# "RECLAIM OUR POWER!": THE GEOGRAPHIES OF UTILITY JUSTICE IN NORTHERN CALIFORNIA

by

#### GABRIELLE R. LICHTENSTEIN

(Under the Direction of Jennifer L. Rice)

#### ABSTRACT

This thesis explores the forms of violence produced by California's energy system and how organizers are challenging and reimagining electric utilities. Specifically, I explore 1) how PG&E and state regulators advance a notion of "public safety" that harms communities unevenly across axes of race, ability, and class; and 2) how community resilience hubs powered by microgrids can support Reclaim Our Power's framework of utility justice. This project is based on qualitative analysis of institutional documents and resistance by organizers, as well as semistructured interviews conducted with organizers and professionals working to advance utility justice. I argue that for an imagined "public safety," PG&E's shutoffs force certain individuals to take on real harm, and transfer risk to the public more broadly in the form of inoperable traffic signals and restricted telecommunications. Community resilience hubs led by frontline organizers can be a means of putting utility justice into practice.

INDEX WORDS:Utility Justice, California Wildfires, Public Safety Power Shutoffs (PSPS),Microgrids, Energy Systems, Race, Disability, Class

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#### LIST OF ACRONYMS

- AFN: Access and Functional Needs
- APEN: Asian Pacific Environmental Network
- BIPOC: Black, Indigenous, and People of Color
- **BPP: Black Panther Party**
- BLM: Black Lives Matter
- CACE: California Alliance for Community Energy
- CBE: Communities for a Better Environment
- CCA: Community Choice Aggregation
- CforAT: Center for Accessible Technology
- CEJA: California Environmental Justice Alliance
- CFILC: California Foundation for Independent Living Centers
- **CPAP:** Continuous Positive Airway Pressure
- CPUC: California Public Utilities Commission
- **CRC:** Community Resource Center
- DJCC: Disability Justice Culture Club
- HFTD: High Fire-Threat District
- IOU: Investor-Owned Utility
- LCEA: Local Clean Energy Alliance
- MG: Movement Generation Justice & Ecology Project
- PG&E: Pacific Gas and Electric

PODER: People Organizing to Demand Environmental and Economic Justice PSPS: Public Safety Power Shutoff TURN: The Utility Reform Network SCE: Southern California Edison SDG&E: San Diego Gas and Electric STS: Science and Technology Studies

# CHAPTER 1

### INTRODUCTION



Figure 1: Demonstrators at the December 2019 #PowerToLive protest (Anderson, 2019)

Surrounded by depictions of flames, demonstrators crowded the street outside of the San Francisco headquarters of Pacific Gas and Electric (PG&E) in late 2019 (see Figure 1). Among their signs were the refrains: "Extinguish PG&E" and "Killing Us for Profit." The #PowerToLive protest was organized in the wake of PG&E's second bankruptcy — the result of years of deadly wildfires linked to its equipment — and the rollout of planned power shutoffs for millions of people as a blunt tool to prevent new fires. The #PowerToLive coalition and Reclaim Our Power: Utility Justice Campaign were rejecting the idea that they must choose between deadly wildfires and life-threatening power shutoffs. Their demand was clear: *we need power to live*.

This thesis seeks to understand the forms of violence produced by California's current energy system and how community organizers are challenging and reimagining electric utilities. California is a critical place for thinking about utility justice. The violence of a utility model embedded in systems of racial capitalism and colonialism is brought to the fore as California burns. It is a matter of life and death — at once the "slow death" (Wright, 2018) caused by environmental toxicity and pollution, as well as the looming threat of utility-sparked wildfires that can swallow entire communities within hours. Yet these devastating events must not be looked at in a vacuum, but rather, they are situated in the context of profit-seeking executives forgoing safety repairs, resisting regulations for wildfire prevention, settler homes built in fireprone regions, the white supremacist suppression of Indigenous fire management, and climate change-induced droughts that utilities have exacerbated through dirty energy production.

In 2018, PG&E's ill-maintained equipment started the Camp Fire in Butte County, which became the deadliest and most destructive wildfire in the state's history. Eighty-four people died in the flames, and many more from related complications — at least 50 additional deaths were reported in a Chico Enterprise-Herald investigation (Von Kaenel, 2020). The Camp Fire was not an aberration, but rather, one utterly devastating outcome of an energy system structured and protected by the state to prioritize shareholder profits over human and non-human life. In the past decade, disasters caused by PG&E have directly killed at least 121 people, the most recent

incidents in a more than century-long history replete with toxic and deadly disasters (Rittiman, 2020, 2021a).

To prevent its aging equipment from sparking new fires, in 2019 PG&E dramatically expanded its practice of shutting off power for millions of people on windy and dry days, or what the state calls "Public Safety Power Shutoffs." These shutoffs, enacted in the name of "public safety," harm communities unevenly across axes of race, ability, and class.

PG&E filed for chapter 11 bankruptcy in early 2019 to avoid paying over \$30 billion in damage claims brought about by the wildfires that it caused the two years before. Even as it has been given the green light to emerge from bankruptcy, PG&E and utilities across the state are increasingly relying on planned power shutoffs as a wildfire prevention tool. Despite PG&E initially claiming its shutoffs would go on for up to 10 years while its equipment underwent upgrades — an already shocking statement — the company has more recently suggested the shutoffs will become the new status quo for Californians, with no end in sight (Van Derbeken, 2018). The first part of my project takes up the issue of PG&E's power shutoffs and how institutional notions of "public safety" cause harm to differently-situated people, while transferring risk and producing new dangers.

Because the prevailing model of electricity provision in the U.S. is *centralized* dominated by large Investor-Owned Utilities (IOUs) that rely heavily on fossil-fueled power plants carrying power over long distances — when the power is shut off in one place, it can impact people many miles away. The grid is connected in ways that can cause isolated weather patterns, from strong wind to hurricanes, to leave hundreds of thousands or millions of people without power. Especially as climate change increases the intensity and frequency of these events, this grid model poses major risks to human life, and especially to low-income, disabled,

non-white, and other oppressed people. In California, the centralized energy system also necessitates high-voltage transmission lines that splice through diverse and distant landscapes, including extremely fire-vulnerable regions. Moreover, this system concentrates economic and political power in the hands of private utilities who are increasingly colliding with climate justice organizers (Energy Democracy Project, 2021a).

But this model is facing challenges from Reclaim Our Power, a coalition of frontline organizers and allies, whose bold vision for a new energy system involves *decentralization* — a spatial organization of energy that is advanced in many diverse movements for climate justice (Baker, 2021; Energy Democracy Project, 2021a; Lennon, 2017; Mascarenhas-Swan, 2017; Movement Generation Justice & Ecology Project, 2013; Powell, 2006; Weinrub, 2017). For Reclaim Our Power, the decentralized model involves worker and community control at the local level, smaller-scale and resilient forms of renewable energy production, and the meaningful leadership of environmental justice communities, workers, and fire survivors. It is argued that the widespread distribution of smaller-scale, non-fossil energy sources will make communities safer, and especially communities who are hurt worst by severe weather events (Baker, 2021). Instead of disasters like the Northeast Blackout of 2003, in which a sagging tree branch leaning against a transmission line left 50 million across the Northeastern U.S. and Ontario without power (Baker, 2021), communities can benefit from the wind and solar that is already all around them through smaller-scale clean energy projects in their neighborhoods. If the power goes out in one place, neighbors with power can help out.

In California, microgrids are one area in which the movement for decentralized energy systems is taking place (California Alliance for Community Energy [CACE], 2020). Microgrids are small, "islandable" energy systems that can disconnect from the larger grid in order to ensure

continuous flow of energy to local populations (CACE, 2020). Solar alone does not keep the power on when lines are de-energized. Instead of regular "public safety" power shutoffs that spoil food and life-sustaining medications, prevent daily activities powered by electricity, deny workers income, and disrupt communications, microgrids can make communities safer by keeping the power on in the face of weather or climate events. If widely implemented, they reduce the need for long transmission lines in fire-prone regions. Thus, when powered by renewable energy, microgrids present a tangible means to transition to decentralized, clean power.

However, to protect their centralized economic model, IOUs like PG&E, with the support of the CPUC, have sought to make community-based microgrid development more difficult (CACE, 2020). The battle for control over microgrids is playing out in regulatory and legislative spaces across California, from the CPUC's Microgrid Incentive Program to a number of bills being put forward by competing interests at the state legislature. These challenges echo broader struggles for a just transition, including who benefits from clean energy and whether underlying systems of oppression are confronted. Organizers have made it clear that without deep community engagement and control over these systems, microgrids cannot meet the conditions for utility justice. Reclaim Our Power is exploring a much more holistic vision for microgrids, in which trusted community spaces are given the resources they need to meet a variety of community needs, including power. They call this vision for community-led spaces which benefit from clean power that can go off-grid "community resilience hubs." In support of the research needs of Reclaim Our Power, the second half of my project engages with organizers to ask how community resilience hubs powered by microgrids can help meet the goals of utility justice.

This project is rooted in Northern California, but resonates with struggles across the country. A number of recent tragedies have demonstrated the failures of the centralized grid and utility model. For example, the 2021 winter storms in Texas that left millions without electricity made clear that the loss of power can be extremely deadly, especially with compounding weather conditions like freezing temperatures (Pontecorvo, 2021). At least 210 lives were lost due to this avoidable power outage (Weber, 2021). Hurricane Ida in New Orleans left more than a million people without power after it damaged key transmission lines in summer 2021, and heat from the absence of electricity-powered cooling proved to be the storm's most deadly effect (Bogel-Burroughs & Reckdahl, 2021). In Puerto Rico, Hurricanes Irma and Maria took out parts of the power grid for months in 2017, which many people said contributed to the high death tolls after the storm (Baker, 2021). In response, community organizations like Casa Pueblo helped establish a large solar-powered microgrid in the center of the town of Adjuntas (Casa Pueblo & Honnold Foundation, 2020). These events are not merely a result of the physical layout of the grid, but rather the economic and political systems that utilities are borne of and continue to operate in service of.

The framework of utility justice helps direct attention squarely to the utility in pursuit of a just transition. As the fires and power outages in California make clear, this struggle is about far more than whether utilities use carbon-free energy. What, instead, would life-affirming energy systems look like? The organization of the grid, how decisions are made and by who, and whether emergency response facilities are trusted by community members are all of vital importance. In this project, I aim to explore how power is organized in energy systems (Calvert, 2016; Huber, 2015). Next, I will provide a chapter-by-chapter overview of my thesis.

#### **1.2 Overview of Thesis**

This project is organized into eight chapters. In chapter two, I dive into PG&E's longer history to provide insight into the centralized utility and grid model that organizers are resisting. This model is dominated by monopoly Investor-Owned Utilities like PG&E with concentrated wealth and power, which rely primarily on large power plants delivering energy over long distances — a model that is increasingly linked to wildfires in California. I split the chapter into two sections: one focuses on the physical centralization of the grid and the other focuses on the political centralization of the grid. First, by reviewing PG&E and its predecessors' pursuit of harnessing California's rivers for hydropower, we can see the physical centralization of the grid begin to take shape at the end of the nineteenth century. I argue that this process was rooted in colonial-capitalist interests following the California Gold Rush. Industrial capitalists were eager to overcome barriers to long-distance transmission so that hydropower could be brought hundreds of miles from the Sierra Nevada foothills to urban centers in the San Francisco Bay Area. This process made possible new sites of manufacturing and energy consumption, while distancing energy users from its human and non-human impacts.

The second part of this chapter turns to the twentieth century consolidation of electric utilities into regulated monopolies. Utilities like PG&E bought out competitors and advanced the idea that electricity service must function as a "natural monopoly," arguing that private companies with noncompetitive service areas would operate more efficiently than multiple competing providers (Luke, 2021). To subdue movements for public ownership or municipalization, private utilities lobbied for the creation of state commissions to regulate them. The power that utilities have accumulated over more than a century of operation helps illuminate

barriers to changing this entrenched model, which I show to be intertwined with systems of colonial-capitalism.

In chapter three, I provide an overview of the context from which my research emerges, including background relevant to PG&E's Public Safety Power Shutoffs and the formation of the Reclaim Our Power: Utility Justice Campaign. I begin with background on PG&E's complicity in devastating and often deadly wildfires, focusing primarily on the 2017 North Bay Fires, the 2018 Camp Fire, and the 2019 Kincade Fire. I describe how damage claims from the 2017 and 2018 fires would lead the utility to file for bankruptcy for the second time in two decades and result in a dramatic expansion of power shutoffs as a blunt tool of wildfire prevention — with 20 shutoff events affecting millions of California residents since 2018 (PG&E, n.d.-a). The second half of this chapter introduces the organizers of the Reclaim Our Power: Utility Justice Campaign, and the environmental, economic, and disability justice organizations that lead it. The coalition is working to transform the state's energy system, with communities harmed by the current system at the center. I conclude with some of the organizer's demands and ongoing work, which includes a focus on community resilience hubs powered by microgrids and a call for decentralized renewable energy for all.

In chapter four, I introduce my conceptual framework and the bodies of work that have shaped this research. I use the umbrella of Race, Disability, and the Environment to discuss work across intersections of critical race theory, disability studies, and political ecology. This literature helps illuminate how centralized energy systems can have deadly or disabling outcomes both when the power is on, such as through the toxic pollution that especially burdens low-income and communities of color, as well as when the power is off, for example by restricting access to life-sustaining medical equipment. I engage the framework of Feminist Science and Technology

Studies (STS) to examine the colonial, imperial genealogy of scientific notions of "energy" (Daggett, 2019), and whose knowledges are included or excluded from utility systems and understandings of renewability. This literature demonstrates how a solely technological approach to addressing climate change risks reifying the systems of oppression that produced it. Moreover, it underscores the need to center those harmed by the current system in the pursuit of utility justice. As Reclaim Our Power puts it, "we believe that the people closest to the problems — whether it's dirty gas power plants, oil refineries, fracking wells, and the disasters they cause — are also closest to the solutions" (California Environmental Justice Alliance [CEJA] & Reclaim Our Power, 2019).

In chapter five, I describe my research methodology and methods, which are based in qualitative and feminist epistemologies. Broadly, my research aims to examine (1) how state regulators and PG&E advance a notion of "public safety" that enacts uneven violence across axes of race, ability, and class; and (2) how community-led microgrids can be developed for utility justice. In this chapter, I also detail my approach to scholar-activism and collaborative research with Reclaim Our Power, as well as my positionality as a white woman and graduate student aiming to form "situated solidarities" (Nagar & Geiger, 2007). In question one, I first analyze how the utility and its regulators define "public safety" in the context of Public Safety Power Shutoffs, in contrast to the communities who are harmed by these events. This part of the project uses content, discourse, and narrative analysis to deconstruct the white supremacist logics which undergird the current energy system. The second half of this project is forward-looking. I explore alternative energy futures through the lens of Reclaim Our Power's concept of "utility justice," and the role that community resilience hubs may play in this future. To do this, I conducted narrative analysis of petitions and other public-facing documents, and held semi-

structured interviews with organizers to examine how microgrids may be used as a tool for utility justice.

In chapter six, I present my findings from research question one. I focus on how the PSPS events have harmed communities unevenly across axes of disability, race, and class, citing public-facing resistance and stories from these communities and drawing on PSPS post-event reports. Then, I demonstrate how the PSPS events transfer risk from utilities to the public through the loss of power. Through the story of the PG&E-sparked Kincade Fire, I illustrate how PSPS events make communities more susceptible to catastrophic fire impacts. Fortunately, there were no deaths from the Kincade Fire — in part due to massive, preemptive evacuations — but the inability to communicate, use modern fire-fighting technology, or access water from small municipal water districts that lack sufficient backup power all pose enormous risks to human life, especially during wildfires. Then, I highlight risks created by inoperable traffic signals, and the changes the utility is making to its infrastructure do not match the scale that is needed. Finally, I discuss how the deadly Zogg Fire elucidates limits to the utility's algorithmic approach to wildfire prevention, and points to an enduring need for systemic change.

In chapter seven, I present my findings from research question two. First, I describe my understanding of Reclaim Our Power's conception of utility justice, with a focus on the interrelated principles of decentralization and resilience. I also argue that the framework of utility justice opens up space for solidarities with other utilities like water and broadband, which often share the same designation as private utilities regulated by the CPUC. Then, I introduce some of the diverse practices for community resilience in Northern California. Here, I focus primarily on

the youth-centered RYSE Commons<sup>1</sup> and contrast this with PG&E's Community Resource Centers, the latter of which are set up during power shutoffs. I argue that the RYSE Commons offers a compelling model for utility justice in practice.

Finally, in chapter eight, I conclude by summarizing some of the key takeaways from my research. I describe limitations to this thesis, including the relatively short timeframe for research, as well as opportunities for future research. This includes a more substantive analysis of the relationship between utilities and wildfires, as well as attention to the political discourse surrounding microgrids. I leave with thoughts about how community resilience hubs can help move us towards life-affirming energy systems.

<sup>&</sup>lt;sup>1</sup> RYSE is not an acronym. As their website explains: "RYSE is a youth center born out of the organizing efforts of Richmond and West County young people who were determined to create safe spaces for themselves and their peers. Named by the founding youth council, RYSE is not an acronym but a bold call to action inclusive of the many diverse communities that we serve" (RYSE Center, n.d.-a).

#### CHAPTER 2

#### A CRITICAL ANALYSIS OF POWER CENTRALIZATION

To ride in a street car in San Francisco or Oakland and then to realize that the power that propels it comes on a small wire from some remote canyon of the Sierras, over a hundred miles distant, cannot but hold the mind of even the most fancy-free. — Great Western Power Electric Service (later bought by PG&E), 1912 (as cited by

Teisch, 2001, p. 221)

In this chapter, I review pieces of PG&E's early history that provide insight into how the centralized energy system came to be. First, I will describe PG&E's birth in the California Gold Rush, and how the pursuit of colonial-capitalist development helped shape the grid via long-distance transmission of hydropower. This section pertains to the physical production of power. Then, I will turn to the 20<sup>th</sup> century consolidation of electric utilities into regulated monopolies. This section focuses on the political centralization of power. Attention to historic processes of centralization, both in terms of physical power and its governance, helps contextualize the power shutoffs and resistance to the utility model that produces them.

To understand organizers' call for "decentralized, distributed energy systems," it is helpful to examine what is meant by its converse: centralized power (CEJA & Reclaim Our Power, 2019, para. 6). "Centralized generation" is widely used to describe the large-scale production of electricity that is carried through long power lines, typically far away from most of

its users (Environmental Protection Agency, n.d.). While this model is not limited to fossil fuels, fossilized power lends itself to centralized production (Farrell, 2011). Many organizers argue that the centralized mode of energy provision produced a similarly centralized form of energy governance, as exemplified by enormous Investor-Owned Utilities like PG&E with concentrated capital and political power (Energy Democracy Project, 2021a).

#### 2.2 Shaping the Grid Through Hydropower

PG&E dates its origins back to the Gold Rush, when San Francisco Gas Company was founded in 1852 to meet the growing energy demands of settlers moving to California in pursuit of wealth (PG&E Currents, 2017; PG&E Corporation, 2002). This time period was marked by state-sanctioned genocide by settlers against the region's Indigenous peoples (Madley, 2016). PG&E is linked to that legacy, as it describes how water transport systems built by Gold Rush miners to extract gold were integral to the construction of the utility's immense hydroelectric system, which today remains one of the "largest investor-owned hydroelectric systems" in the United States (PG&E Corporation, 2017; PG&E Currents, 2017).

Through PG&E's hydropower development, we can begin to see the infrastructural centralization of the grid take shape. Before long-distance electricity transmission was made possible, California's scarcity of coal deposits was seen as a barrier to capitalist development, as coal was costly to ship in (Teisch, 2001; "Popular Reflections," 1895, pp. 49-50). Water, in contrast, was extremely low-cost — but, in most cases, it had to be used on-site ("Popular Reflections," 1895a, p. 50). Therefore, there was great pressure among industrial capitalists to overcome existing barriers to long-distance transmission so they could appropriate California's abundant rivers to power industry and solve the state's so-called "fuel problem" (p. 49).

In 1895, one of PG&E's predecessors held a "Grand Electric Carnival" to celebrate a hydroelectric project that was reportedly the "first to conquer the challenge of long-distance transmission," 22 miles from Folsom to Sacramento (California State Parks, 2011; "The Electric Carnival," 1895; PG&E Corporation, 2002). The second issue of the *Journal of Electricity* lauds this feat and excitedly looks ahead to expanding the centralized model of electricity provision, which also made possible new sites of energy consumption:

On all sides Sacramento is now the recipient of congratulations as the pioneer city in this new scheme of low priced power and the utilization of water power to turn the wheels of industry through the agency of transmitted electrical energy. But we must keep in mind that these congratulations will be repeated for other cities and towns which secure similar advantages by similar means. ("Popular Reflections," 1895a, p. 50)

The author celebrates the comparatively low cost of hydropower, and with the capacity to transport it to faraway places, its implications for industrial manufacturing. Another author emphasized their desire to manipulate nature to power the state's industrial development, writing: "Every stream in California can be harnessed and a brilliant row of manufacturing cities will spring up along the whole length of the foothills of the Sierras" ("The Folsom-Sacramento Power," 1895, p. 49). Indeed, the journal's early issues are full of references to the late-nineteenth century scramble to exploit water along the Pacific Coast for long-distance electricity transmission, with bodies of water said to be "grabbed or bought up as rapidly as they can be found" ("Popular Reflections," 1895b, p. 28).

After a 1906 earthquake destroyed most of San Francisco, PG&E writes that it helped the city rebuild with even more energy-intensive infrastructure, looking to distant rivers in the Sierra

Nevada foothills to fuel this growth (PG&E Currents, 2017). Delivering hydropower from the Sierras to the Bay Area was a long-sought after goal for industrialists, as the *San Francisco Examiner* makes clear in the inaugural *Journal of Electricity*:

The day is undoubtedly coming when the Sierra water powers can be brought to San Francisco, and when that day comes the city will have an unlimited supply of energy at its command. The rapid slopes of the streams that make a descent of three or four thousand feet in a short distance offer a chance to use the same water over and over. The capitalists have awakened to the opportunity. ("Popular Reflections," 1895b, p. 28)

Long-distance transmission of hydropower was seen as key to dramatically expanding the region's industrial development. Not only was water abundant, but it was low in cost, reusable, and without the toxic smog that coal produced. By 1912, Great Western Power Electric Service (which was later bought by PG&E) had achieved its goal. It "blanketed northern California in electricity" (Teisch, 2001, p. 223) via a massive dam project that delivered electricity 250 miles south of its generation in the Sierras, powering San Francisco Bay Area cities while irrigating Sacramento Valley farms along the way (see Figure 2; "Power Company," 1912).

Developing the ability to harness rural resources and transport electricity over long distances transformed development in urban centers (Teisch, 2001; Needham, 2014) and shaped the spatial organization of the grid. Long-distance transmission meant that electricity no longer had to be produced on-site. With this hydroelectric dam, the company further extended the separation between power generation and consumption, distancing electricity users from the human and non-human impacts of its production.



Figure 2: 1912 hydroelectric transmission system from Big Meadows to the Bay Area (Great Western Power Co., 1912, as cited by Teisch, 2001, p. 4)

Dam construction to deliver electricity or water to burgeoning colonial industries and cities in California further dispossessed Indigenous peoples of their homelands. For example,

Middleton-Manning et al. (2018) describe the Mountain Maidu people's displacement through the development of hydropower by PG&E and its predecessors, which also separated the Maidu from cultural and sustenance relationships with animals whose populations have been diminished by the dams (in recent years, however, the Maidu have reclaimed some of their ancestral lands that PG&E was ordered to release for conservation) (p. 186, see also Middleton, 2010).

We can see how PG&E's investment in hydropower was intertwined with colonialcapitalist development in the state. Settlers looked to water to establish some of the first hydroelectric power plants in the country, which would electrify and encourage the expansion of factories, urban streetcars, mines, timber industries, water systems, and more ("Popular Reflections," 1895b; Teisch, 2001). Moreover, it was foundational to a centralized electricity system that overcame the spatial constraints of needing power on-site or nearby. Instead, it was set up to carry electricity across vast distances, and especially to urban or manufacturing centers.

Long-distance transmission would irrevocably change electricity provision. Today's electricity system is still dominated by massive power plants delivering power over vast distances. This is important both because the long transmission and distribution lines that splice through fire-vulnerable regions are increasingly linked to wildfires in California, and because it relates to organizers' call for local, or *de*centralized, clean energy systems. Next, it is useful to understand the political centralization of energy systems into state-regulated monopolies.

#### 2.3 Constructing the "Natural Monopoly"

In 1905, two of PG&E's predecessors would consolidate to form Pacific Gas and Electric Company, after overtaking competitors and small power companies that sprung up throughout the state's nascent energy landscape (PG&E Corporation, 2002; Teisch 2001). By 1915, the

corporate conglomerate had absorbed more than one hundred companies (Teisch, 2001). The consolidation of early power companies into centralized monopolies was facilitated by the state, through an arrangement in which private utilities submit to state regulation in exchange for non-competitive service areas. Broadly, these commissions provide oversight on electricity affordability and reliability, and set the rates of return that utilities can recover from their ratepayers (Aronoff, 2021, p. 391). This arrangement largely persists today, with IOUs often maintaining exclusive ownership of the transmission and distribution grid in the jurisdictions they serve (however, this is no longer the case for the power plants that feed the grid due to the Public Utilities Regulatory Policy Act of 1978, electricity deregulation<sup>2</sup> in the 1990s, and other policy changes) (Aronoff, 2021, p. 427). As of 2017, nearly three-quarters of electricity users in the U.S. were served by one of just 168 investor-owned utilities (IOUs) like PG&E (Energy Information Administration, 2019).

Returning to the historical development of electric utilities in the U.S. illuminates how the centralization of providers was fought for by early electricity titans, who used wealth and influence to embed this structure into law. Late nineteenth century electricity systems were typically heterogeneous networks of small grids powered by municipalities or excess energy from industrial production (Bakke, 2016). Cultural anthropologist Gretchen Bakke demonstrates how the idea that electricity must be consolidated and privately owned without competition was strategically advanced by monopolists following the lead of Standard Oil.

<sup>&</sup>lt;sup>2</sup> I want to state here that I unequivocally oppose capitalist deregulation, which sought to move the industry from monopoly power to open markets where customers could choose where they bought their energy from, resulting in the development of new third-party companies and institutions (Aronoff, 2021, p. 427). In California, deregulation infamously led to the company Enron withholding power so electricity prices would spike. This artificial scarcity caused rolling blackouts and contributed to PG&E's first bankruptcy in 2001 (pp. 427-428). The fallout in California caused many states to back away from deregulation, leaving a mix of regulated and deregulated electricity markets today (p. 428). Though it is important to note that many corporations seek to disrupt monopoly utilities in favor of neoliberal economic structures, deregulation should *not* be conflated with decentralization as it is used in this thesis.

A key figure in centralizing power was Samuel Insull, former secretary to Thomas Edison, who sought to advance the idea that electric utilities must function as monopolies. Insull took over Chicago Edison in 1892, when it served about 5,000 customers, and was one among 18 other central station providers in Chicago's downtown Loop (Bakke, 2016). By 1913, Chicago Edison had amassed 200,000 customers, or a tenth of the city's population, after slashing prices, buying out competitors, aggressively marketing electric appliances, and circumventing antitrust laws by working closely with government officials.

