

Upcharge:

Hidden Costs of Electric Utility Monopoly Power

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June 2024

ILSR INSTITUTE FOR
Local Self-Reliance

ABOUT THE INSTITUTE FOR LOCAL SELF-RELIANCE

The Institute for Local Self-Reliance (ILSR) is a national nonprofit research and educational organization founded in 1974. ILSR has a vision of thriving, diverse, equitable communities. To reach this vision, we build local power to fight corporate control. We believe that democracy can only thrive when economic and political power is widely dispersed. Whether it's fighting back against the outsize power of monopolies like Amazon or advocating to keep local renewable energy in the community that produced it, ILSR advocates for solutions that harness the power of citizens and communities. More at www.ILSR.org.

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ACKNOWLEDGEMENTS

Thank you first to my intellectual inspirators:

To Jon Wellinghoff and James Tong, for their original work on distribution independent system operators published in 2014

To Ari Peskoe, whose research on utility transmission syndicates convinced me that the monopoly problem was a common enemy of all clean energy advocates, utility-scale or rooftop-scale

To Scott Hempling, who has tirelessly documented the abuse of the public franchise by utility companies for years, especially the rubberstamped mergers that allowed them to grow gigantic

To Lorenzo Kristov, who has been imagining an alternate electricity system without an abusive monopoly gatekeeper — one that would capture the widespread benefits of distributed energy (and for his thoughtful review of the report)

To Eleanor Stein, whose good counsel and thoughtful conversation opened this non-lawyer's eyes to the legal issues at the heart of the project (and for her thoughtful review of the report)

To Stacy Mitchell, who has paved the way for ILSR to bring forth the advocates of local power to join forces with those who fight monopolies (and for her thoughtful review of the report)

Thank you also to David Pomerantz, Matt Kasper, and the entire staff at the Energy and Policy Institute, without whose work many of the utility abuses documented would never have seen the light of day.

Thank you to the staff of ILSR's Energy Democracy Initiative — Maria McCoy, Katie Kienbaum, and Kate Taylor Mighty — who have carried so much of our program work during this lengthy project.

I also want to thank Anya Schoolman, Michael Murray, Chris Villarreal, Sandeep Vaheesan, Joe Wiedman, Jean Su, Karl Rabago, David Morris, Bill Powers, David Hsu, Leslie Glustrom, Mariel Nanasi, Howard Crystal, and the folks at EQ Research who have collectively provided me with advice, inspiration, feedback, or corrections in this two-year journey. Thanks to my family for their patience with me when this project hit a roadblock. Thank God it's done.

All errors are my own responsibility.



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Table of Contents

EXECUTIVE SUMMARY	7
INTRODUCTION	9
A BRIEF HISTORY	11
WHAT'S AT STAKE IF WE DON'T	
BREAK THE POWER OF MONOPOLY UTILITIES	13
Utilities Slow Climate Progress	13
Utilities Inflate Energy Costs	14
Utility Reliance on Fossil Fuels Kills	16
Utility Disasters and Corruption Erode Faith in Oversight	16
Utilities Underinvest in Grids Where Vulnerable People Live	18
Utility Mergers Reduce Accountability and Suppress Competition	18
WHY AND HOW UTILITIES ABUSE THEIR	
MARKET POWER TO MAINTAIN CONTROL	20
Huge Barriers to Entry Mean No Competition in Distribution	22
The Distribution Grid as a Monopoly Tollbooth	22
Utilities Erect Additional Barriers by Withholding Data	29
Utilities Curtail Competition in Power Generation	31
Utilities Hinder Energy Efficiency to Preserve Profits	33
HIGH-VOLTAGE TRANSMISSION: ANOTHER MONOPOLY TOLLBOOTH	35
Utilities Use an Antitrust Loophole to Exercise Monopoly Power	38
Market Power Section Summary	39
HOW UTILITIES WIELD POLITICAL POWER TO EVADE OVERSIGHT	40
Utilities Retain Power in Shadowy Regulatory Environments	43
Utilities Spend Heavily in Elections to Secure Favorable Oversight	44
Utilities Use Outsized Lobbying Power to Circumvent Oversight	45
Utilities Purchase Fake Public Support for Private Goals	46
Utilities Use Their Customer-Funded Trade Associations to	
Oppose Clean Energy and Shutoff Protections	48
Political Power Section Summary	48
A STRUCTURAL PROBLEM REQUIRES RESTRUCTURING	49
Restructuring the Grid By Creating Independent Operation	49
Making the Grid Fairer with Antitrust Enforcement	50
Repairing Historic Harms	51
CONCLUSION	52
ENDNOTES	53

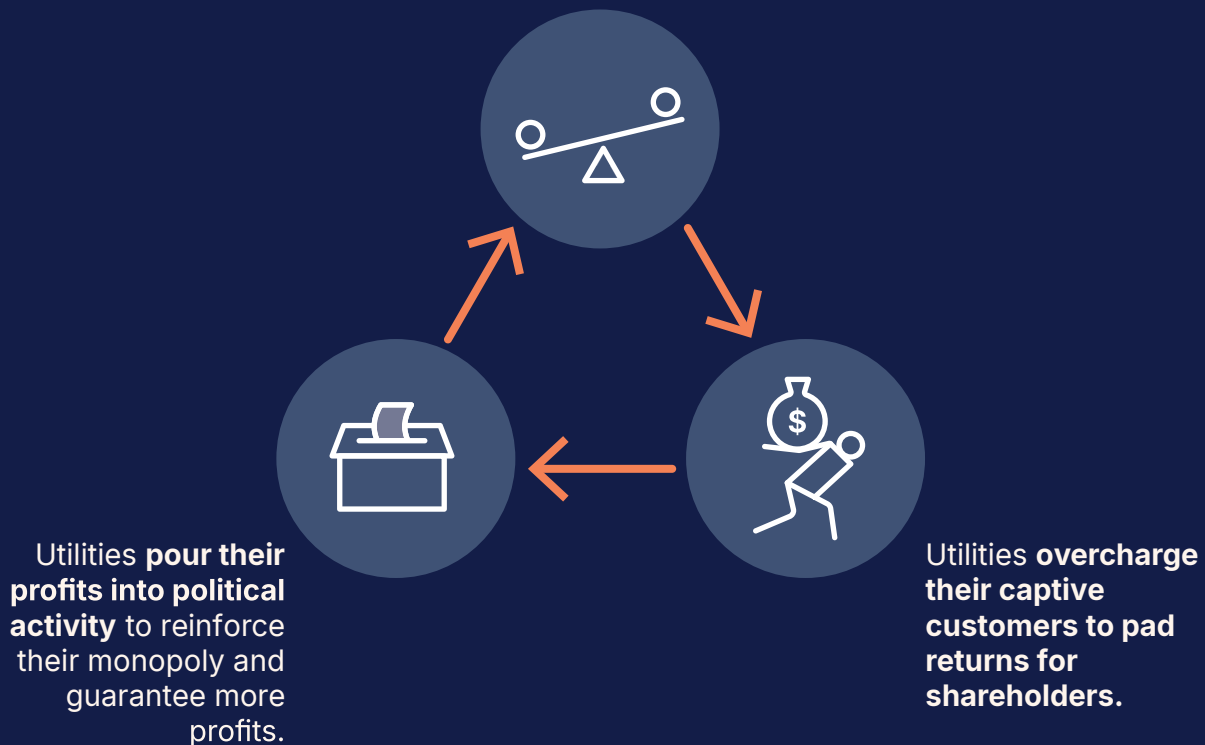
Electric Utilities' Platform Monopoly Power

For-profit electric utilities have become too powerful due to their government-granted **platform monopoly** over electricity delivery.

What is a platform monopoly? A platform monopoly is a dominant company or small group of companies that uses its control over a platform or marketplace to gatekeep and hinder competition. Examples include Amazon, Google, and investor-owned utilities.

A vicious cycle:

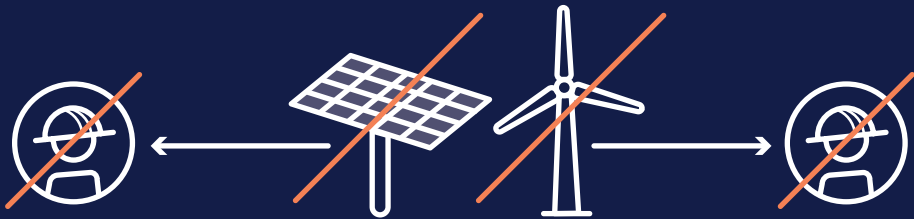
Utilities use their platform monopoly power to **undermine competition and favor their own business.**



Costs of the Monopoly Utility Model

The platform monopoly granted to investor-owned electric utilities has become **a costly problem for communities, climate, and our democracy.**

Communities



- ✗ **Thousands fewer clean energy jobs** as utilities block competitor investments
- ✗ **Higher electricity costs** to pad utility shareholder profits
- ✗ **Staggering health costs and premature deaths** linked to utility pollution

Climate



- ✗ **32% of U.S. energy-related CO2 emissions** come from electric utilities
- ✗ **Record storms and wildfires** juiced by utility carbon pollution
- ✗ **Climate denial ads** funded by utility interest group Edison Electric Institute

Democracy



- ✗ **Widespread deceptive, unethical, and illegal political activity** among monopoly utilities
- ✗ **Lawmakers influenced by money extracted from captive customers**, many of whom strongly oppose the utility's interest
- ✗ **A regulatory revolving door**, with lax oversight caused by too many regulators leaving to take jobs at utility companies

How to Fix the Grid

The system of “regulated,” for-profit monopolies has failed, and the fix **requires a three-step restructuring of the electricity sector.**



Revise antitrust law to break up monopoly utility companies and mandate fair competition in most of the electricity system.

Most grid services can and should be delivered competitively, including:

- Power generation
- Energy efficiency
- Demand response
- Ancillary services

Removing the natural monopoly parts of the grid from private markets will:

- Break corporate monopoly dominance
- End gatekeeping and abuse by monopoly utilities

Create a non-profit or public entity to operate transmission and distribution infrastructure as a commons.



Repair enduring harms imposed upon Black, brown, and indigenous electricity customers.

From pollution to lack of affordability, harms against people of color can be addressed by prioritizing:

- Access to financial resources for Black households
- Federal funding for indigenous nations
- Financing for tools that lower bills for low-income customers of color

Executive Summary

The pairing of private, monopoly profits with the essential public service of electricity delivery has become too costly: to the climate, to consumers, to independent businesses, and to our democracy. The problem is utilities abusing their platform monopoly power and the solution is independent, publicly accountable operation of the distribution of electricity.

The century-old system of regulated, for-profit monopolies controlling U.S. electricity distribution is broken.

Electric service is fundamentally public in nature, much like municipal water or wastewater services, but it is primarily provided by private companies. However, the underlying, basic legal premise has always been that a private utility “was created for public purposes [and] performs a function of the state.”¹ The public purpose has been subverted by private, monopoly ownership. Along with costly electricity, this structure generates a vicious cycle — monopoly, investor-owned utilities build excessive political power on the backs of captive customers, sabotage public oversight and competitors, and then pour their monopoly profits into further political subversion. Instead, federal and state policy makers should break up utility monopoly power by reasserting public control over distribution of this public good.

The costs of electric utility monopoly power are staggering. By hindering clean energy investment of their competitors, investor-owned utilities block rapid and affordable climate solutions that can create thousands of good jobs. Carbon pollution from utility power plants has juiced record storms and wildfires causing widespread destruction of homes and costing thousands of lives. The total health costs from electricity pollution are staggering — equal to the price paid for all electricity sold each year — and include a lifetime sentence of asthma for millions of children. Utilities have hiked electricity prices to record levels in many regions, triggering a debilitating routine of shutoffs for many families. These lasting impacts cost all of us, even as they compound longstanding disproportionate health and economic harms for people of color and those with low incomes.

The root cause is for-profit ownership of the exclusive, public franchise to deliver electricity to U.S. customers.

Driven by a profit motive to overbuild and own everything and exacerbated by mergers that make them too big for effective regulatory oversight, investor-owned utilities have entrenched their monopoly power. The distribution monopoly grants utilities gatekeeping power over transmission, generation, energy efficiency, and data. With regulators outgunned by the utilities they are supposed to oversee, the failures of the monopoly utility system illustrate the failure of private monopoly control over a public service.

Utilities act as a gatekeeper similar to Big Tech companies, but the barriers to entry are even higher for electricity distribution, from extraordinary capital costs to anti-competitive laws enacted by utility-captured legislators. Utilities take advantage of this exclusive, platform monopoly over electricity infrastructure to undermine competition and favor their own business. Utilities manipulate the grid connection process to hinder their competitors with everything from withholding data to ignoring rules to insisting on more costly components. Utilities clamp down on grid data to prevent independent producers from identifying sweet spots to deliver clean, affordable power at the lowest cost. Utilities hide data and practices to prevent public scrutiny. Utilities rig bidding processes and manipulate contract negotiation to curb competition in power generation. Utilities impede investment in energy efficiency to project their own capital investments. Utilities short circuit development of new transmission lines that could reduce congestion and enable more clean energy to connect to the grid.

Investor-owned utilities have reinforced their market dominance with a massive political influence machine — regularly engaging in deceptive, unethical, and outright illegal political activity — built on the revenue extracted from captive customers. Federal lobbying by utilities delayed meaningful climate action for years and dampened regulatory actions that would increase competition and lower electricity costs for consumers. Electric utilities also spend heavily in state politics. Here, utilities have won huge returns on investment in lobbying and political contributions to state legislators and regulatory commissioners who make the rules that determine utility profits. The evidence shows that these rules have served to cement the utility's platform power, inhibit their competition, and ultimately protect their profits.

The system of “regulated,” for-profit monopolies has failed, and the fix requires a three-step restructuring of the electricity sector. Even when responsible for billions in costs and dozens of deaths from wildfires or when found culpable in elaborate multi-million bribery scandals, investor-owned utilities have yet to find a regulator willing to revoke their public franchise. Policy makers must reassert public authority over this public good by restoring competition, preserving the commons, and prioritizing justice.

First, we must mandate competition in every part of the electricity system that isn't a natural monopoly. While functions like distributing electricity must continue to be handled by a single entity in a given region, services that can be delivered competitively — including power generation, ancillary services, demand response, and energy efficiency — need to be fully competitive markets with public oversight to ensure they remain fair and open. A revival of antitrust law in the electricity sector would greatly aid efforts to ensure fair access to markets and better outcomes for consumers.

Second, our transmission and distribution infrastructure should be operated as a commons — open to all and with preference toward none — by non-profit, cooperative, or public entities to prevent for-profit companies from using the grid platform to inhibit competitors. These grid operators should not be permitted to participate in competitive markets to further ensure that they have no incentive to favor any market participant, from power plant providers to rooftop solar owners.

Finally, a grid freed from monopoly gatekeeping must also have rules to ensure the repair of historic harms, from pollution to lack of affordability, imposed upon communities of color and low-income customers. Black households should have prioritized access to financing and capital long denied through racialized subjugation through Jim Crow, redlining, and discrimination in banking. Indigenous nations should have priority for federal funding in compensation for lands taken via treaty violations and other means. Low-income communities should have higher priority and greater access to financing for tools that will reduce their energy bill burdens.

A grid-as-commons ends the abusive relationship with corporate monopoly utilities by breaking their dominance. It would allow independent and community players to develop an electricity system that fights climate change with affordable, innovative, local, clean energy, to reduce disproportionate impacts on human health and expanding economic vitality to every community.

Introduction

Utilities exercise their power in a vicious cycle, similar to what economist Luigi Zingales calls the Medici Vicious Circle: “money is used to gain political power and political power is then used to make more money.”² Utilities make money through their exercise of market power over their competitors and on the backs of their captive customers. They use it to expand their political power in defense of their monopoly, securing their profits and their market share in an increasingly abusive cycle.

This abuse is a wakeup call to state governments: attempts to police private utilities within a publicly-granted monopoly have failed. Nothing short of structural change will suffice to protect consumers, the public interest, and our political system from investor-owned utility companies.

This report begins with a brief history of investor-owned utilities, and follows up by documenting the high costs of utility monopoly power to the climate, consumers, and our democracy. Subsequent sections of this report explain how utilities use their platform to accumulate market power and political power. Recent advances in solar photovoltaics, energy storage, electric vehicles, smart building controls, and microgrids could allow customers and communities to cost-effectively escape rising monopoly utility rates while improving the quality and reliability of their electricity services.³ Too often, they are blocked by the utility gatekeeper.

Fixing the platform monopoly problem requires restructuring the electricity sector in three steps:

**restoring competition,
preserving the commons,
and prioritizing justice.**

1

Mandate competition in every part of the electricity system that isn't a natural monopoly.

While functions like distributing electricity must continue to be handled by a single entity in a given region, services that can be delivered competitively — including power generation, ancillary services, demand response, and energy efficiency — need to be fully competitive markets with public oversight to ensure they remain fair and open. A revival of antitrust law in the electricity sector would greatly aid efforts to ensure fair access to markets and better outcomes for consumers.

2

Operate the grid as a commons — open to all and with preference toward none.

The grid — the transmission and distribution infrastructure — should be operated by non-profit, cooperative, or public entities, to prevent for-profit companies using the grid platform to inhibit competitors. These grid operators will not be permitted to participate in competitive markets, to further ensure that they have no incentive to favor any market participant, from power plant provider to rooftop solar owner.

3

Write rules for the operation of the grid to encourage the redress of historic harms.

Black households should have access to financing and capital long denied through a history of racialized subjugation through Jim Crow, redlining, and discrimination in banking. Native American tribes should have priority for federal funding. Low-income communities should have higher priority and greater access to financing for tools that will reduce their energy bill burdens.

A Brief History

In the early days of electrification a century ago, legislators quickly realized that this emerging technology was fundamentally public and required public oversight, especially due to its monopolistic features. A single electric grid was more efficient than multiple competing sets of wires strung to each building, and economies of scale meant larger utilities could deliver significantly lower electricity prices with the technology of the time. Economists describe this as a “natural monopoly,” where a single provider system is more economically efficient than competition. With electricity service combining public interest and monopoly characteristics, public oversight was necessary.

Investor-owned utilities quickly adopted the language of economists to seek protection from competition emerging from onsite generators that could efficiently provide heat and power, and from cities inclined to produce electricity themselves rather than rely on a private entity.⁴ With the support of private utilities, state legislatures opted to enshrine this natural monopoly into law by creating exclusive service territories, and allowed private companies to hold the public franchise for a state-defined territory.

