Striking for public power: Workers, energy and the nationalization of Puerto Rico's electrical grid, 1933-1941

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Abstract

This article examines the role of working people in the energy transition that played out in Puerto Rico in the 1930s and 1940s – from a private, fossil fuel-based regime to a public, hydroelectric system. It argues that by withholding their labor, organizing boycotts, and sabotaging energy infrastructure, working people disrupted the energy systems that powered Puerto Rico and helped to initiate a nearly-decade-long transition to public hydropower. For the present-day Puerto Ricans fighting the privatization of energy in the streets and on the picket lines, this history should be both affirming and instructive. It reminds us that public power took shape in those same spaces. For others across the globe who see an energy transition as essential to a more humane and equitable future, this history suggests that energy systems can be made and unmade through class struggle.

Keywords: Puerto Rico, political ecology, labor, energy transitions

Resumen

Este artículo es sobre el papel de los trabajadores en la transición energética que se desarrolló en Puerto Rico en las décadas de 1930 y 1940: de un régimen privado basado en combustibles fósiles a un sistema público hidroeléctrico. El artículo argumenta que al negar su trabajo, organizar boicots y sabotear la infraestructura energética, los trabajadores alteraron los sistemas energéticos que alimentaban a Puerto Rico y ayudaron a iniciar una transición de casi una década hacia la energía hidroeléctrica pública. Para los puertorriqueños de hoy que luchan contra la privatización de la energía en las calles y en los piquetes, esta historia debería ser a la vez afirmativa e instructiva. Nos recuerda que los sistemas públicos de energía tomaron forma en esos mismos espacios. Para otros en todo el mundo que ven una transición energética como esencial para un futuro más humano y equitativo, ésta historia sugiere que los sistemas energéticos se pueden crear y deshacer mediante la lucha de clases.

Palabras claves: Puerto Rico, ecología política, trabajo, transiciones energéticas

Resumo

Este artigo é sobre o papel dos trabalhadores na transição energética que ocorreu em Porto Rico nas décadas de 1930 e 1940 – de um regime privado baseado em combustíveis fósseis para um sistema hidroelétrico público. Argumenta que os trabalhadores, ao se recusar do seu trabalho, organizar boicotes e sabotar as infraestruturas energéticas, os trabalhadores perturbaram os sistemas energéticos que alimentavam Porto Rico e ajudaram a iniciar uma transição para a energia hidroelétrica pública que durou quase uma década. Para os atuais porto-riquenhos que lutam contra a privatização da energia nas ruas e nos piquetes, esta história deveria ser ao mesmo tempo afirmativa e instrutiva. Isso nos lembra que os sistemas públicos de energia tomaram forma nesses mesmos espaços. Para outras pessoas em todo o mundo que consideram uma transição energética essencial para um futuro mais humano e equitativo, esta história sugere que os sistemas energéticos podem ser criados e desfeitos através da luta de classes.

Palavras-chave: Porto Rico, ecologia política, trabalho, transições energéticas

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1. Introduction

In the summer of 2021, LUMA Energy – a private energy consortium based in North America – took over the transmission and distribution of electricity in Puerto Rico (Figure 1). LUMA promised lower rates and more reliable service than the public system that it replaced, the Puerto Rico Electric Power Authority (PREPA), which had been dogged by austerity measures and a series of hurricanes. But privatization, which tends to be the policy mechanism of choice in the wake of disasters, has hardly been an elixir. Since the LUMA takeover, blackouts have become more frequent and long-lasting and the cost of electricity has shot up (Mazzei, 2021). Resistance to the privatization of Puerto Rico's electrical grid, meanwhile, has been fierce. For more than a year, Puerto Ricans have flocked to the streets in protest. Leading the charge have been organized workers: teachers, service workers, and even PREPA's own employees, the people who operate and maintain the electrical grid. Some PREPA workers refused to work for LUMA after the takeover, hoping to "prevent the company from operating" (Figueroa Jaramillo, 2022). PREPA workers even blockaded parts of the electrical infrastructure to delay the privatization (Mazzei, 2021). Dozens of other unions – of teachers, food service workers, transportation workers, and others – threatened a general strike if the LUMA contract went through ("Puerto Rican workers" 2021). For workers, the intention was clear: to exert control over the country's energy future, instead of leaving it up to policymakers and technocrats. As electrical worker Walberto Rolón Narvaéz wrote in reference to the LUMA takeover, "a better world is possible, but it will most definitely be decided in the streets instead of the courts" (2021). If Puerto Rico's energy future was to be litigated in the streets, so too had been important aspects of its energy past.

The strikers and protesters challenging LUMA continue a long history of class struggle in shaping Puerto Rico's energy systems. PREPA, the public system that Puerto Ricans sought to preserve, was in fact partially made in the streets, pushed forward by a wave of public pressure from workers and energy consumers of all kinds. In 1933, transportation workers and electrical workers went on strike and shop owners and other energy consumers organized boycotts to protest an energy regime that was privately-controlled, expensive, and inaccessible to most Puerto Ricans. Strikers and boycotters scattered broken glass on roads and punctured car tires, clipped electrical wires and phone lines, and sabotaged energy infrastructure to paralyze Puerto Rico's energy economy. The energy disruptions played a pivotal role in the energy transition that played out over the next decade. In the aftermath of the disruptions, calls for the expansion of Puerto Rico's government-run electrical utility – which distributed power alongside three private electrical utilities in Puerto Rico but was smaller in scale – gathered strength. Beleaguered by the strikes and boycotts, private municipal utilities began to sell their systems to the government.

At the same time, the strikes contributed to a wave of labor unrest that ultimately helped bring the New Deal to the US colony through the creation of the Puerto Rico Reconstruction Administration (PRRA) in 1935. One of the PRRA's finest achievements was to drastically expand access to electricity in Puerto Rico by building a vast network of hydroelectric infrastructure and folding it into the public system. In 1941, as pressure continued to mount on Puerto Rico's energy systems, the Puerto Rican government passed a bill creating the Water Resources Authority (WRA) and later expropriated the two remaining private electrical utilities in Mayaguez and San Juan to complete the island-wide public utility. The creation of the WRA – which was later transformed into PREPA – represented a major energy transition that took place on two different fronts. On the one hand, it involved a major shift from fossil fuel power to hydropower, though this transformation was short-lived, as the WRA gradually reverted to dependence on fossil fuels in the decades that followed. The second, and more lasting, transformation was from a privately controlled energy regime to an island-wide public system. This transition would endure in some form for eighty years, until the LUMA takeover in 2021. And it was pushed forward in critical ways by the electrical workers, bus drivers, telephone operators, and regular Puerto Ricans who worked to paralyze Puerto Rico's energy economy in the spring of 1934.