Insull and utility leaders lobbied for the establishment of state commissions to regulate private electricity companies, as a compromise to hinder emerging movements for publiclyowned utilities (Aronoff, 2021; Beder, 2003). Utility leaders of Insull's National Electric Light Association (NELA), a trade association that included PG&E, funded reports and wrote legislation that thirteen states adopted in 1907 (Aronoff, 2021, p. 390; Beder, 2003). As Luke (2021) explains:

The National Electric Light Association studied the example of the railroads and determined public regulation could counter competition from municipal power and populist efforts to municipalize private companies. Private electricity providers asserted that electricity was a "natural" monopoly such that one company would provide more efficient service than multiple competitors running competing power plants and transmission lines. To prevent monopoly abuses, the electric companies would submit to regulation by state agencies. (p. 8)

The noncompetitive service territory provided to regulated monopolies ensured their economic growth, as "[i]nvestment in new generation was suddenly much safer, as state utility

commissions essentially guaranteed profits for investors" (Harrison, 2013, p. 178, see also Luke, 2021, p. 8). The "natural" electric monopoly was thus codified into law alongside the creation of state commissions that regulate private utilities to this day, establishing their profit margins and promising a constant customer base (Luke, 2021). Beyond the recuperation of utility expenses with guaranteed rates of return, this system incentivized utilities to take on new and costly infrastructural projects that were funded by ratepayers (Luke, 2021). Indeed, as *investor-owned* utilities, their structure predisposes them to pursue asset development that will generate more profit for shareholders.

IOUs have accrued immense political power in the states in which they operate, regulated by state commissions that the utilities helped erect, and which are often populated by commissioners with ties to industry (Beder, 2003; Aronoff, 2021). For example, the governor of California can receive donations from utilities, but remains responsible for appointing the five commissioners who head up the California Public Utilities Commission (CPUC). Current Governor Gavin Newsom and his wife have accepted over \$700,000 from PG&E and affiliated entities (MacMillan & Satija, 2019). Moreover, published emails between PG&E and former high-ranking CPUC officials reveal a close relationship involving informal conversations and meals over wine and \$200 scotch (Bowe & White, 2015; Lifsher, 2015). Utilities also can spend enormous amounts of money lobbying state and federal officials (Energy Democracy Project, 2021a).

Insight into the relationship between the regulator and regulated can help illuminate barriers to changing the dominant IOU structure, and the means through which utilities fight to cement their business model. At an event in San Francisco, former CPUC president Michael Picker directly stated that he viewed protecting the IOUs as the purpose of the agency:

So the utilities have had a pretty solid run for a hundred years, of being able to use rates and ratepayer payments as a way to attract cheap capital to buy infrastructure that's not available in the marketplace and to get the money up front and then to recover it over time...And the question is, where do we need to maintain that monopoly? That's what my agency does. We award monopolies where there's not a market and then we protect them against ruinous or calamitous competition. That's the language that's embedded in our bone and in our blood from the 1910s. There was a thought that that was the best way to mobilize capital — you created a monopoly and you enforced it. (Picker, 2016, as cited by CACE, 2019, p. 1)

Picker's ideas resonate with those of early industry leaders like Insull who argued that regulated monopolies, with guaranteed profits from ratepayers, were best-suited to invest in massive infrastructure projects like the grid. Though Picker stepped down from the CPUC in 2019, in view of this perspective of the agency's role, it is perhaps unsurprising that they allowed PG&E to emerge from bankruptcy in 2020. Many of those in opposition to PG&E's reorganization, like Reclaim Our Power, were calling for an end to the for-profit utility model — the structure that the CPUC is explicitly set up to regulate, and in Picker's view, to protect.

This history shows how capitalists pursued long-distance electricity transmission to advance California's development following the Gold Rush, with dispossessive dams fueling industry hundreds of miles away. Alongside large-scale power plants, economic and political power was concentrated into a handful of Investor-Owned Utilities, which were regulated by the state in exchange for non-competitive service areas and guaranteed rates of return. As I will describe further in Chapter 4, the current utility model enacts racialized, classist, and ableist

violence, and is linked to a colonial view of putting nature to work for capital accumulation. This is the centralized model that organizers are fighting. The next chapter provides background on some of the more recent outcomes of this utility model, including wildfires and power shutoffs, as well as the emergence of the Reclaim Our Power: Utility Justice Campaign. This is the more immediate research context from which my project emerges.

#### CHAPTER 3

#### **RESEARCH CONTEXT**

With a service area that stretches nearly two-thirds of California (see Figure 3), PG&E is among the biggest combined natural gas and electric companies in the U.S (Guliasi, 2021; PG&E, n.d.-b). The investor-owned utility (IOU) serves around 16 million people in northern and central California "Company Profile," n.d.), and is one of the state's largest private landowners (PG&E, n.d.-c). Its electric grid is a massive network of over 125,000 miles of power lines — roughly one-third of which lie within areas designated by the CPUC as having elevated or extreme wildfire risk (PG&E, n.d.-b; California Public Utilities Commission [CPUC], 2017; PG&E, 2021, p. 3). It is necessary to situate this project to better understand the current conjuncture, which includes the widespread utilization of power shutoffs as a blunt tool of wildfire prevention and mounting resistance by organizers demanding a new energy system.

This chapter provides relevant background on PG&E's recent history pertaining to the power shutoffs and the formation of the Reclaim Our Power: Utility Justice Campaign in opposition to PG&E's practices. I briefly review the emergence of the utility's Public Safety Power Shutoffs, beginning with PG&E's complicity in wildfires and its ensuing bankruptcy. This section speaks to the events that more immediately led to the power shutoffs. Finally, I will provide an overview of the Reclaim Our Power: Utility Justice Campaign, which came together in mid-2019 to protest PG&E's violence and agitate for a transformation of the state's energy system. This concluding section introduces the organizers of Reclaim Our Power and their demands.



Figure 3: Map of electric Investor-Owned Utility (IOU) service areas<sup>3</sup> in California (California Energy Commission, 2020)

<sup>&</sup>lt;sup>3</sup> Six IOUs deliver electricity to the majority of California residents, though the state has pockets (seen above in white) that are served by municipal utilities or rural electric cooperatives (RECs). IOUs largely maintain a monopoly on transmission and distribution (T&D) — or the "poles and wires" — in their service areas, but often not power generation.

#### **3.2 From Wildfires to Power Shutoffs**

A fundamental concern in this criminal probation remains the fact that Pacific Gas & Electric Company, though the single largest privately-owned utility in America, cannot safely deliver power to California. This failure is upon us because for years, in order to enlarge dividends, bonuses, and political contributions, PG&E cheated on maintenance of its grid — to the point that the grid became unsafe to operate during our annual high winds, so unsafe that the grid itself failed and ignited many catastrophic wildfires. — U.S. District Judge William Alsup (Alsup, 2020)

PG&E has a reputation for being unsafe. The passage above was written by Judge William Alsup, who was assigned to oversee PG&E's criminal probation after its gas company was responsible for a pipeline explosion that killed eight people in 2008 (Avalos, 2020). The gas company was made infamous after the movie *Erin Brockovich* depicted the story of its dumping of a toxic carcinogen in rural Hinkley, CA, whose only school and post office have recently shuttered (Genecov, 2019). Residents continue to depart the town nearly half a century after winning their direct-action lawsuit against the company (Genecov, 2019).

But revisiting PG&E's more recent history is vital to understanding how and when the utility and the state began to enact power shutoffs as a means of wildfire prevention and the circumstances that brought together the Reclaim Our Power: Utility Justice Campaign, along with other groups mobilizing against PG&E. This section will describe PG&E's complicity in wildfires and its ensuing bankruptcy, as the precursors to power shutoffs as risk management.

Until 2018, PG&E did not have a policy for shutting off power, or "de-energizing" lines, as a strategy for fire prevention, and did not exercise this practice in 2017 (CPUC, 2018). Yet,
beginning with its first PSPS in October 2018, PG&E has enacted 20 of these shutoffs (PG&E, n.d.-a; see Table 1).

PSPS DATES	TOTAL ACCOUNTS SHUT OFF	MEDICAL BASELINE ACCOUNTS SHUT OFF
Oct. 14-17, 2018	60,086	2,529
June 7-9, 2019	22,474	1,571
Sept. 23-24, 2019	21,724	1,426
Sept. 25-26, 2019	49,102	2,984
Oct. 5-6, 2019	11,609	730
Oct. 9-12, 2019	735,440	30,301
Oct. 23-25, 2019	178,813	7,939
Oct. 26-Nov. 1, 2019	967,705	35,950
Nov. 20-21, 2019	49,203	2,432
Sept. 7-10, 2020	168,599	10,383
Sept. 27-29, 2020	64,297	4,358
Oct. 14-17, 2020	40,573	2,431
Oct. 21-23, 2020	30,154	2,477
Oct. 25-28, 2020	345,470	22,124
Dec. 2-3, 2020	617	33
Jan. 19-21, 2021	5,099	274
Aug. 17-19, 2021	48,155	3,856
Sept. 20-21, 2021	2,968	234
Oct. 11-12, 2021	23,504	1,738
Oct. 14-16, 2021	666	34
TOTAL	2,826,258	133,804

Table 1: PG&E PSPS Events, 2018-2021

In the last four years, over 2.8 million accounts<sup>4</sup> have had their power shut off. This includes over 133,084 Medical Baseline participants, or those enrolled in a rate discount program for people who rely on electricity-dependent medical equipment. Representatives have suggested that these outages will continue even after the utility's aging grid is renovated to meet all state regulations (Van Derbeken, 2018). As PG&E lawyer Kevin Orsini stated, PSPS events "will likely be a reality in California, in all of California, even after all compliance issues are worked out" (Van Derbeken, 2018, para. 2). Previously, PG&E claimed they would only continue for five to ten years while grid and vegetation maintenance was underway.

In 2008, San Diego Gas and Electric (SDG&E) became the first electric utility to seek permission from the CPUC to shut off power as fire prevention (Sotolongo et al., 2020, p. 3). The year before, SDG&E's equipment had sparked a series of fires, which killed two people and destroyed nearly 2,000 buildings, the most well-known of which was the Witch Fire (CPUC, 2009). While affirming the utility's statutory responsibility to shut off power when necessary to protect public safety, the CPUC rejected SDG&E's application to set up a power shutoff program for fire prevention, writing that:

...SDG&E has not met its burden to demonstrate that (i) its Power Shut-Off Plan will decrease the number of wildfires, and (ii) the benefits of its Power Shut-Off Plan outweigh the significant costs, burdens, and risks imposed on customers and communities in the areas where power is shut off under the Plan. (p. 69)

In particular, they demonstrate that the utility's plan would not have prevented its equipment from starting the Witch Fire, yet substantially increases the risk of catastrophic fire impacts on

<sup>&</sup>lt;sup>4</sup> "Account" refers to a single electricity account, which may be a household or an apartment complex. Therefore, this data does not come close to representing the total number of people affected by shutoffs.

human life. For example, people may not be able to receive evacuation notices with certain communication channels down, inoperable traffic signals may cause traffic accidents, water districts may not be able to pump water for firefighting, and disabled and elderly communities may be trapped in their homes if they cannot open their electronic garage doors. As the Commission wrote: "Without power, numerous unsafe conditions can occur. Traffic signals do not work, life support systems do not work, water pumps do not work, and communication systems do not work" (p. 57). Moreover, the Commission notes that the shutoff plan "does nothing to prevent wildfires started by sources other than power lines" (p. 50).

Despite their earlier decision, the CPUC concluded in 2012 that SDG&E's authority to shut off power for public safety extended to weather-related concerns like winds that exceed infrastructure design, therefore posing a fire risk, and created notification and reporting requirements for shutoff events (CPUC, 2012). The utility would bear the legal burden to demonstrate that the shutoff was needed to protect public safety, and the CPUC would evaluate its "reasonableness" based on established criteria (Sotolongo et al., 2020). In 2018, those criteria were extended to all investor-owned utilities in California, including PG&E (CPUC, 2018).

The CPUC's resolution extending the "de-energization" requirements to all IOUs came on the heels of the 2017 fire season, which was at the time the most destructive in California history. A legal doctrine known as "inverse condemnation" makes utilities liable for wildfire damages caused by its equipment, because property is damaged through public use (California State Association of Counties, 2018). It is the inverse of eminent domain, a power that private utilities are allowed to exercise. Inverse condemnation can apply even if utilities are not found to be "negligent" (Helman, 2019). PG&E was implicated in many of the worst fires that raged through Northern California that year, often referred to as the "North Bay Fires," causing the

utility to accrue billions in damage claims. 44 lives were taken by the 2017 fires in the North Bay (Worth et al., 2020).

A key change in financial liability for fires also took place in 2017, raising the stakes of inverse condemnation for investor-owned utilities. The CPUC rejected SDG&E's request to charge ratepayers for \$379 million in claims from the 2007 fires it caused (*Pacific Gas and Electric v. Superior* Court, 2018). This new precedent meant that the utilities could no longer rely on passing along significant wildfire costs to ratepayers, a decision that would have ripple effects throughout an energy system that was increasingly sparking fires (Helman, 2019). In the wake of the North Bay Fires, PG&E petitioned this new policy, arguing that inverse condemnation cannot apply to private utilities unless they can spread the costs among their ratepayers (*Pacific Gas and Electric v. Superior* Court, 2018). The application of inverse condemnation for wildfire damages was later upheld by a federal bankruptcy judge (Montali, 2019).

The 2018 fire season reached grim new milestones. A few months after their petition, PG&E's equipment started the Camp Fire in Butte County, which became the deadliest and most destructive wildfire in the state's history (Kasler, 2020). The official record reports 85 deaths, and almost 14,000 residential structures were destroyed by the flames (Ramsey et al., 2020; Von Kaenel, 2020). Many victims were disabled and elderly (Tucker et al., 2019; Butte County, 2019). Investigators determined that an extremely eroded, century-old "C-hook" purchased for less than one dollar had broken, releasing a high voltage power line that sparked the fire (Gold & Blunt, 2020; Murillo, 2021). Trees and plant matter coming into contact with energized power lines is often how utility fires start. While climate change, legacies of suppressing fire, and drought are worsening wildfires more broadly, PG&E ardently resisted fire safety measures in

the decade preceding the Camp Fire, and has been consistently caught shifting money from safety repairs and failing to complete required vegetation management (Alsup, 2020; Taruc & Nanavati, 2021; Worth et al., 2020).

Without the ability to raise electricity rates for the financial impact of this devastation, in early 2019, PG&E filed for Chapter 11 bankruptcy after accruing \$30 billion in damage claims brought about by the 2017 and 2018 wildfires (Penn & Eavis, 2020). In the wake of PG&E's bankruptcy, Governor Gavin Newsom would rush AB1054 through the state legislature, a bill that limited utility wildfire liability while creating a \$21 billion fund to pay for damages caused by their equipment (Luna, 2019). Half of the money would come from the utility shareholders, and the other half would be charged to ratepayers (Nikolewski, 2019). The bill also dramatically caps the amount that utilities must pay to the fund (Rittiman, 2021b). While Reclaim Our Power called the bill a "Newsom Bailout," the CPUC commissioners said the ratepayer charges were "just and reasonable" (Marie, 2020; Nikolewski, 2019). A UC Berkeley lecturer warned that the policy could cause PG&E residential bills to double in the next eight years if wildfire trends continue unchanged (Nikolewski, 2019). But already, PG&E customers are paying some of the highest electricity rates in the country. A recent analysis found PG&E's rates to be about 80 percent higher than the national average (Borenstein et al., 2021).

In fall 2019, the utility would rely heavily on power shutoffs, using the specter of fires as justification. Despite their usage of shutoffs, PG&E has caused massive wildfires in each of the years since it expanded its power shutoff program — the 2019 Kincade Fire (Murillo, 2021); the 2020 Zogg Fire, which killed four people (Meeks, 2021); and the 2021 Dixie and Fly fires, which have merged to become the second-largest California wildfire in recorded history

(Wigglesworth, 2021). Though still burning at the time of writing, they have already forced residents in five counties to evacuate (Associated Press, 2021; Blake 2021).

I want to emphasize here that this project does not aim to speculate whether the power shutoffs have prevented the utility from causing more devastating wildfires than it would without the program in place; the utility reports that they have (Worth et al., 2020). I am certainly not suggesting the utilities take action that will risk lives. Rather, I share the conviction of organizers who fundamentally reject an energy system that asks them to choose between deadly wildfires and life-threatening power shutoffs. In this project, I aim to draw attention to systems of oppression that undergird electricity provision and the uneven violence that is produced whether power is delivered or withheld. This can illuminate possibilities for life-affirming energy systems.

#### 3.3 The Reclaim Our Power: Utility Justice Campaign

The Reclaim Our Power: Utility Justice Campaign, which I will shorten to the campaign's abbreviation of Reclaim Our Power going forward, is a coalition of organizers, including "fire survivors, low-income families, disabled people and communities of color" (Taruc & Nanavati, 2021) in California working to transform the state's energy system. Housed within the Local Clean Energy Alliance (LCEA), the campaign is led by environmental, economic, and disability justice organizations, including: People Organizing to Demand Environmental and Economic Justice (PODER), the Disability Justice Culture Club (DJCC), Communities for a Better Environment (CBE), Movement Generation Justice and Ecology Project (MG), the Local Clean Energy Alliance (LCEA), the North Bay Organizing Project, Youth Vs Apocalypse, and the California Environmental Justice Alliance (CEJA). The campaign came together to deepen and expand the "No PG&E Bailout" actions that arose in response to PG&E's bankruptcy, which sought to prevent a public bailout of PG&E, instead demanding a transition to a publicly-owned utility (see Figure 4). Throughout the utility's bankruptcy, there was a groundswell of momentum for public power, even from the political establishment. 22 mayors sent the Governor a letter calling for PG&E to be turned into a customer-owned cooperative (Baker & Varghese, 2019). Senator Scott Wiener put forward a bill to transform PG&E into a public utility. The City of San Francisco tried (unsuccessfully) to buy PG&E's electric infrastructure in the city, in hopes of becoming a municipal utility. Governor Newsom even threatened a state takeover of the utility if it did not quickly settle on a deal to exit bankruptcy (Blunt & Lazo, 2019).



Figure 4: Protesters with the No PG&E Bailout Coalition outside PG&E's headquarters (Shao, 2019)

Then, in a sparsely populated courtroom in mid-June 2020, with hundreds tuned in on YouTube due to the coronavirus pandemic, PG&E pled guilty to 84 counts of involuntary manslaughter (Penn, 2020). The 85<sup>th</sup> life lost was ruled a death by suicide. After days of testimony from wildfire survivors and victims' loved ones and family, a federal judge approved PG&E's plan to exit bankruptcy — one of the final hurdles it needed to clear to continue its deadly enterprise as the main distributor of electricity for Northern Californians (Freedman & Leonard, 2020).

The California Public Utilities Commission voted unanimously to approve PG&E's reorganization plan just a few weeks earlier. This decision was made in spite of the CPUC's responsibility to ensure access to "safe, clean, and affordable" power, as described in its mission statement (CPUC, n.d.-a). The approval followed hundreds of calls and emails from a breadth of organizations, many supporting the demands of Reclaim Our Power, who urged the Commission to side with public safety and reject PG&E's plan. Numerous callers demanded an end to the for-profit utility model of PG&E in favor of democratically controlled power. Even though PG&E has since been given the green light to emerge from bankruptcy, Reclaim Our Power and other organizers continue to fight.

Reclaim Our Power's petition to Governor Newsom, while drafted by an earlier leadership team comprised of different organizations, highlights their spatial situatedness:

In the environmental justice movement, we believe that the people closest to the problems — whether it's dirty gas power plants, oil refineries, fracking wells, and the disasters they cause — are also closest to the solutions. Our experiences have taught us that the only way to move through profound environmental and economic crises we're facing, like the California wildfires and PG&E power shutoffs, is to put the

communities most impacted at the center of making decisions about our future. We are calling on you to bring the Reclaim Our Power Utility Justice Campaign to the table as your office makes decisions about restructuring PG&E. (CEJA & Reclaim Our Power, 2019)

While their subject positions and experience with environmental harm shape their resistance, they promise to bring "to the table" their ideas for a radical transformation of electricity systems. As quoted by De Lara and Pulido (2018), Julie Sze writes that EJ should be "a way to critique and restructure existing power relations, [because] representation and participation, however important, are never enough" (p. 78).

The organizers' call for "decentralized, distributed energy systems" has significant implications for electricity governance (CEJA & Reclaim Our Power, 2019, para. 6). The campaign is demanding, among other things, community and worker control, Indigenous sovereignty, and public accountability as part of the transition to a spatially distributed grid with small-scale, local renewable energy generation. This challenges the very logics at the core of the monopoly utility model — those of for-profit, centralized power production and management (Bakke, 2016). It resists masculinist, imperial notions associated with the rise of fossil-fueled energy (Daggett, 2019) and suggests heterogeneity in energy knowledges. As Sylvia Chi, previously with APEN, and Jessica Guadalupe Tovar, Energy Democracy Organizer with LCEA, described in an article:

The old electrical system—shaped through backroom deals between billionaire investors and politicians—relies on nearly 200 dirty gas power plants to generate massive amounts of electricity and carry it across dangerously long distances. This system produces profits

for a few at the expense of many: working-class communities of color who are getting sick from living near dirty gas power plants, the medically vulnerable who rely on powered medical devices, and all of the people whose lives and livelihoods are disrupted by prolonged power outages and wildfires yet still have to pay rising rates. (Chi & Tovar, 2019, para. 4)

The campaign's work stretches across many areas — working to cancel electric utility debt, fighting utility shutoffs due to non-payment, pressuring the CPUC to reject PG&E's safety certificate, holding virtual events to educate and mobilize, organizing rallies, laying out their vision for change, and much more. As part of their work envisioning alternative energy systems, Reclaim Our Power has been exploring how microgrids in frontline communities can help meet community needs in the face of wildfires and power shutoffs, while putting power in the hands of the people. I want to emphasize that, while this is the area of their work that my research focuses on, it is just one piece of their organizing — part of broader efforts to resist and transform the energy system with impacted communities at the center. It is in this context of PG&E's bankruptcy proceedings and Reclaim Our Power's resistance that I situate my research.

## **CHAPTER 4**

#### CONCEPTUAL FRAMEWORK

...utility-scale, centralized renewable-energy systems such as wind and solar, based upon an exportation-orientated economic system that views energy production as a commodity... are not sustainable... Without reevaluating what we mean as an 'alternative energy system,' I am concerned we will have wind and solar systems built on the same capitalist model that is depleting... Mother Earth... I am an advocate for our Native Nations to develop wind and solar, but most of our tribes have traditional belief systems that must guide us in these forms of development. When we, as Native Nations, create massive wind-power projects, we must have ceremonies to obtain permission to utilize the sacred elements — to harness and process wind and sun into electricity that will be exported off our Native lands into these colonial grid systems that don't directly benefit our people.

— Navajo activist Tom Goldtooth (as cited by Lennon, 2017, p. 26)

My research has been informed by the conceptual frameworks of critical race theory, disability studies, and political ecology, which I discuss under the umbrella of Race, Disability, and the Environment. This theoretical lens allows me to understand how centralized utility systems produce violence across axes of difference, including race and disability. I use feminist science and technology studies (STS) to explain the colonial, imperial genealogy of scientific notions of "energy" (Daggett, 2019), and to more broadly identify the forms of knowledge elevated in utility proceedings and plans for energy transitions. This framework accentuates the need to engage other subject positions for a just transformation of electricity systems.

#### 4.2 Race, Disability, and the Environment

#### Content Warning: This section discusses anti-Black police violence and death on pp. 39-40

Geographers have increasingly engaged with the theory of racial capitalism over the past decade (Card, 2020; Pulido and De Lara, 2018; Pulido, 2016). This work demonstrates how capitalism functions through the production of difference, and especially racialized difference. As capitalism evolves, it enrolls differently "Othered" bodies in ever-changing ways. It is important that "racial" comes first in the expression; racialism preceded and continues to shape the trajectory of capitalism (Robinson, 2000).

In this project, I aim to show how racial capitalism is embedded in electricity systems. When functioning as designed, they pursue capitalist accumulation that pollutes racialized communities, and contributes to global climate change. I will also expand on Ruth Wilson Gilmore's usage of "fatal couplings of power and difference" (2002) to show how utility power shutoffs rely on a notion of "public safety" that produces violence along axes of difference, causing particular harm to disabled and low-income communities. A critical analysis of power shutoffs makes clear how electricity systems hurt communities even or especially when power is turned off, in contrast to the state's rhetoric of "public safety." Put together, I argue that the current energy system is fundamentally violent, producing particular forms of harm when power is delivered or withheld. In calling this system violent, I draw on Julia Watts Belser, who "use[s] the term 'environmental violence' to center a core truth: environmental harm is *done* to certain

body-minds — human, animal, vegetal, and elemental — for other people's profit and pleasure" (2020, p. 5).

Racial capitalism has always relied on forms of energy. Environmental anthropologist Myles Lennon frames the Trans-Atlantic Slave Trade explicitly as an *energy system* (Lennon, 2017). Engaging the work and metaphysics of Black Lives Matter, he argues that "the colonial apparatus transformed energy — the ability to change matter — into a commoditized form that made certain lives not matter." With its magnitude and commercialized mechanisms, the Trans-Atlantic slave trade operated as an energy infrastructure that de-mattered Black and Native lives to violently transform land, resources, and human labor into capital. Today, even as the modes of energy production have changed dramatically, human and non-human lives continue to be "demattered" for capitalist growth.

Electricity systems, which are the focus of this project, produce wealth wherever electricity is used to achieve capital accumulation — whether that is making possible stock market trading via electronic transactions and LED screens, powering the lights and equipment in Amazon warehouses, or enriching the shareholders of investor-owned utilities. Importantly, while fossil-fueled or otherwise polluting infrastructures are still intact, utilities literally cannot provide their fundamental services without dumping on low-income and communities of color. And even as some electric utilities like PG&E purport to decarbonize their fuel mix, they withhold power disproportionately from those same communities when they cannot afford their bills. Electricity is a vital source of fuel for contemporary capitalism, and itself a valuable commodity, and it relies on racialization to do this work.

Environmental racism literature can be considered within the framework of racial capitalism (Pulido, 2016). This body of work calls attention to the ways in which environmental

harm manifests on racialized bodies and in landscapes. Willie Jamaal Wright expands understandings of environmental racism to include police violence, contending that both the "slow death" of environmental toxicity — like fossil-fueled power plants in Black, low-income communities — and the more immediate impacts of anti-Black police violence lead to premature Black death (Wright, 2018).

Building on Hall's concept of "fatal couplings of power and difference" (Hall, 1992, p. 17 as cited in Gilmore, 2002), Ruth Wilson Gilmore explains why geographers need to foreground racism in examining these fatal couplings, and how this pursuit necessitates analysis of overlapping axes of difference. One such axis or intersection that is especially important to this project is disability. PSPS events, as I will discuss later, can create life-threatening situations for disabled communities who rely on electricity-powered medical equipment.

Dillon and Sze (2016) also write of the embodied violence of policing and environmental insecurity, drawing on the significance of Eric Garner's last words as he was murdered by police: "I can't breathe." The gut-wrenching words, the authors note, have become a powerful chant for the Black Lives Matter movement as they call attention to systems of white supremacy that deny Black people their breath. The authors connect Garner's asthma, another denial of breath, to the material realities of racism that disproportionately produce it in Black communities (Dillon and Sze, 2016). Catherine Jampel underscores how Garner's asthma, obesity, and hypertension were ruled by the medical examiner as 'contributing factors' to his death (2018, p. 9). His disability — itself intertwined with legacies of environmental racism — was leveraged by the state, police, and media to distract from the police violence that took his life. As Jampel writes, "Especially because bodily diversity and disability often continue to be coded as individual, essentialized and stigmatized 'problems' (ableism), the police were able to deflect attention from the racism of the

murder," while simultaneously obscuring the structures that unevenly produce disablement (p. 9).