States gave utilities monopolies, but the private monopoly rested on the legal precept that even utilities are meant to serve a public function. The laws did not erase the fundamentally public nature of electricity service, much like municipal water or wastewater services. The underlying, basic legal premise has always been that a private utility “was created for public purposes [and] performs a function of the state.”⁵

States hoped to protect the public interest by establishing regulatory agencies, typically called Public Utilities Commissions or Public Service Commissions, to oversee utilities by setting prices and profits. Utility monopoly franchises encompassed the entire electricity business. In these vertical monopolies, a single company owned everything needed to serve customers in its service area, from power plants to power lines to the meters on a customer’s home.

From the beginning, monopoly regulation had significant environmental consequences and widespread gaps in service. While it resulted in expanded electricity service and lower rates for many, state regulators overlooked environmental costs, particularly when those impacts were concentrated in marginalized communities. And even though utility companies faced no competition, the federal government had to step in to support the formation of cooperative utilities when private utilities weren’t willing to serve rural areas.

In the 1920s, utility executives contributed to the economic depression by playing fast and loose with their monopoly franchises. Assessing in the aftermath, the Federal Trade Commission published a damning report in 1935 that detailed how the titans of the industry abused the public’s trust by using the monopoly franchise to inflate their stock

valuations even as they deviated into many risky, unrelated, and unregulated industries.^{6 7} Utilities sold themselves as safe bets to investors due to state oversight, but the collapse of utility stock prices contributed significantly to the national market crash and subsequent Great Depression.⁸

Despite the utilities' reckless use of their public franchise, Congress resurrected the utility business with the Public Utilities Holding Company Act (PUHCA) of 1935.⁹ By establishing more regulation over multi-state holding companies, prohibiting significant deviation into unrelated services, and barring mergers of disparate utility systems, the federal legislation addressed the worst utility abuses and ushered in three decades of relative calm in the utility business.

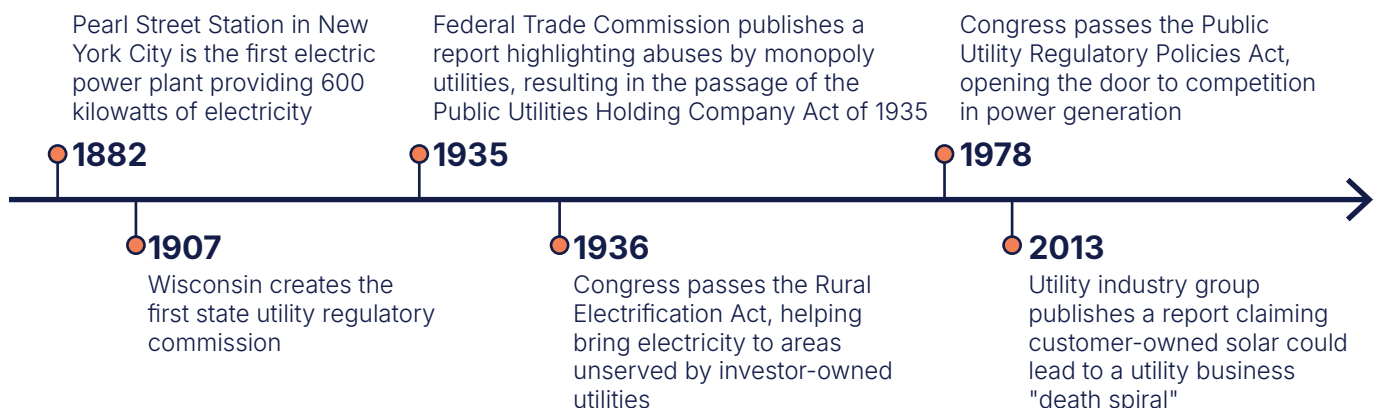
In the 1970s, utilities again tested the bounds of their monopoly privilege. Lulled into a false sense of security by decades of growth, utility executives failed to prepare for a dual crisis: the limits of economies of scale of large power generation coupled with the fallout from the 1973 oil crisis. High interest rates ballooned the cost of large power plants, which no longer delivered increasing unit cost savings; this especially affected big bets on nuclear power. High oil prices led to significantly higher power plant fuel costs for oil and natural gas, which in turn curtailed growing electricity demand. In response, utilities more than quadrupled average electricity rates, increasing them by 370 percent (55 percent when accounting for inflation) from 1970 to 1983.¹⁰

States decided that the utilities needed saving, though the solution didn't fully address the problem. In New York in

1974, Consolidated Edison required a half billion dollar bailout from the legislature.¹¹ In some states, regulators created a framework for greater accountability, the Integrated Resource Plan (IRP). The process required utilities to share their investment plans for meeting electricity demand in the hopes of avoiding future rate shocks, but it was never universally adopted — nor did utility plans always require approval by state regulators.^{12 13}

The federal government also responded to the 1970s crisis, but instead of attempting to prop up flailing utilities through improved regulatory oversight like the states, federal authorities moved to crack open the energy market's monopoly structure. The resulting law, the Public Utilities Regulatory Act of 1978, required utilities to buy power from independent generators, thus stimulating a new competitive market for high-efficiency and renewable electricity generation. Supported by a period of relatively low fuel costs and technological stability in the 1980s and 1990s, state and federal actions brought another two decades of relative calm for consumers.

These periods of relative calm for U.S. electricity consumers have masked the truth: behind the scenes, investor-owned utilities began a long-term divergence from the public interest that continues today, opposing climate action, eroding trust in oversight and faith in government, and pursuing unjustified profits. These consequences have been amplified by the growing size of utilities, as they have merged to create giant, multi-state entities that undercut the ability of regulators to hold them accountable.



What's at Stake if We Don't Break the Power of Monopoly Utilities

The pairing of private, monopoly profits with the essential public service of electricity delivery has become too costly: to the climate, to consumers, to independent businesses, and to our democracy.

The problem is utilities abusing their platform monopoly power. Each year, Americans collectively spend \$360 billion to buy electricity, as much as the federal government spends on education, health, and transportation combined. It's an essential service, delivered by a legally constructed and protected monopoly franchise — an exclusive right for a utility to distribute electricity in a given geographic area. Some monopoly utilities are publicly or cooperatively owned, but for two-thirds of Americans, this government-provided monopoly privilege protects a private, for-profit company. These investor-owned monopoly utilities wield their market and political power over this platform in favor of their shareholders, to the detriment of the public interest.

What is a “platform monopoly”?

A platform is another word for a marketplace or potential marketplace. In this case, the electric distribution grid — the poles and wires that bring electricity to homes and businesses — is a platform where various parties can or could connect, produce, and exchange value from sources like rooftop solar arrays, batteries, or even electric vehicles. Because U.S. states grant utilities exclusive service territories for electricity distribution, this grid platform is a monopoly. The problem with this platform monopoly is that it combines an essential public service with an entity in power — in this case, an investor-owned utility — that wields its monopoly power in its self-interest at the expense of the public interest.

“Nowhere in America do consumers have a choice as to which meter is installed on the side of their house”¹⁴ — Mission:data

Utilities Slow Climate Progress

As state policies have stimulated new clean energy technologies, utilities have stymied renewable energy development that threatens their market share and profits. In her book *Short Circuiting Policy*, political scientist Leah Stokes offers detailed case studies where for-profit monopoly electric utilities have defeated, weakened, or derailed implementation of state clean energy policies. In Texas, for example, generation-owning utilities saw the prospect of solar

generation growth as a threat to the revenues of their gas power plants during high-price, peak demand periods. So, in the drafting of solar energy legislation in 2005, “opponents [of solar] kept their resistance hidden during enactment... Opponent interest groups wanted [solar] advocates to believe they had made progress while they intended to resist the law during implementation.”¹⁵ As a result of that resistance, the vast solar potential of Texas remains severely underdeveloped. Stokes’s book provides similarly detailed case studies of utility strategies to derail clean energy policies in Kansas, Arizona, Ohio, and California.

“Battles over climate policy are fundamentally material: they are about who will get to own the assets of the energy system and the resulting profits”¹⁶

The utility campaign to sow doubt and confusion about climate change began in earnest in the late 1980s. Warned in 1968 of the potential harms of carbon dioxide emissions, utilities conducted research about the industry’s environmental impact over the following twenty years. Rather than take responsibility, utilities lied. For example, an advertisement produced by the Information Council on the Environment in 1991 described climate concerns as “Chicken Little.” The ad’s costs were covered in part by the Edison Electric Institute (EEI), the utility industry’s trade group responsible for research and lobbying strategy on behalf of utilities, and the investor-owned utility Southern Company.¹⁷ In their own words, the aim of the campaign was to “reposition global warming as theory and not fact.”¹⁸

With the advent of clean energy policies and competitive renewable generation, Stokes notes that, “Battles over climate policy are fundamentally material: they are about who will get to own the assets of the energy system and the resulting profits.”¹⁹

California utilities have been brutally effective in fighting competition from rooftop solar in recent years. Despite a 2020 analysis finding that similar local resources could lower the cost of achieving a low-carbon electric grid by \$500 billion nationwide, utility-driven (and regulator-approved) reductions in payments to solar producers cratered the rooftop solar market.²⁰ These changes “may also threaten to undermine California’s broader climate goals...[O]ver the past two years, residential and commercial solar installers added more clean capacity than all the utility-scale solar projects,” described an article in Canary Media.²¹

Successful in slowing the response to climate change, electric utilities still account for 32 percent of U.S. energy-related carbon dioxide emissions.²²

Utilities Inflate Energy Costs

To pad utility shareholder profits, U.S. customers pay far more for electricity than they should. Utilities charge as much as \$20 billion more per year or \$150 annually per residential customer, than their low-risk investments ought to cost.²³ The problem has its roots in an outdated legacy of how utilities are paid, and the failure of state regulators to properly align utility investment risk and reward.

Utilities exploit their business model to earn larger profits. Utilities make a regulated profit under a “cost plus” model — for every dollar the utility spends, they earn a fraction of it as profit. When utilities build a new power plant or power line, state regulators reward their investment with a profit based on how much of the utility’s own capital was invested. The compensation formula has its origins in the early days of the electricity business, when building new infrastructure resulted in lower electricity costs and expanded service. When regulators approve an investment, the profit is virtually guaranteed to be paid by the utility’s captive customers via electricity rates, exposing utility investors to very minimal investment risk. The utility mantra is “spend more, profit more.”

“Utilities make a regulated profit under a “cost plus” model — for every dollar the utility spends, they earn a fraction of it as profit. When utilities build a new power plant or power line, state regulators reward their investment with a profit based on how much of the utility’s own capital was invested.”

Utilities have collected much higher profits than most low-risk industries. The risk premium — the amount that utility investors are earning that is greater than risk-free investments like U.S. government securities — has increased over the past forty years, from about 3 percent in 1985 to nearly 8 percent in the late 2010s, according to a study by researchers at Carnegie Mellon University.²⁴ The result is “a sizeable transfer from consumers to investors,” according to University of California researchers.²⁵ Utilities inflate their profits by under-investing in services such as energy efficiency, causing increased demand for power plants and related infrastructure that earn the premium profit — and higher costs for customers.

The asymmetrical power of utilities over their regulators explains the price premium, according to researchers. First, regulators are outgunned by the utilities they regulate, with insufficient access or capability to review utility data. Second, regulators get most of their direction from utility interests and so disproportionately face requests to increase, not decrease rates. Finally, regulators tend to approve returns on equity using round numbers. Small increments of rounding up can significantly increase customer costs over time.²⁶

In other countries, utilities earn less while still maintaining services. In their study on premium utility profits, University of California researchers noted, “It is striking that other countries are able to attract sufficient investment in their gas and electric utilities while guaranteeing lower regulated returns than are available in the U.S. context.” Some U.S. regulators may be catching on, as the risk premium approved in a recent Ameren rate case in Illinois was only 3 percent relative to short term interest rates.²⁷ Unfortunately, this outcome is an exception, not the norm.

Utilities also cash in by manipulating policies intended to protect customers from rate shocks. After operating polluting power plants for decades, utilities have manipulated the system to earn profits on massive clean up costs billed to customers. For example, coal ash is a toxic byproduct of coal combustion for power generation, and the utility-produced dumps can leach toxins into groundwater or, if improperly managed, cause widespread devastation.^{28 29} Estimates of clean-up costs for these sites have been staggering: \$9 billion for Georgia Power, \$8 to \$9.5 billion for the Duke Energy utilities in North Carolina, \$3.3 billion for Alabama Power,³⁰ and \$2.7 billion for Dominion Virginia.³¹ Because the costs are so high, utility regulators have allowed utilities to spread out the clean-up costs, much as they would with other large, one-time costs such as storm recovery. While helpful for reducing bill shocks for customers, utility regulators have allowed utilities to collect not just the interest to finance these payments, but also profits for utility shareholders.

Utilities have shifted more financial risk to their captive customers through other, similar line item billing called cost trackers. Traditionally used to itemize expenses over which the utility may have limited control — like power plant fuel costs — cost trackers do not receive the same level of regulatory scrutiny. According to a 2014 report by the National Regulatory Research Institute (NRRI), the research arm of the National Association of Regulatory Utility Commissioners (NARUC), there has been a sharp rise in the use of cost trackers. The authors noted that, “although [cost trackers] unequivocally benefit utilities and their shareholders, it is less clear how they benefit utility customers.”³²

The costs of utility behavior include cutting off electricity to millions of customers struggling to afford rising electricity rates, hitting folks with low incomes and people of color particularly hard.

Without access to electricity, people can’t refrigerate food or medicine, work remotely, or even do homework. Despite this, state laws allow utilities to disconnect customers for nonpayment. With this legal sanction, utilities cut off power an estimated 4.2 million times in the first 10 months of 2022 alone, a nearly one-third increase over the prior year.³³ The

scale of the problem is much wider, as only three in five states require utilities to report disconnection figures.

The impact of utility expenses and shutoffs falls disproportionately on communities of color. In 2021, more than 20 percent of all families couldn't afford to pay at least one energy bill; the rate for families of color was 31 percent. In general, the median energy burden — energy costs as a fraction of income — is 43 percent higher for Black households, 45 percent higher for Native American households, and 20 percent higher for Latine households than for white households.³⁴ These groups also disproportionately lack access to alternatives to utility-provided electricity, such as rooftop solar or energy efficiency.³⁵ Extreme heat and cold driven by climate change exacerbates the affordability problem.

Utilities choose to disconnect power to customers over very small amounts of money. Of the dozen utilities that perpetrated 86 percent of documented shutoffs from 2020 through October 2022, just 1 percent of what they spent on dividend payments for shareholders could have prevented all shutoffs.³⁶

Utility Reliance on Fossil Fuels Kills

Utility reluctance to embrace renewable energy has left many Americans suffering the health and environmental impacts of sourcing and burning fossil fuels. Coal mining and natural gas extraction release numerous hazardous air pollutants, contributing to asthma, cancer, and other debilitating diseases. Combustion of coal and gas releases additional pollutants. The coal to asthma connection is so strong that installation of scrubbers on coal plants near Louisville, Kentucky, reduced respiratory related hospitalizations by 400 per year in the adjacent Jefferson County alone.³⁷ Nationally, the health costs of fossil fuel combustion for electricity use are estimated to be at least \$360 billion, as much as the cost of all electricity sold each year.³⁸

The negative health impacts of power generation disproportionately impact Black people and other

people of color, who are more likely to live close to a gas well or power plant than white people.³⁹ A recent study by Northwestern University found that 171,000 premature deaths each year are linked to nitrogen dioxide exposure, a common byproduct of combusting coal or natural gas. "In predominantly Black census tracts, for example, premature deaths related to nitrogen dioxide exposure are 47 percent higher than the national average."⁴⁰ The disproportionate impact has its roots in racial redlining of the housing market. Neighborhoods that today have higher emissions of major health-harming pollutants — nitrous oxides, sulfur dioxide, and particulate matter — correspond with neighborhoods given the lowest "desirability" grades a hundred years ago by the Home Owners' Loan Corporation, based largely on race.⁴¹

Utility Disasters and Corruption Erode Faith in Oversight

Weak consequences levied by state regulators for disastrously inept or corrupt utility behavior has invited future misconduct and undermined public confidence. Fines levied by state and federal regulators, or even courts, rarely exceed a tiny fraction of utility annual earnings. Regulators have never stripped a utility of its monopoly franchise. The weak response to the following three utility scandals invites investor-owned utilities to continue to price the consequences of misbehavior into their cost of doing business.

Despite causing a gas pipeline explosion and several catastrophic wildfires costing lives and property, Pacific Gas and Electric has retained its operating license from California regulators. Negligent utility maintenance led to an explosion of a natural gas service line in 2010 that killed eight people and resulted in several criminal felony convictions for the utility.⁴² In August 2015, the California Public Utilities Commission (CPUC) opened a proceeding to examine PG&E's safety culture due to a persistent pattern of safety incidents.⁴³ While under investigation, utility negligence led to the ignition of the Tubbs Fire in 2017 and the Camp Fire in 2018, causing over 100 fatalities and extensive property damage. The Commission opened a new phase of the proceeding acknowledging that its prior fines of over \$1 billion had been

insufficient to change utility behavior.⁴⁴

Initially, the Commission put on the table numerous potential changes to PG&E's corporate governance, management, and structure — everything from separating the gas and electric companies or establishing regional subsidiaries to transforming it into a publicly-owned utility or “wires only” company, or basing its return on equity (ROE) on its safety performance.⁴⁵ However, after PG&E declared bankruptcy in January 2019, the CPUC's May 2020 decision approving the utility's corporate restructuring dispensed with any meaningful structural reform.^{46 47 48} Even significant portions of the financial penalties assessed for the wildfire damage were suspended or waived.^{49 50}

Just one year after regulators approved its bankruptcy reorganization and dropped the most significant consequences for past bad behavior, poor PG&E maintenance practices sparked another wildfire, the Dixie Fire, which became the second largest wildfire in California history.^{51 52} The wildfire suppression effort was the most expensive in U.S. history, at \$650 million.⁵³ As of today, Pacific Gas & Electric remains the monopoly electric provider in northern California.

FirstEnergy in Ohio wrought its own multi-billion dollar disasters by influencing regulators and outright bribing public officials, with limited consequences.