These kinds of histories of working people exerting control over energy systems run counter to conventional understandings of energy history. The history of energy transitions – defined as "shifts from one regime of energy provision to another" – is often treated as a technocratic and mostly apolitical process, propelled by nature, technology, and political and economic elites enabled by governments and the forces of the market (Miller *et al.*, 2019, p. 464; Smil, 2016, 2010; Sieferle, 2001; Wrigley, 2010). And yet, as energy historians and political ecologists remind us, energy regimes are ecologies of power. They are both born out of

societal power dynamics and define and shape them. They are deeply embedded in, and ultimately constitutive of, the social and political structures that organize our world. Karl Marx recognized almost two centuries ago that societies were powered by forces of production – which brought together energy resources, labor, and capital – and that social relations were at once shaped by these forces and came into conflict with them. For Marx, the forces of production helped to create social inequality because they depended on the exploitation of human labor to operate. These uneven social relations in turn had the capacity to shape, or even subvert, forces of production through class struggle. Leslie White (1943) and Fred Cottrell (1955), writing a century later, made similar observations about the complex interplay between energy systems and social relations, revealing the ways in which each shapes the other. White, for example, believed that energy systems were the fundamental drivers of cultural evolution: the more efficiently a society could "harness and control" energy resources to meet human needs, the more advanced and sophisticated it would become. But he also recognized that social relations "condition the operation of the technological systems on which they rest." Energy systems, he wrote, transform when they come into conflict with the very social relations that they've helped to create. Fred Cottrell similarly identified energy regimes as an important driver of history, but also stressed how social inequality shaped the way in which those technologies were adopted and used. For White and Cottrell, then, like Marx, social systems and energy systems were co-constitutive of society: they made each other and the world.

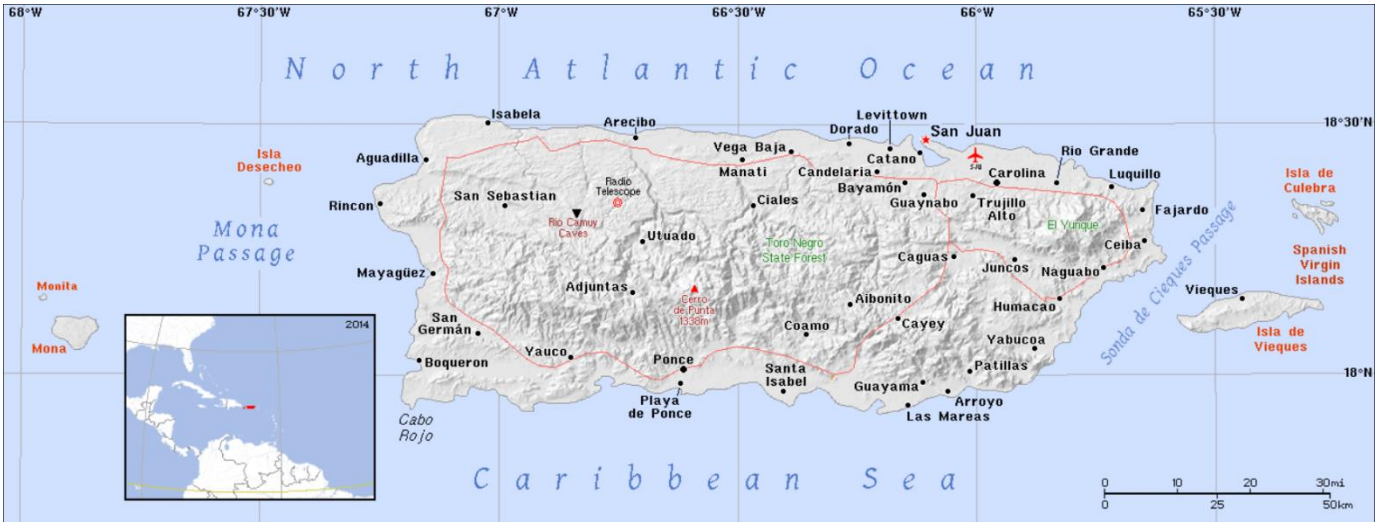

Figure 1: Puerto Rico. Source: https://ian.macky.net/pat/map/pr/pr_blk.gif, public domain.

Other scholars have made more pointed analyses of the links between energy, social relations, and political power and how each shapes the others (Deléage *et al.*, 1991; Jones, 2016; Nye, 1999; Vergara, 2021). As Richard Adams (1975) pointed out, political power is fundamentally negotiated through and derived from control over energy resources. All political and social structures, he wrote, depend on particular energy regimes. This is especially true for capitalism, the dominant political and economic structure of our time. Capitalism, at least in its industrial form, owes its genesis in part to an energy transition: from an "organic economy" in which photosynthesis converts solar radiation into usable forms of energy, to a fossil fuel economy in which machines burn fossilized organic matter to power society. This historical development does a lot to help us explain the modern-day geopolitical division of power and the continued economic primacy of the North Atlantic world. It also helps to explain power and wealth differentials within societies, in which the energy sector and the industries adjacent to it have consolidated unprecedented levels of wealth. Moreover, the particular contours of capitalism – the way it organizes labor, assigns wealth and political power, distributes environmental benefits and burdens, and other important features – are all shaped in important ways by the characteristics of fossil fuels: the fact that they're cheap and abundant but difficult to extract, that they generate electricity in centralized,

capital-intensive ways, and producing negative environmental externalities – namely carbon emissions – that are diffuse and hard to track (Angus, 2016; Malm, 2016). Fossil fuels have thus played a critical role in constructing capitalism and the power inequalities that come with it.

But drawing a straight line from fossil fuels to industrial capitalism risks the kind of determinism that historians generally seek to avoid, suggesting that we are at the mercy of nature and technology and are thus impotent in the long march of energy history (Miller *et al*., 2019). Just as fossil fuels shape relations of power, so too do relations of power shape energy systems. Carbon capitalism, after all, wasn't just made by coal and oil; it was made by people. As Andreas Malm (2016) reminds us,

> No piece of coal or drop of oil has yet turned itself into fuel, and no humans have yet engaged in systematic large-scale extraction of either to satisfy subsistence needs: fossil fuels necessitate waged or forced labor – the power of some to direct the labor of others – as conditions of their very existence. (p. 19)

Malm goes on to argue that the fossil fuel economy emerged not from the natural properties of fossil fuels but rather as an expression of class struggle from above. He makes the case that the nineteenth century transition from waterpower to coal power came about not because coal was a more practical or efficient energy source but rather because it allowed economic elites to more effectively subordinate labor and consolidate power. Timothy Mitchell (2011) makes a similar claim about the twentieth-century transition from coal to oil. Capitalists, he argued, promoted oil because it was less labor intensive. It could be mined and moved through wells, pipes, and other technology and was thus less prone to labor stoppages. Other histories describe how entrenched political power has worked to maintain the fossil fuel economy, despite widespread evidence of its harms, through climate denialism and misinformation campaigns (Mann, 2021). All of these accounts remind us that energy regimes are as much political as they are technological or natural, and that they thus move and change (or stay the same) as a consequence of societal power dynamics.

As scholars have revealed the human element of energy systems, they have also paid close attention to the connections between energy on the one hand and human labor on the other. For some, this begins from the basic premise that energy is simply the capacity to do work, thus human labor and the energy that courses through a river or lies latent in petroleum are made of the same stuff (White, 1995; Demuth, 2019, 2017; Miller *et al*., 2019). Others focus more specifically on the people who enable our energy systems: the workers who harvest energy resources and build and operate the infrastructure needed to distribute their power for human needs (Andrews, 2008; Eaglin, 2022; Barak, 2020; Priest & Botson, 2012; Santiago, 2009). And yet, despite the acknowledgement that energy systems are fundamentally political, and despite the understanding that human labor – as much as fossil fuels – makes energy systems work, our understanding of how energy systems have changed over time remains mostly a story about innovators and policymakers rather than working people. Energy histories from below have been much more elusive. One notable exception is Myrna Santiago's *The Ecology of Oil* (2006), which convincingly argues that Mexican oil workers played an important role in catalyzing the 1938 nationalization of the foreign oil industry. This article tells a similar kind of story.

