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The Policy and Institutional Effects of Contentious Politics in Costa Rica's Energy Sector

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Abstract:

Costa Rica has championed a state-led electricity model premised on hydroelectric power. This has enabled the country to produce a reliable energy supply with universal coverage, that is renewable and low-carbon. However, in recent years the state company, ICE, has seen its autonomy and predominance diminish and its megaproject-dependent model questioned. Social movements contributed to the enthronement of ICE as an agent of national development and a source of energy sovereignty but have also mobilized at various points to check its power. This paper examines how structural factors and domestic and international economic constraints have altered the relative power of these actors to translate their preferences into policy and institutional effects in the Costa Rican electricity sector. *Keywords:* Costa Rica, energy, energy sovereignty, extractivism, hydroelectricity, megaprojects, mobilization, political economy, social movements.

Resumen: Los efectos de la política constestataria sobre políticas e instituciones del sector energético en Costa Rica

Costa Rica ha defendido un modelo energético liderado por el estado y basado en la hidroelectricidad. Esto le ha permitido universalizar la oferta y suplir sus necesidades eléctricas de una fuente confiable, renovable, y baja en carbono. No obstante, en años recientes, la compañía eléctrica estatal, ICE, ha perdido parte de su autonomía y predominancia, y su modelo basado en megaproyectos ha sido cuestionado. Los movimientos sociales contribuyeron a entronizar al ICE como adalid del desarrollo nacional y fuente de soberanía energética, pero también se han movilizado en varios momentos para limitar su poder. El presente trabajo examina cómo factores estructurales y limitantes económicas nacionales e internacionales alteraron el poder relativo de estos actores para influir con sus preferencias las instituciones y políticas públicas del sector eléctrico costarricense. *Palabras clave:* Costa Rica, energía, soberanía energética, extractivismo, hidroelectricidad, megaproyectos, movilización, economía política, movimientos sociales.

Introduction

Hydroelectric power has been a central component of electricity generation in Costa Rica since the late nineteenth century. When it nationalized its electricity sector in the early twentieth century the country chose hydro as its central axis of development. The state utility company, *Instituto Costarricense de Electricidad* (ICE), created the necessary technical capacities in-house to fully develop the power source, collaborating with the University of Costa Rica (Chavez & Cortés Ramos 2013, 84). As the sole repository of technical expertise and a monopoly operator, it enjoyed considerable autonomy in the planning and direction of projects and sectoral policies. The large-scale projects it developed became a matter of national pride, and ICE came to be closely identified with a *Tico* model of development, based on social solidarity and environmental protection (Chavez & Cortés Ramos 2013, 72). Today the country enjoys virtually universal coverage in the electric sector with some of the highest percentages of generation from renewable sources worldwide.

However, in recent years the company's predominance has diminished. Partial reforms in the 1990s opened a space, albeit limited, for private generators that, together with a coop sector established in the 1960s, have driven investment into alternative renewables. They have capitalized upon the growing affordability of smaller scale deployments for renewable energy sources that are well adapted to the country's topography and climate, including wind and solar, but also micro-hydro. Not only has this chipped away at ICE's market dominance, but by creating a powerful interest vying for greater competition in the sector, it has also diminished its political dominance.

At the same time, ICE has found itself at the centre of the country's emergent socio-environmental conflicts. As awareness of the importance of water for economic development has grown in recent years, its control has become increasingly contentious (*Programa Estado de La Nación* 2013). Local communities claiming sovereignty over the resource have organized to defend against its usurpation. This builds on a long history of social movements asserting the country's sovereignty over hydraulic power, and the state's role in harnessing it. Despite considerable inroads in geothermal energy, ICE's continued reliance on mega hydro developments has placed it squarely within these conflicts. A broad social movement comprised of environmentalists, local community organizations, and indigenous organizations has repeatedly opposed these mega projects over the past two decades.

Social movements have managed to stop mega projects in Pacuare and Saavegre and have detained and seriously imperilled what ICE considers its key energy project for the next 25 years: Diquís. I argue that this struggle, as others before it in the energy sector, has had tangible institutional and policy impacts. It has launched a debate about the country's energy model and prompted an institutional struggle for the governance of the energy sector. The first involves questioning the cost and sustainability of large-scale extractive energy projects,

the consequences of monopoly power, and the role of private players in the energy sector. The second involves the reassertion of existent but latent powers in the executive branch to make ICE a more accountable player. These developments capitalize on a long history of social mobilization around the control of energy resources. Social mobilization opposing a private electricity monopoly in the early years of the sector's history led to the creation of a public one, but successive mobilizations chipped away at it, creating more of a hybrid sector with new municipal, coop and, more recently, private actors. The ideational frame for mobilization evolved sequentially from a defence of national sovereignty over power resources, to a concern with the affordability and reliance of electricity, and finally to a demand for openness, accountability, and environmental responsibility.

Through a historically grounded description of these mobilizations the present study provides a longitudinal examination of the policy and institutional impacts of social mobilizations in the Costa Rican electricity sector. By tracing the evolution of the country's production profile (Gourevitch 1986) it examines how structural factors, such as hydrological endowments, formal rules, geopolitics, technological change, and domestic and international economic constraints, shaped the preferences of actors and their relative power to translate those preferences into policy. It shows how an emergent nationalism in the first half of the twentieth century combined with abundant water resources strengthened those advocating for a state-dominated energy sector, but at the same time how that dominance was temporarily limited by the geopolitical constraints of the Cold War. It shows, further, how economic crisis empowered social actors to check the power of the state monopoly, and how it also paved the way for a partial opening of the monopoly to private actors. Technological change, by increasing the efficiency of alternative renewables, augmented the power of private generators and community groups relative to ICE, eroding the case for a mega extractive model. Formal rules for popular consultation and constitutional justice empowered social and community actors to resist the development of mega extractive projects and assert their constitutional rights.

Institutional and policy impacts are examined in the framework established by Silva (2017). Without discussing the framework at length, I will assume that impacts can be either direct or indirect, joint or mediated. Direct effects are those where immediate consequences can be traced to the actions of social movements, such as the success or failure of a project, or the influencing of policy based on movement demands. Indirect effects are those where mobilization influences allies or public opinion, which then influences outcomes independently. In mediated effects, movements achieve their objectives by allying directly with institutional political actors. As to the effects themselves, they include agenda setting, policy initiation, formulation, implementation, and feedback loops, as well as formal and informal institutional changes, including new forms of inclusion or exclusion and improvements in state efficacy and efficiency.