Jampel demonstrates how centering disability leads to fuller understandings of EJ issues, including how ableism intersects with other systems of oppression. She urges environmental justice (EJ) scholarship, activism, and policy to include disability as a category of analysis (2018). At the same time, Jampel and other disability justice scholars caution against the stigmatization of disability that is sometimes found in EJ or environmental health work (Kafer, 2013, p. 157-161; Johnson, 2017; Jampel, 2018; Belser, 2020). These authors argue that the tendency to incite "disability fear" (Jampel, 2018, p. 1) is all the more reason to come together in challenging interlocking systems of oppression. As Allison Kafer, author of *Feminist, Queer, Crip*, explains by way of example:

Surely we can find ways to protest lead and mercury poisoning without resorting to warnings about how 'developmental delays, learning disabilities, ADHD, and behavioral disorders extract a terrible toll from children, families, and society... The costs associated with caring for these children can be high for families and society. Special education programs and psychological and medical services drain resources.' These statements, posted on the website of the Collaborative on Health and the Environment, not only perpetuate long-standing fears about the economic burden of disabled people but, more disturbingly, imply that disabled people — *rather than polluting industries* — are the ones responsible for draining resources. Disability studies and activism can be a resource here, helping environmental movements avoid this kind of misdirection and create broader coalitions against pollution. (Kafer, 2014, p. 159)

In other words, Kafer emphasizes the need to direct attention to the systems that produce uneven harm, rather than opposing pollution by presenting disabled people as societal burdens. Jampel provides another example in which an editorial in the *Environmental Health Review* refers to autism and neurodevelopmental disabilities as "devastating to families," and "enormous economic burdens on society" (Jampel, 2018, p. 5).

Such representations of neurodiversity as solely negative and onerous to nondisabled others has the effect of perpetuating ableism and ideas about what is presumed to be a good, normal, or undamaged body/mind. Julia Watts Belser challenges negative assumptions about disability, while maintaining the need to oppose the environmental violence that can cause it (Belser, 2020). As Belser writes, "disability-centered environmental action" is a "means of simultaneously opposing the harm that environmental damage does to body-minds while also claiming disability as a vibrant and meaningful part of social and political identity" (p. 2-3).

Disability and queer studies offer important insights into the uneven impacts of climateintensified weather events, which utilities have contributed to through climate change, or in the case of PG&E and other California utilities, sometimes more directly by sparking wildfires. Citing the example of Hurricane Katrina, Jampel discusses how researchers found that disability prevented some people from evacuating, while others arriving at the Astrodome evacuation center in Houston, Texas were without their mobility devices or proper hearing and sight aids for several days. Gorman-Murray et al. (2014, p. 250) explained how "strict gender protocols" at post-Katrina emergency shelters created unsafe conditions for people whose perceived gender differed from their actual, self-identified gender. One transwoman was arrested and spent four days in prison for using women-only facilities, creating additional trauma beyond the hurricane

itself. Recognizing the risks of such state-affiliated emergency services, the authors note that queer and gender nonconforming people may avoid them altogether.

This work is extremely pertinent to California, where evacuations due to wildfires (whether or not they are ignited by electric utilities) pose similar concerns. Indeed, many victims of the PG&E-sparked Camp Fire were disabled, and the majority of victims were elderly; of named victims, the average age was 72 (Tucker et al., 2019; Butte County, 2019). Moreover, the far-reaching smoke from these wildfires can make the air extremely dangerous to breathe, especially for those with respiratory or heart conditions (Sycamore, 2021). Berne and Raditz (2019) write of a Black queer environmental justice activist with asthma, who went into respiratory distress due to the smoke from the 2017 Northern California wildfires, resulting in a permanent brain injury. The effects of wildfire smoke are expansive, often making it hazardous to be outside at all, with cascading repercussions to farmworkers, families of children whose schools are closed, and those without the means to filter or protect themselves from smoke-filled air.

Multiply marginalized people are *made* more vulnerable by these oppressive systems. Vulnerability is not a condition inherent to groups of people — it is produced by socio-political structures (Movement Generation, 2014). It is vital to reject language that characterizes people as deficient or otherwise flawed, and therefore in need of saving, and direct attention to the systems that put certain people in less safe positions than others or expose them to harm. As Jampel explains, "a disability justice framework understands that it is not people with disabilities who are 'unprepared' but rather ableism that has contributed to a larger system that has failed them and their families" (2018, p. 6).

In response to these failures, queer and disabled communities across the globe have taken matters into their own hands, through means such as creating databases for accommodations and emergency services that are safe for queer people (Gorman-Murray et al., 2014, p. 251). Berne and Raditz (2019) write about queer disabled organizers in the Bay Area providing air filters and masks to each other during fires and floods in 2017, and communities in Puerto Rico sharing generators to refrigerate insulin after Hurricane Maria. These efforts embody an ethic of collective care, and, as the authors emphasize, demonstrate the importance of intersectional climate justice that centers disabled people of color and queer and gender nonconforming people with disabilities.

The above discussion of race, disability, and the environment demonstrates how intersecting systems of oppression are coupled, sometimes fatally, with power in energy systems. This analysis suggests that electric utilities have racialized, deadly or disabling outcomes when they are functioning as designed. I would like to turn to the issue of utility power shutoffs to understand how this violence is exercised over the same and other axes of difference when the power is off.

Power shutoffs can take place in multiple forms, most notably, shutoffs due to nonpayment, unintentional blackouts due to grid disruption or malfunctioning, and increasingly, in the form of PSPS events across California. Energy poverty, like that described by Harrison and Popke (2011), occurs when households cannot afford to heat or cool their homes. The term can be extended to include other electricity-powered systems, like lights, refrigerators, electronics, and medical equipment. An earlier application of the call for "utility justice" focused on this issue in particular — an end to power shutoffs due to non-payment, which are exercised against

low-income households, and because of how race intersects with class, especially affect communities of color.

According to a report by The Utility Reform Network (TURN), shutoffs due to nonpayment in California increased by over 50% between 2010 and 2017, to over 886,000 shutoffs in 2017 across the state's four primary investor-owned gas and electric utilities (Sandoval & Toney, 2018, p. 18). PG&E's shutoffs due to non-payment have led to at least 11 deaths since 2009. Without power, house fires started after residents turned to candles and ran extension cords from neighboring apartments, while portable heaters released deadly carbon monoxide in other cases (p. 7). These dangers are also increased during PSPS events.

In PG&E's service area, shutoffs due to non-payment are enacted with sharp racial disparities. PG&E conducted 312,000 of these shutoffs in 2016, disproportionately affecting Latinx and Native communities. While Latinx people were about 31% of those living in PG&E's service area as of 2015, they were 62% of those living in the 20 zip codes with the highest shutoff rates in 2016; in those zip codes, an alarming 17% to 28% of all accounts experienced shutoffs (p. 10-11, see Figure 5). The zip code with the fourth highest rate of disconnection in 2016, at over one in four accounts (26%), was located on the Hoopa reservation. These disparities emphasize the racialized violence of the energy system, which simultaneously pollutes communities of color and regularly denies them access to the power it produces.

Indeed, power shutoffs are not new, and there is much to be learned from advocacy against shutoffs due to non-payment about the harm that withholding power can cause. TURN explains how shutoffs that result in exceptionally hot, cold, and humid homes can trigger respiratory illnesses like asthma or bronchitis, and cites testimony of low-income families relying on electricity-powered medical devices who regularly face shutoffs due to non-payment

(Sandoval and Toney, 2018). These impacts are also very much present during PSPS events, the broad reach of which expose far more households to the embodied risks of withholding power.



Source: Utility ZIP Code Data and 2011-2015 American Community Survey, US Census Bureau



Unlike shutoffs due to non-payment, the weather-motivated PSPS events do not necessarily take place *disproportionately* in low-income, disabled, or non-white households. However, as Shalanda Baker explains, those communities are still hurt worst by the PSPS events. Asthma, which was described earlier in this chapter as one *effect* of racialized violence, also positions people to be hurt worse by shutoffs if they lose access to air filtration in smokey conditions. They households may have less resources to endure and recover from shutoffs, or they may rely on electricity for life-sustaining equipment and medicines, or both (Baker, 2021, p. 28; see also Sotolongo et al., 2020).

For example, CalMatters found that one in ten residents and one in eight children in census tracts affected by the far-reaching 2019 power shutoffs live below the federal poverty

level (Botts, 2020). For people who cannot afford to replace the food in their refrigerators, or who lose access to income and other resources to acquire food, the power shutoffs take a toll that cannot be rectified by the CPUC's requirements for providing advance notice.

For disabled communities, and especially those who rely on electricity for life-saving medical equipment, refrigerated medications, or general mobility, the shutoffs can create directly life-threatening situations. In response, the #PowerToLive coalition came together to resist the shutoffs, demanding a utility that provides them with the power they need to live. Along with allies, the coalition organized a protest rejecting the idea that they must be subjected to an energy system that makes them choose between deadly wildfires and life-threatening power shutoffs. Electricity, when it is flowing, de-matters life through toxic pollution, global climate change, and the sustenance of an exploitative capitalist economic system. The PSPS events make clear the violence of an energy system that threatens life when it is delivered *and* when it is withheld. It is structured to exploit hierarchies of difference, but it doesn't have to be that way.

This scholarship on race, disability, and the environment is significant for understanding the violence produced by PG&E, which can be crystallized in particular events like power shutoffs, but are manifestations of broader ableist, capitalist, and racialized systems of oppression. In this project, I aim to examine how the state defines a notion of "public safety" that produces uneven violence. Rather than examining the disparate impact of the PSPS events across the millions who have experienced them, which organizations like the Initiative for Energy Justice have set out to do, I focused on the significance of the state's narrow conception of "public safety." This definition of public safety, informed by legal and scientific metrics evaluated by the CPUC, obscures the toll that these events take on differently-situated

communities made unsafe by the loss of power. This, in turn, illuminates the spatial implications of utility justice. With this framework, I pose my first research question:

<u>Research Question One</u>: How do PG&E and the CPUC conceive of "public safety" in the context of Public Safety Power Shutoff (PSPS) events? How does this conception reproduce uneven harm?

## 4.3 STS and Feminist Science Studies

STS and feminist science studies offers a framework to complicate and deconstruct masculinist understandings of electricity as something to be dominated and controlled in the form of megawatts. In contrast to fossil fuels that can be stockpiled and accumulated (Malm, 2016), the transition to renewable energy necessitates engaging differently with the natural world, with intermittent flows of sunshine and wind dictating how much power flows through the grid. It requires an intimate understanding of local geographies to determine what amalgamation of energy resources will meet the needs of each community. It also raises questions about what is considered renewable by whom, and for what purposes power is produced. This means the forms of knowledge brought to bear on electricity provision must also be reconsidered. As a coalition of communities confronting the deadly violence of PG&E, Reclaim Our Power is putting forward a vision for a system that supports human and ecological wellbeing. Microgrids are a material tool for decentralization that has potential to support utility justice if they counter the systems of oppression described above. I am using this framework broadly to describe work that raises these questions and provides alternative energy knowledges, though not all cited in this section use the label of STS to describe their ideas.

Feminist scholar Donna Haraway contends that techno-scientists maintain or seek power by employing the "god trick of seeing everything from nowhere" (Haraway, 1988). This is to say that they claim to see all, like a god, with total objectivity — as if their eyes are not attached to bodies that actually see through socially-mediated lenses. The IPCC demonstrates this form of knowledge production, according to Israel and Sachs, based on attachments to hard empirical "truths" and "god trick" predictions about climate impacts (Israel and Sachs, 2013). The resulting global narratives, which can erase the differentiated effects of climate change across modalities of race, gender, class, sexuality, ability, and nationality, are then given power to control and frame societal responses.

Instead, feminist objectivity is about situated knowledges that are necessarily partial and incomplete. Acknowledging the limitations of expert climate science, Israel and Sachs argue, can invite the perspectives of the Global South, women, people of color, and other groups often excluded from techno-scientific knowledge production (Israel and Sachs, 2013). And finally, politicizing and pluralizing climate science makes space for moral and ethical considerations that move beyond disputes over mathematical models. By bringing clean energy closer to those who use it, I argue that decentralized energy models can help begin to do this in California. In my research, I aimed to understand how organizers conceive of community resilience hubs, powered by microgrids, and what material needs they aim to meet.

Cara New Daggett's genealogy of western notions of energy locates its emergence in the nineteenth century science of thermodynamics. Daggett says:

Energy is a thoroughly modern thing that became the linchpin of physics only after it was 'discovered' in the 1840s, at the apex of the Industrial Revolution, and then proselytized by a group of mostly northern British engineers and scientists involved in the ship-

building industry, undersea telegraph cable building, and other imperial projects. (2019, p. 3)

Energy was, and is, intimately bound with colonialism, imperialism, and the ethic of productive work. This scientific understanding of energy — as something to be quantified, produced, and controlled — is authoritative in the electric industry. Daggett argues that the Western imperial ontology that saw the world as resources to be put to work, and its corollary of viewing those not put to work as "waste," has led to the destruction of human and non-human life (2019, p. 12). This orientation to energy can be seen in early proclamations around hydroelectricity in Northern California, such as an article in the *Journal of Electricity* that declared the "vast amount of [hydro]power running waste in hills and mountains" would one day supply San Francisco with "an unlimited supply at energy at its command" ("Popular Reflections," 1897, pp. 27-28). Undammed rivers were, in this view, wasted energy that could be harnessed instead for industry and development.

Rendering energy flows in terms of physical electrical output also obscures the embodied effects and resistance to energy projects, both renewable and otherwise, that characterize much energy development (Behrsin, 2016; Lennon, 2017). Reduced to supply-and-demand of megawatts in the realms of energy traders and utility executives, it is harder to see that each electron emerges from complex social and ecological relationships. In other words, it obscures that today's dominant sources of electric power — like coal, nuclear, and natural gas — all have long histories of resistance from communities and workers that are negatively affected by the exploitation of these resources.

Navajo scholar Andrew Curley demonstrates how the framework of "resources" itself is a product of colonialism (Curley, 2021). He writes, "to turn nature into resources is to violently abstract from complex and interconnected ecological processes for purposes of extraction and exploitation," and argues that this relationship to nature — which is also present in conventional understandings of renewable energy — is "counterproductive for the people and the planet but necessary for profit" (pp. 79, 85).

STS directs attention to what knowledges are disallowed from the arenas of utility decisions and restructuring conversations in California, and their narrowing effect on energy imaginaries. This lens illuminates the urgent need to change the way we talk and think about energy, valuing multiple knowledges and subject positions that are often excluded from the techno-scientific spaces of power. Such shifts can have far-reaching implications for metaphysical relationships to energy. For example, Myles Lennon (2017) destabilizes the dichotomy of "Big-E/little-e energy knowledge." Lennon cites Larry Lohmann, who characterized this dichotomy in the following way:

The abstract concept of "energy" that states and scientists use today — call it Energy with a capital "E" — has largely been a creation of fossil-fuelled industrial capitalism. Coexisting with the abstract Energy are much older, multiple, vernacular, mutually-in-commensurable "energies" associated with various subsistence purposes, together with indigenous conceptions of energy flows that bear little resemblance to the kilojoule-quantified interchanges of Energy... Lower case "energies" remain entangled with particular times – seasons, the daily cycle of light, the months it takes to grow crops... — and particular places — rivers where mills can be built, forests from which wood can be cut, latitudes where trade winds blow... [Inversely] Big-E Energy can be accumulated and

deployed... anywhere regardless of the local environment... (Lohmann, 2013, p. 26 as cited by Lennon, 2017)

Lennon's ethnographic research of white-collar renewable energy experts and Black Lives Matters (BLM) activists suggests more fluidity between the "Big-E" and "little-e" energy knowledges. He cites examples of intersectional politics in industrialized energy spaces, and BLM organizers engaging in technocratic energy advocacy.

Following Lennon's rejection of the dualistic Big-E/little-e view of energy knowledges allows us to open up more space to work at the intersection of racial capitalism and STS. In spheres of electricity governance, it is about *whose* knowledges are prioritized and acted upon that shape our energy systems. Democratic visions of utility justice foreground the knowledges and embodied experiences of communities most impacted by the extractivist fossil-fueled economy. Grounding conversations often dominated by techno-scientific expertise, utility justice connects these "views from somewhere" (Haraway, 1988) to form heterogeneous, complex, and plural energy knowledges. Asking what community members actually want from their energy system, then — and exploring what they may want from decentralized, microgrid systems — can help inform how to put utility justice into practice.

Still, the spatial logics of utility justice present opportunities and challenges at different scales. What if local solutions produce harm for other communities, perhaps in more distant locations? As Holifield et al. (2010, p. 5) write, "Even if intra-local practices or distributions can be conceived as 'just' according to one or another set of criteria, they can result in unjust extra-local outcomes." Shina Robinson, Policy Coordinator at the Asian Pacific Environmental Network (APEN), asserts (2020) that we must shift supply chains to "eliminate frontline

impacts," making clear that justice cannot come from creating new "sacrifice zones" while resisting those at home (para. 19). As it is vital to engage these contradictions in the work towards justice, I will next review literature that critically examines understandings and experiences of renewable energy.

While solar energy is advanced as an opportunity to replace polluting natural gas facilities in the United States, Myles Lennon points out that solar panel production often takes place in poor Global South communities with little environmental regulation, and produces e-waste problems upon panel decommissioning (Lennon, 2017; Lennon, 2020, see also Mulvaney, 2013). He notes Chinese activists that have organized to close corrosive panel facilities, and points out the usage of prison labor for panel production in the United States. Similar justice concerns emerge in relation to extractive lithium mining in South American and African countries for the production of lithium-ion batteries that store renewable energy (Lennon, 2020), which are currently used both for electric vehicles and microgrids. In his poem "Coltan as Cotton," artist and activist Saul Williams links the present-day mining of coltan in Central Africa to histories of enslaved people farming plantation cotton in the U.S. (Kelly, 2015). Coltan is widely used in electronic devices like phones and laptops, as well as lithium-ion batteries (Li and Lu, 2020; Kelly, 2015).

Hydroelectric power, upon which PG&E relies heavily, is considered renewable or carbon-free in California policy depending on the facility size (California Energy Commission, n.d.). Yet despite PG&E's continued positioning of its hydropower as clean — and its claims to carbon neutrality on this basis (PG&E, 2020) — Indigenous communities around the world have contested narratives of benevolent hydropower, often experiencing dams as sites of profound injustice (Levenda et al., 2020) and "cultural genocide" (North American Megadam Resistance

Alliance, n.d.). In California and beyond, tribes have condemned the violence of damming to Indigenous lifeways and their destruction of entire ecosystems, including the mass death of fish like salmon (Hartel, 2011; Middleton-Manning et al., 2018; Norgaard et al., 2016, p. 83). And, as described in "A People's History of Electric Utilities," rural communities also have been flooded to make possible the building of dams, especially affecting Black farmers in the southern United States, as well as Indigenous cultural and residential sites (Energy Democracy Project, 2021b).

Renewable Portfolio Standards (RPSs) are laws that require electric utilities to reach specified levels of renewable energy in their resource mixes, typically with increasing benchmarks over time. Ingrid Behrsin found that more than half (16) of states with RPSs classify waste incineration as a renewable resource (Behrsin, 2019). However, these facilities release toxic carcinogens into the air and, like conventional fossil fuel facilities, are routinely sited in low-income or communities of color. In Baltimore, which has the highest rate of emissionsrelated deaths of any big American city (Ross-Brown, 2016; Calizzao et al., 2013, as cited by Behrsin, 2019), the largest source of air pollution is a waste incinerator subsidized by RPS incentives (Behrsin, 2019). Waste incineration has clear correlations with racism, then, but it also facilitates ongoing harm to marginalized communities under the guise of renewability.

Dustin Mulvaney also details how RPSs helped make utility-scale solar, or large solar farms that produce energy for utilities, enticing to developers (Mulvaney, 2013). Such massive projects can be considered another form of centralized energy. In 2005, the U.S. Bureau of Land Management opened 21 million acres of public land in Southwestern deserts in 2005 to expedite these projects, leading "hundreds of utility-scale solar project developers to seek permits to develop public lands on over one million acres" (p. 234). The Colorado River Indian Tribes

contested a number of these projects, which were to be sited on their ancestral lands, and posed threats to their sacred sites and species like the fringed toed lizard (p. 234).

While this literature is not meant to suggest that siting, sourcing, and production cannot be life-affirming, it emphasizes that renewable energy is not inherently just. Indeed, as McCarthy (2015) has argued, renewable energy has the potential to provide a "socioecological fix" to capitalist crisis and accumulation. In other words, if systems of racial capitalism remain intact, a transition to renewable energy may perversely *sustain* those very systems by commodifying new forms of nature and leaving the root causes of crisis unchallenged. As Denise Fairchild and Al Weinrub (2017) explain:

Simply decarbonizing the current economic system — hard as this might be — by transitioning to a nonfossil, renewable energy base does not challenge the fundamental logic or economic power relationships of this extractive global economy. It does not impact the growth imperative of the capitalist system nor stop Wall Street and the largest U.S. corporations from extracting wealth from working people. It does not address income and wealth inequality. *Decarbonizing this economic system extends its life* [emphasis added]. (p. 11)

A focus on decarbonization alone can be understood as a technological solution to a social problem. Feminist STS helps foreground the socio-political structures that produce and govern technologies, as well as their embodied effects.

With this framework in mind, I want to emphasize that this project is not about the technology of microgrids, but rather *if and how* they can support different social relations. Microgrids are increasingly considered as part of a transition to clean, local energy resources

(California Alliance for Community Energy, 2020). They can also "island" from the larger grid when it is damaged by storms, fires, or severe weather events, which are expected to become more frequent due to climate change — therefore supporting those most harmed by power outages. And because they site power resources closer to points of consumption, or where it is needed within communities, they may reduce the need for long, fire-prone transmission lines that have proven deadly in California.

More broadly, they may help shift away from the centralized system of large-scale projects that have been linked to Indigenous dispossession, racialized pollution, and consolidated wealth. As energy justice lawyer Shalanda Baker writes, "For those on the front lines of climate change — island nations, low-income communities, communities of color, and Indigenous communities — justice actually *requires* access to decentralized energy, as well as a mechanism, like batteries, to store it" (Baker, 2021, p. 97). While small-scale projects are not without ethical challenges, the potential to site non-fossil energy in the existing built environment holds much potential for justice goals. Moreover, microgrids allow for community-based solutions that are necessarily geographical. The particular combination of resources — whether solar "car-ports," panels built on commercial rooftops, or wind turbines on remediated brownfields (i.e. former industrial sites or landfills) — will depend on what makes most sense in that community. Microgrids are not one-size-fits-all.

Furthermore, microgrids must be developed as community resources, rather than new profit-making tools of the corporate utilities, so that they do not reify the capitalist logics that underpin current energy systems (McCarthy, 2015). Investor-owned utilities are, by their very definition, focused on profit. They represent a command-and-control approach to energy provision that is deeply intertwined with climate change. Though, certainly, large utilities and

corporations are exploring the potential of microgrids now. Indeed, PG&E has been profiting from the installation of new, polluting diesel generators at grid substations — which the utility is calling "microgrids" — to serve as backup power during PSPS events (California Alliance for Community Energy, 2020).

Without local governance, community trust, and the situated knowledges that those harmed by the current system bring, microgrids will not support utility justice as conceived of by the Reclaim Our Power organizers, who emphasize the need for frontline leadership, Indigenous sovereignty, and worker and community control. Important questions for *how* to use microgrids for utility justice remain, and this is a core focus of my research. Using this framework, I ask my second research question:

<u>Research Question Two:</u> How can "community resilience hubs," powered by microgrids, support Reclaim Our Power's conception of Utility Justice?

## **CHAPTER 5**

# RESEARCH METHODOLOGY AND METHODS

In this chapter, I describe my methodological approach to this project. Qualitative and feminist research methods allow me to analyze the spaces between "structures and processes" and "individuals and their experiences" (Winchester & Rofe, 2017, p. 6). This relation describes the focus of my research, which examines the systems of oppression that shape California's energy landscape, and the visions of frontline communities and organizers who seek to change them. I begin by first explaining my questions and what brought me to ask them. I will then describe my research ethic and approach to scholar-activism, through which I sought to pursue research questions that aligned with the work of Reclaim Our Power. I also discuss navigating my positionality as a white woman and graduate student striving to be reflexive in my work, and to form "situated solidarities" (Nagar & Geiger, 2007). Then, I provide an overview of my objectives, methods, and modes of analysis that I undertook, followed by a more detailed question-by-question review of my methods and modes of analysis.

Though my research questions may seem unrelated, it is my hope that this project demonstrates their deep connectivity. Moreover, each question has a particular function that is reflective of my political commitments to both deconstruct and to support action for worlds otherwise. Once again, my questions are as follows: <u>Research Question One:</u> How do PG&E and the CPUC conceive of "public safety" in the context of Public Safety Power Shutoff (PSPS) events? How does this conception reproduce uneven harm?

<u>Research Question Two:</u> How can "community resilience hubs," powered by microgrids, support Reclaim Our Power's conception of Utility Justice?

The first question takes a critical look at the dramatic expansion of "Public Safety Power Shutoffs" (PSPS) as a tool of wildfire prevention by California's electric utilities during the 2019 wildfire season. I evaluate how the state's definition of "public safety" produces uneven harm across axes of difference like race, ability, and class. With little advance notice and minimal, if any, material compensation for backup forms of power or spoiled food, the shutoffs elicited widespread outrage and condemnation from Californians towards the utility. Research question one also assesses how key communities and people harmed by PSPS resisted these events. Together, this research data helped me identify and illuminate the racialized violence of electricity systems that de-matter life and reproduce hierarchies of difference. Whether the power is on or off, the current energy system is unsafe. Understanding *how* it is unsafe helps inform what justice means for utility systems.

Furthermore, this topic was chosen due to its salience to Californians and my research collaborators, who have increasingly endured the shutoffs and continue to mobilize against them. PSPS also remains underrepresented in academic scholarship (see Guliasi, 2021; Wong-Parodi, 2020; and Zanocco et al., 2021 for recent publications on the topic). Indeed, intentional shutoffs to prevent utility equipment from sparking fires is a recent tactic that has become prominent only in recent years, largely in California, though utilities in other wildfire-prone states like Oregon and Colorado have also adopted the approach (Samayoa, 2021; Rocky Mountain Power, n.d.).

The shutoffs reflect a utility and grid model that are incompatible with utility justice, and their increasing prominence underscores a pressing need for critical analysis.

My second research question is forward-looking. I explore alternative energy futures through the lens of Reclaim Our Power's concept of "utility justice," and the role that space, or rather decentralization, plays in this vision. More specifically, I look at the visions for "community resilience hubs" from organizers who are exploring their potential for frontline communities. While microgrids are an increasingly popular topic in technocratic energy spaces, questions remain about how they can be deployed *by* frontline communities in just and equitable ways that support self-determination and collective thriving. This research question aimed to understand what organizers want to see in the energy system, and what forms of participation they seek in its governance.

It was important to me that this project focus on more than what is wrong with the current energy system — not just as an addendum, but at its core. I wanted to do research with grassroots movements who are working to practice and enact change. adrienne maree brown uses the concept of "emergence" to talk about the importance of articulating viable futures, of imagining something different, in liberation work (2017). The idea of imagination is important to this work, and aligns with feminist and especially Black feminist methodologies that seek to go beyond critique (see Collins, 2016). In *Emergent Strategy*, brown (2017) writes:

It is so important that we fight for the future, get into the game, get dirty, get experimental. How do we create and proliferate a compelling vision of economies and ecologies that center humans and the natural world over the accumulation of material? (p. 18)

I believe the collective visioning and learning about resilience hubs speaks to the experimentation that brown describes. Reclaim Our Power is doing the necessary work of "practicing futures together," as brown calls it, as organizers challenge and imagine beyond the current energy system.

## 5.2 Research Ethic and "Situated Solidarities"

This research project has been profoundly shaped by a commitment to collaborative research with organizers and by the extraordinary insights of those collaborators. I have aimed to practice scholar-activism guided by "accountability and reciprocity" (Pulido, 2008, p. 350) rather than a one-way relationship, as well as a "politics of resourcefulness" (Derickson & Routledge, 2015). As Derickson and Routledge explain, "Resourcing can take the form of research designed explicitly to ask and answer questions that nonacademic collaborators want to know" (p. 1). For me, this has taken the form of an ongoing relationship with Reclaim Our Power, through which we worked together to develop questions to help meet their research needs.

Events of my past were important for instilling this research ethic. With a budding passion for energy democracy, I moved to Northern California in 2017 to work for a CCA or "Community Choice Aggregation" agency. Governed by local elected officials, these public agencies become the primary provider of the electricity supply (or generation services) in the communities that opt to join. Over the almost two years I was there, I learned a great deal about the state's complex and ever-changing energy landscape.