This is a historical article, but it has an eye towards the present. As we grapple with the intransigence of the fossil fuel economy and urgent need for more democratized energy systems and a more livable climate, the question of how we get from the former to the latter is perhaps the most important question of our time. The view that technology and sound public policy are the way to get there remains prominent within liberal circles (O'Connor, 2010; Araújo, 2019; Jacobson & Delucchi, 2009). But a number of scholars have challenged that view, arguing that energy transitions – and efforts to combat climate change more broadly – are fundamentally about class struggle instead of technocratic tinkering (Abramksy, 2010; Baker, 2021; Malm, 2021; Mann & Wainwright, 2018). Re-making our energy systems, they argue, necessarily involves challenging and transforming the political and economic structures that exist around them. The just transition literature makes a similar case, arguing that an energy transition unaccompanied by social and political change will only reproduce the inequalities of the energy regime that preceded it (Bridge & Gailing, 2020; Miller & Richter, 2014; Wang & Lo, 2021; Stevis & Felli, 2015; McCauley & Heffron, 2018). Many others emphasize the concept of "energy

democracy," asserting that an energy transition cannot just take place *for* vulnerable people; it must also be driven and shaped *by* vulnerable people (Wahlund & Palm, 2022; Becker & Naumann, 2017). To that end, scholars have documented the grassroots political movements that have emerged to demand a transition towards cleaner and more democratic energy systems (Abramsky, 2010; Bridge, 2020; Baker, 2021). These movements have been increasingly visible in recent years, but they mostly elicit images of young people protesting outside state houses or college students campaigning to force their universities to divest from fossil fuels. This essay, conversely, tries to center working people in the story of how our energy systems have evolved, and might evolve still. Furthermore, by bringing a historical case study to bear on an urgent crisis of our time, this essay aims to do one of the things that history does best: to remind us of political possibility.

This article examines the role of working people in driving the energy transition that played out in Puerto Rico in the 1930s and 1940s – from a private, fossil fuel-based regime to a public, hydroelectric system. It argues that by withholding their labor, organizing boycotts, and sabotaging energy infrastructure, working people disrupted the energy systems that powered Puerto Rico and helped to initiate a nearly-decade-long transition to public hydropower. I use the term "energy transition" to describe these changes, though I use it in its broadest sense, to denote "change associated with fuel type, access, sourcing, delivery, reliability, or end use as well as with the overall orientation of the system" (Araújo, 2014). The term often refers to large-scale transitions between energy sources – from wood, water, and wind power to fossil fuels, or from fossil fuels to renewables – but it can also refer to changes in the way that energy is provided – from private power to public power, for example. The energy transition described in this essay played out on both fronts, but I devote more attention to the transition to public power because it was the more enduring of the two transformations and because it was the one that working people more actively demanded. I focus specifically on transportation, electrical, and telephone workers who were either directly or indirectly involved in distributing energy resources to Puerto Ricans and operating the industries that fossil fuels enabled, but I also describe how shop owners, regular energy consumers, and others contributed to the movement. For the present-day Puerto Ricans fighting the privatization of energy in the streets and on the picket lines, this history should be both affirming and instructive. It reminds us that public power was born in those same spaces. For others across the globe who see an energy transition as essential to a more humane and equitable future, this history suggests that energy systems can be made and unmade through class struggle.

2. Puerto Rico's energy history

For most of its history, the inhabitants of Borikén burned wood to make light and heat and consumed calorie-rich plants and animals to move and work. The native Taíno were especially adept at cultivating yuca (Manihot esculenta) and other root vegetables to meet their energy needs. Their biggest transportation feats, meanwhile, were maritime. To reduce friction and conserve energy, the Taíno often traveled in canoes made from the hollowed-out trunk of a single *Ceiba* (Ceiba pentandra) tree. The Spanish, English, and French words for *canoe*, in fact, all come from the Taíno language. After the European invasion, settlers brought new ways to power their lives – what energy historian David Nye calls the "energies of conquest" (1999). They enslaved Taínos and Africans to build things and plant and harvest crops. They set fire to imported olive oil to illuminate homes and city streets when the sun could not. They brought horses and wind–powered schooners that moved people and ideas more swiftly.

Puerto Rico's energy systems changed dramatically when petroleum arrived on the island in the second part of the nineteenth century. In 1893 in Villalba, for the first time on a scale of any significance, Puerto Ricans burned oil to heat water, generate steam, and move a turbine, freeing electrons from the atoms to which they were bound and creating a form of energy compatible with human inventions. San Juan, Ponce, Mayaguez, and other towns set up local electrical systems shortly thereafter. After the US military invaded Puerto Rico in 1898, North American capital helped consolidate a number of smaller electric systems in the San Juan area to create the first large-scale private electrical utility: the Porto Rico Railway, Light and Power Company. Two other private, fossil fuel-dependent power companies sprung up around the same time: the US-owned Ponce Electric Company and the Puerto Rican-owned Mayaguez Light, Ice and Power Company (Latimer Torres, 1997; "Electrical Industries", 1909). By 1934, these regional monopolies controlled two-thirds of Puerto Rico's power

supply and together serviced 50,000 customers (*Thirty-fourth Annual,* 1934).[2] They also controlled their respective cities' water supplies and, in some cases, rail transportation, both of which depended on electricity (Burrows, 2014).

As Puerto Ricans burned fossil fuels to make power, they also worked to harness the energy contained in the rivers that fell from the central mountains down to the coastal plains. The towns of Arecibo and Utuado both began making power by moving water around the turn of the century ("Electrical Industries", 1909). The development of hydropower accelerated in the early years of the twentieth century almost by accident, as a byproduct of the government's attempts to irrigate the arid soils of the southern plains. Between 1910 and 1914, the Puerto Rican government constructed four reservoirs to supply water for the mostly US-owned cane lands on the south coast (Picó, 1974; Latimer Torres, 1997). It also installed turbines to generate and distribute electricity, first to local plantations and later to a small group of private customers. By 1934, the public system covered most of the main island's southern plains as well as its northwest quadrant and serviced 2,800 customers with power derived from three hydroelectric plants (*Thirty-fourth Annual Report*, 1934; *Creating the Puerto Rico,* 1940). Still, privately-controlled fossil fuels accounted for the vast majority of Puerto Rico's electricity.

Fossil fuels similarly transformed Puerto Rico's communication and transportation systems. Like electric power, both systems began as small-scale initiatives by local governments and entrepreneurs and, after the US invasion in 1898, were promptly taken over by international capital. Workers broke ground on the island's first steam railway in 1878, which originally burned coal and then transitioned to electricity to cart passengers back and forth between San Juan and Río Piedras ("Electrical Industries", 1909). In 1902, the American Railroad Company acquired the fledgling national railroad system and completed the route from San Juan to Mayaguez to Ponce. Trains mostly transported sugarcane and other agricultural freight, but they also carried some passengers (Pumarada, 1980). Gas(petrol)-powered cars also arrived in Puerto Rico around the turn of the century, and four multinational gas companies quickly set up shop to supply fuel for the impending automobile boom.[3] The island's communication infrastructure took shape around the same time. In the last decades of the nineteenth century, the Spanish government installed a telegraph system, which used electrical currents to beam morse code-like messages through a network of wires, and later a telephone system, which allowed users to communicate in real time. On the eve of the US invasion, private telephone companies emerged in San Juan, Ponce, and Mayaguez ("Electrical Industries", 1909). US capital flooded the telephone industry after 1898 and consolidated existing phone lines into an island-wide monopoly – the Porto Rico Telephone Company – in 1914, which was later bought out by the International Telegraph and Telephone Corporation in 1921 (Rippy, 1946).