History of social movements and the electrical sector

Costa Rica relied on hydroelectric power from the earliest period of its electrification, as it lacked coal or natural gas but had water in abundance. Its very first plant, inaugurated in 1884 with 50 kilowatts (kw) to light the streets of San José, was hydroelectric.¹ So were those which brought electricity to the other provincial capitals – Cartago (1892), Alajuela (1895), and Heredia (1897) (de la Cruz 2004, 159). The country’s first major expansion of generating capacity was hydroelectric: two plants (750 kw) developed in 1900 by the Costa Rican Electric Light and Traction Company, which also ran electric trams in San José and was owned by Minor Keith, with a third project (1,000 kw) following in 1912. Two local competitors appeared, the *Compañía Nacional de Electricidad* (1911) and the *Compañía Nacional Hidroeléctrica* (1922), adding 2,500 kw and 2,720 kw of power, respectively, all from hydroelectric sources. When the pacific railway connecting the capital to the port of Puntarenas was electrified in 1928, it was with power sourced from a new hydroelectric plant in Tacaes. All capacity expansion plans considered at the time, like those for electrification of the central valley, or the utilization of surplus energy from the railroad project, were based on hydroelectric power (Jiménez Gómez 2009, 158). In fact, water was increasingly seen as a national resource, vital to the country’s economic development. As early as 1910, the legislature nationalized “all hydraulic forces”, reasoning that if such forces “constitute national riches superior in value to all other resources of our soil, it is the duty of the state to conserve them for the general interest”² (Jiménez Gómez 2009, 156, Rodríguez Arguello 2000, 46).

In 1928, the American and Foreign Power Company, a subsidiary of the U.S.-based Electric Bond and Share Company gained financial control of all the local producers, in fact constituting a monopoly, that came to be known as “the Trust”, which would eventually become the *Compañía Nacional de Fuerza y Luz* (CNFL) (Fernández Robles 1985, 241-247). This generated considerable opposition and led to the mobilization of diverse citizen groups, many of which were already animated by anti-imperialist sentiments against the United Fruit Company. Numerous demonstrations took place in the capital and provinces to denounce the foreign-owned monopoly as an infringement of national sovereignty in a sector of key strategic importance. Organized by the *Comisión Obrera* they were soon joined by other groups like the *Comité de Defensa de la Riqueza Nacional* and the *Liga Cívica* in denouncing the transnational monopoly (de la Cruz 2004, 161). The *Liga Cívica*, which included some of the most prominent public intellectuals and politicians of the day, led the call for the passage of legislation that would empower the state to control the monopoly and regulate the energy sector (Rodríguez Arguello 2000, 42). The result was the 1928 nationalization of all electricity derived from hydraulic forces – already a reserve of the state, as mentioned above – and the creation of the *Servicio Nacional de Electricidad* (SNE), a new state entity to regulate and control all aspects of hydroelectric extraction. The League’s links to important political figures, including former

president Alfredo González Flores and several legislators, suggest the existence of a policy network (Silva 2017, 10) that made the legislation possible. However, its passage was aided by the social base evidenced in the movement mobilized by the League (Jiménez Gómez 2009, 137). We have, therefore, the first instance of a mediated institutional and policy effect in the electricity sector (Table 1). By establishing the state as the steward of electricity extraction and defining hydraulic resources as an inherently national energy source, this change of rules set the course for the development of the electrical sector throughout the twentieth century, and into the twenty-first.

The Great Depression greatly limited the investment capacity of the state, so no new plants were added and the sector continued under private monopoly for two additional decades. At the same time, nationalization stymied private investment, greatly limiting the quality and quantity of energy supplied (León, Arroyo Blanco, & Montero Mora 2016, 103). Broad dissatisfaction resulted in new civic mobilizations, as in the case of the *Asociación Nacional para la Defensa del Consumidor Eléctrico* (ANDCE), which advocated for a “national” solution to the problems of energy supply, echoing the earlier calls of the *Liga Cívica*. Given the inability of the national government to provide this solution, the group mobilized a significant sector of the public and helped influence public opinion in favour of advancing electrification at the municipal level, resulting in the Carrillos de Poás hydroelectric project, started in 1946 by the city of Heredia and completed in 1951 (Dengo 2004, 97; ICE Undated-a, ESPH), and the creation, in 1949, of the Junta Administrativa del Servicio Eléctrico Municipal de Heredia.³

More significant changes came in 1949. That year marked the end of a civil conflict that brought José Figueres to power. His movement espoused a social democratic agenda, with an explicit role for the state in directing economic development. It moved swiftly to implement it through a series of decrees, one of which led to the creation of ICE. The new organization’s mandate included “taking advantage of hydroelectric energy to fortify the national economy and promote the greatest welfare for the Costa Rican people” (Junta Fundadora de la Segunda República 1949, 1). The charge is clearly compatible with, and can be seen as a logical continuation of, the reasoning behind the 1910 nationalization of water power sources and the 1928 nationalization of hydroelectric energy. Thus, the choice of hydro power as a national imperative and the view of its development as a sovereign public good, were ingrained in the organization from its inception.

ICE did not immediately displace the CNFL. In fact, the multinational continued to own the distribution lines for almost twenty years more, giving it considerable leverage over its new-born competitor, and the ability to charge high electricity prices with frequent and – in light of the poor quality of the service – seemingly arbitrarily large rate increases. Alvarenga (2005, Ch. 3) describes how this situation became a catalyst for social protest that would be emulated in

Table 1. Movement Policy and Institutional Impacts in the Costa Rica Energy Sector

Movement	Impact	Type
Liga Cívica, Comisión Obrera, Comité de Defensa de la Riqueza Nacional	Nationalization of electricity (1928) Creation of SNE (1928) Creation of ICE (1949)	Mediated policy impact Mediated institutional impact Indirect institutional impact
Asociación Nacional Defensa Consumidores Eléctricos (ANDCE) 1949, Cartago citizens 1962	Municipal electricity generation Creation of ESPH/JASEMH	Mediated policy impact Mediated institutional impact
Juntas Progresistas, ANDCE, Alianza de Mujeres Costarricenses anti-rate hike movement 1952, 1958	Calls for nationalization of CNFL, reinforces notion of energy sovereignty/nationalism	Agenda impact
Protest movement 1983, Comités de Lucha, Comisión Coordinadora Nacional Contra el Alza de los Servicios Eléctricos	Graduated rate adjustments Demands for accountability and transparency of ICE, dangers of monopoly actor	Mediated indirect policy impact Agenda impact
Anti-dam movement 1990s	Exposed regulatory void regarding water concessions, froze new projects and renewals for 11 years Empowered MINAE to regulate concessions and modernized legal framework	Direct policy impact Indirect policy impact
Anti-COMBO movement 2000	Stopped liberalization and opening of energy sector Reinforced notion of energy/water as sovereign resources	Direct policy impact Agenda impact
Local communities mobilized against hydroelectric projects	Use of municipal referendum for popular participation in extractive decisions Stopped projects: Sarapiquí 2000 Guácimo 2001 Turrialba 2005 Pacuaire/Savegre Executive Decree 2015	Institutional impact Direct policy impacts Direct policy impact
Indigenous mobilization against Diquís, with environmental organizations	Recourse against United Nations, Special Rapporteur Report 2011 Statute for previous consultation of indigenous peoples 2018 Questioning of ICE's extractive model Portrayal of ICE as heavy-handed and unaccountable actor	Institutional impact Indirect policy impact Agenda impacts

future mobilizations. She portrays the emergence of a broad social movement, starting in 1952, around three key groups: The *Juntas Progresistas*, the ANDCE,

and the *Alianza de Mujeres Costarricenses* (AMC). The *Juntas Progresistas* were neighbourhood-based councils organized to advocate for local public works and united in a national federation, although their main influence was in the capital. The AMC mobilized women to advocate for better housing, health services and employment. Both organizations had close ties to the far-left Vanguardia Popular party.