Al Weinrub, the Coordinator of the Local Clean Energy Alliance (LCEA), writes about the transformative "economic, environmental, and equity" potential of CCA agencies, *if* they are grounded in justice principles and shaped by frontline communities (2017, p. 147; see also Baker, 2021, pp. 61-63). Weinrub asserted that the five existing California-based programs and

those in development, as of May 2017, did not yet reflect their transformative potential (p. 158). Organizers, including those with LCEA, advocated for the establishment of a CCA in the East Bay that would be responsive to community needs and committed to changing relations of power, and they continue to work to hold the now-formed agency accountable. The expansion of CCAs continued across the state, and by November 2021, California had 24 of these agencies (CalCCA, n.d.).

Unlike municipal utilities, CCAs do not own or operate the transmission or distribution infrastructure; where CCAs operate, IOUs like PG&E maintain that role. Among other severe challenges this split structure poses, my time in California made clear the dire consequences of IOU grid mismanagement. Indeed, their private ownership of transmission and distribution was causing deadly wildfires, dramatically increasing electricity rates, and after I left California, would lead to the expansion of intentional power outages, or PSPS events.

I came to graduate school interested in energy justice and how I could support movements for alternative models of electricity governance, specifically in relation to PG&E. I learned about the Reclaim Our Power campaign (which is housed by LCEA) in late 2019 through a webinar hosted by Ellen Choy of Movement Generation, prior to the campaign's official launch in 2020. Because of the deep synergies in the campaign's vision and my interests, I reached out to explore whether I could do research that would be useful to the campaign.

Subsequent months would involve meetings with staff and leadership to better understand their research needs and receive feedback on my proposals. This involved iterating together on research topics. For example, my second research question initially was focused more broadly on the campaign's vision for utility justice, but it was made clear to me by my collaborators that something more specific would better support their work, and microgrids emerged as a topic that
aligned with both their needs and my own interests. Eventually, I would join a learning cohort organized by the campaign that coalesced around "community resilience hubs" powered by microgrids.

Guided by these experiences and collaborations, I have sought to practice "situated solidarities" (Nagar & Geiger, 2007; Routledge & Derickson, 2015), however imperfectly, in my relationship with Reclaim Our Power. This involves navigating my various positionalities — including as a student-worker coming to this work from the academy, which carries a long history of extractive, colonial research (Routledge & Derickson, 2015), as well as my identity as a white, cisgender woman working with a campaign that very intentionally centers the leadership of frontline communities and communities of color, and being trusted with their stories. Moreover, I felt my relationship to Northern California was tenuous. I had only lived there for two years, as a transplant in a region that is rapidly gentrifying, and was doing my research remotely from another state due to the coronavirus pandemic. Certainly, I fell into some of the behaviors that Southerners on New Ground (SONG) writes are common but problematic of white people in multi-racial movement work, especially "staying in our own brains" and "over-thinking every move before we make it," which can ultimately prove as barriers to doing the necessary work — work that involves risks and mistakes (SONG, 2019).

Instead of flattening positionality into a mere accounting of my identities, situated solidarities call attention to the structural processes that inform those identities and how they impact research. Initially, my collaborators were weary of me holding interviews with organizers, given their already-stretched time and the interviews' questionable utility to the campaign. Interviews would make sense, I was told, if they could help advance the campaign's work. Ultimately, I was encouraged to do interviews with organizers, with co-created questions

and more specific topics than I originally proposed. With consent from participants and anonymity when chosen, the interview transcripts were made available to Reclaim Our Power to serve as a resource for their work, in addition to other materials I am creating. Building off of Nagar & Geiger, Routledge & Derickson (2015) explain that "situated solidarities require that we ask how knowledge produced from research might be of use to multiple others without reinscribing the interests of the privileged; and how such knowledge might be actively tied to a material politics of social change that works in the interests of the disadvantaged" (p. 3). Moreover, situated solidarities views solidarity as generative rather than an unchanging set of shared interests.

## **5.3 Research Methods**

Table 2 provides an overview of the data sources, question by question, and the modes of analysis I undertook to make sense of them. For question one, the sources I analyzed consisted of PSPS post-event reports, select CPUC resolutions pertaining to the shutoffs, PG&E and CPUC webpages, public hearings, and public-facing resistance. I used discourse analysis, and to a lesser extent, content analysis to review PG&E and CPUC institutional documents. To analyze publicfacing resistance to the PSPS events, I used narrative analysis. For question two, I looked at Reclaim Our Power's framework of utility justice based on public-facing materials they have produced, and I conducted eleven semi-structured interviews with organizers and others working in energy spaces. To analyze this data, I used narrative analysis coded for key themes.

# Table 2: Overview of Research Methods

RESEARCH QUESTION	OBJECTIVES	METHODS	ANALYSIS
RQ1. How do PG&E and the CPUC conceive of "public safety" in the context of Public Safety Power Shutoff (PSPS) events? How does this conception reproduce uneven harm?	Analyze the meaning of "Public Safety" to PG&E and the CPUC and in relation to Public Safety Power Shutoff events Assess how PSPS decisions were made and continue to be made by PG&E and the CPUC Identify key communities and people harmed by PSPS and how they experienced them as forms of violence.	Review PSPS reports, CPUC directives and mission, PG&E website, news articles Observation of resistance to PSPS events by disability justice groups, EJ communities, etc.	Discourse and content analysis of interviews, documents, narrative analysis of public events, testimony, and other forms of resistance.
RQ2. How can "community resilience hubs," powered by microgrids, support Reclaim Our Power's conception of Utility Justice?	Identify key characteristics of ROP's definition of utility justice, and how and why community resilience hubs have become important Compare community-based knowledge and energy needs with knowledge that is leveraged in the current energy system. Understand how community members feel they could be served by a local microgrid	Semi-structured interviews organizers who want to provide input on what they want from their energy system, and how community microgrids can meet those needs Participatory research with ROP Microgrids Resilience Cohort Observation of protests, press conferences, etc. through digital mediums like Facebook Live Review of documents and websites such as reclaimourpowerca.org, articles in which organizers have been interviewed, and social media platforms	Narrative analysis of documents, digital media, and interviews, coded for key concepts such as resilience and decentralization

<u>Methods and Analysis for Research Question 1:</u> How do PG&E and the CPUC conceive of "public safety" in the context of Public Safety Power Shutoff (PSPS) events? How does this conception reproduce uneven harm?

In order to understand the meaning of "public safety" in relation to the PSPS events, I first looked at PG&E post-event reports. California's Investor-Owned Utilities are required to submit a post-event report to the Director of the Safety and Enforcement Division of the CPUC no more than 10 business days after the end of a PSPS (Sotolongo et al., 2020). As the Initiative for Energy Justice explains, these reports:

...must include, among other requirements, an explanation of the decision to shut off power and the factors considered in the decision; the time, place, and duration of the shut-off event; the number of affected customers, including how many of the customers were part of the Medical Baseline (MB) program (an opt-in program that provides reduced electricity rates for enrolled customers with electricity-dependent medical equipment). The CPUC strengthened these reporting requirements through its 2018 resolution by requiring information on local community representatives contacted by the IOU prior to the shutoff event, and whether the areas affected by the shutoff were in a High Fire-Threat District (HFTD), in addition to other reporting measures. (Sotolongo et al., 2020, p. 4).

Beyond the fact-based reporting requirements listed above, PG&E also must prove in these reports the necessity of shutting off power for public safety. Then, the CPUC evaluates whether that decision was "reasonable." In this way, the reports are the primary regulatory tool in which

PG&E attempts to justify its shutoffs to the state. van Leeuwen (2008) explains that discourses "not only represent what is going on, they also evaluate it, ascribe purposes to it, justify it, and so on, and in many texts these aspects of representation become far more important than the representation of the social practice itself" (p. 6). Thus, understanding how PG&E works to justify the outages is key to conducting a critical discourse analysis of PSPS.

Given the length of these reports, which are often several hundred pages long, I made the decision to focus primarily on the two shutoff events enacted by PG&E from October 26-November 1, 2019 (which the utility consolidated into one report). I selected these shutoffs because they were the most extensive in terms of people affected, and as a result garnered significant outrage from affected communities, the public, and institutions. These shutoffs also made clear, with their magnitude, a dramatic shift in PG&E's approach to preventing its equipment from sparking fires. Furthermore, these shutoffs overlapped with the Kincade Fire, which allows for analysis of how the absence of power intersected with the threat of fire for people in the North Bay. I also reviewed other PSPS reports, especially those that took place in early October 2019, and put them into conversation with what organizers and affected communities were saying about them. Finally, I reviewed information in several Access and Functional Needs (AFN) reports, which PG&E produces to discuss its plans and progress in relation to people who PSPS events may harm most. AFN refers to people with disabilities, chronic conditions, injuries, or language barriers, as well as elders, young people, low-income, unhoused, transportation-limited (i.e. no car), and pregnant people (Cal OES, n.d.).

For this data source, I used content analysis because it enabled me to evaluate the presence of "public safety" in these documents. As Schreier (2012) explains, "qualitative content analysis is a method for systematically describing the meaning of qualitative data" which

emerged out of quantitative version of the method (p. 171). Indeed, there is an empirical dimension to my review of these reports — namely, how frequently did the phrase "public safety" appear? More importantly, what work does it do in these reports? Coding for the phrase "public safety" helped me to understand its meaning and relationship to power structures. After coding, I reviewed highlighted sections to ask questions about what public safety appears in relationship to throughout these reports. I coded the documents using the qualitative research software ATLAS.ti.

Critical discourse analysis describes my overarching approach to reviewing PG&E and CPUC documents. I was interested in understanding what social relations these institutions produce through discourse around the shutoff events. Following Gordon Waitt's interpretation of Foulcadian discourse analysis, I understand discourse to involve "how particular knowledge systems convince people about what exists in the world (meanings/representations) as well as shaping what they say (think), do (practices), experience (emotions), and become (subject)" (Waitt, 2017, p. 289). For example, I analyzed documents through the lens of questions like, who has the power to enact a shutoff? What are these institutions asking of people when they enact a shutoff?

Together, these methods allowed me to understand how powerful institutions are communicating about the shutoffs, and what they find important to say. I focused on both what is present and what is absent, and how actions are naturalized through their discourses. While these methods focused on the power structures that govern the current energy system, producing the power shutoffs, this question would be incomplete without centering peoples' experiences with the shutoffs.

I also looked at public-facing resistance to the PSPS events. I focused on media coverage of the late 2019 "Power to Live" protest that took place outside of PG&E's headquarters, organized by the Power to Live coalition. As their website states, "#PowerToLive is a coalition of groups and individuals in the SF Bay Area who joined together in 2019 in response to life-threatening power shutoffs by PG&E. Most of us are BIPOC, disabled, or fat. Many of us require electricity to survive" (#PowerToLive, n.d.). I also looked at media coverage of the Disability Justice Culture Club, one of the event's lead organizers, and Reclaim Our Power, relating to the protest and PSPS more broadly. In addition, I observed a webinar called "California Power Shutoffs: Deficiencies in Data and Reporting," put on by the Initiative for Energy Justice (IEJ) with speakers from Reclaim Our Power, The Utility Reform Network (TURN), and Power to Live (IEJ, 2020).

Finally, I observed a spring 2021 workshop held by the CPUC called the "Joint IOUs Workshop on 2020 Public Safety Power Shutoff Events" (CPUC, 2021). While this workshop included IOU narratives about their performance during these events, the afternoon session included discussions with local governments, tribes, and the Access and Functional Needs (AFN) community. These discussions provided counter-narratives to the utility accounts of the events, with a focus on the lived experiences and other external impacts of the events, beyond whether the utilities notified people appropriately within its legal requirements. Rather, they more broadly questioned the transfer of risk and cost that shutoffs produce.

I chose narrative analysis to understand how people were harmed by the shutoff events. Here I focused on public-facing resistance by organizers and advocates, especially in disability justice and environmental justice communities, and testimony provided to the media or in public hearings. I transcribed key quotes and put them in relation to codes from the other narrative

analysis sources for this research question. As Willig (2014) describes, "Narrative researchers share an interest in the stories people tell about their experiences, and they share a commitment to the idea that people organize and bring meaning to their experiences through constructing narratives" (p. 146). This method emphasizes situated, experiential knowledge, and the stories people choose to share about the shutoffs.

<u>Methods and Analysis for Research Question 2:</u> How can "community resilience hubs," powered by microgrids, support Reclaim Our Power's conception of Utility Justice?

For this research question, I first researched Reclaim Our Power's conception of utility justice, based on the ten principles outlined in their petition to California Governor Gavin Newsom in 2019. In it, they write:

**Invest in Climate Resilience.** PG&E should fund turning our public spaces and community centers into climate resilience hubs with the clean renewable backup power that our communities need to survive their power shutoffs. Instead of extracting wealth from working class and low income communities, energy providers should reinvest their revenues into energy efficiency, local clean energy generation, storage, shared solar cooperatives and microgrids that make our communities more resilient. (CEJA & Reclaim Our Power, 2019)

Conducting narrative analysis of the language they use in their petition helps connect the physical infrastructure of community microgrids to the concept of utility justice. I also observed protests and press conferences streamed to Facebook Live, read interviews with campaign

leaders and listened to their radio and podcast interviews. I looked for ideas about localized community governance, and searched for explicit mention of microgrids as a tool for resilience or empowerment of communities. Aside from the interviews I conducted through a process of informed consent (described below), I intentionally sought out public-facing materials to avoid publishing any information that is internal to the campaign. While I participated in a Microgrids Resilience Hub learning cohort organized by Reclaim Our Power, those meetings were not used as a data source for this thesis.

The primary data source for this research question involved semi-structured qualitative interviews with organizers and others who wanted to share their perspectives about resilience hubs. With participants' consent, these interviews were recorded and transcribed. Table 3 outlines the names, self-identified descriptors, dates, and duration of my interviews. In my informed consent process, all participants were asked whether they would like to be named or remain anonymous, and what descriptor or pseudonym they would like to be used. These choices are reflected in the table and throughout my thesis, as well as all research products I created for the campaign. I conducted all eleven interviews over Zoom, and was initially connected with participants through Reclaim Our Power campaign leaders and staff.

Questions were developed through an iterative process with input from Reclaim Our Power. While I proposed the initial questions, they went through several rounds of edits and reworking by staff to ensure that they addressed both my interests and questions that would help inform the microgrids resilience work of Reclaim Our Power. Ultimately, about half of the questions were more applied and practical, like ideas for existing community centers that could benefit from a microgrid, and half were geared more towards how resilience hubs can help in the

work towards utility justice. Examples of questions are below (see Appendix A for a full list of interview questions):

- Which neighborhoods and communities do you know in Northern California that would benefit from a resilience hub?
- How do you hope to relate to the energy system differently through the process of developing community resilience hubs?

INTERVIEW	PARTICIPANT(S)	SELF-IDENTIFIED DESCRIPTOR	DATE	DURATION
1	Anonymous	Organizer (I)	5/14/21	39:46
2	Gwen Chang	Environmental Justice Activist	5/18/21	53:27
3	Angela Scott	East Oakland Community Organizer	5/21/21	58:36
4	Jessica Guadalupe Tovar	Energy Democracy Organizer, Local Clean Energy Alliance (LCEA)	5/28/21	53:17
5	Susan Silber	Director, NorCal Resilience Network	6/03/21	44:02
6	Anonymous	UC Berkeley Researcher	6/04/21	56:52
7	Anonymous	Organizer (II)	6/04/21	45:15
8	Antonio Díaz and Tere Almaguer	PODER Organizational Director and Environmental Justice Organizer/Community Farmer	6/17/21	56:48
9	Travis Gibrael, MSW	Solar contractor; Activist	7/14/21	1:16:21
10	Shaina N.	Organizer at Reclaim Our Power	7/15/21	1:17:50
11	Shina Robinson	Policy Coordinator at APEN (Asian Pacific Environmental Network)	7/16/21	54:39
	10:16:53			

# Table 3: Interview Participants

Rather than limiting microgrid discussions to the sphere of electrical engineers and designers, my research aims to foreground how people — and especially those most harmed by the current energy system — view the potentialities of microgrids. It is crucial that these needs and knowledges are built into the physical infrastructure of new grid systems, as well as governance structures, so they can support utility justice.

To synthesize this data, I used narrative analysis coded for key concepts like decentralization and pulled out themes across participant responses. Narrative analysis illuminates peoples' experiences with and understandings of the current energy system and what tangible ideas they want to see come to fruition. It invites organizers to talk about the meanings they make of energy systems in a grounded and embodied way, and the way they relate to the resources that power their daily activities. The goal of question two was to elucidate if and how community microgrids can be used as a tool for utility justice, by drawing out what organizers want from their energy system and how this differs from the status quo. Industry narratives around microgrids detail their connection to disaster resilience, distributed energy resources, and renewable energy, while Reclaim Our Power underlines their potential for community-led and driven energy provision that centers those most harmed by the current system. I considered these narratives in comparison to the grounded energy needs that people describe in these interviews. Reviewing my interviews question by question, I compiled responses across all participants and pulled out shared themes as well as differences in ideas.

## **CHAPTER 6**

## PUBLIC SAFETY POWER SHUTOFFS: SAFE FOR WHO?

This week, people who rely on electric power in northern California were forced into a panicked scramble to survive. Folks who need ventilators or CPAP machines, oxygen concentrators to breathe, adjustable beds to prevent pressure wounds, refrigeration for medication. Disabled folks. Fat folks. Poor folks. BIPOC. Folks who can't afford to lose a freezer/fridge full of costly food.

Our private energy co, PG&E, decided to shut off power for a million people, to avoid fire caused by unmaintained power lines. The fires they caused last year killed 86 people, and still, instead of fixing power lines, they gave lots of \$ to shareholders & exec bonuses, then decided to cut power during the dry season to avoid future liability. — Max Airborne, co-founder of Fat Rose (Airborne, 2019)

This chapter is concerned with how PG&E's Public Safety Power Shutoffs harm communities unevenly across axes of ability, race, and class, in response to my first research question: *How do PG&E and the CPUC conceive of "public safety" in the context of Public Safety Power Shutoff (PSPS) events? How does this conception reproduce uneven harm?* To begin, I will describe how the shutoffs have caused uneven harm to low-income, disabled, and communities of color, drawing on PG&E's post-event reports and public-facing stories from low-income and disabled people. The onus is put on individuals to prepare and recover from the situations that PG&E puts them in. Then, I will show how the PSPS events transfer risk from the utilities to the publics they serve, creating new dangers and causing local governments to foot enormous bills in their aftermath — even as the shutoffs have failed to fully prevent utility-sparked wildfires. By highlighting the October 26-November 1, 2019 shutoffs, which overlapped with the Kincade Fire that PG&E's equipment started, we can see how the absence of power makes fires more dangerous with communications systems down and electricity-pumped wells unusable without sufficient backup. The deadly Zogg Fire of 2020, also sparked by PG&E, makes clear the limitations to the utility's algorithmic approach to measuring fire risk, especially as the utility neglects vegetation management.

The opening passage to this section, written by fat liberation and disability justice organizer Max Airborne, powerfully reflects on the violence of this practice, during what was at the time the largest set of shutoffs enacted by PG&E. Over the one-week period between October 5<sup>th</sup> and 11<sup>th</sup> 2019, PG&E reports that over 730,000 PG&E customers across 35 counties had their power shut off, for some as long as three and a half days (PG&E, n.d.-a; PG&E 2019a; Sotolongo et al., 2020). The number of people affected was indeed many times higher — two million according to some estimates (della Cava et al., 2019) — since "customer" refers to a single electricity account, which often represents a household or even an apartment complex. Therefore, only those with accounts are reflected in the utility data. By naming them as customers, the utility discursively renders people, including those who need electricity for their survival, into mere consumers of a commodity. Since I am critical of this framing, I use the phrase "account-holders" or "accounts" when referencing PG&E's official reporting on the number of "customers" affected by outages. Though it does not fully resolve the aforementioned tensions, I aim to make as clear as possible that PG&E's data does not come close to approximating the total number of people affected.

# 6.2 Uneven Harm

Power shutoffs affect people differently. For some, a power shutoff might be a nuisance, or even a welcome reprieve from the constant buzz of electronic communications. But for many others, the loss of electricity can be terrifying, tremendously burdensome, and even life-threatening. In this section, I will focus on the everyday, uneven harm caused by the loss of power across axes of race, ability, and class. Within the context of Public Safety Power Shutoffs, "public safety" functions as a discursive tool to justify regular power outages for the safety of some imagined "public," making certain people *unsafe* amid the persistence of a failing grid. Moreover, the utility and regulatory focus has been almost entirely on making shutoffs *better* — shorter, smaller, and less frequent, rather than eliminating them altogether. The burden to recover from the loss of power is shifted to the individual, either through costly, self-funded means, or by navigating a dizzyingly complex web of utility programs and partnerships.

I want to clarify here that the utility and its regulators are well-aware that the loss of power makes communities unsafe, and some far more than others. Workshops, regular progress reports, and an array of mitigation measures are dedicated to the needs of people hurt worst by shutoffs. It is not that they are absent from utility discourse — they are very much present. In this way, shutoffs are presented as a necessary evil for marginalized communities to endure to prevent wildfire for greater "public safety." And, as I will argue, the measures taken to mitigate the effects of outages are wholly inadequate. Meanwhile, meaningful fire prevention is lacking and perhaps even stalled due to the PSPS events, and a host of other safety issues are made

worse by the absence of power. Danger, for some, is thus normalized under a slogan of "public safety" that protects utility assets.

First, I find that food spoilage is a widespread consequence of PSPS events with uneven effects, since refrigerators become unusable without electricity or expensive backup generators. In its post-event reports, PG&E documents the number of claims that people and businesses file due to the event, including those related to food (though of course, the extent of spoilage is far more extensive than the handful of people who make claims to the utility). In a 2018 post-outage report that PG&E submitted to the CPUC, the utility documented receiving 102 claims for food loss (PG&E, 2018). The utility wrote, "because of the safety-related nature of PSPS events, customers will not be reimbursed for associated losses" (p. 12). This statement implies that access to adequate food is not itself needed for safety. The next year, CalMatters wrote about Ana Patricia Rios, a mother of three in Sonoma County, who lost power for 8 days in just one month and nearly all of the food in her refrigerator spoiled twice (Botts, 2020). She also missed eight days of work because of the outages, and schools that usually provide free or reduced-price breakfasts and lunches were closed.

As part of their efforts to improve PSPS events, PG&E has set up partnerships with 21 food banks to provide meals during and for three days after shutoff events, and with Meals on Wheels for disabled and elderly adults who are already participants in the program (PG&E, n.d.-d). Considering the enormous breadth of many outage events, 21 food banks is a drop in the bucket with regard to the amount of food and income that is lost. Moreover, it places the burden on already-marginalized people to recover from PG&E's inability to provide reliable and safe power. While some people may be able to react to warnings about a potential PSPS event as a reason to go on a spontaneous vacation, others are left to deal with the fallout of lost income,

spoiled food, and additional childcare responsibilities due to closed schools. As one North Bay school principal said, referencing the popular Lake Tahoe ski resort and summer destination on the California-Nevada border, "The impact it has with people who are disenfranchised or marginalized to begin with is much greater than (for) families who are like, 'Oh, ok well I'm going to go to Tahoe for the weekend.' These people aren't going to Tahoe" (Botts, 2020).

Furthermore, for disabled communities, shutoffs can pose a variety of risks, some of which are life-threatening. Electricity may be needed for the refrigeration of medicines, electric wheelchairs, life support systems, at-home ventilators, temperature regulation, heart monitors, and much more. And because disabled people often live at the intersection of multiple systems of oppression — almost one-third live below the poverty line (Kafer, 2014) — inoperable medical equipment and food spoilage represent compounding concerns during shutoffs. This also means that self-funded shutoff precautions are inaccessible to a great deal of disabled people. I argue that the utility's efforts, which include providing advanced notice to disabled people and partnerships that distribute batteries to those who qualify, cannot compensate for the fundamentally unsafe practice of shutting off power to communities who need it.

Importantly, the utility's means of identifying disabled people in its service area is not comprehensive and leaves many out. To contact disabled people, PG&E relies on the CPUC's Medical Baseline rate program, an opt-in program that offers discounted electricity rates to those with electricity-powered medical equipment (Sotolongo et al., 2020). Historically, people needed certification of their qualifying medical needs from a California-licensed medical practitioner in order to enroll in Medical Baseline, and they had to recertify this need annually (p. 8). Due to the COVID-19 pandemic, PG&E suspended this requirement and allowed people to self-certify, and applications have increased dramatically since (PG&E, 2021, pp. 10-11; Sotolongo et al., 2020,

p. 8-9). However, the support provided to Medical Baseline customers during PSPS events
largely entails persistent notification that their power will be shut off. People on Medical
Baseline rates receive additional notification about PSPS events, including at-home "door
knocks" if they do not confirm receipt of phone or email communications (PG&E, 2021, p. 10).
The intent is to make sure that people for whom shutoffs pose greater risk are aware that it will
(or may) take place, so they can prepare accordingly.

There are a number of issues with this approach. The need for doctor certification to enroll in Medical Baseline has historically been a barrier to program participation, as it was only available to disabled people with access to healthcare providers to regularly provide certification (Milbern, 2019). But even with the COVID-era changes, Medical Baseline fails to reach all disabled people who need it in PG&E's service area. The extent of this failure is unknown, but the Initiative for Energy Justice conducted an analysis that provided some further insight. They compared "emPOWER" data from the Department of Health and Human Services, which shows Medicare recipients who use electricity-dependent medical equipment, with data on Medical Baseline participants in the same areas during two shutoff events (Sotolongo et al., 2020). While the emPOWER data is itself noncomprehensive, because it doesn't include uninsured or privately-insured people, the analysis suggested there were far more people with electricitydependent equipment affected by the shutoffs than the Medical Baseline data indicated (pp. 9-11).

The Medical Baseline program, after all, is not designed for emergency usage. As Aaron Carruthers, Executive Director of the State Council for Developmental Disabilities said in an Access and Functional Needs (AFN) roundtable on the PSPS events:

I'm glad you brought up the Medical Baseline program, because it's a rebate, it's a discount program, it's rates. It was *never* designed to be used for a PSPS or an emergency management capacity. The AFN community has been uniform in our advice that the IOUs move away from Medical Baseline. We've urged that you instead use a more effective and meaningful customer program to be developed to support vulnerable customers. We've proposed alternate ways that are more inclusive. (CPUC, 2021)

While Medical Baseline is very clearly lacking in reach, the number of people on the rate program who have been affected by PG&E's PSPS events is still quite significant. Over the course of 20 PSPS events since October 2018, an alarming 133,804 Medical Baseline participants who rely on electricity-dependent medical equipment have had their power shut off. But even for enrolled participants, many do not receive any notification, due to lack of available contact information or the utility's inability to determine precisely who will be affected by a shutoff (PG&E, 2020a). During the October 26-November 1 PSPS events, PG&E wrote that around 500 Medical Baseline participants did not receive any advance notification, out of 35,950 whose power was shut off (pp. 14-15). What may seem like a relatively small margin of error to PG&E represents hundreds of people who may need power to live, but received no warning prior to losing power. Of those notified, the utility reported that 1,392 never confirmed receipt of notification (p. 15).