Over three years ending in 2019, former Ohio Representative Larry Householder received \$60 million from three Ohio electric utilities, including FirstEnergy, to help get like-minded politicians into the Ohio legislature (and to elect Householder as House Speaker). The contributions to various political action organizations set up by Householder helped most of 21 targeted candidates win election, and all voted for Householder for Speaker of the House.⁵⁴

Led to passage by Householder in 2019, House Bill 6 was forecast to cost Ohio electric customers nearly \$4 billion in lost benefits from repealed clean energy laws and subsidies to utility power plants, including at least \$1 billion for FirstEnergy's two financially ailing nuclear power plants.⁵⁵ When Ohio residents started a petition to repeal the bill, Householder led an effort to pay off signature gatherers and

started ad campaigns to make residents wary of signing the petition.⁵⁶ Although the legislature repealed the nuclear plant subsidies, items costing Ohio customers over \$2 billion still remain in force.⁵⁷

While Householder and former state Republican Party Chair Matt Borges were convicted of racketeering in March 2023, the utility's penalties are small.⁵⁸ FirstEnergy paid a \$230 million fine as part of its deferred prosecution agreement with federal prosecutors, only half of which will be returned to Ohio customers.⁵⁹ The Federal Energy Regulatory Commission (FERC) also fined FirstEnergy \$3.9 million for withholding lobbying information in an audit conducted as part of the HB 6 scandal.⁶⁰ To date, the total fines to FirstEnergy remain smaller than its 2019 rate increase, and no further regulatory penalties have been assessed.^{61 62}

In Illinois, consequences for illegal behavior were similarly weak, even after the FBI uncovered a yearslong bribery scheme orchestrated by several executives of Commonwealth Edison (ComEd). Four former utility employees were convicted in 2023 for their involvement in bribing longtime Illinois House Speaker Mike Madigan.⁶³ During the investigation, the utility admitted that it arranged for jobs and vendor subcontracts for political allies of Madigan for which little or no work was performed, as well as undertaking other efforts to gain influence, such as appointing a desired individual to the ComEd Board of Directors, and retaining a particular law firm. In total, ComEd admitted that between 2011 and 2019 it made payments totaling more than \$1.3 million in its efforts to influence several significant pieces of energy legislation.⁶⁴ According to Crain's Chicago Business, “Trial testimony revealed that a 2016 law passed by dint of a massive ComEd bribery scheme was worth \$1.8 billion to the Chicago-based electric utility. Add \$2.3 billion in nuclear power plant subsidies for Exelon, and ComEd's illegal conduct produced a \$4.1 billion corporate windfall...a 1,950% return on investment from the \$200 million government fine.”⁶⁵

“ComEd’s illegal conduct produced a \$4.1 billion corporate windfall...a 1,950% return on investment from the \$200 million government fine”⁶⁶

A revolving door between regulators and industry creates lax oversight. The weak accountability for monopoly utilities suggests that many regulators do not take their role as protectors of the public interest seriously, especially when they often leave to take jobs in the industry they regulate. In one case, Scott Storms, the general counsel and chief administrative law judge at the Indiana Utility Regulatory Commission, left his job to work for Duke Energy, a utility he had previously regulated. However, Storms ended up being fired by Duke Energy just two months later because reporters found out he had been negotiating that job while involved in investigating Duke’s cost overruns at the Edwardsport coal-gasification plant.⁶⁷ A 2022 petition to the Federal Trade Commission documents similar situations across the country, including in California, Iowa, Arizona, and Pennsylvania.⁶⁸

The “revolving door” problem impacts federal oversight, as well. In 2001, 2005, 2015, and 2017, FERC commissioners left that job to take positions in the industry they previously regulated. When regulators leave for highly paid positions in the industries they recently oversaw, it raises questions whether their conduct as a regulator was influenced by their hope of future employment with the businesses under their authority.⁶⁹

Utilities Underinvest in Grids Where Vulnerable People Live

When it comes to providing an essential service, evidence has been building that utilities tend to invest less in low-income communities and in communities with a higher proportion of non-white residents.

Numerous studies suggest that utility grid investment choices leave people of color and low-income folks experiencing more frequent and longer power outages. Scientific American reported on a 2023 study

suggesting that longer duration power outages — with much more significant impacts — were more frequent in two major Midwest areas with populations that scored highly on the Centers for Disease Control and Prevention’s Social Vulnerability Index.⁷⁰ Similar results were found for long-duration outages in Texas in 2021, where communities with a disproportionate share of non-white residents were four times more likely to experience an outage.⁷¹ ⁷² Recent research in Chicago found that, “power outages are 83 percent more frequent, and last 140 percent longer, in low-wealth and minority communities compared to whiter, wealthier communities.”⁷³

New evidence suggests racial and income disparities in outages may result from systemic utility underinvestment. In a study of utility DTE’s grid in the Detroit area, researchers found that the oldest and most failure prone power lines were in neighborhoods more densely populated by people of color.⁷⁴ In California, grids serving people of color were much less likely to have capacity to support local solar installations, adding an additional barrier to folks hoping to reduce their bills with solar energy.⁷⁵

Utility Mergers Reduce Accountability and Suppress Competition

Utilities have used mergers to gain leverage over their regulators and influence with legislators, in service of reinforcing their monopoly power. For decades, utility power was contained by the Public Utilities Holding Company Act (PUHCA) of 1935, which expressly prohibited mergers of non-contiguous utilities in the recognition that such tie-ups were unlikely to produce efficiencies that benefited customers. Driven by a neoliberal political agenda, lax enforcement by the Securities and Exchange Commission as well as Congressional repeal of key provisions of the PUHCA in 2005 unwound these protections, allowing utility executives to grow their companies largely unfettered.⁷⁶

Mergers between investor-owned utilities have substantially reduced competition. From 1995 to 2012, mergers shrank the number of investor-owned utilities by almost half even as electricity use rose 20 percent.⁷⁷

Consolidation has gone hand in hand with shareholder rewards. In the past decade, 86 percent of the nearly \$300 billion in earnings of the publicly traded utility companies have gone directly to shareholders, mostly via dividends. Shareholder payouts have risen 65 percent in the last decade.⁷⁸ Meanwhile, state and federal governments scramble to find the billion dollars in new investment required to transition to clean energy, and utilities cut off power to customers by the millions each year for unpaid bills.^{79 80}

“In 2002, Duke Energy served five million customers across two states. By 2016, the company increased its customer base by 50 percent and its footprint to six states through a flurry of mergers and acquisitions. As Duke Energy’s market power grew, so did its political spending.”⁸¹

One cost of utility mergers is the unwillingness of lawmakers to allow large utility companies to fail — or face real consequences of their failure.⁸²

Mismanagement by Pacific Gas and Electric, as described earlier, led to a gas line explosion and several catastrophic wildfires in California, with costs in the billions of dollars.^{83 84} The utility’s liability costs eventually drove it into bankruptcy, but the state’s regulators still refused to give the utility’s monopoly franchise to a more competent company — despite available alternatives. When an investor-owned utility exited the business in Hawaii in the early 1990s, for example, customers formed a consumer-owned cooperative.

Why and How Utilities Abuse Their Market Power to Maintain Control

Private utilities have abused their exclusive, public franchise in order to curtail potential competitors whose services have exposed the drawbacks of their monopoly. New technology from rooftop solar to smart appliances to virtual power plants have poked dozens of holes in the “natural monopoly” of the early 20th century electric grid. Utilities have weaponized their monopoly over electricity distribution to cover for their uncompetitive services.

While the public purpose persists, the rationale for a private utility monopoly has eroded across almost every element of the electricity system. The last major expansion of the U.S. electric grid, to rural customers, was completed in the 1950s (though only through federal intervention), ending the rationale for a monopoly over distribution infrastructure expansion.^{85 86 87} By the early 1980s, non-utility companies had proven they could generate electricity at a competitive price and utility customers had demonstrated that they could produce their own energy from small-scale wind or solar power, ending the rationale for monopoly ownership of power generation.^{88 89} In the 1990s, regional transmission organizations showed that transmission system operation could be managed independently from the grid asset owners, undercutting the rationale for monopoly grid operation. Around the same time, several states demonstrated that retail sales of electricity could be provided competitively. In recent years, independent businesses have demonstrated that — with market access — they can provide on-demand electricity use reduction that reduces grid costs and customer costs.⁹⁰

“The logic of natural monopoly has been compromised”

–Michael Wara, *Competition At The Grid Edge* (2017)

Investor-owned utilities have strong motivation to preserve a profitable monopoly system, whether or not it makes sense for customers. Under the “cost plus” regulatory model adopted in the early 20th century, utilities earn profits each time they invest their own capital in new infrastructure, from power plants to power lines. Utilities operating under the typical market rules have a strong incentive to own infrastructure and to encourage regulators to let them overcharge, as explained in *Decarbonizing the U.S. Economy with a National Grid*:

“When a regulated utility buys power, or fuel, or labor for that matter, rates are set to simply reimburse it for its expenses. Utilities do not mark up these costs to earn profits. By law, any liabilities they incur from suppliers are paid back at cost by

ratepayers. The only thing they can do is break even.

Capital projects are a different story. Public Utilities Commissions set the price of electricity so that investor-owned utilities cover their costs, and earn what they determine to be a fair return for their investors. For private investors to be willing to invest in building a power plant, for example, they require an interest rate that is competitive with the other potential investment opportunities. This means that when the state regulator approves a \$100 million capital project for the utility, it sets the price of electricity so that the utility will earn a competitive return—say, 10 percent, or \$10 million per year—to compensate the utility’s shareholders for financing the project. If the regulator approves a \$1 billion capital project, a 10 percent rate of return earns shareholders \$100 million per year in additional revenue from ratepayers. The incentive for shareholders is clear: the larger the capital project, the more profit they are able to reap. The end result is that utilities have strong incentives to generate power themselves with their own capital rather than buy it from someone else.”^{91 92}

The powerful incentive of cost plus regulation persists even when utilities don’t own power plants,

as is true in fifteen states with restructured markets that separate ownership of power plants and/or retail electricity sales from distribution grid operation.^{93 94} For example, California’s Pacific Gas & Electric does not build or own new power plants, but because they do build and own transmission lines, they have a powerful bias toward remote, large-scale power generation that requires financially rewarding utility investment in transmission lines.

Utilities in restructured markets that solely own local distribution grids may still prefer hardware upgrades to “non-wires alternatives,” like solar plus battery storage, that could meet the same needs with less costly (and non-utility-owned) strategies. This is because for many innovative alternatives, such as rooftop solar or other services behind the customer meter, the utility does not or cannot effectively

earn a return under current regulatory structures. Shielded from competition, utilities may also continue opposing new methods of providing electricity service simply out of inertia. As described by a Tuscon Electric Power employee to the author during a public meeting in 2014, “We come to work each day to do what we did yesterday.”

Even when states change the rules to reward utilities for providing services in their customers’ interests, progress is slow.

Hawaii remains the only U.S. state with rules that reward the utility solely based on its performance in key areas, as opposed to automatically allowing a return on infrastructure investments (other states have partial implementation or regulatory proceedings in progress).^{95 96} To earn higher profits, the monopoly utility Hawaiian Electric Company must achieve “exemplary performance” on the state’s clean energy goals, including faster interconnection of rooftop solar and energy storage systems, more collaboration with energy efficiency providers to reach low-income residents, and better use of advanced metering and other grid modernization technologies.⁹⁷ While state leaders hope the performance-based compensation will align utility behavior with the public interest, the rules do not address the utility’s ability to use its market power in its own interest, such as the incentive to accumulate political power. Already, the utility has shown a willingness to oppose a highly successful solar and storage program popular with its customers.⁹⁸

Ultimately, state and federal policy makers and regulators have failed to align utility market structures to keep pace with electricity technology,

leaving for-profit monopoly utilities able to wield their platform monopoly to profit shareholders at the expense of customers.

The next section explores how huge barriers to entry preclude challenges to the platform power of utilities, how utilities wield their platform power to engage in anticompetitive behavior at the distribution and transmission level, and how the regulatory system fails, undercutting the public interest in creating a clean, local, equitable, affordable, and reliable electricity system.

Huge Barriers to Entry Mean No Competition in Distribution

Replicating the utility platform (i.e., the electric grid) would be financially daunting, even if it were legally possible. Legislatures have failed to unlock potential solutions, even at a smaller scale with tools such as microgrids — miniature versions of a grid that include power generation and distribution — or by allowing limited direct sales to customers. Public ownership campaigns have failed to overcome the political might of incumbent private ownership.

State rules prohibiting microgrids from connecting multiple customers stops microgrid operators from capturing the economies of scale of the incumbent's exclusive franchise. Microgrids have primarily been deployed on single-customer campuses connecting multiple buildings, such as universities and hospitals. When serving a single utility customer, microgrids have been shown to increase reliability and resilience, reduce pollution from power generation, and sometimes even provide lower cost electricity. But few states allow microgrids to connect multiple customers if it requires crossing public right-of-way, a privilege typically reserved for the incumbent utility.⁹⁹

Too few states allow competitors to sell power to customers directly. Third party ownership laws allow a business to own power generation, like a solar array, on a utility customer's own property and to sell the customer the electricity. Third party ownership laws have been strongly associated with the success of rooftop solar because the solar firms pay the upfront cost, allowing the property owner to access electric bill savings from solar with little to no down payment.¹⁰⁰

A public option exists, but rarely overcomes massive incumbent utility resistance. In the absence of competing distribution providers, some communities have pursued buyouts of the utility's grid infrastructure in order to provide their own electricity services, typically through a municipal utility. Due to massive utility resistance — frequently outspending advocates 10 to 1 on related ballot questions¹⁰¹ — no municipal takeover effort has succeeded in the past two decades, despite the demonstrated success of

over 2,000 municipally owned utilities. On average, municipal utilities have lower rates and better reliability than their for-profit peers.¹⁰² The anti-competitive behavior of investor-owned utilities toward public power campaigns was even the subject of a Supreme Court Case in 1973, as discussed later.

With extremely high barriers to supplant the electric distribution monopoly, the next section details how utilities can use this secure platform to repel competitors, at the expense of electric customers. A subsequent section will address competitive access to the high-voltage transmission system.

The Distribution Grid as a Monopoly Tollbooth

The platform monopoly of the distribution grid gives utilities power to determine the success or failure of their competition, with incredibly high stakes for the climate and consumers.

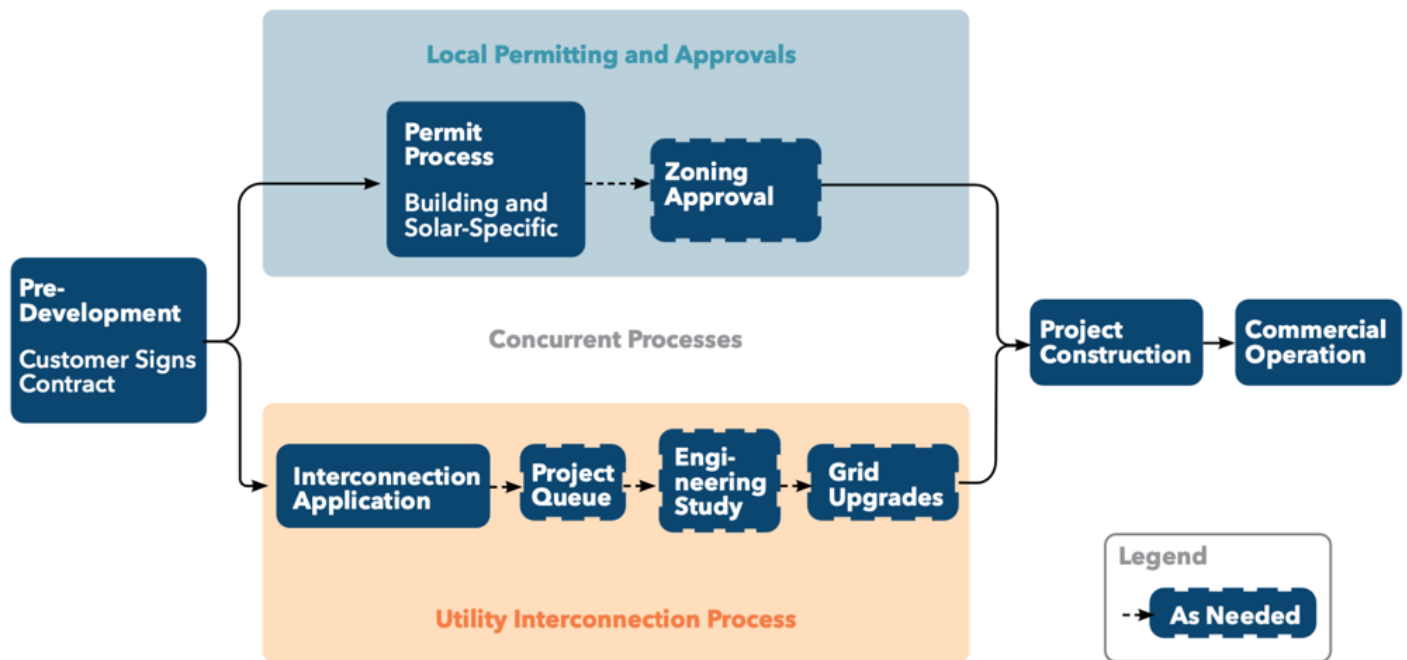
UTILITIES GATEKEEP GRID ACCESS VIA INTERCONNECTION

Utilities use interconnection as a crucial gatekeeping tool to protect their market share. To obtain access to customers and other benefits of the network connection, a competitor must connect to the utility's grid. Gwen Brown and Sky Stanfield from the Interstate Renewable Energy Council summed up the utility monopoly threat to independent producers and non-utility resources such as rooftop solar, broadly called "distributed energy resources" (DERs), in February 2022:

"Utilities have no incentive to create efficient interconnection processes on their own. In many places, utilities continue to see DERs as either direct competition to utility-owned resources, or at best, are generally neutral on whether they thrive. Utilities have an absolute monopoly on grid access in their territories. As a result, the utilities hold all the cards in the interconnection process and there is no competitive pressure for utilities to improve the service they provide to interconnection customers."¹⁰³

Fig. 1: THE ROLE OF INTERCONNECTION FOR A TYPICAL SOLAR PROJECT

Simplified Development Process for a Typical Solar Project



The diagram above (Figure 1) illustrates a typical interconnection process from the time a customer signs a contract to install solar on their property until the project is producing electricity.