In response to the rate hikes, the *Juntas* proselytized on street corners to drive supporters to community meetings, where protest actions were discussed, agreed to, and launched. Key among these actions were citizen marches, payment strikes, and *apagones* (drives to turn lights off). The latter two strategies were efforts to coordinate action at the household level as a show of collective force. The strikes were aimed at denying payment to the electric company, while the *apagones* were intended to black out entire sectors of the city by leaving the lights off at dusk. While the ANDCE went door-to-door collecting pledges to refuse payment, the threat of disconnection dissuaded many from joining, stymying the payment strike. But the *apagones* were highly successful. The marches were also joined by union members, students, and even the chambers of commerce and agriculture. The movement's message, broadcast through flyers and interviews in the press and radio, sought to delegitimize the rate hikes by highlighting their injustice. Eventually, however, it evolved into a full-throated demand to nationalize the CNFL.

In 1958 a 45 per cent increase in electricity rates drove the movement into action with renewed strength. By this juncture its discourse was fully nationalist. A major concentration was called for September 15, 1958, the country's Independence Day. The symbolism was unequivocal: it linked the movement's struggle against the foreign company with the fight against imperial oppression, won first during the independence movement against Spain, and then again in the National Campaign of 1856-57 against the filibustering William Walker. "Let the people of Costa Rica reclaim what belongs to them legitimately – the light, the energy emanating from our rivers" (Alvarenga Venutolo 2005, 141), read one editorial inciting participants. All political forces in the country joined the march, making it a resounding success. Even the President, Mario Echandi, spoke at the rally, committing, in the heat of the moment, to fulfil "an aspiration of Costa Ricans manifested through all times", by nationalizing the CNFL. He later retracted himself under pressure from the opposition and anti-communist sectors. Expropriating an American company in 1958 entailed a complex national and international calculus given the stage of the Cold War at the time. However, the episode is significant in two ways. First, it shows continuity with the claim for energy sovereignty espoused by the social, political, and civic movements of the previous decades. Second, the president's verbal validation of the claim suggests a recognition of its broad base of popular support, and that the state's role in supplying electricity enjoyed widespread legitimacy. The movement was reasserting the view that energy was intimately linked to public wellbeing and therefore reclaiming it as a right of citizenship.

A new period of sustained social mobilization occurred in 1962 during a payment strike against high electricity prices in the province of Cartago. Over twenty-five demonstrations of as many as five thousand residents took place over several months, culminating in a confrontation with the police that resulted in three deaths and multiple wounded (Alvarenga Venutolo 2005, Ch. 4). While by this time ICE had already become the largest generator in the country, it continued to depend on CNFL for much of its distribution, a situation that the latter continued to exploit. Efforts were afoot to increase centralization of the energy sector, but significant fragmentation still existed, particularly at the regional level. The SNE was officially in charge of regulating electricity rates, but its capabilities were scant, and therefore also its authority. A thermal factor had been approved as a surcharge on electricity bills to cover the costs of fuel and production in bunker-fired plants constructed in 1958 as a stop-gap measure to deal with the existing power shortage. Cartago subscribers thought the measure impacted them unfairly, particularly given that their own supply of electricity was spotty. Protestors were thus motivated by what they saw as pricing injustice.

They were unified in refusing to pay their electrical bills as a form of protest, employing teams of electricians to reconnect service when the company severed it. The movement relied on a local radio station to broadcast an anti-hegemonic discourse and as a rallying point for concentrations and mobilizations. The basis of that discourse was regionalist, portraying the centralization efforts underway as a usurpation of provincial power, exploiting the historical resentment of Cartago's loss of the capital after the end of the colonial period. Ironically, the central government validated those claims by choosing to repress the movement by force, ending in a bloody confrontation. The crisis would not be fully resolved until 1964 with the establishment of the *Junta Administrativa de Servicios Eléctricos de Cartago* (JASEC), the second instance, with Heredia's, of a municipal exception to ICE's mandate as the sole sectoral actor. It marked a change in the aims of social movements in the electrical sector, where the object of contention shifted from energy nationalism to pricing injustice, and the target of mobilization became ICE.

New mobilizations against price increases occurred in 1983. While a context of severe economic crisis fundamentally altered the nature of the protests, they drew on the mechanisms developed historically in the sector, especially the payment strike, while also introducing new action repertoires like street blockages. Yet, their discourse focused more on demanding accountability from the state monopoly than on nationalist themes, marking a significant change. The international rise in interest rates experienced in the aftermath of the OPEC oil embargoes severely impacted Costa Rica. This was a stark reversion of trends in the previous two decades, which had seen increases in the size of the middle class and average wages. There were frequent strikes demanding cost of living adjustments much like other consumer protests that erupted throughout the region in the 1980s (Wickham-Crowley & Eckstein 2015, 32). But a single social

movement emerged in response to an increase in electricity rates of almost 100 per cent by ICE.

The company argued it needed the higher rates to be able to service its own international debt, but there is also evidence that the government intended to reduce its fiscal chasm by using the rates as a concealed tax (Sojo 2004, 22). Yet the impact on the average household was such that, in the absence of corresponding salary increases, it was unpayable. Seeking to impose such a hike in a context of falling real wages was seen as high-handed and insensible on the part of ICE, and the response was swift (Alvarenga Venutolo 2005, Ch. 5). Communal organizations in neighbourhoods organized marches that quickly spread to the provincial and regional level. Local *Comités de Lucha* elected a national coordinating committee, the *Comisión Coordinadora Nacional Contra el Alza de los Servicios Eléctricos*, representing 52 unions and 140 communal committees. The Commission soon announced a national payment strike and a campaign of civil disobedience that included returning electricity bills to ICE or publicly burning them. Communal committees went house-to-house collecting the paper bills, convincing families to join the strike, so returning or destroying the bills was a symbolic display of the movement's strength. Local committees organized sentries in neighbourhoods to spot and obstruct disconnection crews from ICE, and reconnection brigades to re-establish service when their preventive measures failed. The slogan *Yo no pago el recibo de la luz* ("I don't pay my electric bill") was broadly displayed on placards in marches and house windows across neighbourhoods.