Fossil fuels thoroughly transformed Puerto Rico's energy systems, but few Puerto Rican enjoyed their benefits. Because Puerto Rico's energy regime was almost entirely controlled by private monopolies, it was inaccessible to the vast majority of Puerto Ricans. Some urbanites had access to electricity, but in the *campo* it was virtually non-existent. It simply did not make economic sense for a private monopoly to extend electrical wires into the remote and often unforgiving Puerto Rican countryside. In this regard, Puerto Rico's energy systems were unremarkable. In the US, too, and indeed in most of the developed world, private monopolies controlled the flow of electricity in the 1930s, and rural dwellers seldom had access. In the US, for example, barely one in ten farmers had access to electricity before the New Deal (*Rural Lines,* 1960). But in other ways, Puerto Rico's energy system was uniquely out-of-reach. Energy costs in Puerto Rico far exceeded those on the mainland, in part because of the shipping costs associated with floating fossil fuels to the eastern edge of the Caribbean. Whereas US-Americans on the mainland paid five or six cents er kilowatt hour of electricity in 1934, Puerto Ricans paid closer to fifteen cents (Funigiello, 1973). Energy access in the transportation sector was just as dire. Privately-operated train tracks circled the main island's central mountains, carrying sugar, coffee, and the men who reaped their wealth. Some elite Puerto Ricans had access to cars, but it was expensive to power them. They paid roughly twenty-five cents per gallon in 1934, compared to the nineteen cents that

[2] A Condensation of Report of Messrs. Husselman and Dickerman, Engrs., on the Electric System of the Government of Puerto Rico, Jan. 26, 1936, President's OF #400, Box 24, Franklin D. Roosevelt Library (hereafter FDR Library).

[3] Report on Consumers' Strike Against High Price of Gasoline, Dec. 28, 1933, Box 287, Tomo 1, La Fortaleza, Archivo General de Puerto Rico (hereafter AGPR).

US-Americans paid (*Historical Gasoline Prices*, 2012). Most traveled on foot, or with the help of animals, along the ill-maintained and mudslide-prone roads that cut through the central mountains. Fossil fuel energy – for movement, light, or communication – was mostly reserved for the ruling classes.

The other problem that burdened Puerto Rico's energy systems in the early twentieth century was their vulnerability to the hurricanes that periodically ripped through the Caribbean. Both the fossil fuel-dependent, private energy system and the public hydroelectric system were relatively centralized. They generated electricity in a handful of places on the island and distributed it through a complex network of wires, precariously strung atop telephone poles, that snaked through the Puerto Rican countryside. These lines almost invariably collapsed in the event of a hurricane. When Hurricane San Felipe II hit Puerto Rico in 1928, the public distribution lines on the southern plains were "almost totally destroyed," and "thousands" of utility poles in San Juan went down, "some broken and others uprooted" ("Daños causados", 1928; Luchetti Otero, 1928). It took a month to fully restore electrical service after the storm (*Twenty-ninth Annual*, 1929). It was a profound warning, one that would go unheeded time and time again, about the perils of centralized electrical systems in hurricane-prone areas.

In the 1930s, Puerto Rico's energy system was vulnerable and unequal. It depended on imported fossil fuels from afar, enriched a small network of gas companies and private utilities that charged high rates and took their profits elsewhere, was ill-equipped to withstand hurricanes, and provided power to a select group of Puerto Ricans, leaving the rest in the dark. It was a system that was ripe for disruption.

3. Disrupting private power

To take a lunchtime walk down San Juan's Avenida Juan Ponce de León on December 28, 1933 was to observe life in a different era. Cars and trucks sat motionless and noiseless. In their place, humans and animals moved people and goods from place to place. "Men on roller skates with their coats under their arms went to and from offices down the middle of highways, while bicycles, some brought by Santa Claus for sons and daughters, were suddenly commandeered by fathers," the *New York Times* reported ("Gas strike", 1933). Horses, fattened by the grasses that grew in the foothills, pulled carts that whisked passengers and goods from one end of the city to the other. Those without the help of wheels or four-legged animals continued on foot. The distribution of food, milk, medicine, newspapers, and other services all proceeded at a slow, methodical pace or halted completely. In a car-less city, what once took a minute now took an hour ("Troops called in", 1933).

A few days earlier, transportation workers in Mayaguez had gone on strike to protest soaring gas (petrol) prices on the island. Led by *publico* drivers who owned and operated taxi-like cars and were affiliated with a transportation workers' union, the *Asociación de Choferes de Mayagüez*, the movement spread quickly to San Germán, Ponce, San Juan, Gurabo, Aguadilla, Camuy and several other towns across the main island. Bus and truck drivers joined the movement out of solidarity, as did some private car owners; others were coerced into compliance by the militancy of *publico* drivers and their supporters.[4] Organizers eventually formed a strike committee – *El Comité Central de Chóferes y Consumidores* – that brought together workers and consumers to protest high gas prices. All across the island, strikers littered roadways with glass, nails, and debris to trip up those that carried on in defiance of the movement. Others set up checkpoints on the roads that led in and out of towns, only permitting authorized travelers to continue (Bernabe, 1989).[5] The *New York Times* called it "the most complete tie-up of transportation the island has ever known," and it had only just begun ("Gas strikes halts" 1933). Weeks later, protests raged again. By mid-February, drivers in twenty-six towns had halted almost all transportation, and with it, most commercial activity. Those who defied the boycott felt the wrath of those who promoted it. Few vehicles were spared from the strikers' militance. Protesters threw firecrackers into mail trucks and even "fired upon" a US Navy truck ("El desarrollo", 1934).[6] Strikers in Ponce scattered rocks on the

[4] Memorandum for the Honorable Governor of Puerto Rico, Feb. 20, 1934, Box 675, Tomo 1, La Fortaleza, AGPR.
[5] Ibid.; Memorandum from Francis Riggs to Blanton Winship, Feb. 17, 1934, Box 676, Tomo 1, La Fortaleza, AGPR.
[6] Bernstein to Winship, Feb. 12, 1934, Caja 676, Tomo 1, La Fortaleza, AGPR.

road to obstruct traffic, and when police stopped to remove them, strikers hidden in the hills above showered them with stones.[7]