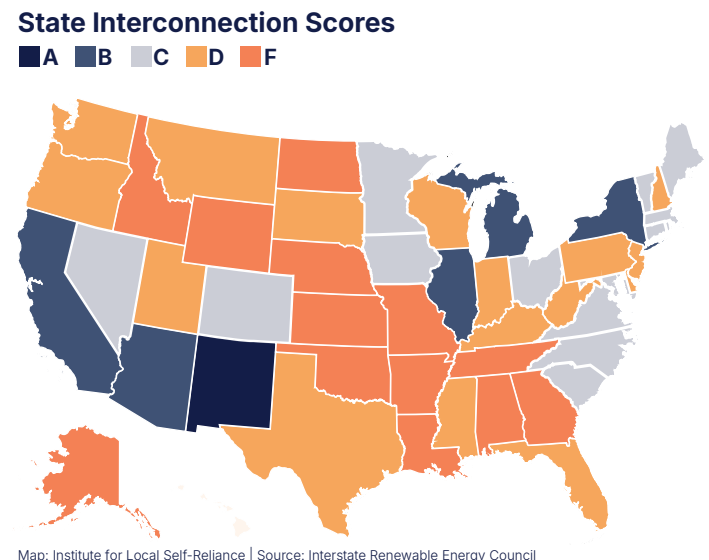
When states set rules, they frequently fall short in protecting grid access from the monopoly gatekeeper.

The federal government does not require distribution utilities to have interconnection policies unless they also have interstate transmission.¹⁰⁴ Most states fail to fill the gap with rules for fair, nondiscriminatory access to the market, including 13 states with no statewide interconnection policy, and numerous others with policies that fall far short. Only six states exceed a C grade from the Interstate Renewable Energy Council and Vote Solar in their 2023 Freeing the Grid report.¹⁰⁵ New Mexico and the few top-scoring states are lonely in having interconnection policies that create transparency and clarity around process and fees, require quick turnaround, and preserve grid reliability.¹⁰⁶ Figure 2 shows a snapshot of the state scores, taken from the Freeing the Grid report.

Even if states act, utilities leverage their grid gatekeeping power to sabotage the competition, in one of three ways.

In states that set rules for interconnection, the rules act as a ceiling on good behavior because the utility has the incentive to make interconnection more difficult. Regardless of the quality of state policy, utilities also take advantage of ambiguities in interconnection rules or the slow response of state regulators to problems in order to hinder rivals. Finally, utilities sometimes simply flout the law entirely, counting on lax enforcement and weak penalties to make

Fig. 2: STATE INTERCONNECTION POLICY SCORES



their noncompliance pay off. The remainder of this section documents utility behavior that hinders independent producers from getting grid access.

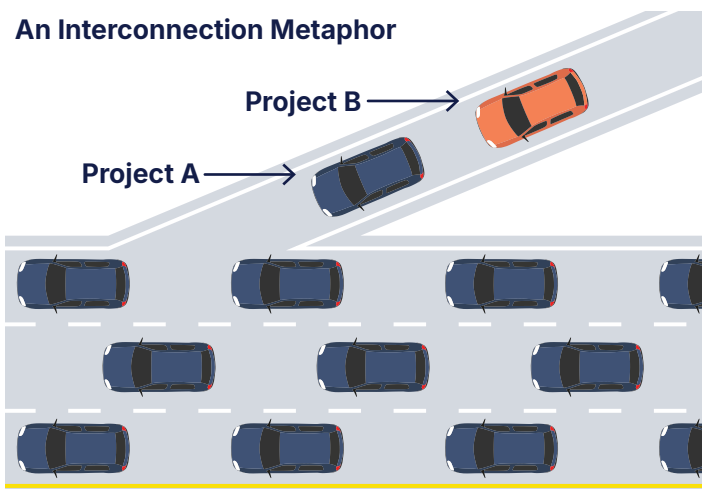
From ILSR's 2021 Solar Developer Survey:

*“What we find is that the utility company doesn't take this as a priority, obviously,” said one solar installer.*¹⁰⁷

HOW DO I BLOCK THEE? LET ME COUNT THE WAYS

In most states, projects looking to interconnect to the grid must pay for all necessary grid upgrade costs that they trigger, even if the upgrades would benefit future projects as well. Imagine entering a highway onramp and being billed for the cost to add an additional traffic lane because your car or truck puts the road over its rated capacity. That's how grid interconnection works in most states. Under this practice, if a power line has capacity for one megawatt of solar and two 1-megawatt projects apply (first Project A and then Project B) to connect on that line, the second project (Project B) would have to pay all upgrade costs, even if the two projects put in proposals just days apart. Additional solar projects may be able to connect with no additional cost after the upgrade, because the upgrade cost paid by Project B may result in spare capacity.

An Interconnection Metaphor



If highway capacity was like grid capacity, the blue car would enter for free, while the orange car would pay \$1 million to add a lane to the highway.

Source: Car - Vecteezy

It's not just large solar projects impacted by a utility's sequential and slow approach to interconnection. Even a small solar project, installed in a place with many other solar projects, can trigger upgrades costing tens or hundreds of thousands of dollars. In Minnesota, a utility quoted a homeowner considering solar a cost of \$15,000 to simply study whether the project would require an upgrade, at an additional cost, to connect to the grid.¹⁰⁸

Utilities queue connecting projects in ways that increase competitors' costs.

Utilities often review projects sequentially, slowing the review process and magnifying issues of allocating grid upgrade costs, as interconnection applications submitted days apart could have vastly different cost estimates. But because slow and expensive interconnection hampers their competitors, utilities often don't have the will or interest to speed the process and remove barriers, even when they have access to tools like cluster studies. By reviewing Projects A and B together with Projects C and D — to extend the prior example — a utility could identify the most cost-effective upgrades that would support all four projects and allow them to split the cost collectively. Utilities typically prefer to make excuses rather than progress with interconnection.

In Minnesota, for example, Xcel Energy's interconnection queue bogged down because the utility insisted that the state interconnection rules only allowed it to evaluate one project at a time per substation. State regulators had to issue a formal order to get the utility to do a cluster study.¹⁰⁹

From ILSR's 2021 Solar Developer Survey:

*“Our projects typically take anywhere from two to five years from inception to [commercial operation date] and that's just ridiculous for a five megawatt project,” shared one developer in the Northeast. “It should not take that long.”*¹¹⁰

Utilities modify the interconnection process without regulatory approval, creating costly delays for competitors while regulators respond. Xcel Energy in Minnesota provides an example of a utility daring public

regulators to curtail its anti-competitive behavior. In 2020, the utility created an “on hold” category for projects in its grid connection queue, a category outside the legally defined interconnection process. “We don’t think the change was required at all by the [interconnection] tariff,” a community solar developer explained in an interview for a 2021 ILSR report. “It’s more just like the utility decided to do this unilateral change to their process without our input, without the [state public utility] commission, that has led to these multi-year delays for a lot of projects.”¹¹¹ After several months of project delays and developer complaints, state regulators had to order the utility to end that practice.¹¹²

From ILSR’s 2021 Solar Developer Survey:

“We’ve got incentive to build as fast as possible...” a community solar developer explained. “But the utility doesn’t have any incentive. The only thing that they potentially have is a stick, if the [utilities] commission, says, ‘Wow, you guys are really misbehaving.’”¹¹³

Utilities weaponize reliability and safety, without evidence, to block grid access. Again in Minnesota, Xcel Energy instituted what it described as a “technical planning limit,” unilaterally reducing available capacity for new interconnections by 20 percent based on alleged threats to reliability. Although it was proposed in reaction to just a handful of power lines that were actually near full capacity, Xcel instituted the limit across its entire service territory. Estimates suggest that it could reduce available capacity for new rooftop and community solar on the electric grid operated by Xcel by over 2 gigawatts, twice as much as already installed by the community solar program.¹¹⁴ In a public hearing, one of the Public Utility Commissioners challenged an Xcel witness to explain how the utility arrived at its proposed limit. In the exchange below, the utility admitted that it hadn’t done an analysis to support its proposal:

Commissioner Schuerger:
I didn’t find in your responses, the assessments that

framed [the technical planning limit]...have those been done?

Utility witness:

If you’re looking for detailed spreadsheets, and a full on analysis, not necessarily to that point.¹¹⁵

Utilities impose unnecessary or discriminatory fees. In at least one case, an incumbent distribution utility makes interconnection artificially expensive by collecting an unnecessary fee from solar developers.¹¹⁶ The fee purportedly covers income tax payments required of the utility. However, U.S. federal law and IRS notices have clarified that the utility does not need to pay taxes on grid upgrades paid for by developers. In a draft petition to the Rhode Island Public Utilities Commission, attorney Seth Handy notes that the utility, Narragansett Electric Company (NEC), has been advised twice it need not collect the tax, but it has no incentive to change behavior:

“It does so even in the face of the opinion of its own Director of U.S. Tax Research and Planning that the tax is not owed and the opinion of its consultant, Ernst & Young, LLP, that a “compelling” case can be made that it is not owed. National Grid could simply not pay this tax, without risking any penalty — or it could pay it and seek a refund. Unlike any other rational taxpayer, it has done neither. That is not only because National Grid does not bear the economic burden of the tax, but because it has an active interest in increasing the interconnection costs of independent generators by passing the burden through to them.”¹¹⁷

In Arizona, Tucson Electric Power revealed it had collected over \$1.8 million in unauthorized fees from 25,000 solar customers for bidirectional meters the utility required to be installed during interconnection, a charge not assessed on customers without solar who were given the same meter for free.¹¹⁸

Utilities provide misleading or inaccurate information that can impact project viability. Utilities will quote an estimated cost for an upgrade, such as a line transformer, but then charge a different price. According to a national

solar executive, the cost can be two to four times higher. Had an installer or customer known the final cost in advance, they may have decided not to pursue a project. The same executive provided another example where the utility either intended to charge twice for the same work or wasn't keeping track of its own system:

"[An installer] was working on two houses on the same street (and that use the same feeder). He was told that a transformer upgrade was needed in order for one customer to go solar, so he made that happen. But when he went to install solar for the next customer, the utility told him the same thing — that a transformer upgrade was needed — even though he had just personally overseen the transformer upgrade work."¹¹⁹

A representative of the solar industry in Minnesota explained, "I know that Xcel requires upgrades to [larger] conductor even if the project could be safely and reliably interconnected with smaller conductor."¹²⁰ In Texas, CenterPoint Energy doesn't itemize or share upgrade costs with the public at all, leaving customers in the dark about what they may have paid for.¹²¹

In a formal complaint filed by Nokomis Energy in Minnesota, the community solar developer argued that the utility was withholding key data, making it unclear whether the upgrades the utility was requiring were specific to the proposed solar project or already necessary due to other factors.¹²² The complaint detailed numerous conversations between the developer and utility over the prior year, including several instances in which the utility significantly revised the proposed upgrade costs, from \$175,000 to over \$1.5 million. The state's Department of Commerce, seemingly unaware of the asymmetry of power of the two parties, unhelpfully suggested that the Commission not intervene but that the developer engage in further talks with the utility. Ultimately, the developer withdrew its petition and its project, nearly two years after receiving the first grid connection study results.

A prospective Massachusetts solar customer encountered a similar lack of information in their pursuit of a rooftop solar

project. The utility quoted the customer an upgrade fee of \$121,000 for three transformers, but was not told that if they downsized their proposed project from 25 to 15 kilowatts, they could avoid any upgrades.¹²³

Utilities hinder their competitors' ability to communicate accurate information to customers, impacting sales. The potential for surprise fees, long delays, and other setbacks can deter interested customers from moving forward with solar. One installer interviewed in ILSR's 2021 Solar Developer Survey described how their company gives "paragraphs worth of caveats" to potential customers about the possibility of utility delays and rate changes. "That really puts a lot of friction into a solar sale," the installer explained, "and it puts a lot of friction into solar adoption because it makes people think twice: 'Well, Jesus, if the utility company's gonna screw me over, I might not want to do this.'"

An installer trying to manage 30 utility-required upgrades for solar projects across Massachusetts, Pennsylvania, and D.C. waits weeks or months for the utility to provide grid upgrade updates. State rules allow the utility to do the work between six weeks and eighteen months after the request is made, leaving the installer and the ultimate customer in limbo. "They don't give updates on timing, don't answer their phones and don't respond to emails so it's difficult for installers to set expectations for customers and that ultimately leads to a negative customer experience," shared the installer.¹²⁴

In California, utility PG&E doesn't tell customers when their solar project inspection will happen, and then claims the customer has canceled if no one is available when they arrive unannounced.¹²⁵

Utilities delay hiring sufficient staff to process interconnection requests. In New Mexico, El Paso Electric uses four "part-time engineering interns" to process simplified residential interconnections, and has told regulators that it cannot meet their three business day timeline without hiring full-time employees.¹²⁶

In Colorado, delays had stacked up for months for homeowners wanting to connect their solar arrays to the grid

managed by Xcel Energy. The delays only began to come down when the utility hired 20 new engineers.^{127 128}

Interconnection Whac-A-Mole



Some utilities may flout state interconnection regulations entirely. In ILSR's 2021 Local Solar Developer Survey, one community solar developer noted, "[Interconnection] is not necessarily the biggest thing that impacts our business model, but it is definitely the biggest place where it's just blatant contractual noncompliance."¹²⁹

Ultimately, keeping interconnection open and fair requires constant regulatory vigilance. While updated interconnection rules can mandate better utility behavior, the process resembles the Whac-a-Mole arcade game, where utility strategies to slow competitors can continue to pop up, requiring constant and costly vigilance to subdue them.¹³⁰ Even developing the correct measures of success can be a challenge, write Gwen Brown and Sky Stanfield:

"For example, if a Commission applies a metric to 'completeness review', but does not track when a utility puts an application 'on hold' while it requests more information from an applicant later in the process, the utility could be incented to expedite the initial completeness review because they know they can just ask for more information later (which essentially slows down the process)."¹³¹

Without reliable data on interconnection timelines and costs, states lack a crucial tool to hold utilities accountable for their public service of grid management. The only national database of interconnection timelines is SolarTRACE, hosted by

the National Renewable Energy Laboratory. Large solar developers submit data voluntarily, so it misses a fair number of states and utility service territories. As explained in ILSR's coverage, "The installations included in the SolarTRACE dataset account for less than a third of all relevant solar installations from the covered years (2017-2021), and SolarTRACE has no data at all for 16 states."¹³² From the available data, ILSR's analysis found wide variation in interconnection times, within and between states.¹³³ Although the federal Energy Information Administration already collects other data from all electric distribution utilities, they do not currently collect interconnection data (although the agency did collect interconnection cost data in the past).^{134 135}

California, a state with a relatively high B grade from Freeing the Grid on its interconnection policy, illustrates the problem of missing interconnection information. An independent audit of the state's interconnection process found numerous problems in implementation:

"What the resulting report found was glaring gaps, disorganization, and inconsistencies in the records of California investor-owned utilities on interconnection. In some cases, records were so bad that it was impossible for the consultant to assess the utility's compliance. Each of the utilities had different methods for tracking data in place, at times the data that was tracked did not actually comport with the steps required in the interconnection rules, and often certain steps or information were not recorded at all."

¹³⁶

The lack of information to police utilities is compounded by how utility monopoly power may intimidate its rivals. Due to the necessity of working with the incumbent utility for a grid connection, many solar developers only reluctantly share their experiences publicly, for fear of retribution.¹³⁷ Several examples in this report were only provided with promises of anonymity, such as these quotes from a survey of solar developers ILSR conducted in 2021:

“We just have to take what [the utilities] give us basically.”¹³⁸

“This is a monopoly, slow industry,” explained a solar developer in an interview. The utilities are “just old and literally the problem because of their financial interests or perceived financial interests,” the developer continued.¹³⁹

“When we complain about the utilities... we then get punished, and our next projects end up with even more severe consequences.”¹⁴⁰

The fear of independent installers of utility retribution mirrors the fear of independent sellers using Amazon’s Marketplace.

In a 2023 ILSR event hosting many small business leaders, Kimber Lanning, founder and CEO of the independent business group Local First Arizona and member of Small Business Rising remarked, “I’ve heard directly from an Amazon seller in Tempe. He asked not to be identified for fear that Amazon would retaliate against his company. He described the crushing weight of Amazon’s fees, which is capsizing his and many businesses that sell on Amazon’s marketplace.”¹⁴¹

The public interest will continue to suffer as long as utilities remain motivated to favor their own investments and have the power over the interconnection of their rivals.

Parallels to Prior Monopolies

The barriers to competitors presented by electric utility ownership of distribution and control of interconnection have many parallels to telecommunications. By the 1940s, AT&T had a near-monopoly on telephone service in the United States, with total control over the network. It took nearly thirty years for federal regulators, via the Carterfone decision, to allow devices to interconnect electrically to the phone network as long as they met certain standards, i.e. “doing no harm” to the network.¹⁴² But it still wasn’t until the 1996 Telecommunications Act that local telephone companies were required to open access to their networks, and customers, for competitive long-distance providers.

Even so, the telephone companies continued to erect barriers to access. Primary among these roadblocks was interconnection into the telephone grid, which was still owned and operated by the regional Bell companies. Competitors seeking to reach telephone customers were granted access by law but still had to negotiate each interconnection and pay the incumbent’s costs. Leveraging their advantage, the Bells made each interconnection a custom design, requiring engineering studies and charging high rates, slowing competition. Laws and regulators eventually forced the incumbents to offer off-the-shelf interconnection at cost-based rates. Evidence from ILSR’s 2021 survey of solar developers, and national data on interconnection times for solar projects, suggests that power grid interconnection has yet to achieve that level of openness.^{143 144}

The rise of the Internet may provide a useful illustration. Built atop the open architecture of the web, Amazon’s private marketplace has become a dominant force, attracting over 70 percent of online sales across 15 of 23 major product categories. As a seller itself, Amazon wields this market power to the cost of its competitors, using its platform power to extract increasing fees from sellers, drive them to use Amazon fulfillment services, and mining their sales data to inform the company’s own product offerings.¹⁴⁵ Congress was considering significant antitrust legislation to address the platform power problem in 2022, and the Federal Trade Commission sued Amazon for antitrust law violations in September 2023.^{146 147}

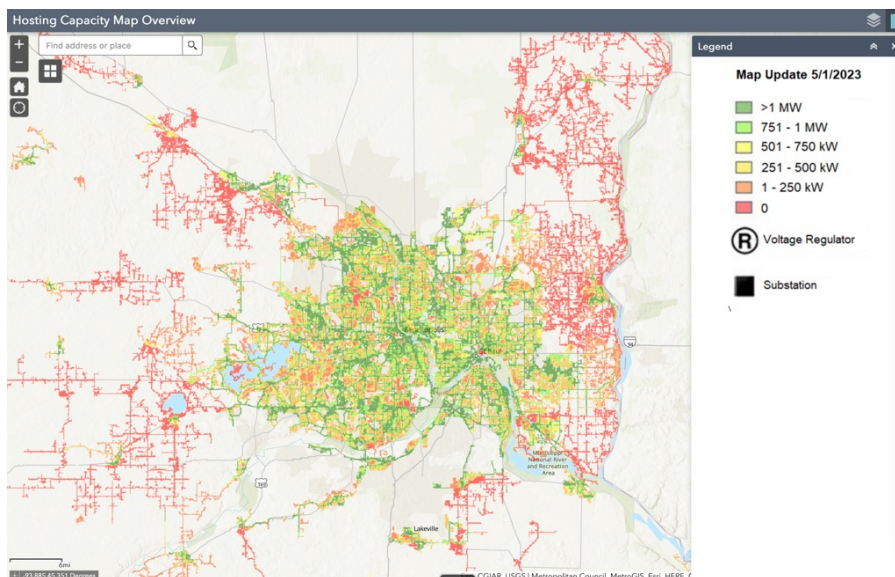
Utilities Erect Additional Barriers by Withholding Data

Utilities use their monopoly on grid and customer energy use data to hinder competition from their rivals and their own customers in ways that increase electricity costs, endanger reliability, and inhibit public options. The success of recent clean energy legislation, like the federal Inflation Reduction Act (IRA), also hangs in the balance.