When ICE announced that it would respond with mass disconnections, the movement barricaded key streets around the city, grounding activity to a halt. This new action repertoire heightened the visibility of the struggle, but also raised its stakes. Since blocking streets is illegal, it legitimized repressive action by the authorities. However, the movement was growing national in scope and had widespread public support, so that action never came. After 29 of 57 deputies in the legislature and 59 of 82 municipalities expressed support for the movement, the national government ordered ICE to stand down and reverse the increase (Alvarenga Venutolo 2005, 228). By working through these channels, the movements obtained a mediated indirect policy impact. While electricity prices would eventually increase, the movement was successful in assuring it would be at a graduated, manageable pace and in setting limits to the autonomy of ICE through the intervention of the central government.

Like Cartago in the 60s, this movement was not driven by institutional or ideological factors related to ownership of energy resources, but by perceptions of pricing injustice. Unlike Cartago, however, its denouement was not linked to local autonomy because the price increases originated in external factors and their scope was national. However, the crisis uncovered the potential arbitrariness with which a monopoly may act, even if it is a public one. It seems to mark an acknowledgment that state ownership is by itself insufficient to guarantee publicly interested actions in the energy sector, that blind trust in state

institutions is therefore unwarranted, and that it is up to the citizenry to demand accountability and transparency. These themes would become relevant again in mobilizations against subsequent mega hydroelectric projects. However, they would remain latent as questions of sovereignty took over again in new mobilizations in the year 2000.

These mobilizations were in response to the “Combo”, a set of reform bills in the legislature that sought structural changes in telecommunications and electricity, ICE’s exclusive remit since the mid twentieth century. The plan sought a gradual opening of ICE’s telecom monopoly, greater participation of the private sector in electricity generation, and a partial opening of ICE’s monopoly in electricity distribution (Sojo 2004, 27). The political elite argued the changes were essential for raising capital and promoting investment to secure the country’s energy needs and its competitiveness. Unions, academics, and other social actors objected to the reduction of ICE’s role, setting up a struggle about the proper use of public capital accumulated in state enterprises (Alvarenga Venutolo 2005, 269). As we have seen, the idea that energy resources “belong to all citizens” was ingrained into ICE from its founding. The company was perceived as a repository of national talent that had risen above foreign interests and conquered developmental challenges and therefore a source of collective pride (Solís 2002, 43). By the twenty-first century ICE was central to the national identity, a key factor in the country’s unique development model, centred on human solidarity. As stated by its founding director, Jorge Manuel Dengo, ICE “overcame the scepticism about the ability of Costa Ricans to complete great works which before were considered the exclusive realm of foreign companies” (Dengo 2004, 77). It had achieved virtually universal coverage, reaching even the remotest areas – which would have been unlikely in a competitive market – and had successfully developed large-scale and technologically challenging projects (Chavez & Cortés Ramos 2013, 77). While sometimes at odds with the citizenry, it had done all this while simultaneously providing energy security at competitive prices. To many, ICE, while not flawless, was a national patrimony, the result of sacrifices made by several generations of Costa Ricans. Polls showed that 72 per cent of the citizenry opposed its privatization at the time (Chavez & Cortés Ramos 2013, 85).

In this context, the Combo was seen as a stealth privatization effort that was likely to benefit the same political elites that were promoting it (Alvarenga Venutolo 2005, 277, Chavez & Cortés Ramos 2013, 88, Solís 2002, 40).⁴ One of its provisions purportedly opened up national parks for energy projects, a highly unpopular prospect (Cartagena 2010, 53). The bill sparked anger in many sectors and unleashed a massive social movement that was unprecedented in its scale (Almeida 2014, Ch. 3, Solís 2002, 33, Chavez & Cortés Ramos 2013, 89). While the various labour unions within ICE had a central role, this movement lacked a centralized coordinating mechanism and its main actors were no longer community-based organizations. At its core was a loose coalition of actors with differing but not necessarily contradictory demands, including ecological,

feminist, and religious organizations, unions, agricultural workers, taxi drivers, and students. In this way, the movement drew strength from numbers as it gave voice to different groups to vent their anger and frustration against the state, whatever its source, with the perception that a cherished public asset was falling prey to obscure designs serving as an amalgamating factor (Solís 2002, 39, Sojo 2004, 25).

The Combo movement drew on the memory of previous protests, calling itself the *Liga Cívica* (in allusion to the historical Civic League) and later the *Frente Cívico Nacional* and adopting, as in 1983, street blockages and marches as its main repertoire of action. At its height the campaign registered over 120 protests per week, and there were 473 distinct protest events across the country, encompassing virtually every province and municipality (Almeida 2014). Facing the virtual paralysis of the country, the government scrapped the proposed reforms, even though they had been approved by the legislature.⁵ This was a significant turning point in the history of the electricity sector: an elite-driven liberalization effort that was several years in the making and that could have fundamentally altered its structure was stopped short. The anti-Combo movement therefore resulted in a significant direct policy impact by keeping ICE under public ownership and preserving its role as a privileged actor in the electricity sector. This meant the continuation of ICE as a dominant, vertically integrated entity that plans, designs, constructs, generates, transmits, and distributes the bulk of electricity in the country (Portolés 2011).

Yet this dominance has not been absolute. A series of exceptions have altered it, adding complexity to the electricity sector. As we have seen, concessions for municipal generation were granted to Heredia and Cartago in the 1950s and 1960s.⁶ Further exceptions came in the 1960s through the authorization of rural electrification coops, and in the 1990s through a limited opening to generation by private sector investors. Aside from municipal generation, where electrical power remained in the hands of the state, these changes were at tension with the concept of energy sovereignty. As I argue below, they can be understood as the product of altered structural factors – foreign aid flows and international crisis – that impacted the policy preferences of key economic actors.

Cooperativas and private generators

By the 1960s only about 50 per cent of the population had access to electricity. ICE struggled with the task of expanding electric coverage due to a shortage of capital and the highly fragmented network it inherited from CNFL. It was therefore receptive to assistance offered by the U.S. under Kennedy's *Alliance for Progress*, for the development of rural electrification projects using the coop model, where rural coops purchase bulk-power from ICE and distribute electricity for off-grid settlements and agricultural businesses (Barnes 2011, 262). Four rural electric coops were created in remote areas between 1965 and 1972: *Coopeguanacaste*, *Coopesantos*, *Coopelesca*, and *Coopealfaroruiz* (Madriz-Vargas et

al. 2016, 2). In 1989 they in turn created *Conelectricas*, a consortium to develop renewable energy generation under new provisions enabling private actors (see below).

While technically private, coops are considered a form of “social enterprise”, given their widely distributed ownership, their focus on mutual aid, and their direct ties to the community. This analogizes their role to that of the state as purveying to the public good. They were embraced after the revolution of 1948 in the same light than ICE, the social security fund (CCSS), nationalized banks and other institutions as constituents of the solidary state (*estado solidario*) that became central to modern Costa Rican identity. Being compatible with the national project, cooperatives could participate in the electricity sector, helping to solve the problem of rural electrification without inciting opposition from unions or state actors.