Though I have focused on advanced notification thus far, simply knowing about a shutoff in advance is obviously inadequate. Yet it remains a major focus of utility and regulatory strategy for mitigating the harm of shutoffs. As the late disability justice activist Stacey Park Milbern described at a vigil and community gathering during the October 2019 shutoffs, a PG&E

employee told her that there were not real services in place to support Medical Baseline users, but PG&E lets people know about the shutoffs in advance so that they have time to prepare (Milbern, 2019). This, of course, assumes that disabled people have the resources, networks, and physical capacity to seek support, and burdens them with the expectation of preparing for utilitycreated disaster. Patrice Strahan, a core member of the Disability Justice Culture Club and Power to Live Coalition, described the ableism and classism of this expectation in a webinar:

When our community relies on electricity for mobility devices, electricity for breathing equipment, electricity to keep medication refrigerated, and on and on, then it's so clear that shutting off peoples' power — and offering insufficient and inaccessible solutions to their loss of power — literally endangers their lives and there's no amount of flyers about preparing a go-bag that will help when our people cannot just get up and go or may have no place to go. (IEJ, 2020)

Stacey Park Milbern founded the Disability Justice Culture Club (DJCC) in the East Bay, and transformed her home into an organizing and gathering space, especially for queer people of color with disabilities (Katayama et al., 2020). The group organized mutual aid efforts early in the COVID-19 pandemic, and Milbern co-created the #PowerToLive campaign with other disability justice organizers in response to PG&E's shutoffs in 2019 (Disability Visibility Project, 2020; see Figure 6). Milbern herself needed to use a ventilator 16 hours a day, which would have made the loss of power life-threatening. This makes clear how power shutoffs can have vastly different impacts on people with disabilities.

During the shutoffs, the #PowerToLive organizers worked to connect volunteers to provide rides or extra cash to people in need, and Milbern housed four people with disabilities in

her apartment, which did not lose power during the late October 2019 shutoffs (Green, 2019). The organizers provided public education on different at-home generator and battery options, and how much wattage medical devices used. When the group asked for a \$50,000 grant to distribute generators and batteries to Medical Baseline participants in their community, PG&E was only willing to offer \$5,000, which Milbern said was not even enough for two batteries (Green, 2019).



Figure 6: Stacey Park Milbern speaking at the #PowerToLive protest in December 2019 (Genzlinger, 2020)

At the time, PG&E had been piloting support programs for disabled communities in partnership with the non-profit California Foundation for Independent Living Centers (CFILC). These early efforts provided some support to over 1,100 people during the October and

November 2019 shutoffs — events that affected 77,352 Medical Baseline participants and many millions of people (PG&E, 2020b; see Figure 1). PG&E and the CFILC finalized their partnership in spring 2020, and it is now set up to offer services and resources like hotel stays, accessible transportation, and backup batteries to qualifying applicants (PG&E, 2020). But even as PG&E expands their programming and partnerships, the testimony of disabled organizers and the lack of participation in Medical Baseline suggest that many will be unaware or unable to connect to support options, while others will be limited by onerous application processes.

Melissa Kasnitz of the Center for Accessible Technology (CforAT) called out the "learnas-they-go" approach that the utilities have undertaken with regard to people with disabilities. During public comment of a CPUC workshop, Kasnitz expressed:

The IOUs have been turning off power for several years now and the risks to the AFN population were flagged from the get-go, but haven't been addressed. These customers have been burdened, while the IOUs say that they are learning as they go. This was exactly as predicted, but it's unreasonable, and it's unjust. What the IOUs describe as learning experiences for them, are terrifying and costly for customers and communities who are at risk. (CPUC, 2021)

What PG&E presents as statistics — "customers" contacted, increase in Medical Baseline participants, numbers of people who accessed support from CFILC partnerships — all represent lives disrupted by intentional shutoffs. More dangerously, PG&E's narratives of program improvement do not reflect all those who do not receive any support and who are not represented in utility metrics. While PG&E offers some programs and community partnerships for accessing

resources, great burden and cost falls on community members, mutual aid groups, and other networks of care to make sure that people are safe.

In an earlier public comment, Kasnitz pointed to another pernicious issue — the normalization of shutoffs as business as usual:

I would like to discuss the process for moving away from deliberate power shutoffs entirely as a fire-risk strategy. While we want any events that take place to be as safe as possible, CforAT has concerns about the risk of normalizing power shutoffs as just another utility program that will go on indefinitely. (CPUC, 2021)

Indeed, PG&E originally said shutoffs would go on for 10 years while its equipment underwent upgrades, but has more recently suggested the shutoffs may not end — becoming, as Kasnitz warned, "just another utility program" (Van Derbeken, 2018; CPUC, 2021). The utility has a webpage dedicated to "improving" PSPS in the form of additional support programs, like the CFILC and food bank partnerships I described in this section, as well as making renovations to the grid (PG&E, n.d.-e). These renovations include technologies that will make PSPS events smaller in scale, so that the shutoffs are more targeted at locations considered high-risk for wildfire.

I will discuss these programs in more detail in the following section, which aims to demonstrate how PSPS transfers risk to the public more broadly by producing new dangers through the loss of power. As this chapter has shown, the PSPS events affect people unevenly, causing particular harm to low-income and disabled communities. These impacts are presented as an unavoidable outcome that individuals must endure for the greater good of public safety, of some imagined public, even as shutoffs fail to fully prevent utility-sparked wildfires.

### **6.3 Transferred Risk**

After wildfires led them into bankruptcy with billions in debt, PG&E wanted to do whatever they could to prevent their liability for future blazes. Their solution was to turn the power off. While they are charged with the costs of wildfire destruction, they are not charged with the innumerable and compounding costs that come from widespread outages. While backup power is often sought for critical services, the unprecedented scope and scale of the shutoffs present enormous challenges. I argue here that power shutoffs transfer risk from the utilities to the public and local governments. As the previous section demonstrated, the effects of shutoffs are felt unevenly across axes of ability, race, and class. But the shutoffs also produce a broad transfer of risk to the publics they serve, in which utilities are less likely to be found liable for wildfires, and yet dangerous new situations are created by the loss of power. In this section, I will highlight the risk of weakened communications and water infrastructure, as well as the risk of car accidents due to inoperable traffic signals. The utilities are not liable for traffic collisions, which can be deadly, and local governments must foot hefty bills to acquire backup power. I will also show how the utilities can delay infrastructure repair by relying on power shutoffs as a blunt tool of wildfire prevention.

Public Safety Power Shutoffs take place during periods when fire risk is high — windy, dry conditions that mean any spark could easily spread into a devastating wildfire. PG&E meticulously describes these weather conditions in its PSPS reports to justify its decisions to shut off power. However, shutoffs only address *one* source of fire ignition: the electric utility power lines. While, certainly, utilities should be acting to prevent their equipment from being this spark, there are countless other causes of wildfire. Remember that PG&E shuts off power in places where risk is highest. This also means that fires with other sources of ignition would rapidly

spread, and the loss of power can make these fires even more dangerous. What I want to highlight here is that the loss of power only prevents *utilities* from sparking wildfires (though they have proven unsuccessful at that in many cases), and does nothing to prevent fires from lightning, weedwhacker sparks, or debris burning, to name a few potential sources (Borenstein, 2020). It is not that PG&E can prevent these other sparks, but rather that shutting off power when "catastrophic wildfire risk" (PSPS, 2021) is highest can create perilous conditions for people if fires do start by other means — for example, if the absence of power impacts communications and traffic lights during an evacuation.

Supervisor Lynda Hopkins of Sonoma County made this point during a public workshop, sharing stories from the 2019 Kincade Fire, which overlapped with the October 26-November 1 shutoffs:

During the Kincade Fire, which was anticipated to burn through tens of thousands of homes, and not stop burning until it hit the Pacific Ocean, CAL FIRE and the Sheriff actually proactively evacuated tens of thousands of residents early because they knew that we would be losing power. And because they knew that without power, in terrain already lacking in redundant communications infrastructure, they would have no way of communicating with constituents. I also think it's important to remember that of course fires start for other reasons than PG&E. We obviously suffered through the Lightning Complex last year. But PSPS is an emergency on its own, and it requires a local government response. But what's worse about it is it's actually an emergency that limits our ability to respond to other emergencies in real-time. (CPUC, 2021)

Supervisor Hopkins emphasizes that the loss of power is itself an emergency, not merely an inconvenience. She highlighted that a pre-emptive evacuation was prompted by the shutoff event, since real-time evacuation notices would not be effectively delivered without power. Fortunately, the fire didn't end up reaching her communities, so people who did stay were not burned. But if the fire had come in, she warned, the county would have been limited in their ability to reach those residents. Still, due to the outages, firefighting was itself impacted. Some fire departments only had access to radio, rather than more high-level digital communications that track firefighters and engines, which are necessary for these blazes. She also talked about the small municipal water districts that rely on power to pump water, some of which lack sufficient backup, but are needed both to put out fires and for daily care.

Ultimately, PG&E was still found responsible for starting the Kincade Fire, even as it enacted shutoffs that overlapped with the fire (Murillo, 2021). This fire burned almost 78,000 acres, destroyed 374 structures, and caused over 180,000 people to evacuate (p. 657). While Supervisor Hopkins was framing her comments in the context of improved emergency communications infrastructure, I believe they call into question the legitimacy of a fire prevention method that makes non-utility wildfires far more threatening. The CPUC noted this concern in their 2009 rejection of SDG&E's plan to establish a shutoff program, writing that "numerous unsafe conditions can occur without power," and the plan "does nothing to prevent wildfires started by sources other than power lines" (CPUC, 2009, pp. 50, 57). Yet this concern is noticeably lacking in current discourse around PSPS events.

It is true that utility-caused wildfires have proven more destructive than many others in the state's recent history, which I suspect contributes to the thinking that utility wildfire prevention should be prioritized. The CPUC reports that utilities have caused less than 10% of

recorded wildfires in the state, yet about half of its most destructive fires (CPUC, n.d.-b). A fire's destructiveness is measured by the number of structures, or property, that it destroys (CAL FIRE, n.d.), linking shutoffs to property damage. The high wind speeds that tend to cause power line failures or knock trees onto lines also make fire spread extremely fast, and power lines are proximate to communities, which may explain in part why utility wildfires have taken so many lives and destroyed thousands of homes. Still, the Lightning Complex fire that Supervisor Hopkins referenced in her remarks was sparked by lightning — part of a series of 600 fires over three days, which constituted some of the largest, most destructive, and deadliest wildfires recorded in the state's history (CAL FIRE, n.d.). And, as CalMatters reports, climate change could lead to more lightning-sparked wildfires in California (Cart, 2021).

If the utilities can perfect PSPS, they may be found responsible for less fires. Yet fires may be still sparked by other sources and leave communities in the dark as they try to escape. In other words, what PG&E presents as "public safety" may indeed reduce its own wildfire liability, but the loss of power can make these same publics profoundly unsafe should a fire start by other means. In this way, the utility transfers risk to the public and local governments who are forced to adapt to this new normal. But impacted communications are far from the only risk that power loss can cause. The risk of traffic collisions due to inoperable stoplights represent another far-reaching effect of shutoffs.

Mayor Keith Mashburn of Simi Valley shared stories that powerfully illustrate the risks and costs transferred from utilities to the public through the loss of power. Though not in PG&E's service area, the mayor described the biggest threat as inoperable traffic signals, which is relevant to cities and towns across the state. Simi Valley is a city of 126,000 people north of Los Angeles County, which is served by the IOU Southern California Edison (SCE). Despite

being an urban city with very little exposure to wildfire risk, Simi Valley experienced six shutoffs in 2020 of 24 to 72 hours each (Mashburn, 2021). Mayor Mashburn explained:

In our case, Public Safety Power Shutoffs are anything but public safety. It's just quite the opposite. The most dangerous aspect of the PSPS events for our city has been it shuts down the traffic signals throughout the city. And these are in areas, once again, that are not anywhere near any wildland areas and yet we're told over and over again that this is going to prevent wildland fires. And the potential loss for life due to traffic collisions is absolutely astonishing in our city, and we have claims and we are expecting more claims for the many traffic accidents that were caused by the lack of powered traffic signals. It appears to us that Edison transferred their wildfire liability in a different form to the cities, businesses, and the residents they served, because there certainly is not wildfire threat here. (CPUC, 2021)

This statement raises important, yet chilling, questions. How many deaths and injuries have been caused by traffic accidents due to the loss of power, under the guise of public safety? How many indirect deaths have the utilities caused through power shutoffs, but which are not attributed to them because they were not the result of fire?

Mayor Mashburn went on to describe how the law indicates that once the city puts up notification such as stop signs to address the loss of power at intersections, they take on the liability of traffic outcomes — liability that the mayor believes should belong to the utility. While the city council has approved purchase of battery backup power for the traffic signals, the cost will be over \$600,000 to energize just 50 of the 70-some intersections in the city. Moreover, public spaces like libraries and senior centers, which are normally set up to be cooling and food

access centers, also lose power during shutoffs. As a result, the city is researching generators for backup systems at a cost of \$850,000. All told, the city estimates spending \$1.45 million "just to accommodate SCE's PSPS events" (CPUC, 2021). Especially during the pandemic, the mayor explained, the toll these unanticipated expenditures take on local government is high.

Imagining these scenarios across the widespread geographies where PSPS events have taken place gives some insight into the scale of disruption, risk, and expenses produced by the loss of power. Notably, Mayor Mashburn pointed to the fact that wildfires are very unlikely to take place in an urban city like Simi Valley. And yet, because it is connected through a centralized grid with areas SCE considers to be high-risk, it has been forced to endure shutoffs anyway.

To be sure, shutoffs are not the only action utilities are ostensibly taking to mitigate fire risk. As part of their efforts to make shutoffs more targeted and less frequent, PG&E has been investing in measures like "sectionalizing devices to narrow the scope of PSPS so fewer customers are without power," and "continuing to upgrade the electric grid by hardening power lines to reduce wildfire risks" (PG&E, n.d.-d). However, the rate at which these infrastructure upgrades are taking place, especially when compared to the massive areas targeted for PSPS events, is quite telling. Robert Murillo II gathered data from PG&E's Wildifre Mitigation Plans that suggest PG&E is just inching forward with system hardening, even as it dramatically expands areas targeted for potential shutoffs (Murillo, 2021). Murillo argues that "IOUs can practically sidestep necessary repairs to electrical infrastructure by instead shutting off power when fire hazards acutely threaten the very facilities utilities are charged with maintaining" (p. 688) — or more precisely, which the utilities charge the *people* with maintaining through increasing rates.

In its 2020 Wildfire Mitigation Plan, PG&E reports that it completed 171 miles of system hardening in High Fire-Threat Districts in 2019, with 241 targeted for 2020, and 180 identified for 2021, with "an overall 7,100 miles of overhead facility hardening to occur over a twelve-fourteen year timespan" (Murillo, 2021, pp. 673-674). As of August 2020, the utility also reported installing 569 sectionalizing devices, which can split the grid into smaller pieces to allow for more targeted shutoffs (Nauman, 2020). However, in its 2019 Wildfire Mitigation Plan, PG&E expanded its potential PSPS scope from 7,000 circuit miles of distribution lines to over 25,000, and from 370 circuit miles of transmission lines to over 5,500 (Murillo, 2021, p. 673). In other words, while power shutoffs could be enacted anywhere across 30,500 miles of power lines, the utility only planned to harden several hundred miles in the short-term, and 7,100 over the next 12 to 14 years. If safety was PG&E's priority, why not devote more significant resources to expediting system hardening, instead of increasing reliance on shutoffs?

I want to underscore Mayor Mashburn's assertion that SCE "transferred their wildfire liability in a different form to the cities, businesses, and the residents they served" (Mashburn, 2021). Between de-energized traffic signals, diminished communications and water access during fires, food and income loss, and inoperable medical devices, I believe the transfer of risk is undeniable. Mayor Mashburn is certainly not alone in suggesting that shutoffs are enacted to reduce utility wildfire liability. In a survey of 247 people in PG&E's service area who were affected by shutoffs, Gabrielle Wong-Parodi (2020) found that an overwhelming 87% of respondents, especially "higher vulnerability individuals," <sup>5</sup> "judged PG&E's PSPS decision as motivated by the desire to reduce their legal liability should a wildfire occur" (p. 5). Still,

<sup>&</sup>lt;sup>5</sup> In this survey, vulnerability was assessed by asking respondents if they or someone in their household had various health conditions, cared for a child under 5 years, lived with someone over 65 years, or if their household income was "30% or less than the annual median income for their area and household size" (Wong-Parodi, 2020, p. 4)

describing the overall survey results of 328 residents in PG&E and SCE service areas, Wong-Parodi reports that "people are largely supportive of PSPS as an important way to reduce risk of major wildfires, even as they suffer from this adaptation measure (p. 8). In PG&E's service area, "higher vulnerability" individuals surveyed were even more supportive of PSPS than "lower vulnerability individuals." This is a different perspective than the organizers I highlighted earlier in this chapter. While the reach of this survey is limited to several hundred respondents, the results are perhaps unsurprising given the extraordinary trauma that many northern Californians have experienced in years of recent wildfires, and the utility's failures to prevent them by other means. During a CPUC workshop, one wildfire survivor expressed concerns that pressure to limit PSPS size and scope would cause more catastrophic wildfires (CPUC, 2021). Certainly, without meaningful and comprehensive investment in the utility's infrastructure, this is a real and haunting concern. I share the belief of organizers who assert that Californians should not have to choose between deadly wildfires and life-threatening power shutoffs, both of which can make communities profoundly unsafe. This is a false choice.

Despite the commonly-held belief that utilities use shutoffs to reduce wildfire liability, the CPUC explicitly prohibits this, writing in one of their decisions:

[T]he utilities should continue to strengthen their infrastructure to minimize the need for and size of de-energization events. Under no circumstances may the utilities employ deenergization solely as a means of reducing their own liability risk from utilityinfrastructure wildfire ignitions, and the utilities must be able to justify why deenergization was deployed over other possible measures or actions. (CPUC, 2019, as cited by Murillo, 2021, pp. 674-675)

One means through which the utilities appear to justify the necessity of shutting off power is by recording infrastructure damage that took place during the shutoff. Workers examine the deenergized lines, and the damages and hazards are addressed before power is restored (PSPS, 2020). For example, during the October 26-November 1 shutoffs, PG&E workers found "554 instances of wind-related damage or hazard issues associated with its facilities" (p. 9; see Figure 7). Of these, 156 were classified as "hazards," which the utility writes are "things that could have sparked an ignition if the line was left energized such as a tree limb found suspended in electrical wires" (p. 2). Though the climatic conditions in California make vegetation and electricity a particularly volatile combination, trees and branches falling on power lines is quite common for electric utilities across the country (and a leading cause of unintentional outages) (Simon, 2021). However, the implication that there were 156 locations where PG&E thinks fires could have ignited is hardly comforting, and accentuates the urgent need for more transformative changes to the grid system.



Figure 7: PG&E photo from the Oct. 26-Nov. 1 Shutoffs (PSPS, 2019, p. 176)

I want to call attention to another instance in which PG&E's shutoff program failed to prevent their equipment from starting a wildfire: the 2020 Zogg Fire, which killed four people in Shasta and Tehama counties (Rittiman, 2021c). The utility uses a complicated algorithm to measure the risk of wind-caused wildfire, but because of the spatial distribution of weather monitors, actual wind speed is unknown in many locations. In the case of the Zogg Fire, the weather monitor was located at an elevation 600 feet below the site of ignition in a hilly canyon (see Figure 8). Therefore, while the nearest weather monitor did not measure a wind speed high enough to trigger a shut off, a survivor who lost his wife and daughter in the fire recalled much stronger winds at his house in the hills. Former CPUC Commissioner Catherine Sandoval agreed with ABC10's findings that "PG&E's shutoffs plan would be similar to a ski resort making lifeand-death decisions for its chair lifts by measuring wind speed down in the village parking lot" (Rittiman, 2021c).



Figure 8: ABC10 Map marking PG&E's weather station and the Zogg Fire ignition (Rittiman, 2021c).

While some have argued this means PG&E needs to invest in more weather monitors, even if PG&E covers the landscape in monitors and perfects its ability to surgically shut off power to prevent wildfire, this represents a techno-scientific solution that doesn't address underlying utility infrastructure issues. And, as I discussed throughout this section, it does not prevent wildfires caused by other means even as it makes them more dangerous. Moreover, an investigation determined that the fire was caused by a gray pine tree that PG&E contractors had marked for removal two years prior, in 2018 (Rittiman, 2021c). The utility's failures to meaningfully invest in its infrastructure and vegetation management make communities extremely unsafe, with devastating consequences.

In this chapter, I have first shown how power shutoffs cause uneven harm, especially to low-income and disabled people. Utility programs that aim to mitigate this violence are lacking in reach and depth, and PG&E's indication that they do not have plans to phase out the program risks reproducing this violence in the long-term as "just another utility program" (CPUC, 2021). I also demonstrated how shutoffs have failed to fully prevent utility-sparked wildfire, and yet the loss of power can *increase* the dangers of wildfires ignited by other sources. Shutoffs also transfer risk to the same publics they purport to protect by impacting communications and transportation systems, among other services. Yet PG&E is not the sole bogeyman, and their actions continue to be enabled by the state. The utility was formed through processes of racial capitalism and colonial dispossession and continues to operate in service of these systems. This project is not about the grid, but rather the systems of oppression that made *this* grid possible, and what it might mean to instead put utility justice into practice. I argue that meaningful transformation of energy systems is needed to create real safety for the communities they harm, as I will discuss in the next chapter.

## CHAPTER 7

# COMMUNITY RESILIENCE HUBS FOR UTILITY JUSTICE

I think for me, the resiliency work is an aspect of the climate justice work that demonstrates what the just transition would look like. So, I guess first of all, I would say that I think part of what I really like about the work that we do, quite honestly, is that we address both policy change, but also put into practice the type of change we want to see — the policies and the practice. And the practice is something like Hummingbird Farm. The practice is something like our bike project, Bicis del Pueblo, at a new affordable housing building that's opening up right on Mission Street in a few months. We're going to have ground floor space. A practice looks like those things in which we're actually building community health, ideally at some point community wealth, that's not indebted to the fossil fuel economy.

Antonio Díaz, PODER Organizational Director (A. Díaz, personal communication,
 June 17, 2021)

In this chapter, I focus on the transformative vision of utility justice as articulated by Reclaim Our Power and how community resilience hubs are being explored as one tangible means of practicing and moving towards that vision. This chapter is my response to my second research question, "*How can "community resilience hubs," powered by microgrids, support Reclaim Our Power's conception of Utility Justice?*" I will begin by describing Reclaim Our Power's vision of utility justice, and highlighting aspects that are particularly important to this project, with a focus on the interrelated concepts of decentralization and resilience. I spend time discussing the significance of these ideas to utility justice. Then, I will compare community-based knowledge and energy needs with the knowledge leveraged in the current energy system. In this section, I turn practices for building community resilience, like Antonio Díaz describes in the chapter's opening quote. I contrast PG&E's "Community Resource Centers," which are temporarily set up to meet basic needs during power shutoffs, with the youth-centered RYSE Commons in Richmond, CA, which is being designed to support a range of unmet community needs on an ongoing basis, rather than just during power shutoffs. This project demonstrates the potential for community resilience hubs to support utility justice and collective wellbeing.

#### 7.2 Utility Justice

The campaign's organizers situate their work under the umbrella of "utility justice," drawing from energy and environmental justice movements with a more explicit focus on electric utility structures. Utility justice directs attention to the energy *system* that produces uneven harm in California, engaging principles of the aforementioned movements with demands that directly target the electric utility, its regulators, and elected officials. Moreover, it is about putting into practice alternatives that demonstrate these principles, which are life-affirming and justice-seeking.

The People's Utility Justice Playbook, created by the Energy Democracy Project and affiliated organizations that include members of Reclaim Our Power, offers additional insight into understanding utility justice (Energy Democracy Project, 2021a). The Playbook opens by explaining that "energy activists are increasingly colliding with energy utilities, whose interests

are often in conflict with the economic and climate justice needs of our communities," as their financial interests are embedded in the racialized fossil fuel economy (p. 3). The playbook is geared towards providing a strategic framework to counter common utility tactics with responses that center energy democracy. Drawing from this work, utility justice can be understood as a piece of energy democracy that focuses directly on the electric utility, and which prioritizes local, grounded solutions from those most harmed by the current system.

Moreover, the framework of utility justice makes space for solidarities with other utility organizing, including water and broadband. Among other issues, Reclaim Our Power has been organizing for the cancellation of utility debt and extensions of energy shutoff moratoriums — the latter of which was successfully extended until the end of September 2021, but has since concluded (Peterson, 2021). While Reclaim Our Power's work centers electricity, Energy Democracy Organizer Jessica Guadalupe Tovar opened an event for the #CancelUtilityDebt National Day of Action by bringing other public-serving utilities into focus, asserting: "This is not just about electricity. This is about water, gas — all the other debts that we have accrued since the shutdown, the pandemic started" (#CancelUtilityDebt, 2020).

Many of these utilities share similar designations as privately-owned "public" utilities regulated by the state, and therefore certain stakeholders may be common points of intervention and mobilization. For example, in California, the CPUC regulates privately-owned telecommunications, electric, water, railroad and rail transit, and passenger transportation companies in California (though it's important to note that not all providers of these utility services are privately-owned) (CPUC, n.d.-c). Utility justice, then, is able to connect myriad ways in which the state facilitates the commoditization of resources that enable life. Across utility sectors, low-income people, disabled people, and people of color are regularly denied
access to these basic, life-sustaining services, after accruing the massive debts that Tovar foregrounded in her opening remarks.

These connections among utilities extend beyond shared regulators and status as corporate providers of public goods. Utility justice opens up visions for holistically restructuring how these needs are met. One organizer I interviewed positioned energy as an entryway into transforming other resource systems to better serve human and ecological wellbeing. The organizer said:

I feel like energy is going to shift the way that we think about a lot of our other resources. So I think we're starting on this energy campaign, but I feel like it's also going to spark — 'alright, now how do we shift the way that we are actually governing our watershed and where that water moves?' (Organizer I, personal communication, May 14, 2021)

Indeed, for many of my interview participants, energy was just one piece of a much broader vision for community thriving and closer relationships to what sustains life — from rain catchment systems to community gardens to fostering bonds with neighbors. Such changes not only have potential to meet human needs and deepen relationships, but to do so in ways that sustain non-human life as well.

This holistic view speaks to the interrelations between energy and other systems like food and water networks. In a very literal sense, Western modes of resource provision use immense amounts of fossil-fueled energy, and a just transition that addresses underlying systems of oppression calls for radical change to these interconnected resource networks. As Michelle Mascarenhas-Swan of Movement Generation explains in "The Case for a Just Transition," the globalized food system is extremely energy-intensive, producing almost one-third of greenhouse

gas emissions worldwide, in addition to relying on exploited laborers, using extraordinary amounts of polluting fertilizers, and leaving masses of people hungry (2017, p. 42). In California, water systems consume a shocking 19% of the state's electricity, 30% of its natural gas, and 88 billion gallons of diesel fuel annually (Mascarenhas-Swan, 2017, p. 43). Mascarenhas-Swan describes work by Movement Generation to install gravity-fed rainwater catchment systems at the community level, arguing that local collaboration with plumbers and pipefitters unions can "create pathways for new water technicians adapting age-old technology to retrofit water systems that meet community needs while restoring watersheds, in the process cutting the use of fossil fuels and related greenhouse gas emissions" (Mascarenhas-Swan, 2017, p. 43). Changing resource flows and shifting relations of power, from systems of racial capitalism to community-led systems of care, speak to the goals of utility justice.

My understanding of Reclaim Our Power's framework of utility justice draws significantly from their November 2019 letter to Governor Gavin Newsom, during PG&E's bankruptcy, written jointly by the California Energy Justice Alliance and Reclaim Our Power (Reclaim Our Power, 2019). While the latter campaign's leadership team has shifted since this letter was written, I believe the core principles outlined within still resonate deeply with the campaign's work. The ten principles, each described in more detail in the letter, are as follows: 1) Distributed Power; 2) Worker and Community Control; 3) Clean Renewable Energy for All; 4) Corporate Accountability; 5) Frontline Leadership; 6) Indigenous Sovereignty and Land Stewardship; 7) Environmental Justice; 8) Equitable Emergency Planning; 9) Protect Workers; and 10) Invest in Climate Resilience. Each principle is interrelated, but I will unpack two that speak directly to the goals of this research question: distributed power and climate resilience (see Figure 9 for graphic illustrations by Sydney Fang and Chelsea Lee).