Utilities restrict access to grid data that rivals could use to lower their project costs. Utilities know where new power projects can most quickly and cost-effectively connect to the grid, but they don't share this data willingly. As of 2021, utilities in forty-three states only share this data with an independent developer after it has paid the money and invested the time to enter the utility's interconnection queue.

This hosting or integration capacity data is available publicly in a handful of states, but typically only after state regulators had to require utilities to do so through a laborious multi-year process.¹⁴⁸ Utilities may still resist sharing data that's actually useful to their competitors. The map in Figure 3, published by Xcel Energy in Minnesota, was until recently only updated annually and often did not include projects already in the interconnection queue. Thus, it was of limited practical use to clean energy developers. The map provided by Consumers Energy in Michigan still only provides annual updates.¹⁴⁹

Fig. 3: HOSTING CAPACITY MAP FROM XCEL ENERGY, MINNESOTA



Utilities charge customers billions to install smart meters but withhold the data from customers or third parties to inhibit customers from seeking cost-saving services elsewhere. Utilities promised customers access to their own electricity usage data more than a decade ago,¹⁵⁰ but they haven't delivered. The failure could undercut major energy efficiency opportunities, including flagship federal legislation, and keep electricity costs much higher than needed.

The Inflation Reduction Act (IRA), for example, includes a \$4.3 billion program for whole-home energy retrofits that requires energy data to evaluate the success of the energy improvements. Utilities have this data, but the customers and the firms they hire to help them with energy services often do not. On their website, the president of Sealed, a firm delivering energy efficiency services to customers, wrote:

“While some utilities across the country have created tools to make it easier for their customers to share energy data, most unfortunately have not. [emphasis original] ...

Take, for instance, the Green Button Initiative. Started more than a decade ago, its purpose was to encourage utilities to easily share energy data from the meter. Yet in 13 years, only a dozen utilities have bought into the program. Even energy suppliers, who have the legal right to access energy data directly from utilities, still experience

significant challenges in obtaining accurate, comprehensive, and real-time data from utilities.”¹⁵¹

Lack of data also inhibits solar installations on homes. In Texas, for example, the utility charged customers to install an advanced meter on their home, but didn't provide access to the usage data without a specific data request. The nonprofit organization Solar United Neighbors found that electric customers with solar panels could increase their yearly savings by nearly \$400 by finding the optimal retail electricity provider in Texas's restructured market.¹⁵² However,

the process of gathering customer energy use data was so laborious, it impeded the organization from helping customers pick the best electric plan.

Utilities' data lockdown also impedes rival companies from reducing energy demand — and saving everyone money — when the grid is taxed. These aggregators link together hundreds or thousands of customers using smart thermostats and other smart devices so that they can collectively reduce electricity use during periods of high use, earning payments from the utility and saving money for all grid customers. But these benefits rely on having accurate data about energy use before and after a grid event like a heat wave. If aggregators don't have the data to prove their impact in lowering electricity demand through their participants, they can't get paid nor pass the savings onto their participants.¹⁵³

Advanced meter data could also slash the cost of electrification, if utilities released their monopoly hold. Via a feature called the home area network, many utility smart meters can provide usage data collected every few seconds, data customers could use to avoid costly electric panel upgrades by shifting how and when they use energy as they add electric demand. However, many utilities don't let customers access this feature, as Michael Murray of Mission:Data explained in a Local Energy Rules podcast interview with ILSR:

"This is the case in Washington, DC, where the smart meters have been deployed for probably 12 years or so. And even to this day, despite a lot of clamoring from individual customers, from businesses, from the Washington D.C. municipal government, [local utility] Pepco still will not turn on the home area network radio for [home] energy management purposes...It's a patchwork. Some states like California, you can access the home area network, but then there's other places in Maryland and in Washington, DC, parts of Ohio where you can't use it.

'Is that a monopoly function?' asked Murray about services like optimizing household energy use for solar or electrification, 'I don't think so.'¹⁵⁴

Utility control over usage data raises costs and threatens the reliability of municipal competitors.

In many California cities and towns, community electricity providers or community choice agencies make electricity procurement decisions on behalf of customers.¹⁵⁵ However, the metering data still comes from the incumbent distribution utility, a large investor-owned company. The incumbents often delay sending grid data to the community choice agencies for 12 to 48 hours. As Michael Murray explained in his interview on ILSR's Local Energy Rules, that delay had real-life consequences:

"There was some evidence that the time delay that the community choice aggregators had experienced in getting access to large scale customer usage data led to them underestimating their peak usage in the coming days of this [August 2020] heat wave. [That] led to reliability problems and more spot market purchases, which increased costs to everybody."¹⁵⁶

Utilities withhold access to data that communities could use to accurately evaluate the feasibility of a municipal takeover of utility service. A petition to the Federal Trade Commission explains how an Iowa utility withheld information to prevent a takeover effort:

"In 2017, the city of Decorah, Iowa, was exploring whether to form a municipal electric utility. To evaluate the potential costs and benefits, the city requested customer, infrastructure, and rate data from Alliant Energy, [the investor-owned utility] serving the community. Alliant denied the request, forcing the city to perform its analysis without the data."¹⁵⁷

In this case, the utility published its own feasibility study. This study and other utility marketing suggested a city-owned utility would have much higher electricity costs for consumers. The utility's effort succeeded in biasing the vote against municipal power.

Utility data secrecy enables utility deception. In the Decorah case, the utility lied in the data that it chose to share with the public. In its competing feasibility study, Alliant Energy promoted the status quo by suggesting that its future rate increases would be 3 percent or less. Soon after the municipalization vote failed, the utility proposed a 24 percent rate increase to the state’s regulators, winning a 15 percent increase.^{158 159} The utility filed for another rate increase, nearly 14 percent, in late 2023.¹⁶⁰

Electricity costs will remain higher, efficiency and electrification efforts will falter, and federal clean energy policy may fail if utilities can continue to curtail access to data they control through their publicly granted platform monopoly.

Utilities Curtail Competition in Power Generation

The power over providing grid connections allows utilities several means to combat federal laws intended to guarantee competitive power generation. Until the 1970s, power generation was the exclusive right of a monopoly utility company. An independent power producer would be able to sell power only if the utility consented and only at a price the utility was willing to pay. In 1978, with the passage of the Public Utilities Regulatory Policy Act (PURPA), Congress explicitly opened the door to competitive power generation.¹⁶¹ The law required that utilities buy power from renewable sources or from resources that combined power generation and heat capture on fixed price contracts and at prices equal to or lower than the utility’s own cost for power procurement, known as its avoided cost.¹⁶² Since then, changes to state and federal policy have made power generation the most competitive component of the U.S. electricity grid, and yet independent electricity producers still face numerous barriers erected by incumbent utilities. Anti-competitive behavior is often linked with vertical integration, where utilities that own power plants in addition to having a distribution monopoly can use the latter to protect the former.

Utilities rig supposedly competitive bidding processes to favor their own generation. While utilities with captive retail customers exercise monopoly power in selling electricity, they also exercise their power as sole buyers when purchasing wholesale electricity. Economists call this monopsony power. Unlike a classical monopoly like Walmart that exercises market power to obtain lower prices than commonly available by pressuring suppliers, a utility monopsony has a different aim: self-selection. With a financial bias to build as much self-owned power generation as possible, a utility can use its monopsony power to drive out competition rather than to extract low prices. Evidence of this focus on self-dealing to reward shareholders at the expense of customers was documented extensively in Power Failure, an investigative report.¹⁶³

Monopsony power — it’s not a misspelling, it’s another utility abuse.

With monopoly power, a firm exercises market power as a seller. With **monopsony power**, a business exercises power as a buyer, such as when a utility company procures electricity under a supposedly competitive bidding process. Investor-owned utilities frequently exercise monopsony power when selecting bids for new power plant capacity, resulting in higher cost electricity and larger profits for shareholders.

Utilities have at least three tools to discourage participation by independent power producers in competitive bidding within their service territory, a practice antitrust scholars call vertical restraint. Utilities can control the bidding process by setting an artificial preference for a fuel type, such as asking for a new gas power plant instead of sharing the actual specifications of grid needs. They can insert delays or unreasonable costs through arbitrary or unfair decision-making. Utilities can also impose terms and conditions that make projects hard to finance, such as when Virginia’s Dominion Energy made contract terms confidential and suggested that they might refuse to consider proposed revisions.^{164 165}

The procurement process can create a “no-win” atmosphere for bidders: accept the utility-imposed conditions, including expensive fees, just to participate, or become engaged in a protracted and expensive legal complaint process where the utility can bankroll its legal defense with ratepayer money. Even if an independent power producer prevails, it may be at the expense of future business, given the utility’s power over the process.

“Florida’s history of utilities selecting themselves as the winner of every [request for proposal] suggests that meaningful competition can be discouraged by an ineffective procurement process.”¹⁶⁶ — John Wilson, et al. Making the Most of the Power Plant Market

This exercise of monopsony power was recently on display in a bid process for a new solar project in Minnesota. With the pending closure of its coal-fired power plant in Sherburne County, incumbent utility Xcel Energy put out a request for proposal for a large solar project, with some qualifications very difficult for non-utility firms to meet. In the end, the utility chose its own bid. The state’s attorney general office had this to say about the result:

“Xcel placed restrictions on its solar request for proposals (“RFP”) that undermined the competitive process and stifled participation... Xcel estimated an open solar RFP would have received bids for 46 projects totaling over 7,000 MW in capacity. Xcel’s restrictive RFP received third-party bids for just 2 projects totaling 525 MW in capacity.”¹⁶⁷

The Minnesota Department of Commerce also found fault with the bidding process, noting that, “The complete absence of conforming bids from other developers and low number of bids of any type are indicative of significant problems with the RFP structure itself.”¹⁶⁸

In a review of utility procurement in The Electricity Journal, article authors found the exercise of monopsony power in several additional examples from Virginia, Florida, Georgia, and Minnesota. The authors note that regulators may fail to address utility power in the procurement process for numerous reasons, including: analyzing market power with tools designed for monopoly power rather than monopsony power; failing to realize how monopsony power can raise customer rates; ignoring the harms to independent power producers, whose interests are not a concern for utility regulators; failing to detect utility biases; and not feeling that it is within their jurisdiction to evaluate the impacts of monopsony power on the environment, income inequality, or community well-being.¹⁶⁹

At the incumbent utility’s behest, states implement federal policy unfairly, leading to contract policies that favor the incumbent. When utilities build their own power plants, they can finance and recover the costs from customers over decades. In contrast, states often adopt PURPA implementation rules that shortchange independent producers. In Idaho, PURPA contracts led to significant growth in wind and solar projects until 2015, when utilities lobbied state regulators to slash PURPA contract lengths from 20 years to 2 years.¹⁷⁰ At the time, Idaho Power alone had nearly 1,300 megawatts in its interconnection queue.¹⁷¹ In response to utility lobbying, the Idaho Public Utilities Commission agreed to reduce contract length, effectively closing the market. Less than one in 50 of projects awaiting interconnection in 2015 were built in the following four years.¹⁷²

States similarly fail to ensure transparent access to fair pricing for independent producers. Despite the necessary nature of avoided cost data to set contract prices, state regulators allow utilities to deem their avoided costs a trade secret in Minnesota, Wisconsin, and Iowa. In contrast, in North Carolina, Idaho, and Montana, utility avoided cost data is published on a publicly accessible website.¹⁷³

Utilities also undercut independent producers by gaming contract enforcement. In Minnesota in the mid 2010s, a wind-solar hybrid project eligible for a power purchase contract under PURPA was stymied in its efforts

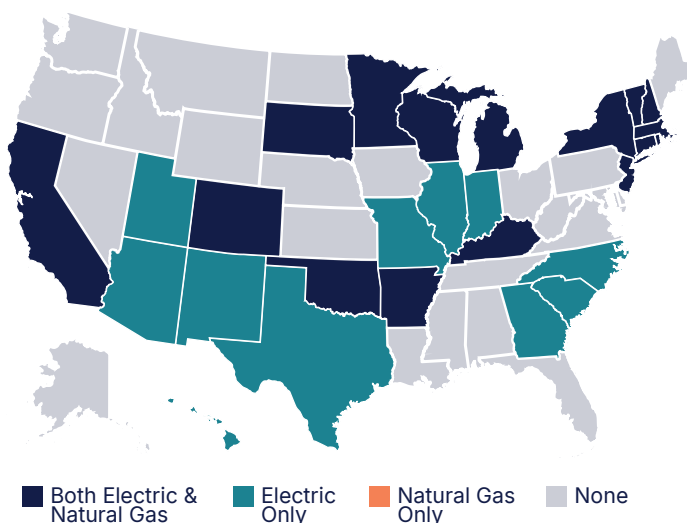
to secure a contract for over two years based on when the utility had a legally enforceable obligation to purchase the power.¹⁷⁴ The utility trapped the developer in a classic Catch-22 by insisting on proof of project financing, knowing that most projects secure financing after they have a contract with the utility. A subsequent revision to the federal rules by the Federal Energy Regulatory Commission acknowledged and attempted to address the ambiguity. But, in the meantime, the Minnesota project languished in limbo for nearly five years.¹⁷⁵

Utilities Hinder Energy Efficiency to Preserve Profits

Reducing energy use makes the entire grid more efficient and cost-effective, but utility gatekeeping shortchanges investments in energy efficiency. If energy efficiency is successfully implemented, utilities stand to lose not just electricity sales, but also the money they could earn building new generation and transmission infrastructure. Due to this perverse incentive, utilities underinvest in programs that motivate consumers to implement energy efficiency, hindering the business of independent companies whose work delivers savings for individual customers and the entire grid.

Fig. 4: STATE PERFORMANCE INCENTIVES FOR ENERGY EFFICIENCY

2021: States with Performance Incentives for Electricity and/or Natural Gas



Source: ACEEE (2022), The State Energy Efficiency Scorecard

Part of the problem is the failure of regulators and legislators to align utility profits with efficiency investments. While several states have passed policies to make energy efficiency more lucrative relative to utility capital investments like power plants, policy is inconsistent and often insufficient. The following map shows the patchwork of state policies to reward energy efficiency investments by utilities.¹⁷⁶

The failure to secure utility investments in energy efficiency is particularly galling given its cost-effectiveness. According to analysis by the American Council for an Energy-Efficient Economy (ACEEE), energy efficiency is frequently the lowest cost way to expand electricity capacity.¹⁷⁷ Achieving energy efficiency often requires fairly minimal program development. An utterly basic electric efficiency program includes distribution of highly efficient LED light bulbs — yet five out of 52 utilities in an ACEEE scorecard rating utility efficiency investments lack a lighting program.¹⁷⁸ Another well-known approach is to provide a rebate on the purchase of an efficient appliance, such as a dishwasher, or to work with manufacturers to lower the costs of efficient appliance models.¹⁷⁹ Twenty of the 52 largest U.S. utilities lack an appliance efficiency program.¹⁸⁰ Across the three measures of conservation program performance measured by the ACEEE Utility Energy Efficiency Scorecard, only four utilities score higher than 10 out of 15.5.¹⁸¹

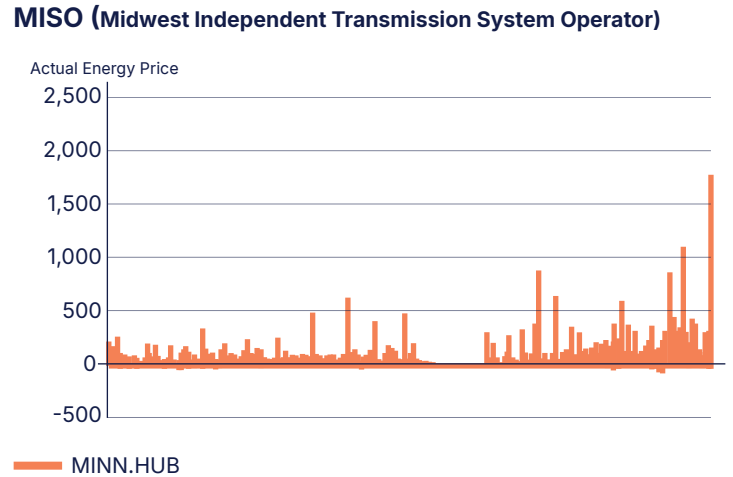
Utilities similarly stall progress on demand reduction. Much of the cost of the electric grid comes from the moments of highest electricity use — a hot, sunny summer day causing high demand from air conditioners. For example, wholesale electricity prices in Illinois average around \$20 to \$30 per megawatt-hour most times, but during the summer months, prices can rise 27 times higher.¹⁸² Customers pay far more for electricity than necessary if utilities don't seize on low-cost "demand response" programs to reduce peak energy use.

Utilities have hindered data access to rivals and supported state rules banning competitors in this field but then failed to effectively use their own programs to save customers money. After FERC adopted rules allowing third parties

to aggregate customers and sell demand response into wholesale markets, thirteen states were allowed to opt out (at the insistence of their incumbent monopoly utilities); ten states still ban the practice.¹⁸³

In Minnesota, when regulators considered lifting the 13-year ban — a move strongly opposed by the utilities — commissioners noted that utility programs had delivered little, even in the face of a direct commission order to do more.¹⁸⁴ Despite having nearly half a million customers on call to reduce demand and numerous times when wholesale electricity prices spiked to five or 10 times their usual level (see Figure 5), Xcel Energy only called on its demand response programs once from 2016 to 2023.¹⁸⁵

Fig. 5: HOURLY WHOLESAL ELECTRICITY PRICES IN MISO



Utilities have the power to act or not, and their inaction makes conservation more costly for individuals and electricity more costly for everyone.