This was not the case with laws 7200 and 7508, approved in 1990 and 1994, respectively. By allowing limited private generation these laws impacted ICE’s monopoly and energy sovereignty. To understand this shift we must look at how international economic crisis altered the preferences and relative power of economic actors (Gourevitch 1986). As discussed above, severe economic crisis in the early 1980s ushered in a period of structural reforms and fiscal stringency. Under structural adjustment programs signed with the IMF and World Bank, the relative autonomy enjoyed by decentralized state institutions was seriously curtailed. Where there were financial surpluses, they were collected to help reduce the government’s overall deficit. Consequently, constrained investment budgets limited ICE’s ability to meet future energy demand (Jiménez Gómez 2009, 186). The large lead times of hydroelectric projects, which were also increasingly questioned by environmental groups, pointed to thermal back-ups as inevitable to guarantee energy security. The rising cost of oil in international markets made this an onerous burden for the state. Under the circumstances, the notion that the state had reached its natural limits and should consider ceding space to private actors began to gain credence, blunting opposition to the approval of the two new laws. Movement concerns and formation can be contingent on shifting political and economic conditions (Wickham-Crowley & Eckstein 2015, 39). The crisis of the 1980s and structural adjustment, together with massive infusions of U.S. aid to avoid revolutionary spill-overs from adjacent countries, dampened Costa Rican activism (Almeida 2014).

Law 7200 authorized generation by coops and private firms but only from renewable sources not exceeding 20,000 KW per project. The law required at least 65 per cent of the ownership stakes to be Costa Rican, and capped total energy generated by all new registered entrants at 15 per cent of the national electrical system’s total installed capacity. The new producers could only sell their energy to ICE, and it in turn was obligated to purchase it. Law 7508 expanded the limit per project to 50,000 KW, and the cap on overall generation by an additional 15 per cent of installed capacity, for competitive public bid contracts under the “Build, Operate, Transfer” (BOT) modality, where ICE buys the

electricity generated during the life of the contract, but the physical plant is transferred to ICE at its conclusion. All private projects would require a state concession for water use which would be limited in duration to twenty years,⁷ but could be renewed. Hence by purposely limiting the opening through capital requirements, individual and aggregate capacity limits, and market restrictions, policymakers could claim the mantle of pragmatism, solving the problem of electricity procurement, while still protecting the general goal of energy sovereignty. Private actors moved quickly to capitalize on the opportunities created by these laws.

By 2014 private sector generators had reached the 15 per cent limit established in law 7200 and there were 81 projects waiting to qualify under the BOT quota (Sancho 2014, Fornaguera 2014). With recent capacity additions by ICE, the proportion of private generation dropped slightly to about 12.2 per cent in directly operated and 12.6 per cent in BOT plants in 2016 (Alvarado 2017). Numerous bills in the legislature have sought to raise or eliminate this limit to expand private participation, but they have not prospered (Fornaguera 2014). The view that electricity should be treated as a public service is still entrenched, and there are many who view the partial opening of the sector as a regrettable betrayal of the Costa Rican model that should be reversed (Álvarez 2005, Durán 2005). Environmental organizations are among the most ardent advocates of this view, but their critique also focuses on ICE. They accuse the organization of opaqueness and unaccountability, but also of having relinquished its stewardship of the electrical sector. Some blame this on the venality of its top executives who they accuse of colluding with politicians and private generators to exploit the sector for their own benefit (Durán 2005, 12), echoing the critiques of social movements during the COMBO. They call for re-centring the organization on its original charge, emphasizing the notions of energy nationalism, that energy resources belong to the citizenry and should therefore never be exploited for private gain. When it is, such an appropriation of public wealth calls for mobilization.

Social protests against hydroelectric projects

The partial opening of the electric sector to private generators increased the number of hydroelectric plants, and this resulted in social mobilizations at the national and local levels (Álvarez 2005, 8). Resistance was not exclusively against private operators. It also extended to ICE. And it drew upon the notions of sovereignty expressed historically in the sector, which held that water and its derived energy should not be subject to private appropriation yet reinterpreting it by assigning the sovereign rights to the communities where the resources were located, not the state. This claim was justified by the notion that communities are co-located with the resource and hence have a first right to it, but also that they suffer the immediate consequences from its exploitation.

The 1989 creation of a constitutional chamber in Costa Rica's Supreme Court generated a new political opportunity structure for social movements to influence the policy process (Wilson & Rodríguez Cordero 2006). While the 1949 Constitution and its subsequent reforms enshrined ample environmental and health rights, their enforcement had been hindered by a burdensome litigation process in which standing before the Court was limited and magistrates were deferential to popularly elected leaders. The new court dramatically changed this by eliminating filing fees, virtually universalizing legal standing and allowing litigants to approach the court directly, by any means and in any language, without the need for an intervening lawyer. This altered the balance of power among social actors towards a greater decentralization of the policy-making process, leading social movements to incorporate legal recourse into their action repertoires. In this vein, a key action to stop five hydroelectric projects (one of which was ICE's) in 1998 was a legal challenge raised by the communities of Rivas and General Viejo, in Pérez Zeledón, questioning their constitutionality. The somewhat unexpected result was that, in examining the claim, the Constitutional Court concluded that the legal reforms that had enabled private generation (laws 7200 and 7508) had, in the process, created a legal void with regard to the regulation of water concessions. As we have seen, the *Servicio Nacional de Electricidad* (SNE) was established in 1928 to regulate hydraulic concessions for electricity generation. The new laws abolished SNE and created a new regulatory entity, the *Autoridad Reguladora de Servicios Públicos* (ARESEP). While the attributes of this new agency pertaining regulation of electricity generation, transportation, and distribution of electricity were clear, the Court ruled that the new laws did not provide an adequate legal framework to substitute the SNE's previous role regulating water concessions for electricity generation. Interestingly, the Court added that even the previous SNE framework had been superseded by developments in the ensuing decades, most notably the addition of the right to a healthy and ecologically balanced environment to the Constitution.⁸ In such a context, regulating concessions would require more than simply determining the hydrological capacity of a basin: it would also have to ensure the preservation for future generations of the water itself as well as related, constitutionally protected resources like the local fauna, ecosystems, climate, navigability of water bodies, and aesthetic and scenic enjoyment (Sala Constitucional de la Corte Suprema de Justicia 2000). By this ruling the Court effectively created a legal void with no public body empowered to regulate concessions. This stopped the new projects, but also affected those already in existence that would at various points in time require a renewal of their water concessions.