I use the notion of distributed power here to refer to the decentralization of physical power production, while other utility justice principles relate more directly to the governance of energy systems. "Decentralized" and "distributed" are often used somewhat interchangeably (especially in relation to physical power production), but for clarity in this work, I will continue to use "decentralization" while speaking to both physical and socio-political power.



Figure 9: Comic-style illustration of utility justice principles (Fang and Lee, 2020)

In chapter three, I demonstrated how the centralized utility model is rooted in the state's colonial and capitalist development following the California Gold Rush. Diverse movements for climate justice are advancing a decentralized model of energy provision (Baker, 2021; Energy Democracy Project, 2021a; Lennon, 2017; Mascarenhas-Swan, 2017; Movement Generation Justice & Ecology Project, 2013; Powell, 2006; Weinrub, 2017). Local or decentralized energy has potential to support human and ecological thriving, while shifting away from the system of

overwhelming reliance on large-scale, often fossil fueled projects that have been linked to racialized pollution, Indigenous dispossession, and consolidated wealth.

However, achieving the goals of decentralization are not without challenges. Environmental justice activist Gwen Chang talked with me about how she loved the idea, but worried about the unintended consequences of transitioning in a patchworked way that would leave communities out (G. Chang, personal communication, May 18, 2021). Antonio Díaz, PODER Organizational Director, noted longstanding tensions between certain labor groups and debates over de/centralization (A. Díaz, personal communication, June 17, 2021; see also Sweeney, 2017).

Still, the stakes of how power is organized are high. PG&E's model of electricity provision has proven extremely deadly. As one of my interviewees said, referencing the ideas of another organizer:

PG&E is a serial killer, like it can get away with it. So, you know, that's how the centralized system works. They can kill a lot of people, they are really, literally a serial killer, and they are still our main utility in Northern California. So that's, I think, very clear like why we should get rid of them. (Organizer II, personal communication, June 4, 2021)

While this model of electricity provision has proven deadly in Northern California, so too has it proven deadly in other storm events — from Hurricane Ida in New Orleans (McGill & Deslatte, 2021) to Hurricanes Irma and Maria in Puerto Rico (Baker, 2021) to the winter storms in Texas (Pontecorvo, 2021) and beyond. The organizer was emphasizing that, not only does the centralized, for-profit grid system leave people at risk of harm from climate disruption, but it

concentrates power in ways that produce little repercussions for their deadly actions. For example, while PG&E pled guilty to 84 counts of manslaughter in the Camp Fire alone, the CPUC has since given PG&E two "safety certificates" that allow them to continue their services while protecting them from wildfire damage claims (Rittiman, 2021b).

PG&E's own communications illustrate well how the centralized grid makes more people prone to losing power (see Figure 10). What this image shows is that even if it's windy far away from your home, your power can be shut off because you're connected through long transmission lines that traverse through fire vulnerable regions. That is why the Reclaim Our Power coalition is fighting for decentralized microgrids, or energy resources that can withstand climate-related disasters, wildfires, and power shutoffs. If widely implemented, they reduce the need for long transmission lines that are increasingly sparking fires in Northern California.



Figure 10: PG&E Facebook post explaining PSPS events (PG&E, 2019)

Decentralization and resilience are intertwined, especially as this spatial re-organization of energy can support communities' self-determination, shift to more place-based modes of resource provision, and empower people through relationship-building. Resilience, in the context of Reclaim Our Power's petition, refers directly to "turning our public spaces and community centers into climate resilience hubs with the clean renewable backup power that our communities need to survive [PG&E's] power shutoffs" (CEJA & Reclaim Our Power, 2019). Resilience was, without doubt, a buzzword in the 2021 California state legislative session, as environmental justice activist Gwen Chang pointed out in our conversation (G. Chang, personal communication, May 18, 2021). But as Shina Robinson, Policy Coordinator at the Asian Pacific Environmental Network (APEN), emphasized in our interview, the environmental justice view of resilience differs from institutional narratives:

Knowing that environmental justice itself is really intersectional, when we think of resilience, we can offer that framework back. This isn't just about having power when the grid goes down, but it's actually a lot of social cohesion. It's a lot of what makes people healthy and safe and connected, not just as individuals, but as a community, as neighborhoods, as families — which isn't the dominant narrative. (S. Robinson, personal communication, July 16, 2021)

Shina affirms that resilience is inherently relational — it is about the networks and resources that enable *collective* wellbeing (including, but not limited to, life-sustaining power). She goes on to point out how PSPS events individualize safety, which can be seen in how PG&E calls on "customers" to prepare go-bags in case of outages and offers individual incentives or vouchers for generators and hotel rooms. Not only is the burden shifted onto individuals to compensate for

the utility's failures, but many will inevitably be left out of these programs. Community resilience hubs, in contrast, are focused on providing for diverse community needs, and larger microgrids can be built to keep critical infrastructure running even if power lines are damaged. If the power goes out, for whatever reason, people won't have to rush out of town to access life-sustaining electricity — they can instead access off-grid power at a trusted community center right in their neighborhood.

It is important to note that a number of critical scholars and activists have critiqued the word "resilience" for how it has, especially in technoscientific and policy contexts, been leveraged to normalize climate and economic violence, describe people who endure state abandonment, reinforce neoliberalization policies that devolve responsibility (but not funding) to the local level, and enact technocratic, expert-driven projects that ignore underlying systems of oppression (Baker, 2019; MacKinnon & Derickson, 2012; Ranganathan & Bratman, 2021). I agree with these important and necessary critiques, which capture how the word is used by dominant actors. But I believe the "mainstreaming" of resilience (Ranganathan & Bratman, 2021, p. 117) is indicative of a narrow (though extremely prominent) co-optation of a word that has multiple significations to different people.

I invoke resilience in the spirit of how it is used by Reclaim Our Power and its member organizations. Indeed, I think these scholars' proposed frameworks of "resourcefulness" (MacKinnon & Derickson, 2012, p. 263) and "abolitionist climate justice" (Ranganathan & Bratman, 2021, p. 120) are in fact compatible with the systemic understanding of resilience that I raise in this chapter. Ranganathan and Bratman do note that "frontline activists continue to use the word 'resilience' to signal a variety of goals," writing that "it is neither practical nor desirable for radical scholars to do away with this term" (pp. 120-121). I concur with the authors,

and I believe Reclaim Our Power draws on an understanding of resilience that, contrary to disembodied techno-solutions, is deeply informed by the underlying systems of oppression that differently expose people to harm. It eschews neoliberal localism by instead drawing down resources to marginalized communities in support of self-determination and liberation from systems of oppression.

Movement Generation's work has long been guided by a concept of "Resilience-Based Organizing" that is about putting into practice different social and economic structures that are oppositional and life-affirming (Movement Generation Justice & Ecology Project, 2013). Describing how they understand Resilience-Based Organizing, Movement Generation writes (and it is worth quoting a full, extended paragraph):

This recipe for resilience combines the right ingredients — in a new way — to cook up effective change. In traditional campaign-based organizing, communities identify a problem/issue and then target a political figure with decision-making power to change rules or implement regulations in order to alleviate that problem. This is still absolutely valuable and needed work — the work of winning the incremental changes that improve conditions. However, a different strategic approach (new for many today) is emerging among organizers across the country and the world. **Resilience-Based Organizing** (**RBO**) is emerging among communities that are steeped in an ecological consciousness and who recognize that one way to make transformative social change requires that we organize communities into a collective effort to meet the needs at hand through **direct democratic decision-making and physical implementation by those who are being impacted by the problem**. These actions are taken with the knowledge, and, ideally, the *intention*, of butting up against legal or political barriers that force the questions of

whether we have the right to self-govern and take right action in our own interests. The approach is to lead with the vision; live that vision; and live it in a way that reorients power to be more local and democratic; rather than simply trying to win concessions from corporations, or the structures of government that serve them. (2013, p. 3)

Resilience-Based Organizing involves democratic and decentralized decision-making, and diverse and creative experimentation towards shared community and ecological wellbeing. It is a complement to organizing that targets decision-makers with policy demands. As Antonio Díaz put it in the chapter's opening quote, resilience is about "the practice[s]" that demonstrate "what the just transition would look like." This emphasis on the practice resonates with the words of an organizer who told me that they were interested in Reclaim Our Power's community resilience hub work because it was an opportunity to put energy and creativity towards building alternatives, in contrast to their organizing experiences that involved a lot of "fighting back" (Organizer I, personal communication, May 14, 2021).

While there are countless present-day examples of Resilience-Based Organizing to turn to, Movement Generation centers the Black Panther Party's (BPP) survival programs as rooted in the tradition of Resilience-Based Organizing. The Panthers had more than 20 community programs designed to support Black peoples' unmet needs, while they faced direct violence from the police state and federal government (Luke & Heynen, 2020). The BPP programs developed included the People's Cooperative Housing Program, People's Free Medical Clinics, the Sickle-Cell Anemia Program, and the more well-known Free Breakfast for School Children Program, among others. In "Community Solar as Energy Reparations: Abolishing Petro-Racial Capitalism in New Orleans," Nikki Luke and Nik Heynen write that the BPP survival programs "offer a

generative framework through which to think about the connections between reparations, asset building, and community solar" (2020, p. 613). Like community solar, I believe that Community Resilience Hubs can be explored in relation to this tradition of organizing to directly meet community needs.

Jessica Guadalupe Tovar, Energy Democracy Organizer with the Local Clean Energy Alliance (LCEA), expressed a similar idea, stressing that resilience hubs are fundamentally about *meeting a need*. She urged organizers to be clear in what needs are being met by a particular effort, and described the tradition of mutual aid organizing as resilience:

...resilience hubs were not necessarily dreamed up in terms of energy. Resilience hubs are an old, I want to say mutual aid effort that comes from the ground up where people are meeting their communities' needs and creating spaces and resources that are needed. (J. G. Tovar, personal communication, May 28, 2021)

She says community gardens, where people come together to grow nourishing food for their families and neighbors, are a good example. But the need for clean, locally-governed energy in disabled, low-income, and communities of color has "come a lot quicker than we thought," as Jessica put it. She pointed to decision-makers who have allowed PG&E to continue their deadly business as ultimately responsible for producing this need.

While I've already expanded on the plural meanings of resilience to many frontline organizers, I want to discuss their attention to infrastructure. To be clear, there is certainly a core infrastructural, technological aspect to the way Reclaim Our Power and its member organizations invoke resilience with regards to microgrids. While some critiques of resilience suggest that a focus on creating infrastructure that is resilient to climate disruptions validates the continuation

of climate-changing activities, I think this can be a dangerous assumption. Perhaps, if approaching resilience from the belief that it is only enacted by the state and expert-led institutions, who simultaneously ignore the causes of climate change or have no interest in changing the status quo, then I can see how one could come to that conclusion. However, to *not* prepare for climate-intensified (or natural) weather events — whether wildfires, heatwaves, or storms that take out power lines — would be to ignore reality, with devastating consequences to oppressed people. Julia Watts Belser (2020) urges us to reckon with the difficult truth that climatic changes will continue, even if we stop contributing to them now. This echoes recent findings by the Intergovernmental Panel on Climate Change (Plumer & Fountain, 2021). The idea that we will be able to restore the world to an undamaged state, Belser argues, represents another fantasy of human control of nature (2020, p. 16).

Redistributive investment in infrastructure is indeed necessary for justice. An understanding of disaster as the result of uneven social processes (Smith, 2006) suggests that we must invest in "resilience," however it is called. As Kim Hall (2014) writes of New Orleans, "Whether or not one survived Hurricane Katrina was not simply the result of living below or above sea level; it was also about being taken into account in the city's planning for the future, being thought of as someone to consider in light of possible disasters" (p. 209). The challenge, as with other pieces of a just transition, is to create resilience in ways that actually begin to transform social relations. In other words, we must do this work in ways that dismantle the systems that oppress people and support collective liberation. My research shows that resilience can function as a means of recognizing the ongoing realities of climate disruption and inequality while making possible new futures. It is not an either/or, but necessarily *both/and*. Community-led microgrids can both recognize that the current utility and grid model leaves people unevenly

exposed to disaster, made worse by climate change, while aiding in a just transition away from fossil fuels and corporate domination. And, as my examples in the next section will show, community resilience hubs can simultaneously act as vibrant spaces for gathering, learning, healing, and future-visioning.

#### 7.3 Resourcing Community Resilience Hubs

Last year, a historic fire season and record-setting heatwaves trapped residents inside without access to power or life-saving medical devices. This year, we say enough. What if, when the blackouts come, our Aunties, neighbors, and friends could walk across the street and access clean backup power, refrigeration for food and medicine, and were greeted by familiar faces of their community?

— Amee Rival, Asian Pacific Environmental Network (APEN) Research Director on Twitter (APEN, 2021)

In the following section, I will compare community-based knowledge and energy needs with the knowledge leveraged in the current energy system, highlighting projects that demonstrate the difference between utility disaster mitigation and community resilience hubs. I focus on the need for accessible resilience hubs that are trusted by oppressed people, wellresourced, and which provide culturally-competent and inclusive services. Comparing PG&E's Community Resource Centers to the forthcoming RYSE Commons in Richmond, CA, illustrates what communities can create with the resources they deserve.

One common theme among my interview participants was that community resilience hubs must be at spaces that are *trusted* by the communities they aim to serve. As Angela Scott, East Oakland Community Organizer, put it, "Where are those spaces that have already been activated?" (Scott, 2021). Scott said that investing in the places people are already gathering and sharing resources is key. Still, Jessica Guadalupe Tovar noted that clean energy projects quickly become complicated for renters, since the necessary installations and grid interconnections require permission from property owners, but many of the communities who need these services do not own their properties. As part of my research with Reclaim Our Power, I helped map locations that interview participants identified as trusted sites for potential resilience hubs, especially in low-income communities of color and fire-impacted regions.

Yet, in the CPUC's guidelines for utility power shutoffs, they currently rely on a definition of "Critical Facilities/Critical Infrastructure" that comes from the U.S. Department of Homeland Security (CPUC, 2019, pp. 73-76). These critical facilities represent the spaces that utilities are, in theory, supposed to take special care to notify in advance of shutoffs or evaluate facility need for backup power. Police stations are at the top of the list, and very few are places where community members can actually gather (with schools and certain medical facilities as perhaps some of the only exceptions). One organizer speaking to the need for safe and trusted hubs commented on the inclusion of police stations in utility plans, asking rhetorically, "Do people feel safe there? Do people want to go there?" (Organizer II, personal communication, June 4, 2021).

The adoption of Homeland Security guidelines has repercussions regarding what the utilities see value in, and whose interests they prioritize. It also reflects the regimes of knowledge that shape utility programs. It means that for PG&E, there isn't necessarily economic value in small-scale projects that keep residential power on. According to a UC Berkeley Researcher working on a residential microgrid project that will serve a group of households in a low-income

community, PG&E wasn't interested in supporting their project. But, as the researcher told me, "If it were a police station? If it were a fire station? If it were a school? If we had a bunch of seniors that had oxygen equipment? You know, *that's* when we can start putting a value on it and going back to PG&E and saying, 'this is a critical infrastructure, you need to pay us, you need to value this'" (UC Berkeley Researcher, personal communication, June 4, 2021).

While PG&E doesn't consider community centers to be critical infrastructure, they do set up public "Community Resource Centers" (CRCs) in areas affected by shutoffs. In essence, CRCs purport to provide for a limited set of basic needs, during emergencies that the utility produces by shutting off power. As the Initiative for Energy Justice described, these CRCs are generally open from 8am to 8pm and located in the parking lots of malls, schools, churches, and so forth (Sotolongo et al., 2020). They offer water, tables and chairs, device charging, restroom facilities, and sometimes internet and air conditioning. Halfway through October 2019, they began offering cell service (Sotolongo et al., 2020, p. 5). However, the locations of CRCs are not noticed in advance, and may be far away from the people who need them most (p. 5). After failing to locate CRCs in areas where they are needed, PG&E said they would begin collaborating with counties and tribes to identify locations, still without broader community input and participation (PSPS, 2019). Yet, Supervisor Lynda Hopkins of Sonoma County said that CRC implementation has been "sporadic," and that they've "had to advocate politically in order to receive Community Resource Centers, particularly in vulnerable, disadvantaged, and atrisk communities. Low-income communities as well" (CPUC, 2021). In some cases, they had to set up their own centers, and to cover associated costs.

Interview participants stressed to me that community resilience hubs need to be accessible, such that people do not have to travel far to access their services. This means being

reachable by public transit and ADA accessible, as well as being decentralized so they are located *in* the communities and neighborhoods they aim to serve. However, it is also important to address the reality that some disabled people have mobility issues that prevent them from accessing these spaces. Speaking to the scarcity of CRCs set up by PG&E, which included just one site in Alameda County during a 2019 shutoff event affecting millions, Jessica stressed: "Do you know how huge Alameda County is? To drive from one end of the county to the other might even be over an hour. If you can drive. If you have access to a car, right" (J. G. Tovar, personal communication, May 28, 2021). PSPS, 2019). Angela Scott, who works deeply in East Oakland, also said this site wasn't accessible to frontline communities:

PG&E had set up a sort of hub where folks could plug stuff in and things like that, but it was up at Merritt College. Merritt College, which is all the way in the Hills, and so, folks were like...who are usually on the flatlands, and frontline communities are like, 'So I'm supposed to go up to the Hills to access these things? That's not gonna happen.' (A. Scott, personal communication, May 21, 2021)

Angela highlighted the uneven spatial distribution of services and effects of racist housing policy that concentrate lower-income people on the flatlands. Alameda County is one of the most populous counties in the state with over 1.6 million residents (however not the whole county was out of power) (U.S. Census Bureau, 2019). Even so, the site set up by PG&E at Merritt College had just 96 visitors over two days (PSPS, 2019; see Figure 11). For this particular shutoff that affected an estimated two-million-plus people, seven of the 33 CRCs set up by PG&E had ten or less visitors (della Cava et al., 2019; PSPS, 2019).



Figure 11: Community Resource Center set up by PG&E in Alameda County (PSPS, 2019).

Cooling centers that governments set up to provide for communities during heat waves mirror the disconnected implementation of CRCs, and point to the enduring need for community resilience hubs. In a series of tweets, APEN illustrated the dire consequences of misdirected resources that don't actually respond to community needs, and which aren't led by affected people. They wrote:

In 2020, cities across #CA responded to extreme heat by creating 'cooling centers' where people could escape the heat. Unlike our vision for #ResilienceHubs, these were often far from the people they were meant to serve, and were created last-minute without community engagement. As a result, very few people showed up. At cooling centers in

Los Angeles, an average of 11 people showed up each day. All while people were dying in the street from extreme heat. (APEN, 2021)

APEN linked an article from *The Los Angeles Times* that showed a temperature reading of 117 degrees Fahrenheit in the Woodland Hills community (Reyes, 2020). Three deaths were linked to that heatwave. And they are reflective of a broader, worsening issue of deadly heat in a changing climate. A recent investigation by the same news outlet found heat waves to be far deadlier than official counts suggest, reporting as many as 3,900 heat-related deaths in California over a decade, compared to the official toll of 599 (Phillips et al., 2021). The APEN tweets continued:

In Alameda County in 2020, cooling centers were only opened in Livermore and Dublin — areas that are inaccessible to many of the communities worst hit during heat waves. We need #ResilienceHubs in communities on the frontlines of climate disaster. When disasters hit, people need a trusted, safe, and accessible place to go where they feel welcomed. They won't go somewhere they've never gone before, that doesn't address their needs, and where they don't feel like they have agency #CommunityResilience. (APEN, 2021)

Along with the California Environmental Justice Alliance (CEJA), a coalition that APEN is a core member of, APEN has been leading efforts at the state legislature to fund communityled resilience hubs, demonstrating the intersection of "the policy and the practice" as they advocate to draw down resources to the grassroots. In early September 2021, after months of advocacy, CEJA Action celebrated the California Legislature's approval of bills dedicating \$585 million to environmental justice programs, including \$420 million for the Transformative

Climate Communities Program over three years, and \$100 million for Community Resilience Centers over two years — major victories for resourcing frontline communities (CEJA Action, 2021).

Importantly, APEN advocates for facilities that would operate year-round, and provide services not just during extreme weather events. Existing community spaces would be betterresourced to meet changing needs. As Shina told me, they are trying to shift thinking away from mobilizing only during fire season to a recognition that environmental justice communities are dealing with crises on an ongoing basis, from chemical explosions to unusual winter heatwaves. Describing some of these inequities, Shina said: "when you get to East Oakland, there's a lot less tree cover. It is like 10 degrees warmer than Berkeley, even, and the industrial waterfront's still active" (S. Robinson, personal communication, July 16, 2021).

Hot days exacerbate air pollution, making clear a need for community spaces with reliable air filtration and cooling systems, in addition to non-polluting power that keeps them on. Wildfire smoke also regularly descends into the region from fires up north, making it hazardous to be outdoors, as well as indoors without proper filtration. Schools, libraries, parks, and more are often forced to close as a result of poor air quality ("Bay Area schools," 2020; Sciacca, 2017). Certainly, there is urgent need to abolish polluting industry to prevent events like chemical explosions, and APEN has been extremely active in those long fights as well (Kim, 2012). But providing quality air filtration while those fights continue is absolutely necessary harm reduction, which also shifts the energy system toward decentralized, clean energy and noncorporate self-governance.

Richmond, California is one of the cities where APEN organizes. Just 17 miles north of San Francisco, the working-class city's residents — the majority of whom are people of color —

are subjected to extreme environmental violence. Over 350 refineries and fossil fuel companies are located in the city, including the state's largest emitter of greenhouse gases: a 2,900-acre Chevron refinery (Lien, 2021; Mascarenhas-Swan, 2017). Ann Lien wrote of the more than century-old refinery's disasters and toxic effects:

Among the most notorious in its recent history, a 2012 explosion sent 15,000 people to seek medical attention in respiratory distress. And just this past February, an oil leak spilled nearly 600 gallons into the Bay. Meanwhile, Richmond's rate of childhood asthma is 17 percent, more than double the national average. The city also has high rates of cancer, respiratory illnesses, autoimmune disorders, and other ailments. (Lien, 2021)

Organizations like APEN and Communities for a Better Environment (CBE) have long challenged the refinery, working to curb its pollution, stop its expansion, and ultimately to decommission it.

Shina and others at APEN have been working with the RYSE Center, a youth-led community center in Richmond, to help it become a resilience hub (Lou et al., 2020). The RYSE Center opened in 2008, and developed into a space with bright murals, a community garden, an on-site therapist, a recording studio, and more. The center's arts, education, organizing, and health programs are expansive — for example, a June 2021 blog post shared a recap of RYSE's Pryde celebration and programming, including LGBTQ+ education about pronouns, Black and Latinx Ballroom history, and more ("June Recap," 2021; see Figure 12). They shared clips of virtual events like a spoken word, dance, music, and art showcase organized by RYSE and other Richmond organizations, as well as details of a Youth Organizing Summer Academy on abolition. RYSE has served over 4,000 members, and 95% are young people of color (RYSE

Center, n.d.-b). Importantly, youth are at the forefront of making decisions about the space, which APEN describes as a "power-shifting form of governance driven by those most affected" (Lou et al., 2020, p. 24).



Figure 12: Photo collage from the RYSE Center's Pryde 2021 blog post ("June Recap," 2021).

While already a trusted community space committed to youth liberation, RYSE is expanding to a larger, 45,000-foot campus with additional services that will be called the RYSE Commons. Set to open in spring 2022, it will include sanctuary and healing spaces, increased access to primary care and mental health services, counseling and peer-support rooms, resources for diversion and re-entry, youth-led organizing and base-building, outdoor spaces for play and learning, a performance theater, and more (RYSE, n.d.-c; see Figures 13 and 14). APEN and RYSE have been collaborating to bring a microgrid system using solar plus storage to the Commons, so that it can support the community in all conditions (APEN, 2020). Like other aspects of RYSE, the Commons have been designed through deep community-led input and dreaming. It's set up to meet multiple community needs all the time, and to serve as a vibrant gathering, healing, and learning space — heatwave or not. RYSE offers an exciting model for what community centers can do when they have the resources they need to support life and liberation.

In this chapter, I have shown how utility justice is a part of a larger understanding of energy democracy that directs attention to utilities, which opens up space for solidarities with other utility services that sustain life. To frontline organizers I interviewed, resilience is a means of practicing what the just transition looks like, and resilience hubs can be created to meet community needs while shifting relations of power. With power shutoffs, wildfires, heatwaves, and more, the need for reliable and clean energy in low-income communities has become increasingly important. Comparing utility mitigation strategies to the visions and spaces created by communities illustrate the large gulf between what is provided now and what is both necessary and possible.



Figures 13 and 14 (left): Photos of members at the current RYSE Center (Hunt, 2015) Figures 15 and 16 (right): Digital renderings of the RYSE Commons (RYSE Center, n.d.-c)

## **CHAPTER 8**

# TOWARDS LIFE-AFFIRMING ENERGY SYSTEMS

This thesis posed two research questions: 1) How do PG&E and the CPUC conceive of "public safety" in the context of Public Safety Power Shutoff (PSPS) events? How does this conception reproduce uneven harm? And 2) How can "community resilience hubs," powered by microgrids, support Reclaim Our Power's conception of Utility Justice? In a state where worsening wildfires are intersecting with the expansion of power shutoffs to prevent utilities from sparking them, both the uneven effects of shutoffs and transformative visions of utility justice are of great importance.

For the first question, I have argued that PG&E and the CPUC leverage a definition of public safety that enacts uneven harm to people across axes of ability, race, and class. Complex utility programs and partnerships put the burden on these individuals to recover from utilitycreated disaster and reflect a broader approach of making shutoffs better rather than eliminating them altogether. For an imagined "public safety," certain individuals are forced to take on real harm in the form of spoiled food, unrefrigerated medication, temporary displacement from their homes, and more. Presenting shutoffs as "just another utility program" (CPUC, 2021) risks reifying this uneven harm in the utility's general operations, even as they fail to make their equipment safe for all. Moreover, while the utility may reduce its likelihood of facing wildfire liability, great risk and cost are shifted from the utility to people and local governments. Finally, even if PG&E perfects its ability to shut off power when its equipment may otherwise spark fires, the shutoffs do not account for the potentially devastating effects of power loss if fires are started by other means.

My second research question explored the meaning of utility justice as articulated by the organizers of Reclaim Our Power, and how community resilience hubs can put utility justice into practice. I have argued that utility justice directs attention to the structure of utility systems in pursuit of energy democracy, while opening up space for solidarity with other public-serving utilities that are often investor-owned, such as water and broadband. Community resilience hubs can be a means to both address the underlying systems that produce uneven harm, while responding to the very real need for trusted community spaces that communities can go to during power shutoffs, heatwaves, and more. Organizers' view of resilience includes drawing down resources to the grassroots so community-led spaces can meet peoples' needs all the time, not just during disaster. By comparing utility and government-led approaches to shutoffs and heatwaves with the visionary RYSE Commons, it is clear that dominant approaches are inadequate for utility justice, but holistic spaces that shift relations of power are already here — and more are possible.

### 8.2 Research Limitations and Opportunities for Future Research

This research was limited by the short period of data collection, which took place primarily between summer 2020 and summer 2021. Moreover, the coronavirus pandemic prevented me from conducting research in-person, as originally planned. While much of the data I reviewed took place fully online during this time, under different circumstances, in-person research would have allowed for other forms of observance or participation in hearings, protests, interviews, and so forth, enabling more first-hand accounts and less reliance on media reporting.

Given the scope and timeframe of a master's project, I had to make decisions about methods that would be feasible to carry out. Therefore, although various movements for microgrids were taking place at the state legislature and in regulatory spaces during the time of my research, I did not have capacity to follow these developments like I did with PSPS. More broadly, because PG&E is a colossal entity with countless moving parts, it was difficult to keep up with relevant updates and changes that took place throughout the research and writing process. I had to stay focused on what I outlined in my methods, even as a dizzying array of related developments took place. For example, I could not closely follow the investigations related to fires like the Zogg and Kincade, though deeper analysis could have benefited the project. Finally, because my project was focused on PG&E and the CPUC, I was not able to meaningfully analyze the large and growing role that California's CCAs play in the state's everchanging energy landscape.