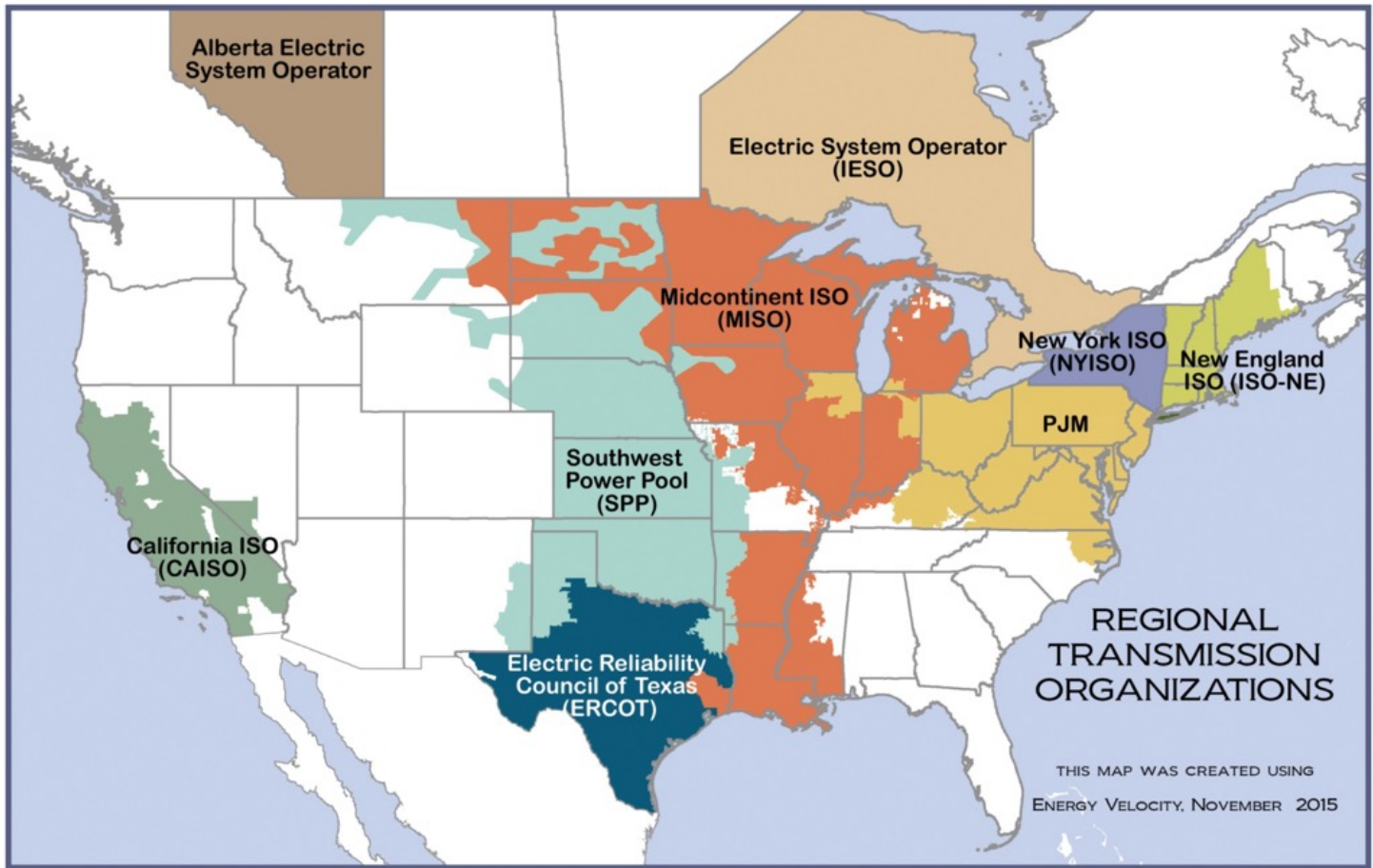
High-Voltage Transmission: Another Monopoly Tollbooth

As with electricity distribution, utilities exercise market power to restrict transmission access and capacity, hindering clean energy development and keeping electricity prices high. Electricity transmission — at high voltages over long distances — is essential to move electricity from large scale power plants to cities and to balance production between states, a key component of most state and federal plans to reduce carbon pollution using new wind and solar power plants. Ari Peskoe of Harvard’s Electricity Law Initiative has referred to utility ownership of transmission as a “gatekeeping function.”¹⁸⁶

The history of transmission is one of outright market domination by investor-owned utilities. Up until 1995, fewer than one in 10 utilities provided access to transmission free of technical or financial barriers, and only when required by regulatory intervention.¹⁸⁷ Instead, federal regulators allowed investor-owned utilities to collude and coordinate with one another at the expense of independent power producers and “transmission-dependent utilities” — namely rural electric cooperatives and municipal power systems, which serve one-third of American consumers and depend on transmission infrastructure controlled by their larger rivals.¹⁸⁸ This collusion by investor-owned utilities in power pools excluded participation by transmission-dependent utilities, prioritized dispatch of their own power plants, allocated costs in a way that favored investor-owned utility members, and barred transmission-dependent utilities from accessing some or all of their transmission networks.¹⁸⁹ Utilities also used power pools to bypass state regulatory oversight, because the pools involved federal jurisdiction over transactions of electricity across state lines.¹⁹⁰

Despite recognition of utility market power over transmission, the Federal Energy Regulatory Commission (FERC) has failed to curtail it. In one of its first actions to change modern transmission rules, FERC said that the “single greatest impediment to competition” is the investor-owned utilities’ “market power through control of transmission.”¹⁹¹ In four orders over 15 years beginning in 1996, FERC tried to more appropriately police anti-competitive behavior.¹⁹² FERC has concluded that investor-owned utilities “have incentives and abilities to unduly discriminate against their customers and competitors by offering inferior service or planning system expansion based on their own needs and parochial interests.” However, the Commission’s resulting transmission planning rules still do not incorporate this market power analysis, nor successfully curtail utility market power.

Fig. 6: REGIONAL TRANSMISSION OPERATORS (RTOs)



Established by FERC Order 888 in 1996, nonprofit regional transmission operators and independent system operators were set up to provide non-discriminatory access to transmission grids. These operators have “independent”

boards and do not own powerlines and power plants. They rely heavily on utilities to fulfill their purpose, often resulting in decisions that favor utility interests over regional ones.

Utilities maintain substantial influence over “independent” RTO boards

“Of the thirty-six current board members of the four multi-state RTOs, thirteen are former [investor owned utility] executives. Many of these RTO board members had multi-decade careers at [those utilities]. They are deeply enmeshed in the industry’s culture and share similar assumptions, lessons, and values that shape their views of the industry. These long-time...executives have professional networks of top investor-owned utility management from across the industry. It seems plausible that these board members are sympathetic to [investor owned utility] positions.”¹⁹³

Utilities undercut independent planning for regional transmission. In practice, utilities exercise their power over the transmission expansion process to self-serve. For one,

utilities make their own transmission plans and don’t have to reconcile them with a regional plan. If a utility plans a power line that receives state regulatory approval, it can proceed

to build it even if it's not as cost-effective as a regional line or it undercuts the financial viability of a regional project.¹⁹⁴ Ultimately, utilities have significant leverage over RTOs because they can withdraw at any time and the RTO relies on utility data to craft regional transmission plans.

Utilities in the Midwest illustrate this failure of regional planning. In general, multi-state transmission projects would have costs shared among the affected states. However, for power lines proposed to meet "reliability" needs, the investor-owned utilities persuaded the grid operator MISO to shift cost allocation from regional to local. This change boosted profits for utility shareholders by allowing the projects to be subject to state right of first refusal laws that prioritized utility, rather than independent, ownership.¹⁹⁵ Regional projects have declined precipitously as a result. Pressured by utilities, MISO has twice asked FERC for permission to continue the practice, despite its costs to customers and reduced regional investment.

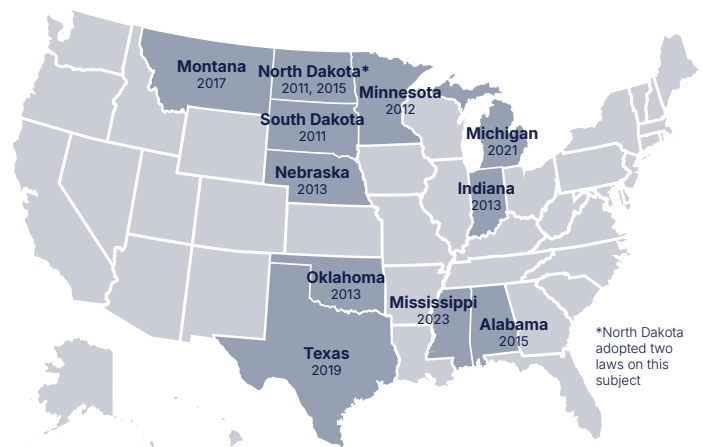
If utility self-interest dominates regional planning in areas with an RTO, it is even worse in regions without an RTO. In these places, the baseline regional grid plan is simply the sum of individual investor-owned utility plans. These plans more often reflect the sum of utility self-interest rather than the most efficient allocation of transmission investment across the area.¹⁹⁶

Utilities evade federal oversight by flexing their state political power. Prior to 2011, utilities claimed a right of first refusal to own transmission lines within their service territory, even if they were built by a third party that won a competitive bid to provide inter-regional connection. In 2011, the FERC ruled against the right of first refusal, acknowledging that it was anti-competitive.¹⁹⁷ In response to the federal order, a utility in Minnesota successfully lobbied to enshrine the right of first refusal into the state statute. Six states, including Texas, quickly followed suit.¹⁹⁸ By 2024, a total of eleven state legislatures propped up their monopoly utilities with these laws (see Figure 7).^{199 200}

Monopoly utility Entergy illustrates the costs of these protectionist laws. In 2023, the utility convinced the Midwest Independent System Operator (MISO) to cancel a

competitively bid transmission line, in large part due to the Texas right of first refusal law.²⁰¹

Fig. 7: DATES OF ADOPTION OF RIGHT-OF-FIRST-REFUSAL LAWS



Sources: Advanced Energy United; Kansas Legislative Research Dept.; ICN Research

Eleven states have adopted laws giving local utilities the right of first refusal to build transmission line projects. Several other states have bills on the subject that could become law. Shown are the states and the years they adopted the law. (Text adapted from Inside Climate News)

Utilities evade competitive bidding for regional transmission. FERC intended regional planning to go hand in hand with competitive bidding for regional transmission expansion, but utilities prefer the opportunity to earn profits by owning any new transmission line. Due to exceptions in FERC regulations that allow non-competitive development of transmission for projects serving solely local or reliability needs, "the vast majority of transmission projects have been developed outside of competitive processes," writes Ari Peskoe, Director of the Electricity Law Initiative at Harvard Law School. In the PJM interconnection region in the mid-Atlantic, investor-owned utilities have tripled investment in non-competitive projects, resulting in a dramatic decline in investment in competitive regional projects.²⁰²

"In Europe, Asia, and South America, major investments in regional transmission connection are underway, while "the U.S. has added almost no new interregional capacity in the past decade."²⁰³

Utilities keep prices artificially high by avoiding technology that would expand existing transmission capacity. Without building a new power line, utilities can expand transmission capacity with several grid enhancing technologies. Dynamic line ratings, for example, provide information about when it's safe to operate a transmission line at a higher capacity. Like a weather forecast tool on a transmission tower, this modest technology enables grid operators to safely increase transmission capacity by 33 percent or more, depending on temperature and wind speed.²⁰⁴ Despite its remarkable and cost-effective potential, only a single U.S. electric company — PPL Utilities in Pennsylvania — has deployed this technology for regular use in energy markets as of 2023.²⁰⁵ In general, U.S. utilities have been slow to adopt the technology.²⁰⁶ European utilities, such as those in Belgium, have widely deployed dynamic line ratings since 2008. Utilities have other tools, from Flexible Alternating Current Transmission Systems to topology control software — able to direct grid traffic like Waze does for road traffic — that are under-utilized across the industry.²⁰⁷

Regional grid operators are complicit in utility market protectionism facilitated by line ratings. RTOs allow member investor-owned utilities to use very conservative power line ratings that increase transmission costs and erect barriers to entry. Even despite their own evidence that the ratings would improve value, efficiency, and reliability, RTOs failed to endorse a 2021 FERC rule requiring utilities to use dynamic line ratings.²⁰⁸

As long as utilities retain the power to divert investment away from competitive regional and interregional transmission, they are able to slow climate progress from clean electricity generation and make U.S. customers pay higher rates for electricity.

Ari Peskoe provides a powerful and concise summary of the problem:

“Lack of connectivity between RTOs and between RTOs and non-RTO regions keeps local [utility] incumbents in control and results in trading patterns that ‘significantly deviate from the least-cost ideal.’

Profits accrue to high-cost generators within each insufficiently connected region who would [otherwise] be displaced by lower-cost generation that would benefit from the interregional connection. Incumbent generators and transmission owners therefore do not pursue interregional connections because [doing so] might diminish their pricing power or local control.”²⁰⁹

Utilities Use an Antitrust Loophole to Exercise Monopoly Power

Utilities act with impunity regarding their anti-competitive behavior because they exploit a key loophole in federal antitrust law. Under the presumption that state oversight protects the public interest, for-profit utilities subject to state rate regulation generally cannot be sued for antitrust violations. This exemption — and the presumption it extends to anti-competitive behavior — has allowed the utility industry to concentrate power in a fashion that Congress expressly sought to avoid with its anti-monopoly laws.²¹⁰

Utilities have misused the “state action immunity doctrine” to shield their anti-competitive behavior behind a veneer of approval by regulators.²¹¹ This immunity relies on a two-part test the Supreme Court developed in a 1980 decision that generally exempts a utility’s action from antitrust oversight if the action is both expressed as state policy (e.g. supplying reliable electricity service) and is “actively supervised” by the state.²¹² But the two-part test suggests incorrectly that for-profit utilities deserve antitrust immunity when they outflank their regulators. For example, if state regulators fail to consider the anticompetitive impacts of ratemaking — including by approving increases in fixed fees that discourage solar adoption by customers — utilities may be escaping accountability for anti-competitive behavior normally sanctioned by antitrust law.²¹³ Utilities may still be liable for antitrust violations if state regulators narrowly consider the utility’s ability to recover costs or the impact of rates on customers, but fail to assess potential harms to the competing businesses providing customers with rooftop

solar.²¹⁴ Focused on their monopoly providers for decades, it's unlikely that state commissions have given a great deal of thought to fair markets.

Utilities have succeeded in anti-competitive behavior even when found guilty of an antitrust violation. In

1973, investor-owned utility Otter Tail Power refused to allow several Minnesota towns to use the utility's transmission system to access alternative power generation. The utility also used pretextual lawsuits to stop towns that already had transmission access to other electricity providers from using it. The Supreme Court found that, "Otter Tail used its monopoly power... to foreclose competition or gain a competitive advantage, or to destroy a competitor, all in violation of the antitrust laws."²¹⁵ As these actions were solely to prevent the erosion of Otter Tail's monopoly position, they violated federal antitrust law.²¹⁶ The Otter Tail standard is that monopoly utilities will not be afforded antitrust exemption if their actions had no legitimate purpose other than to destroy their competitors. While it may have lost the case, Otter Tail and other Minnesota-based investor-owned utilities won the war. In the wake of Otter Tail's loss before the Supreme Court, the state of Minnesota adopted new language in its

statute governing municipalization, adding requirements that cities pursuing ownership of their own utility must pay lost revenue to the incumbent monopoly utility. No Minnesota city has successfully taken over a private utility's power system since that law was adopted in 1974. In general, utilities rarely suffer consequences from anti-competitive behavior.

Although the case history leaves little hope for a wave of antitrust actions against monopoly utilities, there is one recent favorable decision. The U.S. Court of Appeals

for the 9th Circuit decided in favor of plaintiffs accusing monopoly utility Salt River Project of anti-competitive behavior in its action to substantially reduce compensation for solar customers. Because of its unique structure, Salt River Project is not regulated directly by the state, meaning the case may not apply to investor-owned utilities that are state-regulated. Ultimately, the plaintiffs' case failed upon remand to the District Court in Arizona, when the court determined that the anti-monopoly lawsuit had to be brought by a competitor, and not a customer of the utility.²¹⁷ The decision leaves open the opportunity for a competitor to sue, if they're willing to risk utility retribution.

Market Power Section Summary

Utilities have multiple dimensions of market power. The capital intensive and natural monopoly nature of electricity distribution deters competition from building alternative networks that might better serve customers. With their dominance enhanced by these inherent barriers, utilities act as gatekeepers to competitive power generation by hindering interconnection, self-serving through procurement, and by controlling access to grid and customer data. Deliberate utility inaction on energy efficiency and demand reduction maintains higher prices and higher profits. Utilities maintain dominance over long-distance transmission of electricity through control over grid data, power over regional operators, and protectionist state policies.

Utilities seize upon the systemic failures in public regulation to abuse their monopoly power at the expense of customers, competitors, communities, and the environment.