As strikers worked to suspend gas-powered movement, they did the same to gas-powered lighting. In early February of 1934, groups of shop-owners in Mayaguez, Ponce, and later San Juan protested high electricity rates by initiating a boycott of the island's three private power utilities ("Puerto Rico fears", 1934). The electricity boycotts were pushed into being by the people with reliable access to electricity: urban, well-to-do shop owners and other elites. Electrical workers went on strike in solidarity, and other leftists and unionists, eager to disrupt Puerto Rico's exploitative energy regime, quickly joined the cause, organizing social defense committees to coordinate the resistance ("Estado del Boycott", 1934; Bernabe, 1989). Other electricity consumers joined out of either solidarity or fear. All over the island, boycotters cut electrical wires, toppled telephone poles, smashed electrical meters, and threw rocks at houses and businesses that dared turn on their lights.[8] On the night of March 31 alone, strikers and protesters in San Juan set off bombs at a bakery, a bank, and a private residence, all of which had their lights on.[9] Other Puerto Ricans roamed the streets, looting stores in search of "candles, lanterns, lamps and gas" in order to comply with the boycott ("La policia", 1934). Still others went door-to-door, soliciting support for the boycott and promising to furnish kerosene and lamps to boycotters.[10] By mid-March, the government reported that seventy percent of homes in the San Juan neighborhood of Puerto de Tierra were burning propane lamps to generate light.[11] In Ponce, the chief of police claimed that the entire city had turned out the lights.[12]

As strikers and boycotters disrupted the flow of electricity in Puerto Rico, they also hampered the island's communication systems, which depended on an electrical current to transmit messages through a network of telegraph and telephone lines. Communication systems ran into further trouble when dozens of employees of the Puerto Rico Telephone Company went on strike in May, seeking better wages and working conditions and union recognition. Strikers' tactics were much the same as those of the electricity boycotters. Strikers roamed the streets carrying ladders and handsaws and clipping whatever telephone lines they could reach. Rafael Álvarez García, for example, was arrested by police after he was discovered perched atop a telephone pole in Old San Juan sawing through telephone cables.[13] Strikers broke into a telephone company facility in Río Piedras and cut off service to the area. Others set off a bomb at the company headquarters in Santurce. For several weeks in May and June of 1934, huge portions of Puerto Rico – including the governor's mansion and other government buildings – were deprived of the means of communication ("Strike silences", 1934; "Puerto Ricans", 1934).[14]

The energy strikes of the spring of 1934 were a small part of one of the most tumultuous decades in Puerto Rican history. Major hurricanes in 1928 and 1932, spliced by a global economic collapse, worsened conditions in the already impoverished and neglected colony (Standen, 2023). In response, more than 100,000 workers went on strike between the summer of 1933 and the spring of 1934: first women needleworkers and tobacco strippers and later dockworkers, bakers, transportation workers, sugarcane workers and others. Couched within this moment of widespread labor unrest, the energy strikes and boycotts thus enjoyed significant support from other disgruntled workers who were themselves burdened by high energy costs. Moreover, all Puerto Ricans were squeezed by a 58% increase in food costs in 1933-1934, driven in part by the Agricultural Adjustment Act (AAA), which President Franklin Roosevelt signed into law in 1933 to raise farm prices by limiting agricultural production (*Annual Report* 1935). Most of the striking workers were organized

[7] Memorandum for the Honorable Governor of Puerto Rico, Feb. 31, 1934, La Fortaleza, Box 675, Tomo 1, AGPR

[8] Memorandum for the Honorable Governor of Puerto Rico, April 1, 1934, Box 675, Tomo 1, La Fortaleza, AGPR; Memorandum for the Honorable Governor of Puerto Rico, Feb. 6, 1934, Box 675, Tomo 1, La Fortaleza, AGPR.

[9] Memorandum for the Honorable Governor of Puerto Rico, April 1, 1934, Box 675, Tomo 1, La Fortaleza, AGPR.

[10] Police Note, Jan. 2, 1934, Box 675, Tomo 1, La Fortaleza, AGPR.

[11] Memorandum from Francis Riggs to Blanton Winship, March 15, 1934, Box 675, Tomo 1, La Fortaleza, AGPR.

[12] Memorandum for the Honorable Governor of Puerto Rico, Feb. 2, 1934, Box 675, Tomo 1, La Fortaleza, AGPR.

[13] Memorandum for the Honorable Governor of Puerto Rico, June 9, 1934, Box 676, Tomo 1, La Fortaleza, AGPR.

[14] Muñoz to Winship, May 17, 1934, Box 676, Tomo 1, La Fortaleza, AGPR; Memorandum for the Honorable Governor of Puerto Rico, June 9, 1934, Box 676, Tomo 1, La Fortaleza, AGPR.

by the Federación Libre de Trabajadores (FLT), a labor federation that took shape in the last years of the Spanish period and affiliated with the American Federation of Labor (AFL) soon after the US takeover (Silvestrini, 1979; Nodín Valdés, 2011). But the FLT was quickly losing legitimacy during this period, mostly because its leadership was more conservative and employer-friendly than its membership. As the labor movement surged, the closely related independence and land reform movements also gathered strength. Unrest in Puerto Rico brought radically different responses on the part of the US government. On the one hand, it convinced the Roosevelt administration to extend the New Deal to the distant Caribbean colony, which eventually took the form of the Puerto Rico Reconstruction Administration (PRRA), a New Deal agency created in 1935 and tailored to Puerto Rico's woes. On the other, it inspired horrific acts of colonial violence, highlighted by the 1935 Río Piedras Massacre, in which Puerto Rican police, directed by U.S.-appointed Police Commissioner Francis E. Riggs, opened fire on a group of Puerto Rican nationalists, killing four. Months later, two nationalists assassinated Riggs and were promptly executed by the colonial state (Ayala & Bernabe, 2007). The energy disruptions of 1933-1934 were thus a single chapter in a period of political and economic chaos.

And yet they were disruptive enough to make Puerto Rico's political and economic elites shudder. As working people halted the energy flows that made Puerto Rico work, the island's economy faltered. With movement, light, and communication all compromised, few industries could operate normally. Sugarcane plantations – the centerpiece of Puerto Rico's economy, which were already enduring strikes of their own during the all-important winter cane harvest – struggled to move workers to the fields and sugarcane to the ports, jeopardizing – as one sugar baron complained – the "great amount of money" that the industry "puts in circulation."[15] In February, strikers attacked a bus transporting cane workers from San Juan to Central Mercedita. The driver was struck in the face by a rock and ended up in a hospital in Caguas, where he eventually lost his eye ("Estado de la huelga", 1934).

Puerto Rico's second most important economic driver, the needlework industry, was similarly thwarted by the energy stoppages. Victor Domenech, the head of the Mayaguez Needlework Association, claimed that his industry was in disarray because the agents who traversed Puerto Rico distributing fabrics to homeworkers "fear[ed] bodily harm" due to the "uncontrolled fury of the mobs."[16] Other industries struggled to move people and ideas from place to place. All across the island, the bus lines that brought workers to their jobs – in San Juan, Ponce, Caguas, Fajardo, and other towns – ceased operating because bus drivers refused to work, out of either solidarity or fear.[17] Porto Rico Iron Works, an important employer in the Ponce area, threatened to close up shop if the bus lines that moved their workers were not restored.[18] The electric messages that typically beamed back and forth to coordinate economic activity also had trouble getting through. Already grappling with a strike of their own, telephone companies were eventually able to cobble together enough workers to restore service, only to discover that the electric energy that enabled telecommunications had been cut off by unruly demonstrators.[19] Even the distribution of food – the most urgent source of energy, already scarce for working people in Puerto Rico – was hampered by the strikes and boycotts. Trucks carrying food and milk to mountain towns were held up by angry strikers. A group of merchants from Las Piedras feared that within twelve hours people would go "hungry" if the movement of bread, fruit, and rice were not restored.[20] Bakers in Juncos complained that they had run out of flour and could not find a driver to transport their shipment from San Juan: "Juncos will not have bread from today on," they wrote.[21] In a desperate plea to President Franklin Roosevelt, a group of Puerto Rican business owners offered an especially bleak assessment of the state of Puerto Rico's economy: "All towns in Puerto Rico isolated from each other except by telephone and telegraph. Roving mobs composed of worst elements prevent movement of private and public cars on streets and highways terrorizing and injuring citizens and destroying property." They continued: "Some elements threaten cut off telephone and