In view of these limitations, future research could more directly consider the relationship between utilities like PG&E and wildfires. Such research might explore causes for worsening wildfire in more depth, including the suppression of Indigenous fire management, gentrification and the displacement of people from urban spaces to more remote and fire-prone regions, climate change, and more. There is also ample room to engage more deeply with the political discourse surrounding microgrids, as my project focused primarily on organizer visions for using them in the creation of community resilience hubs. Moreover, as shutoffs continue in California and PSPS programs are adopted in other wildfire-prone states, there is need to follow these developments and their effects.

## **8.3** Concluding Thoughts

The power shutoffs in California make clear that even if the energy sources change, so long as the physical grid infrastructure, its for-profit governance, and the ableist and racial capitalist logics that underpin current systems remain intact, energy will still be death-dealing. The shutoffs direct attention to the centralized grid and utility model that arose out of colonialcapitalist development in the late nineteenth and early twentieth centuries, as well as who continues to benefit and who continues to hurt from this model. Because whether via planned power outages, wildfires, annual rate hikes, or shutoffs due to non-payment, utilities re-inscribe violence unevenly. So, I want to return to a question I posed in my introduction: What, instead, would life-affirming energy systems look like?

Certainly, I cannot answer this question alone, but it is a question that guides my work. It is a question informed by the difficult, messy tension and truth that many people need power to live, and yet, so many of our modes of providing power are deadly — even those conceived of as renewable. The partial responses to this question I've offered here have been profoundly shaped by the extraordinary insights of Reclaim Our Power and so many other organizers in the fight for a just transition, who have helped me see that life-affirming energy systems are indeed possible.

This project sought to explore *if and how* microgrids can support different social relations, and the focus on governance is intentional. Microgrids are a technical solution that does not guarantee utility justice. Moving towards life-affirming energy systems is no easy task, full of knotty questions like how to engage with incumbent utilities (who, currently, operate the equipment to which microgrids connect) and how to source materials for batteries and solar panels. But Reclaim Our Power makes it clear that those who have been harmed by the current system are well-positioned to work to avoid reproducing systems of oppression in pursuit of

justice. Community resilience hubs powered by microgrids can offer one means of disrupting these systems and putting utility justice into practice.

The concept of community resilience hubs that is being explored by Reclaim Our Power is an inspiring vision about strengthening relationships to what sustains life, offering a salve to the violence of the current energy system. It is a vision where resources are drawn down to the community level so that place-based energy projects can be implemented at the grassroots, while shifting away from the fossil economy. It is a vision in which community spaces like the RYSE Commons can help meet community needs all the time, not just during disasters. It is a vision where people can nurture relationships with neighbors and will know who needs help when dangerous weather events take place. It is a vision that begins to wrest power from the investorowned utilities and put it in the hands of the people, especially those utilities have harmed, so people can take care of each other.

#### REFERENCES

- Airborne, M. (2019, October 11). We Need Power to Live. *Fat Rose*. https://fatrose.org/2019/10/11/we-need-power-to-live/
- Alsup, W. (2020, April 29). United States of America v. Pacific Gas and Electric Company, Case 3:14-cr-00175-WHA. United States District Court Northern District of California https://assets.documentcloud.org/documents/6880045/Alsup-Pge-200429.pdf
- Anderson, B. (2019, December 17). PG&E, we need #PowertoLive! Facebook. https://www.facebook.com/movementphotographer/photos/a.2895297090494003/289529974049 3738
- APEN [@apen4ej]. (2021, July 14). This year, frontline communities have come together to call on #CAleg to invest in creating #ResilienceHubs across the state. But what makes resilience hubs unique, and how are these different than the "cooling centers" many cities rolled out last year?
  THREAD [Tweet]. https://twitter.com/APEN4EJ/status/1415401575053287424
- Aronoff, K. (2021). Power to the People. In *Overheated: How Capitalism Broke the Planet and How We Fight Back* (pp. 383–442). Bold Type Books.
- Associated Press. (2021, August 11). Dixie Fire in Northern California Surpasses Half a Million Acres. *NBC Bay Area*. https://www.nbcbayarea.com/news/california/dixie-fire-in-northerncalifornia-surpasses-half-a-million-acres/2629372/
- Avalos, G. (2020, October 10). PG&E becomes one of America's deadliest corporate criminals after guilty plea for lethal Paradise inferno. *The Mercury News*.

https://www.mercurynews.com/2020/06/16/pge-pleads-guilty-in-butte-county-criminal-caselinked-to-fatal-camp-fire-inferno/

Baker, D. R., & Varghese, R. (2019, November 14). Pressure grows for California governor to allow PG&E takeover. *Los Angeles Times*. https://www.latimes.com/business/story/2019-11-14/pressure-grows-for-california-governor-to-allow-pg-e-takeover

Baker, S. (2021). Revolutionary Power: An Activist's Guide to the Energy Transition. Island Press.

- Baker, S. H. (2019). Anti-Resilience: A Roadmap for Transformational Justice within the Energy System. Harvard Civil Rights - Civil Liberties Law Review, 54, 1–48.
- Bakke, G. (2016). *The Grid: The Fraying Wires Between Americans and Our Energy Future*. Bloomsbury USA.
- Bay Area schools, COVID-19 testing sites, beaches closed due to wildfires, poor air quality. (2020, August 25). *ABC7*. https://abc7news.com/bay-area-fires-air-quality-california-parks-closed-santa-cruz-boardwalk/6378299/
- Beder, S. (2003). Utilities Set the Agenda, 1900-1925. In *Power Play: The Fight to Control the World's Electricity* (pp. 22–35). New Press.
- Behrsin, I. (2019). Green Energy from Garbage? A Case Study of Municipal Solid Waste's Contested Inclusion in Maryland's Renewable Portfolio Standard. *Case Studies in the Environment*, 3(1), 1–7. https://doi.org/https://doi.org/10.1525/cse.2019.002048
- Belser, J. W. (2020). Disability, Climate Change, and Environmental Violence: The Politics of Invisibility and the Horizon of Hope. *Disability Studies Quarterly*, 40(4).
  https://doi.org/http://dx.doi.org/10.18061/dsq.v40i4.6959

- Blake, R. (2021, August 27). Dixie Fire: Evacuation warnings now affect Shasta County. *East Bay Times*. https://www.eastbaytimes.com/2021/08/27/dixie-fire-evacuation-warnings-now-affect-shasta-county/
- Blunt, K., & Lazo, A. (2019, November 1). California Governor Threatens State Takeover of PG&E. *Wall Street Journal*. https://www.wsj.com/articles/california-governor-threatens-state-takeover-of-pg-e-11572641749
- Bogel-Burroughs, N., & Reckdahl, K. (2021, September 15). The Greatest Killer in New Orleans
  Wasn't the Hurricane. It Was the Heat. *The New York Times*.
  https://www.nytimes.com/2021/09/15/us/new-orleans-hurricane-ida-heat.html
- Borenstein, Seth. (2020, August 21). What makes California burn so much? Climate change and people, experts say. *ABC7*. https://abc7.com/what-causes-wildfires-cal-fire-california-ca/6381945/
- Borenstein, Severin, Fowlie, M., & Sallee, J. (2021). Designing Electricity Rates for An Equitable Energy Transition. Energy Institute at Haas, UC Berkeley and Next 10. https://haas.berkeley.edu/wp-content/uploads/WP314.pdf
- Botts, J. (2020, February 27). "We need the food that we lost." Low-income families still reeling from blackouts. *CalMatters*. https://calmatters.org/projects/california-psps-power-shutoffs-poverty-spoiled-food-hunger/
- Bowe, R., & Pickoff-White, L. (2015, June 19). 10 Emails That Detail PG&E's Cozy Relationship With Regulators. *KQED*. https://www.kqed.org/news/10564656/10-emails-detail-pges-cozyrelationship-with-its-regulators

brown, adrienne maree. (2017). Emergent Strategy: Shaping Change, Changing Worlds. AK Press.

- Butte County. (2019). *Identified and NOK Notified Victims of the Camp Fire*. https://www.buttecounty.net/Portals/24/pdf/Camp%20Fire%20Victims10022019.pdf?ver=2019-10-02-100308-803
- CACE. (2019). *CPUC Bias Favoring Monopoly Utilities Against Community Choice* (pp. 1–7). California Alliance for Community Energy. https://cacommunityenergy.org/wpcontent/uploads/2019/01/CACE\_CPUC-Bias-Against-Community-Choice.pdf

CAL FIRE. (n.d.). Stats and Events. Ca.Gov. https://www.fire.ca.gov/stats-events/

- Cal OES (Office of Emergency Services). (n.d.). *Access & Functional Needs*. Retrieved November 5, 2021, from https://www.caloes.ca.gov/cal-oes-divisions/access-functional-needs
- CalCCA. (n.d.). *CCA Programs and Choices*. Retrieved November 9, 2021, from https://calcca.org/cca-impact/
- California Alliance for Community Energy [CACE]. (2020). *Community-Driven Energy Resilience* [Position Paper]. http://cacommunityenergy.org/wp-content/uploads/2020/09/CACE-Position-Community-Driven-Energy-Resilience.pdf
- California Energy Commission. (2020). *Electric Investor Owned Utilities: California, 2020* [Map]. https://cecgis-caenergy.opendata.arcgis.com/documents/electric-investor-owned-utility-areas/explore
- California Environmental Justice Alliance [CEJA], & Reclaim Our Power. (2019). Letter to Governor Newsom. http://localcleanenergy.org/files/Letter%20to%20Newsom-California%20Energy%20Future\_11-19-19.pdf
- California State Association of Counties. (2018). *Inverse Condemnation and Utility Liability*. https://www.counties.org/sites/main/files/file-

attachments/csac\_issue\_brief\_inverse\_condemnation\_7-25-18.pdf

- California State Parks. (2011). *Building the Powerhouse* [CA.gov]. https://web.archive.org/web/20110930071425/http:/www.parks.ca.gov/default.asp?page\_id=134
- Calvert, K. (2016). From 'energy geography' to 'energy geographies': Perspectives on a fertile academic borderland. *Progress in Human Geography*, 40(1), 105–125. https://doi.org/10.1177/0309132514566343
- #CancelUtilityDebt. (2021). #CancelUtilityDebt National Day of Action. https://www.eventbrite.com/e/cancelutilitydebt-national-day-of-action-tickets-158618134109?link\_id=3&can\_id=5046d24cb9f6c02b7ef377f0c75e223d&source=emailcancelutilitydebt-join-us-june-

15th&email referrer=email 1202791&email subject=cancelutilitydebt-join-us-june-15th

- Card, K. (2020, June 1). *Geographies of Racial Capitalism with Ruth Wilson Gilmore*. Antipode Online. https://www.youtube.com/watch?v=2CS627aKrJI
- Cart, J. (2021, September 24). Lightning could spark more California fires as world warms. *CalMatters*. https://calmatters.org/environment/2021/09/california-fires-lightning/
- Casa Pueblo, & Honnold Foundation. (2020, October 19). Press Release: Casa Pueblo And ACESA Are Transforming Adjuntas Into The First "Pueblo Solar." *Honnold Foundation*. https://www.honnoldfoundation.org/news/press-release-casa-pueblo-and-small-business-ownersadvance-their-vision-of-transforming-the-town-of-adjuntas-into-the-first-pueblo-solar
- CEJA Action. (2021). *Tumultuous Budget Surplus Year Ends With Critical EJ Investments*. Press Release. http://ceja-action.org/2021/09/10/tumultuous-budget-surplus-year-ends-with-critical-ejinvestments/

- Chi, S., & Tovar, J. G. (2019, November 1). Billionaires Won't Save Californians From PG&E Disasters. It's Time We Owned Our Power | Opinion. *Newsweek*.
  https://www.newsweek.com/billionaires-wont-save-californians-pge-disasters-its-time-we-owned-our-power-opinion-1469292
- CPUC. (n.d.-a). Our Mission. Ca.Gov. https://www.cpuc.ca.gov/general.aspx?id=1034

CPUC. (n.d.-b). *Utility Public Safety Power Shutoff Plans (De-Energization)*. https://www.cpuc.ca.gov/psps/

- CPUC. (n.d.-c). CPUC Overview. https://www.cpuc.ca.gov/about-cpuc/cpuc-overview
- CPUC. (2009). Decision Denying Without Prejudice San Diego Gas & Electric Company's Application To Shut Off Power During Periods Of High Fire Danger (Decision 09-09-030). https://docs.cpuc.ca.gov/word pdf/FINAL DECISION/107143.pdf
- CPUC. (2012). Decision Granting Petition To Modify Decision 09-09-030 And Adopting Fire Safety Requirements For San Diego Gas & Electric Company (Decision 12-04-024).
   https://docs.cpuc.ca.gov/PublishedDocs/WORD\_PDF/FINAL\_DECISION/165063.PDF
- CPUC. (2017). Decision Adopting A Work Plan For The Development Of Fire Map 2 (Decision 17-01-009). https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M172/K762/172762082.PDF
- CPUC. (2018). Resolution Extending De-Energization Reasonableness, Notification, Mitigation
   And Reporting Requirements In Decision 12-04-024 To All Electric Investor Owned Utilities.
   (Resolution ESRB-8).

https://docs.cpuc.ca.gov/publisheddocs/published/g000/m218/k186/218186823.pdf

CPUC. (2019). Decision Adopting De-Energization (Public Safety Power Shut-Off) Guidelines (Phase 1 Guidelines) (Decision 19-05-042).

https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M296/K598/296598822.PDF

CPUC. (2020). *Pacific Gas and Electric Company - Fire Incident Data Collection Plan*. California Public Utilities Commission.

https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News\_Room/NewsUpdates/202

0/PGE\_Fire%20Incident%20Data%202014-2019.pdf

- CPUC. (2021, March 29). Joint IOUs Workshop on 2020 Public Safety Power Shutoff Events. http://www.adminmonitor.com/ca/cpuc/workshop/20210329/
- Curley, A. (2021). Resources is just another word for colonialism. In M. Himley, E. Havice, & G. Valdivia (Eds.), *The Routledge Handbook of Critical Resource Geography* (pp. 79–89).
- Daggett, C. N. (2019). *The Birth of Energy: Fossil Fuels, Thermodynamics, and the Politics of Work*. Duke University Press.
- della Cava, M., Weise, E., & Paluch, G. (2019, October 10). "A victim of their own failure": Why PG&E's massive power shutdown in California was inevitable. USA Today. https://www.usatoday.com/story/news/nation/2019/10/09/california-power-outage-pg-e-stuckposition-their-own-making/3924699002/
- Derickson, K. D., & Routledge, P. (2015). Resourcing Scholar-Activism: Collaboration, Transformation, and the Production of Knowledge. *The Professional Geographer*, 67(1), 1–7. https://doi.org/10.1080/00330124.2014.883958
- Dillon, L., & Sze, J. (2016). Police Power and Particulate Matters: Environmental Justice and the Spatialities of In/Securities in U.S. Cities. *English Language Notes*, 54(2). https://doi.org/10.1215/00138282-54.2.13
- Disability Visibility Project. (2020, May 19). *Loving Stacey Park Milbern: A Remembrance*. https://disabilityvisibilityproject.com/2020/05/19/loving-stacey-milbern-a-rememberance/

- Energy Democracy Project. (2021b). *A People's History of Electric Utilities*. https://energydemocracy.us/utility-justice-playbook/
- Energy Democracy Project. (2021). *People's Utility Justice Playbook*. https://energydemocracy.us/utility-justice-playbook/
- #PowerToLive. (n.d.). We Need #PowerToLive. Retrieved October 21, 2021, from https://www.powertolivecoalition.org/
- Energy Information Administration. (2019). *Investor-owned utilities served* 72% of U.S. electricity customers in 2017 [EIA.gov]. https://www.eia.gov/todayinenergy/detail.php?id=40913
- Environmental Protection Agency. (n.d.). *About Centralized Generation*. EPA.Gov. Retrieved November 5, 2021, from https://www.epa.gov/energy/centralized-generation-electricity-and-itsimpacts-environment
- Fairchild, D., & Weinrub, A. (2017). Introduction. In *Energy Democracy: Advancing Equity in Clean Energy Solutions* (pp. 1–19). Island Press.
- Farrell, J. (2011, October 17). The Challenge of Reconciling a Centralized v. Decentralized Electricity System. *Institute for Local Self-Reliance*. https://ilsr.org/challenge-reconciling-centralized-v-decentralized-electricity-system/
- Freedman, A., & Leonard, D. (2020). California wildfires force tens of thousands to evacuate
  Orange County amid strong winds. *The Washington Post*.
  https://www.washingtonpost.com/weather/2020/10/27/california-wildfires-orange-county-winds/

Genecov, M. (2019, January 29). Still Toxic After All These Years. *Grist*. https://grist.org/science/the-true-story-of-the-town-behind-erin-brockovich/

Genzlinger, N. (2020, June 6). Stacey Milbern, a Warrior for Disability Justice, Dies at 33. *The New York Times*. https://www.nytimes.com/2020/06/06/us/stacey-milbern-dead.html

- Gilmore, R. Wi. (2002). Fatal Couplings of Power and Difference: Notes on Racism and Geography. *The Professional Geographer*, 54(1), 15–24. https://doi.org/10.1111/0033-0124.00310
- Gold, R., & Blunt, K. (2020, March 8). This Old Metal Hook Could Determine Whether PG&E Committed a Crime. *Wall Street Journal*. https://www.wsj.com/articles/this-old-metal-hookcould-determine-whether-pg-e-committed-a-crime-11583623059
- Gorman-Murray, A., McKinnon, S., & Dominey-Howes, D. (2014). Queer Domicide: LGBT Displacement and Home Loss in Natural Disaster Impact, Response, and Recovery. *Home Cultures*, 11(2), 237–261. https://doi.org/https://doi.org/10.2752/175174214X13891916944751
- Green, M. (2019, November 6). How PG&E's Power Shutoffs Sparked an East Bay Disability Rights Campaign. *KQED*. https://www.kqed.org/news/11784435/how-pges-power-shutoffssparked-an-east-bay-disability-rights-campaign
- Guliasi, L. (2021). Toward a political economy of public safety power shutoff: Politics, ideology, and the limits of regulatory choice in California. *Energy Research & Social Science*, 71, 1–10. https://doi.org/https://doi.org/10.1016/j.erss.2020.101842
- Hall, K. (2014). No Failure: Climate Change, Radical Hope, and Queer Crip Feminist Eco-Futures. *Radical Philosophy Review*, *17*(1), 203–225.

https://doi.org/https://doi.org/10.5840/radphilrev201432614

- Haraway, D. (1988). Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies*, *14*(3), 575–599. https://www.jstor.org/stable/3178066
- Harrison, C., & Popke, J. (2011). "Because You Got to Have Heat": The Networked Assemblage of Energy Poverty in Eastern North Carolina. *Annals of the Association of American Geographers*, *101*(4), 949–961. https://doi.org/10.1080/00045608.2011.569659
- Hartel, D. (2011, May 25). Doctor's Orders: Undam the Klamath. *High County News*. https://www.hcn.org/issues/43.8/doctors-orders-undam-the-klamath?b\_start:int=2#body
- Helman, C. (2019, October 30). How The Future Of California's Power Grid Hangs On The Constitutionality Of 'Inverse Condemnation.' *Forbes*.
  https://www.forbes.com/sites/christopherhelman/2019/10/30/how-the-future-of-californiaspower-grid-hangs-on-the-constitutionality-of-inverse-condemnation/?sh=7817935d7159
- Holifield, R., Porter, M., & Walker, G. (2010). Introduction: Spaces of Environmental Justice—
  Frameworks for Critical Engagement. In *Spaces of Environmental Justice* (pp. 1–22). WileyBlackwell.
- Huber, M. (2015). Theorizing Energy Geographies. *Geography Compass*, 9, 1–12. https://doi.org/10.1111/gec3.12214
- Hunt, M. E. (2015, January 21). Ryse Youth Center a safe haven for Richmond artists, activists. *SFGATE*. https://www.sfgate.com/entertainment/article/Ryse-Youth-Center-a-safe-haven-for-Richmond-6031210.php#photo-7397819
- IEJ. (2020). *Webinar California Power Shutoffs: Deficiencies in Data and Reporting*. Initiative for Energy Justice. https://iejusa.org/ca-power-shutoffs-deficiencies-data-reporting/
- Israel, A., Sachs, C., & Whittenbury, K. (2013). A Climate for Feminist Intervention: Feminist Science Studies and Climate Change. In M. Alston (Ed.), *Research, Action and Policy: Addressing the Gendered Impacts of Climate Change*, (pp. 33–51). Springer Science + Business Media Dordrech.
- Jampel, C. (2018). Intersections of disability justice, racial justice and environmental justice. *Environmental Sociology*, 4(1), 122–135. https://doi.org/10.1080/23251042.2018.1424497

June Recap: RYSE PRYDE 2021. (2021, June 30). RYSE Center.

https://rysecenter.org/blog/2021/6/24/june-recap-ryse-pryde-2021

Kafer, A. (2013). Feminist, Queer, Crip. Indiana University Press.

Kasler, D. (2020). PG&E pleads guilty to manslaughter charges for Camp Fire, deadliest in California history. *The Sacramento Bee*.

https://www.sacbee.com/news/california/fires/article243571597.html

- Katayama, D., Cruz, E., & Montecillo, A. (2020, May 29). What Disability Justice Activist Stacey Park Milbern Taught Us. *KQED*. https://www.kqed.org/news/11821598/what-stacey-parkmilbern-taught-us
- Kelly, C. (2015, July 8). "Go to sleep, wake up, burn something down." Saul Williams returns with Martyr Loser King. *Fact Magazine*. https://www.factmag.com/2015/07/08/saul-williams-martyrloser-king-album-interview/
- Kim, R. (2012). APEN. https://apen4ej.org/wp-content/uploads/2012/10/Final-APEN-Statement-1.pdf
- Lennon, M. (2017). Decolonizing energy: Black Lives Matter and technoscientific expertise amid solar transitions. *Energy Research & Social Science*, 30, 18–27. https://doi.org/http://dx.doi.org/10.1016/j.erss.2017.06.002
- Lennon, M. (2020). Postcarbon Amnesia: Toward a Recognition of Racial Grief in Renewable Energy Futures. *Science, Technology, & Human Values*, 45(5), 934–962. https://doi.org/https://doi.org/10.1177/0162243919900556
- Levenda, A. M., Behrsin, I., & Disano, F. (2021). Renewable energy for whom? A global systematic review of the environmental justice implications of renewable energy technologies. *Energy Research & Social Science*, 71. https://doi.org/https://doi.org/10.1016/j.erss.2020.101837

- Li, M., & Jun, L. (2020). Cobalt in lithium-ion batteries. *Science*, *367*(6481), 979–980. https://doi.org/https://www.science.org/doi/10.1126/science.aba9168
- Lien, A. (2021, May 7). An Oil Giant Is No Match for Resistance and Resilience in Richmond, California. *NRDC*. https://www.nrdc.org/stories/oil-giant-no-match-resistance-and-resiliencerichmond-california
- Lifsher, M. (2015, April 22). Drinks, dinners, favors helped PG&E lobbyist build PUC ties, emails show. *Los Angeles Times*. https://www.latimes.com/business/la-fi-puc-cherry-emails-20150422-story.html
- Lou, Z., Raval, A., Young, M., & Appel, S. (2020). Resilience Before Disaster: The Need to Build Equitable, Community-Driven Social Infrastructure. APEN, SEIU California, BlueGreen Alliance. http://apen4ej.org/wp-content/uploads/2020/10/Resilience-Before-Disaster-FINAL-UPDATED.pdf
- Luke, N. (2021). Powering racial capitalism: Electricity, rate-making, and the uneven energy geographies of Atlanta. *Environment and Planning E: Nature and Space*, 1–23. https://doi.org/https://doi.org/10.1177/25148486211016736
- Luke, N., & Heynen, N. (2020). Community Solar as Energy Reparations: Abolishing Petro-Racial Capitalism in New Orleans. *American Quarterly*, 72(3), 603–625. https://doi.org/https://doi.org/10.1353/aq.2020.0037
- Luna, T. (2019, July 11). Utility customers will pay \$10.5 billion for California wildfire costs under bill sent to Newsom. *Los Angeles Time*. https://www.latimes.com/politics/la-pol-ca-wildfirefund-gavin-newsom-20190711-story.html

- MacKinnon, D., & Derickson, K. D. (2012). From resilience to resourcefulness: A critique of resilience policy and activism. *Progress in Human Geography*, 37(2), 253–270. https://doi.org/https://doi.org/10.1177/0309132512454775
- MacMillan, D., & Satija, N. (2019, November 11). PG&E helped fund the careers of Calif. governor and his wife. Now he accuses the utility of 'corporate greed.' *The Washington Post*. https://www.washingtonpost.com/business/2019/11/11/pge-helped-fund-careers-calif-governorhis-wife-now-he-accuses-utility-corporate-greed/
- Madley, B. (2016). Introduction. In *An American Genocide: The United States and the California Indian Catastrophe, 1846-1873*. Yale University Press.
- Malm, A. (2016). Fossil Capital: The Rise of Steam Power and the Roots of Global Warming. Verso.
- Mascarenhas-Swan, M. (2017). The Case for a Just Transition. In D. Fairchild & A. Weinrub (Eds.), *Energy Democracy: Advancing Equity in Clean Energy Solutions* (pp. 37–56). Island Press.
- McCarthy, J. (2015). A socioecological fix to capitalist crisis and climate change? The possibilities and limits of renewable energy. *Environment and Planning A*, 47, 2485–2502. https://doi.org/10.1177/0308518X15602491
- McGill, K., & Deslatte, M. (2021, September 8). Ida deaths rise by 11 in New Orleans; Louisiana toll now 26. AP News. https://apnews.com/article/hurricane-ida-environment-and-naturelouisiana-education-business-07d1ea35e5bb3f6063f80c76a2416e45
- Meeks, A. (2021, July 30). California utility PG&E is "criminally liable" for the fatal 2020 Zogg Fire, prosecutor says. *CNN*. https://www.cnn.com/2021/07/30/us/zogg-fire-criminallyliable/index.html

- Middleton, E. (2010). A Political Ecology of Healing. *Journal of Political Ecology*, *17*(1), 1–28. https://doi.org/https://doi.org/10.2458/v17i1.21696
- Middleton-Manning, B. R., Gali, M. S., & Houck, D. (2018). Holding the Headwaters: Northern
   California Indian Resistance to State and Corporate Water Development. *Decolonization: Indigeneity, Education & Society*, 7(1), 174–198.
- Milben, S. P. (2019, October 10). Remarks by Stacey Milbern at Light up the Blackouts: A Vigil and Community Gathering -Oakland. *Disability Visibility Project*. https://disabilityvisibilityproject.com/2019/10/13/we-need-power-to-live/
- Montali, D. (2019). *Memorandum Decision on Inverse Condemnation*. United States Bankruptcy Court for the Northern District Of California.
  - https://www.californiaeminentdomainreport.com/assets/htmldocuments/PGE\_Bankruptcy\_Invers e\_Condemnation\_Memorandum\_Decision\_11-27-19.pdf
- Movement Generation Justice & Ecology Project. (2013). *The Work of Love and the Love of Work: Resilience-Based Organizing as a Path Forward*. https://movementgeneration.org/the-work-of-love-and-the-love-of-work-resilience-based-organizing-as-a-path-forward/
- Mulvaney, D. (2013). Opening the Black Box of Solar Energy Technologies: Exploring Tensions
  Between Innovation and Environmental Justice. *Science as Culture*, *22*(2), 230–237.
  https://doi.org/https://doi.org/10.1080/09505431.2013.786995
- Murillo II, R. (2021). A (Dangerous) New Normal—Public Safety Power Shutoffs (PSPS): A Look into California Utility De-energization Authority and the Potential for its Abuse. Santa Clara Law Review, 61(2), 653–697. https://digitalcommons.law.scu.edu/lawreview/vol61/iss2/6