The situation was not resolved definitively until 2009 (eleven years later!) when the national legislature adopted the *Ley Marco de Concesión Para el Aprovechamiento de las Fuerzas Hidráulicas Para la Generación Hidroeléctrica* (Framework Law for Concessions to Utilize Hydraulic Forces for Hydroelectric Generation), law 8723. Its promulgation can be seen as an indirect policy effect of the social mobilization that led to the pronouncement of the Constitutional

Court. While the movement's aim was to stop the hydro projects in its immediate community, in its lawsuit it expressly alleged the absence of a competent authority to regulate concessions due to the elimination of SNE, the key point acknowledged by the Court (*Sala Constitucional de la Corte Suprema de Justicia 2000*). The resultant 2009 law empowered the Ministry of the Environment and Energy to regulate concessions and modernized the legal framework by incorporating references to environmental and biodiversity laws as well as to those regulating the electrical sector.⁹

Another key instance of resistance was the drive by community organizations in the Sarapiquí basin to oppose a 30,000 KW hydroelectric project proposed by the ESPH. Using a highly innovative strategy, sixteen organizations pushed for a municipal plebiscite in 2000 proposing that the basin be elevated to the status of "natural historical monument" and therefore off limits to development (Vázquez 2000). While participation was low (13 per cent of eligible voters) it passed by a large majority (Cordero Ulate 2007, Loaiza & Vázquez 2000). This was unprecedented not only in itself but also because it was the first plebiscite of its kind to be held in any of the country's 81 municipalities since they were made possible in 1970.¹⁰ While not binding with regard to national-level legislation, it represented a strong assertion by the community of its position against public and private developers, politically legitimated. The results of the plebiscite would be used to challenge ICE's *Cariblanco* hydroelectric project as well as three others by private developers in the ensuing months.

The plebiscite strategy was soon adopted by other communities. In 2001 community organizations in Guácimo proposed a plebiscite on a rule to ban any profit-driven use of its aquifers. It passed with the support of over 97 per cent of voters, effectively banning the intended hydroelectric developments planned for the region. A third plebiscite occurred in 2005 in Turrialba, organized by community, indigenous and environmental organizations in response to ICE's longstanding and highly controversial mega-project on the Pacuare river. The vote came down against the hydroelectric project by 97 per cent and ICE desisted from it (*La Nación 2005*). However, this appeared to be merely a tactical retreat. The company's leadership, due to its historic success with and know-how vested in hydroelectricity, was convinced that mega-projects were the only technically viable alternative to fulfil the country's long-term energy needs, and that it had to proceed despite community resistance, if not by force then by guile (Durán 2008, 11). Given the limited number of potential sites, they continued to promote Pacuare's advancement. In response, the movement opposing the project, which included communal, environmental, and indigenous organizations remained organized and vigilant. Since the local plebiscite results could be overridden by national legislation, they mobilized to secure a decree from the national government that would commit to respecting that outcome. They also "nationalized" the issue by linking it to other socio-environmental conflicts surrounding water, mining, real estate development, and petroleum extraction (Foro Nacional 2009). Although it took a decade, a direct policy impact eventually came in the

form of an Executive Decree officially excluding the Pacuare and Savegre rivers from hydroelectric projects for 25 years (EFE 2015).

As ICE coexists with a number of small private generators the electricity market has some measure of competition, but it is monopsonistic, with ICE remaining the sole buyer, and monopolistic in the areas of transmission and export. Prices are not market-determined but set by a regulatory authority (ARESEP). The main policy question going forward is thus whether to revert to a fully public system or broaden the remit of the market to those areas currently directed by the state (Vargas 2009). The main political cleavage is in determining the relative roles that will be played by the competing actors.

While ICE continues to enjoy considerable popularity, it has also come up against charges of high-handedness and insularity, and its insistence on mega-projects has faced resistance from social movements. However, those movements continue to advocate for water and electricity as constitutionally protected rights and are therefore also resistant to private generators. These generators have become well established and are a powerful interest in their own right that enjoys the support of industry and some political sectors. They advocate for greater competition in the sector as the way forward to greater efficiency and lower energy prices, and a more diversified mix of renewable sources as the route to energy security.

The campaign against Diquís

The Diquís hydroelectric project has become the focal point for the debate about the future of the energy sector in Costa Rica. While it replaced a still larger project, Boruca, that generated criticism for its potential socio-environmental impacts, Diquís remains the largest hydroelectric project in Central America with a planned capacity of 650MW and an estimated cost of \$2.6 billion. Its dam would be 173 meters high with a reservoir covering over 7,000 hectares, 915 of which would be in indigenous reservations (ICE Undated-b). Stretching back as far as to 2005 it has been the object of multiple lawsuits and protests. Opponents object to the extractivist nature of the project and its environmental impacts but also what they claim has been an arbitrary, high-handed and even illegal approach on the part of ICE. The government decreed the project to be “of national interest” in 2008, but ICE had already been onsite for three years. Its footprint was sizeable, with camps for heavy machinery and large worker crews, and tunnels excavated to extract materials, all ostensibly as part of preliminary feasibility studies. To be in compliance with the law, however, those works should have been preceded by the decree, not the other way around. Moreover, the decree itself should have drawn evidence from an environmental impact study, an environmental strategic study, an evaluation of the convenience of changing the land use, a consultation process with the local community, and a consultation process with any impacted indigenous communities (Sagot 2012). The latter stemmed from obligations acquired through Costa Rica’s ratification of the 1989

ILO Convention on Indigenous and Tribal Peoples (#169), but for which no protocol existed at the time of the decree.¹¹ The absence of these requirements suggests the decree was in violation of national and international law. The government of Oscar Arias seemingly treated it as a cursory step in a process whose outcome it had predetermined in favour of ICE.

Aside from the questionable legality of these actions, the way in which ICE proceeded also generated a backlash. Its conduct was seen as disrespectful and dismissive of local interests and concerns. Durán (2012, 8, 12) describes ICE as entitled and condescending, believing itself able to “enter any place, at any time” without being required to “stop the country’s progress for any small group of people” and acting as if “rivers, communities, and the country belonged to it so that it could impose on them without any qualms.” This stems from an institutional ethos developed throughout the company’s longstanding and undisputed regency of the energy sector.¹² ICE’s commitment to hydropower has inhibited the growth of alternative energy sources,¹³ with the exception of geothermal, which is itself limited by the fact that most unexploited sources are in protected areas. It has also blinded the organization to the growing societal opposition to mega hydropower projects.

Organizations mobilized to oppose Diquís at the local level and were joined by environmental organizations, both national and international. Indigenous groups like the *Frente de Defensa de los Derechos Indígenas de Térraba* (FDIT), the *Asociación de Mujeres Mano de Tigre* and the *Asociación Cultural Indígena Teribe* led the local opposition, and received support from broader indigenous groups like the *Mesa Nacional Indígena de Costa Rica*, national environmental groups like *Fundación Neotrópica*, PRETOMA, and APREFLOFAS, national social organizations like *Asociación de Iniciativas Populares Ditsö*, public universities, and transnational organizations like REDLAR (Cordero Ulate 2015).¹⁴