[15] Benitez to Horton, Jan. 2, 1934, Box 676, Tomo 1, La Fortaleza, AGPR.
[16] Domenech to Horton, Dec. 27, 1933, Box 676, Tomo 1, La Fortaleza, AGPR.
[17] Memorandum for the Honorable Governor of Puerto Rico, Feb. 20, 1935, Box 675, Tomo 1, La Fortaleza, AGPR.
[18] Porto Rico Iron Works to Winship, Feb. 17, 1934, Box 676, Tomo 1, La Fortaleza, AGPR.
[19] Muñoz to Winship, May 17, 1934, Box 676, La Fortaleza, Tomo 1, AGPR.
[20] Merchants to Winship, Feb. 21, 1934, Box 676, Tomo 1, La Fortaleza, AGPR.
[21] V. Lanza and Co. to Winship, Feb. 21, 1934, Box 676, Tomo 1, La Fortaleza, AGPR.

electric service and, with it, the water system of San Juan. Business paralyzed… A state of actual anarchy exists."[22]

The energy disruptions of 1933-1934 were in many ways spontaneous and disjointed responses to an exploitative energy system. For the most part, they were guided by a relatively modest ambition: to lower energy costs in Puerto Rico. Strikers and boycotters were not actively pushing for a transition to hydropower; nor were they specifically calling for the nationalization of Puerto Rico's energy systems. But their efforts to disrupt the flow of energy in Puerto Rico were imbued with a more structural critique of how energy was generated and distributed and vague calls for public control over the island's energy resources. As a flier distributed by the strike committee in San Juan read, "our public economy is in bankruptcy…It is time that we begin the reconstruction of our *hacienda*."[23] Another boycotter made a similar point about public ownership of energy resources. "The air, water, light, land, should not be the fief of anyone. He who owns them holds the people in servitude" (Quoted in Lugo del Toro, 2013). His words foreshadowed the movement for public ownership of Puerto Rico's energy systems, which gathered strength in the aftermath of the energy strikes and eventually culminated in the creation of an island-wide, public electrical utility in 1941.

4. Building momentum for an energy transition

Under duress from both workers and a ruling class eager to restore normalcy, the Puerto Rican government initially responded to the energy disruptions with force. After his car tires suffered twenty-three distinct punctures on the seven-mile drive between San Juan and Río Piedras, Police Commissioner Francis E. Riggs issued an ominous warning. "It is my duty to warn all concerned," he proclaimed, "that there will be no firing in the air by police. If the police have to fire in self-defense or to preserve public order, by my order they will fire for effect" ("Gas strikes halts", 1933). Riggs called in hundreds of additional police officers to carry out his orders ("Troops called", 1933). His words revealed both the potency of the threat presented by the strikers and the violence inherent in colonialism. It was just one incident in a decade of brutal clashes between workers and the colonial state. As noted above, a few years later, after Riggs' officers murdered four Puerto Rican nationalists at a demonstration in Río Piedras, Riggs himself was shot dead in San Juan.

The Puerto Rican government also worked to quell the unrest by intervening to negotiate lower energy costs. Just days after the strikes and boycotts broke out, Governor Benjamin Horton reached a provisional deal with gas companies and the chauffeurs' union to temporarily reduce fuel prices while they worked to develop a more permanent solution.[24] In the meantime, the government got into the business of buying and selling petroleum to alleviate the burden on consumers. In March, as the energy strikes raged around them, Puerto Rican legislators passed a law which designated the gas companies "a threat to public order and well-being" and established the government's right to "buy and sell gasoline and other petroleum products" ("Texto integro", 1934). The Public Service Commission similarly took action to lower the cost of electricity. The Commission held hearings all over the main island that were, according to one newspaper, "completely invaded" by a public eager to air its grievances ("Las tarifas", 1934). It eventually demanded that several private municipal utilities match their rates to those offered by the public system and initiated an investigation of the San Juan and Mayaguez utilities ("Rebajadas", 1934; "Muñoz dice", 1934). Despite these modest concessions, energy prices remained high, and the strikes and boycotts endured.

The strikes' most significant legacy was that they built momentum for a major energy transition in Puerto Rico: from a privately-controlled, fossil fuel-dependent energy regime inaccessible to most Puerto Ricans to a public system that distributed affordable hydropower to Puerto Rican countryside. In the early 1930s, the Puerto Rican government already distributed hydropower to some consumers, and its service was steadily expanding. But with Puerto Rico's power lines severed, its roads littered with nails, and its workforce holding out, the project of expanding access to public power took on renewed urgency. When the energy strikes and boycotts

[22] Torres *et al* to Roosevelt, Dec. 29, 1933, President's OF #400, Box 22, FDR Library.

[23] A los Consumidores de Corriente Eléctrica, n.d., Box 676, Tomo 1, La Fortaleza, AGPR.

[24] Report on Consumers' Strike Against High Price of Gasoline, Dec. 28, 1933, Box 287, Tomo 1, La Fortaleza, AGPR; Press Statement by Blanton Winship, Box 287, Tomo 1, La Fortaleza, AGPR.

of 1933-1934 broke out, Antonio Lucchetti – an electrical engineer from Ponce who headed up the government's electrical system – seized on the opportunity to build support for public power. In early January of 1934, Lucchetti reminded readers in *El Mundo* that the government's electricity system "has never given reason for the consumer to complain about the quality of service or the cost." As a "wave of protest" crashed across the island, Lucchetti claimed that not a single protest originated in an area serviced by the public system (Lucchetti, 1934). Other observers were quick to criticize the private system and celebrate the public one. The town of Fajardo, for example, issued a resolution that lambasted the "excessive monopoly of electric light and power in this region" and contrasted it with the government system that belonged to the "people of Puerto Rico" and provided electricity at "reasonable prices" ("Resolución", 1934). A group of consumers in Sábana Grande passed a resolution demanding that the town be disconnected from the Mayaguez Power, Light, and Ice Company and added to the government system, which provided service that was "equal or better" at a "much cheaper cost" ("Sábana Grande", 1934). In some cases, the strikes and boycotts more directly contributed to the expansion of the public system. By damaging infrastructure and cutting into profits, they apparently did so much damage to some municipally-owned distribution systems – in Isabela, Rincon, and Añasco – that the towns were forced to sell them to the government-owned Isabela Irrigation District (*Informe*, 1935). The strikes thus did more than just call attention to energy injustice; they forced the public takeover of municipal energy systems by effectively rendering them economically inviable.