- Nagar, R., & Geiger, S. (2007). Reflexivity and Positionality in Feminist Fieldwork Revisited. In
  A. Tickell, E. Sheppard, J. Peck, & T. Barnes (Eds.), *Politics and Practice in Economic Geography* (pp. 267–278). Sage.
- Nauman, M. (2020, August 26). Installed to Make PSPS Events Smaller, Sectionalizing Devices Also Reduce the Size of Customer Outages during Wildfires. *PG&E Currents*. https://www.pgecurrents.com/2020/08/26/installed-to-make-psps-events-smaller-sectionalizingdevices-also-reduce-the-size-of-customer-outages-during-wildfires/
- Needham, A. (2014). *Power Lines: Phoenix and the Making of the Modern Southwest*. Princeton University Press.
- Nikolewski, R. (2019, October 24). California regulators approve funding for controversial wildfire law. *The San Diego Union-Tribune*. https://www.sandiegouniontribune.com/business/energy-green/story/2019-10-24/california-regulators-approve-funding-for-controversial-wildfire-law
- Norgaard, K. M., Vinyeta, K., Hillman, L., Tripp, B., & Lake, F. (2016). *Karuk Tribe Climate Vulnerability Assessment: Assessing Vulnerabilities From the Increased Frequency of High Severity Fire*. Karuk Tribe Department of Natural Resources.

https://karuktribeclimatechangeprojects.files.wordpress.com/2016/11/final-karuk-climate-assessment1.pdf

- North American Megadam Resistance Alliance. (n.d.). *About Us*. Retrieved September 21, 2021, from http://northeastmegadamresistance.org/
- Pacific Gas and Electric Company v. Superior Court of the State of San Francisco. (2018). Petition for Review. http://s1.q4cdn.com/880135780/files/doc\_downloads/2018/wildfire/10/Filed-Petition-for-Review.pdf

- Penn, I. (2020, June 18). PG&E Ordered to Pay \$3.5 Million Fine for Causing Deadly Fire. *The New York Times*. https://www.nytimes.com/2020/06/18/business/energy-environment/pge-camp-fire-sentenced.html
- Penn, I., & Eavis, P. (2020, July 28). PG&E's Plan to Resolve Bankruptcy Wins Court Approval. *The New York Times*. https://www.nytimes.com/2020/06/19/business/energy-environment/pgebankruptcy-court-approval.html
- Peterson, R. (2021). Extension of Moratorium on Disconnection for Non-Payment and Fees for Late Payment for Voice Service Through September 30, 2021. CPUC. https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/keyissues/covid/executive-director-letter-extending-disconnections-moratorium-july-14-2021.pdf?sc lang=en&hash=A23D5C6EB07446004BC6AEB093730574
- PG&E. (2020a). AMENDED PG&E Public Safety Power Shutoff (PSPS) Report to the CPUC (October 26 & 29, 2019 De-Energization Event).

https://www.pge.com/pge\_global/common/pdfs/safety/emergency-preparedness/naturaldisaster/wildfires/PSPS-Report-Letter-10.26.19-amend-2.pdf

PG&E. (2020b). PG&E, CFILC Announce Program to Support Vulnerable Customers in Preparation for Public Safety Power Shutoff Events. https://www.pge.com/en\_US/aboutpge/media-newsroom/news-details.page?pageID=a74d4cb4-26d8-4b45-9899-

4c141b914514&ts=1636972546130

- PG&E. (n.d.-a). *PSPS Reports*. https://www.pge.com/en\_US/residential/outages/public-safety-power-shuttoff/psps-reports.page
- PG&E. (n.d.-b). *Company profile*. https://www.pge.com/en\_US/about-pge/companyinformation/profile/profile.page

- PG&E. (n.d.-c). Understand the PG&E land conservation commitment. https://www.pge.com/en\_US/about-pge/environment/what-we-are-doing/promotingstewardship/land-conservation-commitment.page
- PG&E. (n.d.-d). *Resources for accessibility, aging, financial and language needs*. https://www.pge.com/en\_US/safety/emergency-preparedness/naturaldisaster/wildfires/independent-living-centers.page
- PG&E. (n.d.-e). *Improving PSPS*. https://www.pge.com/en\_US/residential/outages/public-safety-power-shuttoff/minimizing-psps-events.page
- PG&E. (2018). PG&E Public Safety Power Shutoff Report to the CPUC (Events from: 10/13/2018 10/17/2018). https://www.pge.com/pge\_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/PSPS-Report-Letter-10.31.18.pdf
- PG&E. (2021a). Pacific Gas and Electric Company's 2021 Access and Functional Needs Plan for Public Safety Power Shutoff Support.

https://www.pge.com/pge\_global/common/pdfs/safety/emergency-preparedness/naturaldisaster/wildfires/PSPS-AFN-Progress-Report-02.01.21.pdf

- PG&E. (2021b). 2021 Wildfire Mitigation Plan Report (pp. 1–1136). https://www.pge.com/pge\_global/common/pdfs/safety/emergency-preparedness/naturaldisaster/wildfires/wildfire-mitigation-plan/2021-Wildfire-Safety-Plan-Revised-060321.pdf
- PG&E. (2019a). AMENDED PG&E Public Safety Power Shutoff (PSPS) Report to the CPUC (October 9-12, 2019 De-Energization Event).

https://www.pge.com/pge\_global/common/pdfs/safety/emergency-preparedness/naturaldisaster/wildfires/PSPS-Report-Letter-10.09.19-amend-2.pdf PG&E. (2019b, November 20). #PSPS FAQ: Why is my power off? It's not windy where I live. For more info on how a Public Safety Power Shutoff works, and additional PSPS resources, visit: www.pge.com/psps [Facebook].

https://www.facebook.com/pacificgasandelectric/posts/3052196818142378?comment\_id=30525 80298104030

- PG&E. (2021). Pacific Gas and Electric Company Public Safety Power Shutoff (PSPS) Report to the CPUC (October 14 – 16, 2021 De-energization Event). https://www.pge.com/pge\_global/common/pdfs/safety/emergency-preparedness/naturaldisaster/wildfires/PSPS-Report-Letter-10.14.21.pdf
- PG&E Corporation. (2002). *150 Years of Growth and Change*. https://www.pgecorp.com/150\_non\_flash/index.html
- PG&E Corporation. (2017). Hydroelectric Operations.

https://www.pgecorp.com/corp\_responsibility/reports/2017/bu08\_hydro\_operations.html

- PG&E Currents. (2017, December 4). *VIDEO: Gold, Water and Power, PG&E on the Stanislaus River*. https://www.pgecurrents.com/2017/12/04/video-gold-water-and-power-pge-on-the-stanislaus-river/
- Phillips, A. M., Barboza, T., Vives, R., & Greene, S. (2021, October 15). California extreme heat deaths show climate change risks. https://www.latimes.com/projects/california-extreme-heatdeaths-show-climate-change-risks/
- Plumer, B., & Fountain, H. (2021, November 11). A Hotter Future Is Certain, Climate Panel Warns. But How Hot Is Up to Us. *The New York Times*. https://www.nytimes.com/2021/08/09/climate/climate-change-report-ipcc-un.html

- Pontecorvo, E. (2021a, February 17). The crisis in Texas underscores the deadly risks when the grid goes down. *Grist*. https://grist.org/energy/the-crisis-in-texas-underscores-the-deadly-risks-when-the-grid-goes-down/
- Pontecorvo, E. (2021b, February 17). The crisis in Texas underscores the deadly risks when the grid goes down. *Grist*. https://grist.org/energy/the-crisis-in-texas-underscores-the-deadly-risks-when-the-grid-goes-down/
- Popular Reflections of the Condition and Prospects of Electrical Engineering on the Pacific Coast. (1895a). *The Journal of Electricity*, 1(2), 49–50.

https://archive.org/details/journalof131895461897paci

Popular Reflections of the Condition and Prospects of Electrical Engineering on the Pacific Coast. (1895b). *The Journal of Electricity*, *1*(1), 27–28.

https://archive.org/details/journalof131895461897paci

- Powell, D. (2006). Technologies of Existence: The indigenous environmental justice movement. *Development*, 49(3), 125–132.
- Power Company Creating New Lake in the Sierras. (1912, July). *San Francisco Call*. https://cdnc.ucr.edu/cgi-bin/cdnc?a=d&d=SFC19120701.2.113&srpos=&dliv=none&e
- Pulido, L. (2016). Geographies of race and ethnicity II: Environmental racism, racial capitalism and state-sanctioned violence. *Progress in Human Geography*, 41(4), 1–10. https://doi.org/10.1177/0309132516646495
- Pulido, L., & De Lara, J. (2018). Reimagining "Justice" in Environmental Justice: Radical Ecologies, Decolonial Thought, and the Black Radical Tradition. *Environment and Planning E: Nature and Space*, 1(1–2), 76–98. https://doi.org/https://doi.org/10.1177/2514848618770363

- Pulido, L., & Hale, C. R. (2008). FAQs: Frequently (Un)Asked Questions about Being a Scholar
  Activist. In *Engaging Contradictions: Theory, Politics, and Methods of Activist Scholarship* (pp. 341–365). University of California Press.
- Raditz, V., & Berne, P. (2019, July 31). To Survive Climate Catastrophe, Look to Queer and Disabled Folks. YES! Magazine. https://www.yesmagazine.org/opinion/2019/07/31/climatechange-queer-disabled-organizers
- Ramsey, M. L., Murphy, M., & Diaz, J. (2020). *The Camp Fire Public Report: A Summary of the Camp Fire Investigation*. Butte County District Attorney. https://www.buttecounty.net/Portals/30/CFReport/PGE-THE-CAMP-FIRE-PUBLIC-REPORT.pdf?ver=2020-06-15-190515-977
- Ranganathan, M., & Bratman, E. (2019). From Urban Resilience to Abolitionist Climate Justice in Washington, DC. *Antipode*, 53(1), 115–137. https://doi.org/https://doi.org/10.1111/anti.12555
  Reclaim Our Power. (2019). *The PG&E Bailout (And What It Means for You)*.
- http://localcleanenergy.org/files/PG%26E%20Bailout%20Fact%20Sheet%20PRINT%20-%20COLOR\_0.pdf
- Reclaim Our Power. (2020, March 24). PG&E Deal Slammed by Utility Justice Campaign. *People's Tribune*. http://www.peoplestribune.org/latest-news/pge-deal-utility-justice-campaign/
- Reyes, E. A. (2020, September 19). L.A. suffered deadly heat, yet chairs sat empty at its cooling centers. *Los Angeles Times*. https://www.latimes.com/california/story/2020-09-19/la-deadlyheat-empty-cooling-centers
- Rittiman, B. (2021a). PG&E charged with 4 homicides, environmental crimes for allegedly starting Zogg Fire. *ABC10*. https://www.abc10.com/article/news/local/wildfire/criminal-charges-pge-zogg-fire-deaths/103-86c106a5-d278-4dd8-abbd-a541741e391b

- Rittiman, B. (2021b). Newsom's office crafted law protecting PG&E after company's crimes killed 84 people. *ABC10*. https://www.abc10.com/article/news/local/abc10-originals/newsom-pge-protection/103-65ca1d41-8efe-45b4-87bc-0cdecc714378
- Rittiman, B. (2021c). Investigation: PG&E made shutoff decisions on 'junk science.' ABC10. https://www.abc10.com/article/news/investigations/investigation-pge-shutoff-decisions-zoggfire/103-273163f6-c0f6-4404-b36b-9053b2980d3d
- Rittiman, B. (2020a, January 2). PG&E disasters killed 117 people last decade. *ABC10*. https://www.abc10.com/article/news/local/wildfire/pge-disasters-killed-117-people-lastdecade/103-3ca212b6-c502-4b7f-948e-ad6e73bf55a3
- Rittiman, B. (2020b, February 19). Judge rips PG&E for poor safety record leading to wildfires. *Associated Press*. https://www.abc10.com/article/news/local/wildfire/judge-rips-pge-for-poor-safety-record/103-08b03f2f-86be-4270-901b-1dcf71edc462
- Robinson, C. J. (2000). *Black Marxism: The Making of the Black Radical Tradition* (2nd ed.). The University of North Carolina Press.
- Robinson, S. (2020). Leading from the Margins: Immigrant and Refugee Leadership for a Green New Deal. Asian American Policy Review, 30. https://aapr.hkspublications.org/2020/10/04/leading-from-the-margins-immigrant-and-refugee-

leadership-for-a-green-new-deal/#\_edn5

Rocky Mountain Power. (n.d.). *Public Safety Power Shutoff*. Retrieved November 10, 2021, from https://www.rockymountainpower.net/outages-safety/wildfire-safety/public-safety-power-shutoff.html

Routledge, P., & Derickson, K. D. (2015). Situated solidarities and the practice of scholar-activism. *Environment and Planning D: Society and Space*, *33*(3), 391–407.
https://doi.org/https://doi.org/10.1177/0263775815594308

RYSE Center. (n.d.-a). Frequently Asked Questions. https://rysecenter.org/faq

RYSE Center. (n.d.-b). The future of our city is in the hands of our youth. https://rysecenter.org/

- RYSE Center. (n.d.-c). *RYSing from Center to Commons*. https://rysecenter.org/rysecommons Samayoa, M. (2021, May 21). Oregon OKs new temporary rules for cutting off power during wildfire season. *Oregon Public Broadcasting*. https://www.opb.org/article/2021/05/20/oregonoks-new-temporary-rules-for-cutting-off-power-during-wildfire-season/
- Sandoval, G., & Toney, M. (2018). Living Without Power: Health Impacts of Utility Shutoffs in California (pp. 1–36). The Utility Reform Network. http://www.turn.org/wpcontent/uploads/2018/05/2018\_TURN\_Shut-Off-Report\_FINAL.pdf
- Sciacca, A. (2017, October 12). UPDATE: Schools, libraries close as wildfire smoke spreads across the Bay Area. *East Bay Times*. https://www.eastbaytimes.com/2017/10/11/east-bay-schoolslibraries-close-as-wildfire-smoke-spreads-across-the-bay-area/
- Shao, E. (2019, June 21). PG&E shareholders approve new board amid protests outside. San Francisco Chronicle. https://www.sfchronicle.com/business/article/Protestors-gather-outside-PG-E-s-shareholders-14028184.php#photo-17729137
- Simon, J. (2021, September 21). Climate Change Is Killing Trees And Causing Power Outages. NPR. https://www.npr.org/2021/09/21/1038078093/climate-change-is-killing-trees-and-causing-power-outages
- Smith, N. (2006, June 11). There's No Such Thing as a Natural Disaster. Social Science Research Council. https://items.ssrc.org/understanding-katrina/theres-no-such-thing-as-a-natural-disaster/

- Sotolongo, M., Bolon, C., & Baker, S. H. (2020). California Power Shutoffs: Deficiencies in Data and Reporting (p. 16). Initiative for Energy Justice.
- Southerners On New Ground. (2019). *There is Honor in Struggle. There is Honor in the Work.* SONG on the Role of White People in the Movement at This Time.

https://southernersonnewground.org/wp-content/uploads/2019/08/SONG-White-People-Role-inthis-Time.pdf

- Sweeney, S. (2017). Conflicting Agendas: Energy Democracy and the Labor Movement. In D. Fairchild & A. Weinrub (Eds.), *Energy Democracy: Advancing Equity in Clean Energy Solutions* (pp. 139–171). Island Press.
- Taruc, M. R., & Nanavati, S. (2021, August 8). Opinion: California should bury PG&E, not just its power lines. *Mercury News*. https://www.mercurynews.com/2021/08/07/opinion-californiashould-bury-pge-not-just-its-power-lines/
- Teisch, J. (2001). Great Western Power, "White Coal," and Industrial Capitalism in the West. *Pacific Historical Review*, 70(2), 221–253.

https://doi.org/https://doi.org/10.1525/phr.2001.70.2.221

- The Electric Carnival. (1895). *The Journal of Electricity*, *1*(3), 66–69. https://archive.org/details/journalof131895461897paci
- The Folsom-Sacramento Power Transmission. (1895). *The Journal of Electricity*, *1*(3), 56–66. https://archive.org/details/journalof131895461897paci
- Tucker, J., Cabanatuan, M., & McBride, A. (2018, December 11). Tragic but familiar narrative in Camp Fire: Most victims were older, disabled. SFGATE. https://www.sfgate.com/californiawildfires/article/Camp-Fire-victims-13450654.php

- U.S. Census Bureau. (2019). QuickFacts: Alameda County, California. https://www.census.gov/quickfacts/fact/table/alamedacountycalifornia,alamancecountynorthcaro lina,US/PST045219
- Van Derbeken, J. (2021, February 3). PG&E: Public Safety Power Shutoffs Likely 'A Reality' Indefinitely. NBC Bay Area. https://www.nbcbayarea.com/investigations/pge-public-safetypower-shutoffs-likely-a-reality-indefinitely/2458616/
- van Leeuwen, T. (2008). Discourse as the Recontextualization of Social Practice. In *Discourse and Practice: New Tools for Critical Discourse Analysis* (pp. 3–22). Oxford University Press.
- Von Kaenel, C. (2020, February 15). Official Camp Fire tally is 85 deaths, but we found 50 more. *Mercury News*. https://www.mercurynews.com/2020/02/15/official-camp-fire-tally-is-85-deathsbut-we-found-50-more/
- Waitt, G. (2016). Doing Foucauldian Discourse Analysis Revealing Social Realities. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (4th ed., p. 536). Oxford University Press.
- Weber, A. (2021, July 14). Texas Winter Storm Death Toll Goes Up To 210, Including 43 Deaths In Harris County. *Houston Public Media*.
  https://www.houstonpublicmedia.org/articles/news/energy-

environment/2021/07/14/403191/texas-winter-storm-death-toll-goes-up-to-210-including-43deaths-in-harris-county/

- Weinrub, A. (2017). Democratizing Municipal-Scale Power. In D. Fairchild & A. Weinrub (Eds.), Energy Democracy: Advancing Equity in Clean Energy Solutions (pp. 139–171). Island Press.
- Wigglesworth, A. (2021, August 8). Dixie fire, now the second-largest in California history, has burned more than 400 structures. *Los Angeles Times*.

https://www.latimes.com/california/story/2021-08-08/dixie-fire-now-second-largest-wildfire-california-history

- Willig, C. (2014). Interpretation and Analysis. In K. Metzler (Ed.), *The SAGE Handbook of Qualitative Data Analysis* (pp. 136–149). SAGE Publications.
- Winchester, H. P. M., & Rofe, M. W. (2016). Qualitative Research and its Place in Human Geography. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (4th ed., p. 536). Oxford University Press.
- Wong-Parodi, G. (2020). When climate change adaptation becomes a "looming threat" to society:
  Exploring views and responses to California wildfires and public safety power shutoffs. *Energy Research & Social Science*, 70, 1–9. https://doi.org/https://doi.org/10.1016/j.erss.2020.101757
- Worth, K., Pinchin, K., & Sullivan, L. (2020, August 18). "Deflect, Delay, Defer": Decade of Pacific Gas & Electric Wildfire Safety Pushback Preceded Disasters. *PBS*. https://www.pbs.org/wgbh/frontline/article/pge-california-wildfire-safety-pushback/
- Wright, W. J. (2018). As Above, So Below: Anti-Black Violence as Environmental Racism. *Antipode*, 0(0), 1–19.
- Zanocco, C., Flora, J., Rajagopal, R., & Boudet, H. (2021). When the lights go out: Californians' experience with wildfire-related public safety power shutoffs increases intention to adopt solar and storage. *Energy Research & Social Science*, 79, 1–8. https://doi.org/https://doi.org/10.1016/j.erss.2021.102183

#### APPENDIX A

#### Sample Interview Questions

#### **Introductory Questions (5 minutes)**

- 1. Can you tell me a bit about why you got involved with the Microgrids Resilience Hub cohort? How does it relate to the other work that you do?
  - a) If not a cohort member: Can you tell me a bit about the work you do? Does it involve microgrids, and if so, how does that relate to the other work you do?
- 2. How would you describe a community resilience hub? What kind of vision or ideas come to mind for you?

#### **Survey Questions (30 minutes)**

Which neighborhoods and communities do you know in Northern California that would benefit from a resilience hub (places and its people)?

How would these hubs help those most impacted by power outages in this community?

- a) Are these necessary services already being offered somewhere? If so, where?
- b) What are some current/anticipated challenges to connecting people to the services?

What buildings, facilities, or services that are critical to the health of this community are interrupted by power shut offs?

 a) Do you know if any of those buildings are owned by the folks who use them? Do any already have solar, battery storage, or generators? Who are key community leaders and organizations in those communities in general? Who are key community leaders and organizations in those communities who respond most to emergencies (wildfire impacts, power shutoffs, pandemic, etc.)? What are your ideas for governing the community resilience hub, including the people involved

in decision-making processes?

#### **Utility Justice & Energy Futures (25 minutes)**

How can worker justice be incorporated into resilience hubs and their governance?

How do you hope to relate to the energy system differently through the process of developing community resilience hubs?

What do you think is the significance of a decentralized, community-oriented approach, versus a centralized approach, to energy transitions/futures?

What do you think are the weaknesses of community microgrids as an alternative energy model? What are their strengths?

Can you tell me more about the future you want to create/see? What is the role of energy in this vision?

## APPENDIX B

## Institutional Review Board Consent Form and Approval

## **Informed Consent Document<sup>6</sup>**

**Working Title:** "Reclaim Our Power!:" The Geographies of Utility Justice in Northern California

**Researcher:** Gabrielle Lichtenstein MA Student, Department of Geography, University of Georgia

#### **Researcher Statement:**

**Thank you** for taking the time to consider participating in this research as an interviewee. You are being asked to contribute to a master's thesis project. This form is designed to accompany a conversation about the research project, and to support your decision whether or not you want to participate in the research. We will discuss your right to confidentiality and control over how your ideas and words are used in the research. This process is called "informed consent." Please take the time you need to consider this form carefully, ask any questions, raise any concerns, and offer any ideas you may have.

#### **Purpose of the Study:**

My research examines the geographies of "utility justice" in Northern California. In a region marked by years of deadly, utility-sparked wildfires and widespread power shutoffs, I aim to understand the forms of violence produced by California's current energy system, and how community organizers are reimagining electricity futures. Specifically, I am focusing on the "Public Safety Power Shutoffs" (PSPS) enacted by Pacific Gas & Electric (PG&E) since 2018, and how organizers and residents conceive of community-based energy resilience as a form of utility justice. I am especially interested in how utility justice can disrupt the capitalist, racialized, ableist, and masculinist systems of oppression that are embedded in the existing energy system. This research will inform my master's thesis, as well as the research needs of the Reclaim Our Power Utility Justice Campaign (which I will shorten to "Reclaim Our Power" going forward).

**Interview method:** The interview will take place via Zoom or a phone call. I am using a method called "semi-structured interviews." With this method, I will have a list of general topics and

<sup>&</sup>lt;sup>6</sup> The Informed Consent Document has been modified slightly for usage in this thesis, namely for consistent formatting with the thesis and for the removal of personal contact information

questions, but the interview can also be guided by your interests, experiences, and expertise. This interview is expected to take about an hour. I will document the interview with digital recording technology and/or hand-written notes, and use our interview (along with approximately 10-15 others), to inform my thesis research, academic writing, and scholar-activism to support Reclaim Our Power.

If requested, you will be provided with a copy of any digital files and transcripts that are made during this interview. You will have the option to review the transcription and provide updates and comments, request omissions, and make revisions to the record of the interview. The interview transcripts will also be made available to organizers involved in Reclaim Our Power's Microgrid/Resilience work.

# **Confidentiality/Privacy**

Your interview audio files, transcripts, and/or my notes related to your interview will be stored on my personal computer for 5 years (until April 31, 2026) and in a password protected drop box file for two years (until April 31, 2023), after which time they will be destroyed. If you do not want to be identified by name in my notes and in published materials, you can choose a pseudonym, or choose to be referred to with simple descriptors: "organizer, environmental justice activist, or community member," for example. Your direct quotes may be used in the master's thesis, in presentations at academic conferences, and in scholarly publications derived from this research project. They may also be used in public-facing materials produced for, with, or by Reclaim Our Power. If you do not make a selection, I will default to using simple descriptors of my choice.

Information obtained from this research may be used for future studies, or shared with other researchers and members of Reclaim Our Power, without obtaining your additional consent. If you choose to use a pseudonym or simple descriptor, that choice will be respected in all future applications of the research. Also, due to COVID-19, this research may involve the communicating over the Internet (through Zoom and email). Care and effort will be taken to ensure the effective use of available technology; however, confidentiality during online communication cannot be guaranteed.

## This interview and your inclusion in the research is *completely voluntary*.

Your involvement in the study is voluntary, and you may choose to stop the interview *at any time* without penalty.

## If you have questions...

The main researcher conducting this study is *Gabrielle Lichtenstein*, a graduate student at the University of Georgia (UGA). This research is being conducted under the supervision of *Dr. Jennifer Rice*, Associate Professor at UGA. Please feel welcome to ask any questions you have at any time during the interview. If you have questions later, you may contact *Gabrielle Lichtenstein* or *Dr. Rice*. If you have any questions or concerns regarding your rights as a research participant in this study, you may contact the Institutional Review Board (IRB) Chairperson at UGA at 706-542-3199 or irb@uga.edu.

## **Participant information:**

Name:

Pronouns:

Email:

Phone:

# **Informed Consent Checklist:**

## General Consent to Participate in the interview:

Please initial one, indicating whether or not you consent to the interview.

\_\_\_\_\_ I consent to participate in this interview.

I DO NOT consent to participate in this interview.

# **Option re: Recording**

Please initial one, indicating whether or not you consent to be audio recorded.

I consent to have this interview digitally recorded and transcribed by the researcher.

I DO NOT consent to have this interview digitally recorded and transcribed.

## **Options re: Confidentiality and Naming**

Please initial one, and then provide additional information relevant to your choice.

\_\_\_\_\_ My preference is to attribute my quotes or ideas using my real name. I consent to have my name and a simple descriptor associated with direct quotes or paraphrased ideas in published scholarly research and academic presentations.

Descriptor:

(eg, farmer, organizer, staff member at Organization)

\_\_\_\_\_ My preference is to remain anonymous. I *DO NOT* consent to have my name associated with my quotes or paraphrased ideas. I elect instead to use a simple descriptor and optionally a pseudonym of my choice.

Pseudonym: \_\_\_\_\_\_\_(if not using a pseudonym, please write "none")

## <u>Signature</u>

Please sign below to indicate your completion of this Informed Consent document.

Participant signature

**Researcher signature** 

Date

Date



Tucker Hall, Room 212 310 E. Campus Rd. Athens, Georgia 30602 TEL 706-542-3199 | FAX 706-542-5638 IRB@uga.edu http://research.uga.edu/hso/irb/

Human Research Protection Program

#### EXEMPT DETERMINATION

April 5, 2021

#### Dear Jennifer Rice:

On 4/5/2021, the Human Subjects Office reviewed the following submission:

Title of Study:	"Reclaim Our Power!:" The Geographies of Utility
	Justice in Northern California
Investigator:	Jennifer Rice
Co-Investigator:	Gabrielle Lichtenstein
IRB ID:	PROJECT00003418
Funding:	None
Review Category:	Exempt 2(ii)

We have determined that the proposed research is Exempt. The research activities may begin 4/5/2021.

Since this study was determined to be exempt, please be aware that not all future modifications will require review by the IRB. For more information please see Appendix C of the Exempt Research Policy (<u>https://research.uga.edu/docs/policies/compliance/hso/IRB-Exempt-Review.pdf</u>). As noted in Section C.2., you can simply notify us of modifications that will not require review via the "Add Public Comment" activity.

A progress report will be requested prior to 4/5/2026. Before or within 30 days of the progress report due date, please submit a progress report or study closure request. Submit a progress report by navigating to the active study and selecting Progress Report. The study may be closed by selecting Create Version and choosing Close Study as the submission purpose.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103).

Sincerely,

William Westbrook, Quality Assurance Officer Human Subjects Office, University of Georgia

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