However, a local community organization, the *Asociación de Desarrollo Integral de Térraba* (ADIT), did not oppose the project and authorized ICE to conduct studies on the right bank of the Térraba river in 2009, creating the appearance that the project had the endorsement of the community (Cordero Ulate 2015, 16). This was loudly denounced by opposing groups, opening a struggle to define who were the legitimate representatives of the community. Underlying the struggle was the fact that a majority of the land within Costa Rica’s indigenous territories is held by non-indigenous persons, mostly as a result of squatter settlements.¹⁵ These territories are inalienable, and the state is obligated to rectify these *de facto* holdings but for many years has failed to do so. The indigenous minority, at risk of being silenced and side-lined from the process, organized a Council of Elders to represent it and challenge the legitimacy of ADIT, working in conjunction with FDIT and other organizations to request the intervention of James Anaya, United Nations special rapporteur for indigenous rights. Meeting with government representatives in Geneva Anaya arranged a site visit and published a full report with his findings in May of 2011. The report noted how land tenure violated the rights of indigenous peoples and questioned the legitimacy

of representation by organizations like ADIT. More significantly, it clearly stated that no project could go forward legally that did not satisfy the right of previous consultation of the affected indigenous communities. Since no mechanism existed for that purpose this was enough to stop the project in its tracks, and it has been suspended since. Social movements, coalesced around the rights of indigenous groups, thus managed to temporarily stop the megaproject by appealing to international law and multilateral agencies. This direct impact would also lead to an indirect policy effect in 2018 as the government was forced to issue a statute regulating and establishing the procedures for a mechanism of previous consultation of indigenous peoples in instances where their territories are impacted by development projects.

The resulting debate about the future of the sector

Yet Diquís remains at the core of ICE's development plans. Its most recent long-term electric generation plan states: "Our analyses show the development strategy with the Diquís hydroelectric project coming online in 2026 to be the most robust expansion plan to satisfy demand growth in the next two decades. The Diquís strategy provides optimal economic and environmental results in any demand scenario..." (ICE 2017, 2). The company's director for planning and electrical development, Javier Orozco, has made the case for Diquís in multiple interviews and op-ed articles.¹⁶ But the opposition from social movements has raised the visibility of the project, generating an open debate about its convenience among various sectors – including the state itself – and bringing many of its elements into question.

The Ministry of Energy and the Environment (MINAE) supersedes ICE as the official state entity responsible for planning in the sector, but as previously mentioned, past ministers have been content to delegate that role to ICE, allowing it wide latitude. This changed under the Solís administration (2014-18), with the minister acting expressly to recover that leadership role. In contrast to ICE's bet on mega-electricity, MINAE's National Energy Plan – developed through a broadly consultative process – openly embraces the goal of a more diversified energy matrix that capitalizes on "non-conventional renewables" such as biomass, wind, and solar, but also a diversified generation plan that capitalizes on distributed as well as centralized options (*Ministerio de Ambiente y Energía* MINAE 2015, 75, 71). As a result of this plan, the Minister has stated publicly that the construction of Diquís is "not written in stone".¹⁷ This suggests a joint effect whereby the action of social movements influenced public opinion regarding the inadequacy of ICE's approach and the minister reacted to the perceived inadequacies. This was in turn compounded by the evidence put forward by independent parties that challenges the model that ICE insists upon. Two recent reports by the Inter-American Development Bank highlighted the large potential that exists in variable renewable sources (wind and solar) and distributed generation (Echevarría Barbero and Monge Guevara 2017, Ackerman et al. 2017).

The studies estimate the existent transmission network can absorb an additional 400 MW in each of solar, wind, and distributed generation, which lessens the rationale to argue for a large capacity hydro project like Diquís.

In 2015 and 2016 Costa Rica generated almost 99 per cent of its electricity from renewable sources. As has been reported – and celebrated – worldwide, the country totalled 904 days where electricity was generated solely from renewable sources between 2015 and 2017, averaging over 300 days per year in the last three years. The percentage of electricity generated from renewable sources grew from 90 per cent in 2014 to 99.7 per cent in 2017. The preponderance of this power (75 per cent) came from hydro sources, with geothermal and wind providing an additional 13 per cent and 10 per cent, respectively. Biomass accounted for less than 1 per cent and solar for a paltry 0.01 per cent (Rojas Navarrete 2017, 34). This high level of reliance on hydro has been cited by MINAE as problematic given expectations of higher variability in rainfall patterns. At the same time, the country has large potential capacity in wind and solar. The north-eastern region of Guanacaste has some of the best wind resources worldwide with average wind velocity of 12 m/s and capacity factors above 40 per cent, and the potential of solar energy is high over the entire country (Ackerman et al. 2017, 3). These sources could be used to substitute thermal source generation during the dry season, and to avoid excessive drawdown of hydroelectric resources during the wet season. Ackerman et al. (2017, 10) highlight that, because wind and solar are modular systems, generation capacity can be increased quickly and gradually, in response to actual demand. This view is endorsed by private generators who consider themselves well-suited to provide these kinds of projects but are hindered from doing so by the restrictive legal framework currently in place.¹⁸

In contrast, large hydro projects like Diquís have long lead times with heavy upfront investments dictated by uncertain estimations of energy demand. The evidence suggests that ICE has overestimated this demand over the past few years (ICE 2017, 44, Lara 2017, Monge Guevara 2017), overshooting the scale of electric generation capacity required. At the same time, the company has underestimated the cost of developing its projects, incurring serious cost overruns (Díaz 2018, Egloff 2018b).¹⁹ The combination of both factors – overcapacity and runaway costs – has been blamed for driving electricity prices higher (Lara 2017, Egloff 2018a).²⁰ It has also contributed to the erosion of public confidence in the mega-project model championed by ICE, calling into question the need for Diquís (Echeverría Martín 2017) but also triggering inquiries by a special legislative commission, ARESEP, and the General Comptroller, and complaints about ICE's lack of transparency and accountability as well as its administrative capabilities.²¹ The shift in public perception was acknowledged by the company itself in a full-page ad in which it claimed that “media, political, and institutional pressures” were seeking “to dismantle Costa Rica’s successful electricity model.”²²

That model, reliant as it is on hydroelectric sources, has come under increasing scrutiny by environmental organizations and industry trade groups. The opposition from environmental organizations started with the Pacuare and Savegre campaigns, as described above, and has now generalized to opposing all use of dams due to their purported impacts on ecosystems and rural communities (Cordero Ulate 2007, 233, 2015, 11). The consensus among civil society seems to be for a moratorium to exploiting hydraulic sources (Esquivel Rodríguez 2014, 3, 22). Environmentalists have gone from viewing ICE as an ally focused on national and popular interests – which they staunchly defended during the mobilizations against the COMBO – to denouncing it is a sell-out. They accuse ICE of being “productivist, anti-ecological and anti-indigenous”, of wanting to “export energy without regard to the environmental and social impacts within its own country” and sacrificing “its touted social solidarity in favour of corporatist interests.”²³ On more pragmatic grounds, they point to the risks of relying so heavily on hydropower, which is expected to be negatively impacted by severe droughts in the context of a changing climate (Esquivel Rodríguez 2014), a claim echoed by private generators and others in the private sector (Alvarado 2017).