As the energy strikes and boycotts of 1933-1934 helped build momentum for an energy transition, they also contributed to a wave of labor unrest that called attention to Puerto Rico's plight and helped to inspire an intervention on the part of the federal government. During the first three decades of US rule in Puerto Rico, the federal government never took much interest in Puerto Rico: just two US presidents had visited the Caribbean colony by 1933. But the strikes of 1933-1934, together with Hurricane San Felipe II in 1928 and the Great Depression, helped redefine colonial governance in Puerto Rico. The most potent symbol of that shift was the Puerto Rico Reconstruction Administration (PRRA), a New Deal agency created in 1935 and tailored to Puerto Rico's woes. Building off the workers' movement that came before it, the PRRA ultimately played a major role in promoting public power and transforming Puerto Rico's energy systems.

In the spring of 1934, as Puerto Ricans raged for a better life, and as local elites begged officials in Washington to restore order, then-Undersecretary of Agriculture and prominent New Deal agronomist, Rexford Tugwell, visited Puerto Rico to survey the long-neglected US colony. Tugwell later appointed a committee of Puerto Rican reformers to draw up a blueprint for the island's rehabilitation, which came to be known as Plan Chardón. In June 1934, just weeks after the energy strikes had begun to subside, the committee wrote to Antonio Lucchetti seeking information on the island's hydroelectric capabilities. Lucchetti wrote back that the "immediate next step" was the government acquisition of privately-owned systems. He also advocated for nearly tripling the island's productive capacity by building dams and generating plants all over the main island.[25] Lucchetti's recommendations eventually made their way, verbatim, into Plan Chardón (*Report of the Puerto Rican Policy Commission*, 1934).

In 1935, President Roosevelt signed an executive order creating the Puerto Rico Reconstruction Administration (PRRA) to implement Plan Chardón's vision. Over the next several years, the PRRA distributed more than ten thousand subsistence plots to formerly landless Puerto Ricans; invested in farmers' cooperatives to diversify agriculture; and put tens of thousands of Puerto Ricans to work planting trees and building roads, schools, and medical clinics. The PRRA's most significant intervention in Puerto Rican life was in the island's energy systems. Between 1936 and 1942, the PRRA built four hydroelectric systems, improved two others, and strung hundreds of miles of transmission lines that brought electricity to the secluded valleys and hillsides where it had not been before (Latimer Torres, 1997). These projects more than doubled the generating capacity of Puerto Rico's hydroelectric systems and extended light and power to 20,000 new consumers by 1939 (*Creating*, 1934). At the same time, New Deal agencies began buying up the private electrical systems that already existed and handing them over to the Puerto Rican government. In 1937, the Puerto Rican government purchased the

[25] Horton to Bureau of Insular Affairs, June 6, 1934, La Fortaleza, Tomo 1, Box 288, AGPR.

Ponce Electric Company with a loan from the Public Works Administration (PWA), which alongside the PRRA funded a number of projects on the island.[26]

As more Puerto Ricans began consuming cheap and reliable public power, their neighbors and friends sought access too, and pressure mounted to expand the system.[27] By the late 1930s, Puerto Rican support for public power was overwhelming. An opinion piece in *La Correspondencia* called for the government to bring light to the rural communities where "nothing but gloom and darkness reign supreme" (Colon Baerga, 1940). The *Asociación de Agricultores Puertorriqueños*, an influential group of elite farmers, and even the reliably conservative and anti-New Deal newspaper *El Mundo* threw their support behind a complete public take-over of Puerto Rico's electrical systems. Cheap power, for industry or for the rural poor, was simply too good to pass up ("Celebramos", 1939).

In the spring of 1941, after a few attempts to create an island-wide public utility stalled out, the island government finally passed a law creating the Puerto Rico Water Resources Authority (WRA), and Governor Guy Swope signed it into law. In 1942, with the help of the War Powers Act, the WRA expropriated – and later compensated with funding from the PRRA – the two remaining private electrical utilities in Puerto Rico, in Mayaguez and San Juan (Burrows, 2017). For the first time in Puerto Rico's history, public power reached from shore to shore.

The Water Resources Authority was a product of its time and place. Throughout the Americas, the midcentury period saw a dramatic increase in public investment to improve access to electricity. The WRA was itself based on one of the US New Deal's crowning energy achievements: the Tennessee Valley Authority (TVA), a public corporation established in 1933 to provide cheap power and flood control to the poor and remote river valley that sweeps across the upper South (Van Fleet, 1987). The TVA built sixteen dams along the Tennessee River system between 1933 and 1944, illuminating all of Tennessee and parts of six surrounding states. The US media quickly took to calling the WRA the "Little TVA" ("Puerto Rican", 1938). Newspapers in Puerto Rico were even more unapologetic in comparing the two. One paper called it simply the "Tennessee Valley Authority for Puerto Rico" (Manzano Avino, 1940).

To Puerto Rico's west and south, meanwhile, other Latin American countries – Brazil, Mexico, Chile, Peru, Colombia, Argentina, and others – similarly expanded their hydroelectric capabilities during this period. Brazil, the regional leader in hydropower, saw its capacity increase five times between 1928 and 1954, while Colombia's jumped by a factor of more than thirteen (del Mar Rubio & Tafunell, 2014). At the same time, the private, foreign-owned electrical utilities that had dominated the region in the early part of the century were methodically taken over, often through nationalization, by public or quasi-public institutions (Hausman, 2011). These projects were part of a wave of public investment that defined the post-Depression era in the region, as countries underwent state-led industrialization drives to manufacture more goods at home, reduce dependence on industrial imports, and build more home-grown economies; what we now call import substitution industrialization (ISI) (Cárdenas *et al*., 2011). In Latin America, hydropower was thus the energy of economic sovereignty.

In Puerto Rico, too, hydropower and nationalization went together. The creation of the WRA was heralded as an assertion of Puerto Rican sovereignty, a turn away from Puerto Rico's dependence on fossil fuels imported from afar and an embrace of the energy resources already at work on the island: the rivers that cascaded from Puerto Rico's mountain spine to the saltier waters below. As Antonio Lucchetti argued during the Congressional hearings leading up to the WRA's creation: "We do not have coal. All we have is water and mountains in Puerto Rico." Lucchetti pleaded. The rural poor, he claimed, should be able to "pay 25 cents for lights produced by our mountains by our rainfall," instead of paying private power companies 50 cents that would quickly leave the island. It was a powerful pitch for localism and community control. As Lucchetti assured Congress, "this is really our system" (*Creating*, 1940). Puerto Rican Governor Rexford Tugwell made a similar point about localism at the inauguration of the Dos Bocas hydroelectric plant in 1942: "The sun and waters of heaven are here made to operate for the people," he proclaimed (Tugwell, 1970). By the mid-1950s,

[26] A Condensation of Report of Messrs. Husselman and Dickerman, Engrs., on the Electric System of the Government of Puerto Rico, Jan. 26, 1936, President's OF #400, 400-A, Box 26, FDR Library.

[27] Blanch to Winship, April 3, 1937, Box 289, Tomo 1, La Fortaleza, AGPR.

the WRA serviced ninety percent of Puerto Rican residences (Burrows, 2017). It was a monumental step forward for Puerto Ricans, and it represented the New Deal's finest and most lasting achievement on the island. Like most aspects of the Puerto Rican New Deal, it came about because working people demanded it.