How Utilities Wield Political Power to Evade Oversight

Utilities exercise their political power in a vicious cycle that often includes deceptive, unethical, and outright illegal political activity. Unlike a typical business, their publicly-granted franchise allows them to accumulate political power by spending money collected from captive customers. Utilities spend this money to influence elections, lobby officials, purchase public support, and stand up industry and front groups. Much of this spending supports candidates or legislation that reinforce utility market dominance through anti-competitive laws or regulation and reduced oversight. In turn, greater market dominance and weaker competition allows the utility to divert even more resources into building political power.²¹⁸

Fig. 8: THE INVESTOR-OWNED UTILITY MODEL

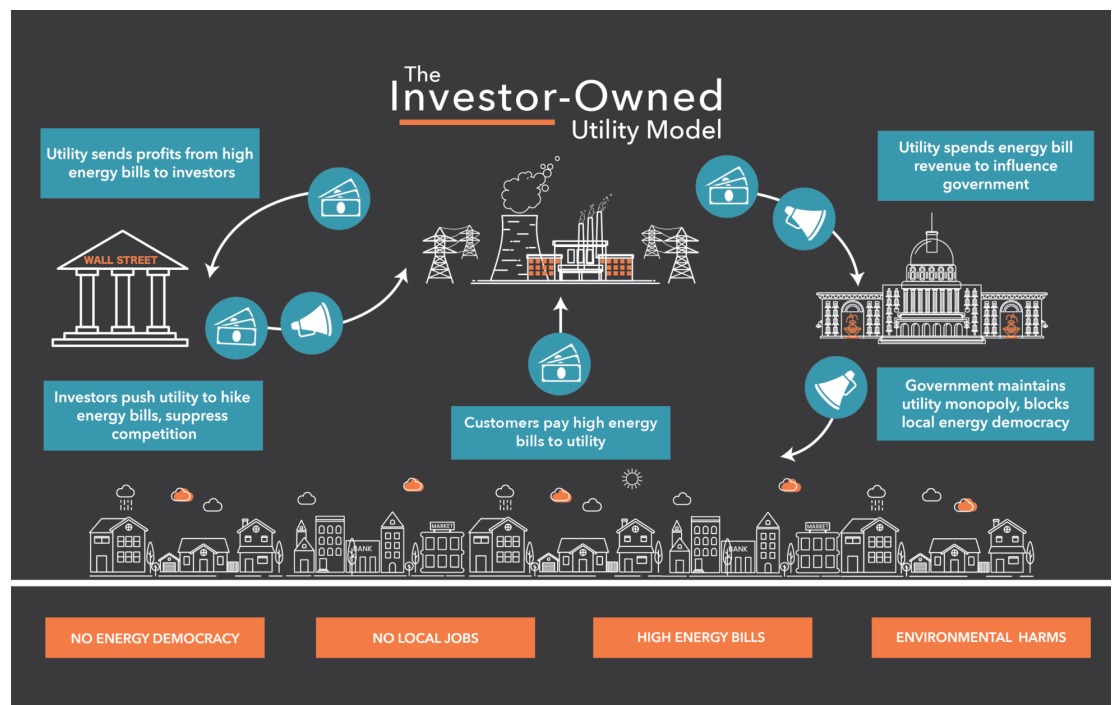


Figure 8 illustrates this vicious cycle, similar to what economist Luigi Zingales describes as the Medici vicious circle: “money is used to gain political power and political power is then used to make more money.”²¹⁹

Utilities have used their political power to reinforce their monopoly market power in several ways.

Utility lobbying efforts have weakened the Public Utilities Regulatory Policies Act (PURPA), the bedrock federal electric competition law.²²⁰ While unsuccessful in convincing Congress to dump the law in 2017, utilities waged a successful campaign to convince the Federal Energy Regulatory Commission (FERC) to shrink the impact of PURPA with new rules issued in 2020.^{221 222} Most of the rule changes make financing independent power projects more difficult, including shrinking the size of projects eligible for fixed-price contracts; restricting the ability of independent producers to build projects near one another; and allowing variable, rather than fixed, pricing on contracts with independent power producers.²²³ In contrast, utility-owned generation continues to be compensated with long-term, fixed cost recovery billed to captive customers.

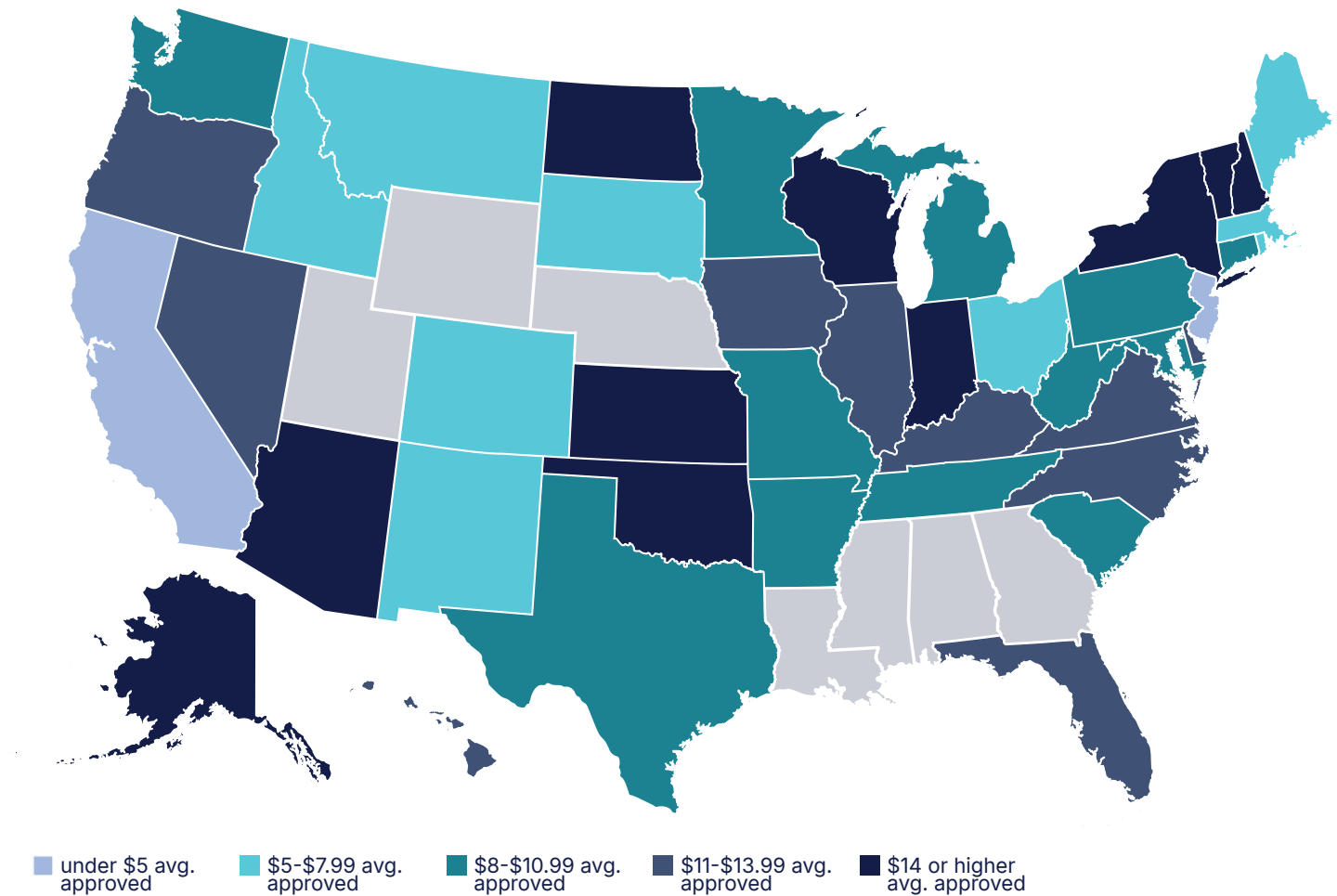
Utilities persuade state officials to block competition from customer-generated power. Utilities have targeted a policy called net metering, which enables people to connect and receive compensation for solar projects installed on the customer’s side of the meter on a home or business rooftop. The simple policy has widespread benefits including increasing climate resilience, creating local jobs, and reducing fossil fuel power plant pollution that disproportionately impacts marginalized communities.²²⁴

Net Metering Made Rooftop Solar Financially Feasible

Adopted in the 1980s by nearly every state, net metering provided certainty for solar owners about how they would be compensated for power generated on their property. When a rooftop solar project produces electricity, it either flows into the building for immediate use or out to the grid. Energy used onsite saves a customer money by replacing power purchased from the utility. Under net metering, the price for electricity not used onsite but that flows out to the grid is set at the same price as in-flowing power, the retail electricity price.

Over the past decade, utilities developed with a campaign to inhibit competition by making solar less lucrative for their customers. In 2013, the Edison Electric Institute (EEI), the utility industry’s trade group, released a report titled *Disruptive Challenges*. The report warned investor-owned utilities that a “death spiral” awaited them if they didn’t act to curtail the potential for customer-owned distributed generation like rooftop solar.²²⁵ One tactic was to convince regulators to raise fixed fees on utility bills. These charges would be unavoidable even for customers reducing their electricity bills with solar energy (or energy efficiency). As shown in Figure 9 below, regulators approved fixed fee increases in most U.S. states between 2015 and 2018.²²⁶

Fig. 9: AVERAGE RESIDENTIAL FIXED CHARGES APPROVED BY STATE 2015-18



Source: NRDC, National Consumer Law Center, Vote Solar

Lobbied by utilities, fifteen states also adopted changes to net metering during the 2010s that almost universally reduced the payments to customers with solar panels for energy exported to the grid. Widespread public opposition to such drastic changes in Nevada and Maine led to these harmful policies being overturned. In both states, legislatures had to overrule decisions by state regulators.²²⁷ In California, a multi-year utility effort was rewarded with “NEM 3.0,” a policy adopted by the state’s regulators to substantially cut solar compensation, causing a dramatic decrease in new local solar projects.²²⁸

Utilities have also targeted competition from community solar. In 2010, Colorado adopted the first community solar legislation, establishing a framework for multiple customers to share the electricity output from a single solar array. Enabling customers without a sunny rooftop or the money to buy their own solar array to participate in community solar projects constitutes a competitive threat to utilities, which have responded in kind.

Utilities have mostly succeeded in their efforts to limit community solar. Most states now cap the amount of

community solar that can be built, either by year or in total. Of nineteen states with enabling laws, only one (Maryland) allows for a robust, unfettered community solar market.²²⁹ In states without enabling laws, utilities have prevented community solar from being open to non-utility ownership, allowing incumbents to protect their monopoly on power generation.

Utilities also preempt competition by lobbying for laws guaranteeing them ownership of new or replacement assets. When states need new power plants

or must replace aging ones, these needs can be fulfilled with competitive bidding between utilities and independent power producers. In Virginia, non-utility ownership has been preempted by state law. Prior to the passage of the state's 2020 Clean Economy Act, the incumbent monopoly, Dominion Energy, was guaranteed ownership of three-quarters of all new large solar projects. The law reduced this ratio, but only to 65 percent.²³⁰ In Colorado, the carve-out for utility ownership was weaker but still notable in a bill designed to allow special financing to retire fossil fuel plants. In the 2019 Colorado Energy Impact Bond Act, the statute provides a target of 50 percent ownership by the incumbent utility.²³¹ Consumers Energy in Michigan also secured the right to own 50 percent of replacement resources, as part of a 2019 settlement deal with industry and nonprofits that retired the 64-year-old Karn coal plant.²³² Meanwhile, in Missouri, a law aimed at retiring aging power plants earlier has secured utility ownership of replacement power and removed meaningful regulator review, by requiring the Public Service Commission to approve utility-desired replacement resources.²³³

Utilities use several tools to build the political power

Community Solar Challenges

As covered in ILSR's report "Beyond Sharing," a patchwork of utility-influenced laws and regulations makes developing community renewable energy projects needlessly complex. Selling power to the utility is subject to PURPA or affirmative state policies. Projects that seek collective investment face limitations in securities regulation. Projects designed to share electricity generation via bill credits can avoid limitations of securities laws but typically require enabling legislation. Access to federal tax incentives, especially for projects with nonprofit or cooperative ownership structures, has also been limited — although the Inflation Reduction Act may ease access in some cases.

necessary to advance their interests, from dominance over regulators to election spending to buying fake public support. This section documents the costs of that political power and the many ways it is expressed in federal, state, and local politics, with many parallels to problems of market power in other economic sectors.²³⁴

Utilities Retain Power in Shadowy Regulatory Environments

Utilities take advantage of being ratepayer-funded and having special access to regulators to thrive in the opaque and obscure spaces where public regulators review their business. Their regulators are often complicit.

The design of regulatory proceedings repels participation by the public and independent producers, with intense jargon and procedural requirements hindering broader conversations about the public interest. Effective participation requires a high degree of technical and procedural expertise, as well as commitment of massive amounts of time and energy. Over the decades, regulatory proceedings have become more granular, as well. Today, it is virtually impossible for parties without vast resources to grasp the complex interactions among separate proceedings, much less participate in multiple concurrent proceedings that can make or break their business.

Public Utilities Commissions do little to enable accessible public participation. As an example, the 2023 decision by California's regulators to slash rooftop solar compensation by three-quarters began several years earlier with a rulemaking announcement suggesting that participants would need to follow eight separate but related proceedings.²³⁵ If the challenge of keeping up with multiple, obscure proceedings isn't enough to dissuade the public from participating, the 1,300 separate documents filed in a single proceeding might, with many running 50 pages or longer.

The language of the announcement similarly repels public participation, with a raft of technical terms including "Alquist, Stats. 1995, ch. 369," "tariff-based billing mechanism," "Net Surplus Compensation," and "non-bypassable charges."²³⁶

Utilities take advantage of ratepayer funding for their advocacy in these complex and obscure proceedings to overwhelm opposition to their interests. Using customer money means that utilities can join every proceeding using expert professional staff paid to provide detailed, persuasive arguments. Any public interest opposition must seek independent funding from philanthropic dollars or public contributions. In the rare cases where states provide compensation for non-utility participation, it's typically in the form of reimbursement, and often contingent upon whether the participant's views affected the outcome. Regulatory agencies themselves are also outnumbered and outgunned by utility staff, lacking the staff capacity (and sometimes expertise) to challenge utility assertions. The very structure of regulatory proceedings favors utility interests by imposing huge participation costs that few other parties are able to commit. As a result, many regulatory proceedings play out as David versus Goliath contests, and only rarely does David slay his opponent.

Utilities get special access to regulators through conferences and luxe, invitation-only forums. Before each meeting of the National Association of Regulatory Utility Commissioners (NARUC), utility trade group EEI sends regulators a briefing book that details its positions on key issues, prepares draft abstracts on possible sessions, recommends panelists, and prepares questions.²³⁷ EEI and other trade associations sponsor NARUC meetings along with happy hours and dance parties.²³⁸

EEI and others also finance fancy, private gatherings of utility industry executives alongside state and federal officials. Organized by Julia Johnson, a former utility regulator and utility board member, the Emerging Issues Policy Forum (EIPF) hosted these private gatherings at places like the "Forbes Five-Star spa wonderland" Eau Palm Beach Resort & Spa.²³⁹ The organization did not invite environmental, consumer, and public interest groups. EEI contributed \$60,000 over four years to EIPF, and paid over \$750,000 to Johnson's NetCommunications, a firm that based on its tax records is essentially the same organization as EIPF, for "consulting."²⁴⁰

Utilities Spend Heavily in Elections to Secure Favorable Oversight

Utilities spend billions to influence elections up and down the ballot to reinforce their political power. During the past decade, utilities gave \$130 million to federal candidates.²⁴¹ The utility industry also shoveled millions more into statewide races. Utility-aligned interests poured money into campaigns of public service commissioners in Georgia, Mississippi and Alabama — states that elect regulators.²⁴² From 2014 to 2023, electric utilities spent \$294 million on state political races, including those for governor, commissioners, legislators as well as ballot initiatives.²⁴³

Utility election spending creates two ethical dilemmas. First, the recipients of utility political contributions set the market rules that determine a utility's profitability. In Virginia, for example, Dominion Energy's influence with legislators led to the passage of laws removing regulatory oversight on excess profits, allowing the utility to pocket an extra \$500 million by overcharging the state's customers.²⁴⁴ In Arizona, utilities spent heavily in elections of their own regulators on the Arizona Corporation Commission, leading to victories for its two preferred candidates.^{245 246} In Illinois during the 2018 election for attorney general, utilities and executives made tens of thousands of dollars in contributions to Kwame Raoul, who defeated former Governor Pat Quinn; Quinn's campaign centered on challenging the "big corporations and big utilities."²⁴⁷ After receiving several thousand dollars in political contributions and in-kind favors from Florida Power & Light (FPL) in 2017, Florida state Senator Frank Artiles scheduled and fast-tracked two bills sought by FPL; he only disclosed the contributions after they were discovered by the Miami Herald.²⁴⁸

The second dilemma of utility political spending is unique to monopolies: the money comes from customers who have no choice of utility provider.

Unlike other industries where customers can opt to patronize companies that share their values and boycott those that don't, utility customers can't choose to pay their bills to

a utility that aligns with their political interests because the state compels them to purchase from a monopoly provider. Even in states with retail choice of energy supply, customers cannot choose who owns and operates the wires that deliver their power. When CenterPoint Energy's parent company made contributions to the Republican Attorneys General Association despite its involvement in the January 6 insurrection, for instance, its customers were forced into paying for that political speech.²⁴⁹

Utility political giving reinforces its monopoly power.

In Virginia, Dominion Energy defeated legislation to prohibit utility political contributions, with the key votes coming from members who had accepted a combined \$500,000 in campaign donations from Dominion.²⁵⁰ In New Mexico, investor-owned electric utility Public Service Company of New Mexico (PNM) spent \$440,000 on a PAC to elect its regulator.²⁵¹ In Michigan, all but six out of 146 lawmakers

had accepted a contribution from at least one utility political action committee (PAC) and many lawmakers proposed utility-friendly amendments to weaken proposed carbon reduction legislation.^{252 253}

Electric utilities also spend money to influence ballot initiatives related to their monopoly business.

In 2018, utility Arizona Public Service's parent company Pinnacle West Capital spent \$37.9 million to defeat a ballot initiative which would have required the utility to get half its electricity supply from renewable sources like solar and wind by 2030.²⁵⁴ In Nevada, Berkshire Hathaway-owned NV Energy spent \$63 million to defeat a 2018 ballot measure requiring a transition from the electric monopoly model to a competitive retail electric market.²⁵⁵ In Florida, utilities spent nearly \$20 million to deceive voters into supporting Amendment 1, a constitutional amendment designed to pave the way for more restrictions and fees for solar customers.^{256 257}

Selecting Their Own Regulators

Even in states without elections of state utility regulators, utilities can have an outsized and even directly corrupt influence. In Ohio, a 12-member Nominating Council screens candidates for open Commission positions, with a single candidate appointed by the governor (and confirmed by the state senate) each year to the five-member body.²⁵⁸

In 2019, the Nominating Council chair, Michael Koren, registered to lobby for FirstEnergy, a utility under the Commission's regulatory oversight, while he sat on the nominating committee. He then voted to advance the candidacy of Sam Randazzo, who was selected by the governor to serve as Commission chair later that year.²⁵⁹ FirstEnergy subsequently admitted to providing a \$4 million bribe to Randazzo shortly before his appointment by the governor. Randazzo was involved in the development of House Bill 6, a bill that diverted billions of dollars from utility customers into utility coffers.²⁶⁰

In Florida, where critics describe the state's Public Service Commission as a "rubber stamp" on utility activities, 11 lawmakers tasked with selecting the commissioners have collected donations of over \$160,000 from the industries the commission regulates.²⁶¹

Utilities Use Outsized Lobbying Power to Circumvent Oversight

Utility lobbying supports the vicious cycle of captive customers being used to maintain utility monopoly power. During the past decade, power companies and their allies

spent \$1.2 billion on federal lobbying, campaign records show.²⁶² Among industries tracked by Open Secrets, electric utilities ranked 4th in total lobbying spending from 1998 to 2023, with expenditures over \$3 billion.²⁶³ From 2014 to 2023, utilities spent over \$370 million on state-level lobbying in just 20 states in which such data is reported.²⁶⁴

The conventional wisdom in most states is that monopoly utilities have more lobbyists than any other industry, and they often spend more on lobbying than other industries. In Arizona, for example, electric utilities have more lobbyists than there are legislators.²⁶⁵

Fig. 10: UTILITY LOBBYISTS OUTNUMBER LEGISLATORS IN ARIZONA



Travis Kavulla ✓
@TKavulla
Normal 0%

Arizona's 3 largest utilities have 107 registered lobbyists working in Phoenix. There are 90 legislators. Quite the ratio.

