with any opportunity for growth and particularly the invitation of dramatic industry-wide restructuring, there is fierce competition for the spoils. Both entrenched IOUs and newer distributed energy companies have every incentive to fight for the energy future that benefits their bottom lines. But the dueling visions supported by private industry are not the only options. The question for the rest of us is which of the many possible energy futures best supports rapid decarbonization, system reliability, and equity at the same time, and how rate design can support that future.

This paper has sought to offer theoretical, technical, and political-economic context for understanding this contentious policy debate. The IGFC is ultimately a narrow policy issue that is giving voice to fierce political and economic debates about the future of our energy system. Regardless of the outcome of the IGFC itself—as of this writing, its future remains in question—the contested visions for our energy future and the competing material interests of newer distributed generation and entrenched IOUs will shape both policy and conversation. Questions about electrification, reliability, and about how costs of our electric power system should be distributed are not going away, even if the repeal effort is successful.

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