5. Discussion and Conclusion

In the decades that followed, Puerto Rico's energy regime changed with the world around it. In the early part of the twentieth century, hydroelectricity was the work of the government, and fossil fuel power mostly belonged to private interests. But after the creation of the Water Resources Authority in 1941, the public system gradually turned away from hydroelectricity and towards petroleum to generate power. In its early years, the WRA generated more than seventy percent of its electric energy from Puerto Rico's rivers; by 1947, just six years into the WRA's tenure, hydroelectricity represented less than half of Puerto Rico's power supply, and by 1979, just two percent (Annual Report, 1943; Latimer Torres, 1997; "A Brief History", 2021). This pivot was driven in part by hydroelectricity's own limitations: namely that it depended on relatively steady rainfall. In the mid-1940s, especially, precipitation was erratic. In the summer of 1943, "extraordinary floods" pushed Puerto Rico's reservoirs over the edge. Just months later, "one of the most protracted and intense droughts on record" caused them to run dry, forcing the WRA to cut electricity access and ramp up production in the more reliable fossil fuel plants (Annual Report, 1945).

The other, perhaps more important, reason that the WRA embraced fossil fuels during the postwar period was the extraordinary rise in demand for energy. In the 1950s and 1960s, Puerto Rico rapidly industrialized its economy by luring North American manufacturers to the colony with tax incentives, a development strategy known as Operation Bootstrap. Industrialization, together with a booming global economy, considerably improved the standard of living in Puerto Rico, and the demand for electricity rose with it (Latimer Torres, 1997). Puerto Rico's rivers simply did not produce enough energy to power life on the island. Over the next several decades the WRA invested heavily in fossil fuel infrastructure while its hydroelectric infrastructure went mostly neglected. At the same time, as part of Operation Bootstrap, Puerto Rico companies began investing in oil refining and petrochemical production (Ayala and Bernabe, 2007). This eager embrace of fossil fuels ultimately led to the Water Resources Authority's rebranding as the Puerto Rico Electric Power Administration (PREPA) in 1979 (Agosto Flores, 2018). This transformation – from public hydropower to public fossil fuels – is a biting reminder that, though renewables and public power went together during the New Deal period, they do not always.

In the years that followed, as the global economy contracted and Puerto Rico's postwar manufacturing boom wore off, the Puerto Rican government – and PREPA with it – found itself in a mountain of debt, a problem that eventually led to its privatization in 2021. Much has been made of how PREPA was doomed by its own corruption and mismanagement. But the utility also failed because it was giving away free power to municipalities, government enterprises, and residents of public housing complexes (Walsh, 2016; "AEE solicita", 2013; Rivera Deliz, 2013; Alvarado León, 2013). It failed, in other words, in part because it was doing what it set out to do: to attend more to human need than to profit. This budget imbalance could have been solved with increased public spending, but in an economy built on tax breaks for North American corporations, there simply was not enough public revenue to go around. A public service judged by neoliberalism's standards for efficiency, PREPA was in some ways bound to fail. As the utility continued to accumulate debt, and as the ethos of austerity tightened its grip on society in the 1980s and 1990s, Puerto Rico's electrical grid fell into disrepair. Underfunded and ill-maintained, it was no match for Hurricane Maria in 2017 and later LUMA in 2021.

Today, Puerto Rico – like much of the world – is awash with fossil fuels and corporate energy systems, while more democratic energy systems and renewables struggle to keep pace. But Puerto Ricans of all kinds are working to carve out energy alternatives. In some cases, that has meant reinvesting in the hydropower systems through which public power was built. In 2019, a community group in Utuado created Puerto Rico's first electric power cooperative – the Cooperativa Hidroeléctrica de la Montaña – to generate and distribute community-controlled power. The cooperative seeks to reinvigorate Puerto Rico's hydropower systems by repairing the plants at Caonillas and Dos Bocas; to invest in community rooftop solar; and to organize a

microgrid to grant mountain communities some degree of energy independence ("La cooperativa", 2021). The Utuado cooperative looks both backward and forward: backward to the dams that were the seeds of public power and now sit in disrepair, and forward to the solar panels and microgrids that the present moment demands. The cooperative reflects a recognition that, though PREPA is in many ways a relic of a different moment, an embodiment of a mid-century vision that has long since given way to neoliberalism, important parts of that vision – especially public control – are worth preserving.

But if hydropower, in Puerto Rico and throughout Latin America, was once considered the fuel of economic sovereignty, that title now belongs to solar. For Puerto Rico, solar energy is especially promising not just because the archipelago receives an abundance of sunlight but also because solar allows users to generate power where it is consumed. This kind of decentralization lends itself to both community control and resilience in the face of hurricanes, two attributes that Puerto Rico's energy systems have historically lacked. The most well-known of Puerto Rico's community solar initiatives is *Casa Pueblo* in Adjuntas. Born out of efforts to halt a mining operation in the Puerto Rican mountains in 1980, *Casa Pueblo* is actively working to turn its community into a *pueblo solar*. It has installed hundreds of rooftop solar systems on homes and businesses and organized them into a microgrid to build a more resilient energy system (Lakhani, 2021). Countless other community-led solar power initiatives have sprouted in recent years to challenge PREPA's, and now LUMA's, control over Puerto Rico's energy systems.

Energy alternatives like these have a critical role to play in building a sustainable and equitable energy regime in Puerto Rico. They remind us that there are better ways to generate and distribute power. But to win a better energy future, we need not just new ideas and models but also a collective force with the structural power to challenge existing energy systems. Today, privately-controlled, fossil fuel power remains dominant not necessarily because of its own merits but also because of the network of wealth and power that has grown around it over the course of centuries and has a vested interest in maintaining its supremacy. Energy regimes ultimately mirror the political economies of which they are an integral part. Both seek to distribute power. And both can be transformed by the people who do the work to make them operate and sometimes withhold it to make them cease.

These kinds of disruptions must, of course, be generative, which raises the question of what exactly working people should demand when it comes to energy. In the 1930s, Puerto Ricans fought for lower energy costs and, less directly, public power; the transition from fossil fuels to a cleaner form of energy – hydropower – was mostly a fortuitous byproduct. But, as PREPA's own evolution suggests, public power does not guarantee clean energy, even if it's hard to imagine the latter without the former. That means that working people must use their structural leverage – as those who make society operate – to demand both public power and clean energy, along with better wages and more dignified working conditions. The electrical workers who tried to halt the LUMA take-over in 2021 are, despite their ultimate defeat, a beacon of hope. They reflect the view, critical in this historical moment, that workers must fight not just for better wages and working conditions but ultimately for a better society. And a better society, today, means one powered by a decarbonized, community-controlled energy system prepared to withstand disaster events. Few political projects are more urgent in this moment. As the president of the electrical workers union articulated, we must fight for "a transformation to a decentralized grid based on renewable energy to achieve resilience and affordable electricity rates" (Figueroa Jaramillo, 2021). The truckers' union, the *Frente Amplio de Camioneros*, has similarly affirmed its support for "a public and more efficient PREPA, but also one free of fossil fuels" ("Puerto Rican workers," 2021). Among Puerto Rican workers of all kinds, the fight for empowered workers and empowered communities, a safer workplace and a safer climate, are one and the same.

All of these challenges call for a rethinking of the way society works. Our energy systems and our labor systems are ultimately based on the same premise: that human and natural resources are expendable, that the people and things that make society function bear its harshest burdens, that power is concentrated in a few places and distributed tenuously, if at all. In this historical moment, these systems seem almost intractable. But the study of history consistently reminds us that things have been, and will be, another way. And sometimes it offers guidance about how we might get there.

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