The utilities' big priority this year is to stop their ratepayers from having alternative choices in their energy provider.

6:10 AM · Mar 3, 2022

Utilities consistently spend more on lobbying than almost any other entity in Minnesota. Between 2009 and 2021, the state's three investor-owned utilities combined spent more on lobbying — \$32 million — than any other group.^{266 267}

When utilities exercise their monopoly lobbying power, customers lose. In Virginia in 2015, Dominion Energy convinced the legislature to end biennial rate reviews of the two largest investor-owned utilities, leading to over-earnings for shareholders of \$800 million over three years.²⁶⁸
²⁶⁹ In response to a Commission study revealing the windfall, Dominion negotiated a new bill that tied the hands of the Virginia State Corporation Commission (again) by limiting reductions in rates, pre-approving major capital investments, and allowing the utility to reduce customer refunds if it spent the money on grid improvements. By letting the utility spend, rather than refund, windfall profits, it allowed Dominion to earn profits twice on the same dollar collected from customers.²⁷⁰ In North Carolina, Duke Energy promoted a bill that established carbon emissions targets favorable to itself, guaranteed utility ownership of solar projects, and allows the utility to earn profits on retiring coal plants.²⁷¹

Utilities also curtail their opponents' ability to lobby.

In Minnesota, ILSR struggled to find a contract lobbyist with experience in energy policy because lobbyist ethics suggest they can't accept contracts from entities that may be on

opposite sides of an issue, and utilities set up contracts with most lobbying firms that have energy policy experience. Logan Burke, executive director of Alliance for Affordable Energy in New Orleans, says the practice isn't limited to Minnesota: "It is widely known that the utilities (Entergy in particular) keep nearly every lobbyist in the building on an annual retainer, even if there isn't any 'utility' specific business or they aren't actively lobbying on a policy."²⁷²

Utility lobbying extends into gray areas, or even to activity that is explicitly illegal. In Arizona, utilities Arizona Public Service and Tucson Electric Power orchestrated a campaign to get counties and towns across the state to pass resolutions in opposition to a clean energy ballot initiative in 2018, despite a state law prohibiting the use of public funds for electioneering.²⁷³ In Michigan, DTE Energy paid a \$1,500 in-kind contribution to State Representative Joe Bellino, just after Bellino had blocked his committee from voting on a bill DTE opposed.²⁷⁴ In Virginia, Dominion paid for Department of Environmental Quality Director David Paylor's trip to the Masters golf tournament in 2013 and \$1,200 for his party tab at a nearby Irish pub. Paylor's department subsequently allowed Dominion to discharge treated water from coal ash ponds into the Potomac and James rivers.²⁷⁵

Utilities Purchase Fake Public Support for Private Goals

With a clear conflict of interest between their shareholders and the public interest over many issues, utilities seek to hide their perspective behind neutral-seeming organizations or individuals. For example, several dozen utilities founded the Utility Air Regulatory Group (UARG) in the late 1970s to support an agenda of opposing clean air policies. The group has participated in approximately 200 lawsuits to challenge federal clean air regulations, some reaching the U.S. Supreme Court. UARG coordinated legal teams to pave the way for the Supreme Court ruling in 2022 that limited the ability of the U.S. EPA to place state-level caps on carbon emissions under the 1970 Clean Air Act.²⁷⁶

Utilities give generously to charitable organizations with the expectation those groups will provide cover for the utility’s interests before decision makers.

In a 2019 study, the Energy and Policy Institute documented “dozens of cases where the charitable organizations who received contributions from the utility companies took political action on the companies’ behalf.”²⁷⁷ Of just 10 utilities surveyed in the report, authors estimated contributions in excess of \$1 billion over a five-year period.

The quid pro quo of donations for political support is widespread. In Michigan, an op-ed written by the president of the Detroit NAACP defended the utility but failed to disclose the utility’s charitable gifts to the organization.²⁷⁸
²⁷⁹ In Illinois, public radio station WBEZ documented “nearly \$350,000 in ComEd grants since 2017 to a dozen nonprofit groups that formally — and, in some cases, repeatedly — lobbied for company-backed legislation in Springfield. Some charitable groups [were] overseen by board members who also happened to be ComEd executives.”²⁸⁰ In Florida, a nonprofit leader said of their organization’s support of the utility’s push to curtail rooftop solar, “I felt that if we wanted the money, we had to do it.”²⁸¹ Kansas utility Energy’s corporate giving strategy explicitly endorses the idea that its contributions support its business aims. The headline on a piece by KMUW reporter Brian Grimm put it bluntly: “Kansas utilities are generous to charities — often with your money.”²⁸² In 2018, Virginia Delegate Lamont Bagby co-sponsored a controversial Dominion-backed bill to allow the utility to keep excess profits. He held a second job as the Director of Operations for a charity which received hundreds of thousands of dollars in donations from Dominion’s foundation and its CEO, reported The Richmond-Times Dispatch.²⁸³ The Energy and Policy Institute study documents similar behavior in Ohio, Louisiana, Arizona, Missouri, North Carolina, Pennsylvania, and Alabama.²⁸⁴

Utilities have especially targeted Black nonprofit leaders in attempts to divert attention from their pollution that disproportionately harms Black communities and to garner support for anti-environmental and anti-consumer policies.²⁸⁵

“I felt that if we wanted the money, we had to do it.”

- Florida nonprofit leader, explaining why they supported the utility’s political position

Utilities buy the appearance of public support through astroturf campaigns and deceptive communications.

In Louisiana, a crowd that gathered to advocate for an Energy gas power plant before the New Orleans City Council was later revealed to have included paid actors hired by the utility itself. Two weeks before the hearing, Energy’s then-CEO sent a text message to the utility’s communications managers, asking how many people a public relations contractor could recruit to attend.²⁸⁶

In a different situation, at least 13 letters to Congresspeople expressing concerns about electricity costs in the Waxman-Markey climate bill turned out to be forgeries. The public relations firm involved was funded by many electric utilities, and it admitted to drafting the letters using the letterheads of respected constituent groups representing people of color, seniors, and women.²⁸⁷

In 2018, utility front group Consumers Energy Alliance sent a flood of emails to South Carolina lawmakers using constituent names without their permission, asking for support of Dominion Energy’s proposed acquisition of the holding company of South Carolina Electric and Gas. In 2014, that same group was caught submitting a fraudulent petition in Wisconsin that attacked net metering and defended utility companies’ fixed-rate increase proposals. And in 2016, a group of Ohio property owners called for an investigation into Consumers Energy Alliance after it sent 347 letters to FERC in support of a proposed pipeline using the names of local residents without their knowledge or consent, including a man who had been dead nearly twenty years.²⁸⁸

While many companies use charitable giving as a political strategy, only utility customers are compelled to fund those efforts as captive customers.

Sixteen states allow utilities to recover these contributions directly from consumers. In the remainder of states, utilities may have to make contributions from an account designated to shareholders, although the money ultimately still comes from

customer bills.²⁸⁹ Research published by the National Bureau of Economic Research shows that corporate charitable contributions get political results.²⁹⁰ The study found that donations made nonprofits more likely to comment in public proceedings concerning the donor firm, ensured the nonprofits' comments aligned more closely with the donor's, and shifted the outcome of public rulemakings to be more favorable to the donor firm.²⁹¹

Utilities Use Their Customer-Funded Trade Associations to Oppose Clean Energy and Shutoff Protections

Utilities amplify their political power through trade associations, used to coordinate their anti-consumer and anti-environmental demands of legislators and regulators. The American Gas Association, a trade group including many state-regulated gas utilities, includes among its agenda state preemption laws to prevent cities from banning expanding gas distribution lines to new buildings.²⁹² The Edison Electric Institute (EEI), a trade organization of investor-owned electric utilities, developed a detailed plan to convince regulators, lawmakers, and consumers to oppose distributed rooftop solar. The plan included working through outside groups such as the National Black Caucus of State Legislators, and included a plan to sway organizations representing minority constituencies.²⁹³

Trade group services include ghostwriting letters to federal regulators on behalf of legislators, as EEI did for U.S. Rep. Yvette Clarke, a member of the Congressional Progressive Caucus. A letter in her name sent to the Federal Trade Commission (FTC) criticizing rooftop solar was actually written by EEI's Governmental Relations Director Eric Grey.²⁹⁴

During the pandemic, EEI also lobbied against shut off protections for consumers, many of whom lost their jobs during the national or state shutdowns, leading many customers to fall deeply into arrears and suffer with inadequate home heating. Thomas Kuhn, EEI's president, told legislators that a nationwide ban on shutoffs was unworkable.²⁹⁵

Unlike patrons of the typical business, only utility customers are compelled to fund trade group activity as captive customers. Eighteen states allow utilities to recover trade association dues directly from consumers. Only six states expressly prohibit it, with the issue unclear in the remainder of states. No matter what, however, the money ultimately still comes from customer bills.²⁹⁶

Political Power Section Summary

Monopoly utilities regularly engage in deceptive, unethical, and outright illegal political activity, in a vicious cycle. They weaponize their exclusive franchise to oppose the public interest and preserve their market power over the objections of captive ratepayers, many of whom strongly oppose the utility's political interests. Utilities conduct much of their political campaigning behind closed doors or under a veil of secrecy, often hiding from their customers and regulators how they act to benefit their shareholders at the expense of the public. As long as utilities retain the exclusive right to serve customers without competition, they have an inexhaustible resource to support their shareholders' political interests. While some states have begun to respond with "utility accountability" policies and advocates have petitioned the Federal Trade Commission to investigate further, this nearly unfettered political influence has costly consequences.²⁹⁷

A Structural Problem Requires Restructuring

Nothing short of restructuring the utility sector can address the problem: a vicious cycle of monopoly utilities abusing their publicly-granted franchise for profit and political influence and then using that market dominance and influence to entrench their monopoly. The solution is three-fold. First, states must restructure the electricity system to separate the competitive functions of the grid from distribution operation and to put distribution operation back under accountable, public control. Second, the federal government can help by enabling vigorous antitrust enforcement of anti-competitive utility behavior. Third, the states and federal government must establish electricity system rules to ensure the repair of historic harms to marginalized communities.

Restructuring the Grid By Creating Independent Operation

To avoid endless utility self-serving, the grid platform itself must be removed from for-profit hands. Power plants and power lines should not be owned by transmission and distribution system operators, in order to protect competitive non-utility generators from the anti-competitive behavior of utilities that control the network. We already have a solution, called an independent distribution system operator (IDSO), and states have the power to implement it. The concept first gained prominence in 2014, when former FERC Chair Jon Wellinghoff endorsed the idea.²⁹⁸

Truly independent distribution operation — unlike the existing transmission system model — would end the gatekeeping and self-serving powers of a monopoly utility by conferring the power over interconnection, data, and procurement onto an entity with no conflicts of interest. Instead of investor-owned utilities abusing a public franchise for private gain, an IDSO — preferably under public, cooperative, or nonprofit ownership — would be charged with facilitating a clean, local, equitable, affordable, and resilient grid by enabling market participants to meet clearly defined system needs. If a substation were nearing its capacity, the IDSO could put out a call for proposals and compare the costs and benefits of alternatives against the traditional approach of a substation upgrade, without the bias to spend capital for profit. An IDSO could aggregate and share customer data with third parties under rigorous privacy and consumer protections in order to facilitate programs to improve system efficiency. An IDSO would have no profit motive or incentive to hinder grid services companies such as demand response aggregators, which provide financial benefits to individual customers and to the entire distribution system by lowering peak energy use. An IDSO under accountable ownership, such as a public entity or cooperative, would also reduce the potential for regulatory

capture that has harmed customers under the investor-owned utility model.

In addition to resolving anti-competitive conflicts of interest, an IDSO would also diminish the political power of utilities by ending the vicious cycle of using revenue from captive customers to serve narrow utility financial interests. With system operations in the hands of an independent entity, utilities shrunken in size and scope would be providing services in competitive markets. Instead of convincing a handful of lawmakers or regulators they knew best how to run the system, they would have to compete to win loyalty from customers based on the quality of their product.

States can lay the groundwork for a grid as commons by increasing utility accountability. While an IDSO requires restructuring electricity markets, states can take interim steps to reduce the political and market power of utilities. For example:

- Several states have passed utility accountability laws that restrict how utilities can use customer money to further their political goals through lobbying, trade association dues, and charitable giving.²⁹⁹
- Connecticut’s regulators have an Equitable Modern Grid initiative that pushes utilities to make investments based on strategies defined by the regulator, instead of waiting for the utility to act.³⁰⁰
- One state, Hawaii, has shifted entirely away from cost plus regulation to performance incentives that better align utility behavior and profit with the public interest.³⁰¹
- States can improve the quality of public oversight by restricting the ability of industry insiders to sit on commissions.
- State commissions can increase scrutiny and enforcement of existing laws and regulations, and hold utilities accountable with meaningful legal and financial penalties to dissuade them from anti-competitive behavior, up to and including revocation of monopoly franchises.

Making the Grid Fairer with Antitrust Enforcement

Federal antitrust regulators should renew their interest in investor-owned utilities. The greatest opportunity for antitrust scrutiny would be over areas “such as management of interconnection, charges for engineering or interconnection, and other administrative processes not closely overseen by the public utility commission,” suggested Stanford law professor Michael Wara, in a 2017 article in *New York University’s Environmental Law Journal*.³⁰² Because these behaviors may not be overseen by a commission, or may be evaluated without consideration of anti-competitive impacts, utilities may be liable under current antitrust law. ILSR’s analysis of utility interconnection procedures found significant evidence of utility malfeasance as well as a lack of data and analysis by state regulators sufficient to demonstrate proper oversight.³⁰³

Congress could aid antitrust enforcement by narrowing the immunity of utilities (and other regulated, private entities) to antitrust, allowing federal antitrust scrutiny of anti-competitive behavior. This could close the antitrust loophole that allows utilities to pretend their anti-competitive actions, simply by virtue of running through a state commission proceeding, deserve immunity from anti-monopoly scrutiny.

Congress could also preempt anti-competitive right of first refusal state laws, ending a major strategy used by utilities to avoid transmission competition.

The federal Energy Information Administration can aid antitrust enforcement by collecting data on interconnection costs and timelines, to provide insight into utility anti-competitive behavior and to assist state regulators in policing utilities.³⁰⁴

The Federal Energy Regulatory Commission (FERC) can aid antitrust enforcement by aligning its policy with its own assessment that utilities exercise monopoly power. The agency has a few options:

- FERC can reform regional transmission organization (RTO) governance by creating inducements for compliance, such as restricting access to incentives and certain approval processes to RTOs that meet reformed governance requirements relating to independence from market participants.³⁰⁵
- FERC can require RTOs to use consistent transparency rules, so that all market participants have access to the same information.³⁰⁶
- FERC can increase participation by utility competitors in RTO proceedings by requiring the option for state regulators to participate or by giving filing authority to sectors with innovative business proposals (such as grid enhancing technologies).³⁰⁷

Repairing Historic Harms

A grid freed from monopoly gatekeeping must also have rules to ensure the repair of historic harms, from pollution to lack of affordability, imposed upon communities of color and low-income customers.³⁰⁸ Black households should have prioritized access to financing and capital long denied through racialized subjugation such as Jim Crow, redlining, and discrimination in banking. Indigenous nations should have priority for federal funding in recognition that their wealth and land was seized via treaty violations and other violent means.³⁰⁹ Tribal nations and other historically marginalized communities should be elevated to advisory councils to state regulators and legislative energy committees.³¹⁰ Low-income communities should have higher priority and greater access to financing for tools that will reduce their energy bill burdens, so that this essential public service remains accessible to everyone. Investments in distribution grids should prioritize areas of lagging investment, and areas that often overlap with high concentrations of historically marginalized communities.³¹¹ Clean energy policy, from development to passage to implementation, should focus on repairing harms³¹².

Conclusion

States and the federal government must prevent abuse by utility monopolies by restructuring the system to restore the public interest. Utility monopoly power threatens consumers, the environment, and democracy. Utilities abuse their publicly-granted franchises to limit competition and protect their market share, while using their political influence to thwart oversight and win policies favorable to their bottom line. We all pay the price.

By allowing consolidation of electric utilities into sprawling holding companies, federal regulators and courts have gifted utilities dramatically outsized lobbying and political power, with large rewards for utility shareholders and substantial costs for electricity consumers, independent businesses, and others who would challenge utility behavior. The system has allowed utilities to operate with fundamental conflicts of interest between wanting to build and own new assets like power lines and power plants and their public interest function of platform operations such as managing power flows and connecting rooftop solar to the grid.

States can break the vicious cycle by making the distribution grid into a commons, creating independent system operators under public or cooperative ownership, infused with the principles of fair markets and equitable participation. On this public and open network can be built a robust and competitive marketplace. State law must separate or “unbundle” the non-network utility functions into a competitive market that includes everything from power generation to distribution grid upgrades. While advancing restructuring, states should also pass utility accountability laws, to lessen the corrupting political influence of investor-owned utilities.

By reviving antitrust scrutiny of monopoly utility power, the federal government can aid states in creating an electricity system in service to clean energy, affordability, and resilience. The federal government and courts must use antitrust enforcement to scale back utility power, and to level the playing field for state regulators and to protect our democracy from the corrupting political influence of multi-state or multi-national holding companies. Federal agencies must adopt and enforce rules to ensure that transmission is provided in a public interest manner just as distribution will be.

The health of our climate, our democracy, and our communities relies on ending the abuses of utility monopoly power. For over 100 years, investor-owned utilities have exploited U.S. electricity consumers with their control over the platform of electricity distribution. It's time to put the equity in electricity service before shareholder equity.

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