Industry trade groups, on the other hand, blame the model for the high costs of electricity in the country, which they claim makes them uncompetitive internationally (Díaz 2018, Egloff 2018a, b).²⁴ A recent report from CEPAL (Rojas Navarrete 2017) suggests that the country’s electricity rates are in fact the highest in Central America. CINDE, a private non-profit dedicated to investment promotion, claims that this has resulted in lost foreign direct investment and calls for opening the energy sector to increase competition and force ICE to reduce operation costs and avoid project cost overruns (Lara 2018). Finally, private generators also question the overreliance on hydro and suggest ICE resists alternative renewables not from technical reasons but entrenched interests. Mega plants are a secure source of employment for the large and specialized labour force that the company has developed over the years. Privileging them crowds out capacity in solar and wind, which private generators claim they could provide effectively and competitively.

In sum, there appears to be a joint effect operating, in which social movements have impacted the policy agenda by questioning ICE’s extractive model, and state officials have responded to those impacts by modifying their approach to policies. As the *Programa Estado de la Nación* (2013, 210) has indicated, social mobilization has become a key factor affecting how the Costa Rican state approaches projects that impact the environment. At the same time, MINAE has recognized the need to give local groups greater voice and participation in decisions that affect them, through new methodologies for citizen participation, guaranteed access to information about hydroelectric projects, and consideration of community interests in the assessment of socio-environmental impacts and their mitigation (*Ministerio de Ambiente y Energía* MINAE 2015, 53-54, 87, Esquivel Rodríguez 2014, 3). It has also accepted that public regulatory entities such as SETENA – the entity charged with approving environmental impact

evaluations – have been lax in their scrutiny of ICE, a legacy from decades of uncontested dominance by the state company in the energy sector, and an established practice of giving ICE considerable leeway in planning and executing major projects, setting energy prices, and self-regulating. But as we have seen, this autonomy was contested by social movements when it was believed to be used arbitrarily, whether because of its impact on energy prices or its threat to river basins and other prized environmental assets. As a result, the good will and public trust the company enjoyed has eroded and regulators have become more assertive. ARESEP, for instance has stopped rubber-stamping price increases proposed by ICE, limiting its ability to pass on to consumers project cost overruns. MINAE, for its part, has moved to take control of the energy planning process within a beefed-up planning department (*Ministerio de Ambiente y Energía MINAE 2015, 84*).²⁵

Structural changes have altered the relative power of economic actors in ways that favour these shifts. Technological change has reduced the cost and viable scale of alternative energy options, increasing the competitiveness of private generators and reducing entry barriers into the electricity sector. This has empowered industry groups to push for greater energy diversification and lower electricity prices, environmentalists to claim that mega extractive projects are unnecessary, and MINAE to claim the mantle of authority in regulating the state electricity company. Conversely, these forces have placed ICE and its unions on the defensive, forcing them to justify their commitment to mega hydro beyond their corporate interests and privileges.

Conclusions

The current resistance to large-scale hydroelectric projects in Costa Rica follows a long-established tradition of social mobilization within the electricity sector, dating back to the early twentieth century. I have argued that these mobilizations have produced multiple policy and institutional effects, both direct and indirect. I have also traced the evolution of the protest discourse that this history reflects, from an early focus on energy nationalism, to issues of energy affordability, demands for openness and accountability from the state utility, and finally, a demand for environmental accountability and respect of local and, especially, indigenous autonomy. And I have shown how structural factors have influenced the relative power of actors to enact their policy preferences.

The historical examination in this study suggests that mobilization has been continuous across time and that it has adapted to changing opportunity structures, producing a legacy of repertoires on which movements have drawn repeatedly. The anti-dam movements starting in the late 1990s exemplify the relevance of sustained action to achieve movement goals, and how achieving such goals may require a diversity of policy impacts. While the Pacuare and Savegre communities, for example, were able to stop hydroelectric projects by changing policies at the local level, it took ten additional years to obtain an executive decree

that excluded them at the national level. And that exclusion is still not permanent. In terms of the historical repertoire, ideational factors, such as the notion of energy sovereignty, have been used repeatedly to drive mobilization, for example in favour of the nationalization of electricity in the first half of the twentieth century, and then in defence of nationalization at the end of the century. At the same time, while nationalist sentiments have not disappeared, they did not drive opposition to a partial privatization of electricity generation in the late 1980s, suggesting their impact on mobilization may be contingent on shifting economic and political circumstances. Material grievances drove mobilizations in the 1950s, 1960s, and 1980s, with movements repeatedly drawing on such tactics as payment strikes and street blockages to oppose what they saw as pricing injustice. The assertion of local and indigenous autonomy to protect community resources against development drove mobilization against mega hydro projects from the late 1990s to the present day. These movements made use of a revamped and newly activist Constitutional Court which empowered them to defend environmental and other rights enshrined in the constitution against encroachment from ICE or private economic interests.

While ICE has a well-established reputation for technical excellency and has been a longstanding source of national pride, these mobilizations suggest that its power and autonomy have been, and remain, contested. Integrated utility monopolies have the advantage of a captive customer base and stable demand, which allows them to plan within a long-term horizon. They can build capacity to accommodate growth and respond to peak demand, while passing costs along to consumers, without risk. Yet, in the absence of strong regulation, this ability can reduce incentives to remain efficient and increase the propensity to spend on management and employee perks (Helm 2017, 207). Project cost overruns and high electricity prices suggest this may have occurred in Costa Rica, and social movements have mobilized in response. Their actions have resulted in direct policy shifts, as the suspension of Diquís shows most recently. But by placing these issues on the agenda, movements have also generated a broader conversation about ICE's role, pushing the state to exert a more proactive, but also more representative regulatory role.

The debate has also spilled over into a broader questioning of the large-scale extractive energy model predominant in the country. Movements have denounced the significant socio-environmental impacts of hydroelectric projects, ranging from the displacement of entire communities to alterations in river flows, sedimentation, the loss of forest cover, the destruction of wetlands, and numerous related environmental risks. Environmentalists have also pointed out that mega hydro plants have significant carbon footprints, and are not as low-emission as typically claimed (Astorga Gatgens 2012, 24). While ICE insists on the centrality of the extractive model, critics point to its high fixed costs and long lead-times while highlighting the modularity and flexibility, as well as the untapped availability, of variable renewable sources like sun and wind. The debate reflects a larger one taking place at the global level, driven by rapid technological

change and decarbonisation. It posits that the existing energy architecture, which is centralized, command-and-control oriented, and extractive, is being replaced by a new one, which “will be distributive, mobile, intelligent, and participatory” (Seba 2014, 3). This is an adverse scenario for centralized utilities like ICE: “building small-scale onshore and offshore wind and fitting solar panels are hardly skills that companies specializing in large-scale power stations are likely to have” (Helm 2017, 211). On the other hand, it dovetails with the interests of private generators clamouring for greater participation in the Costa Rican energy market.

While social movements have mobilized to keep ICE accountable, they do not necessarily oppose the institution per se. Much less do they favour an expansion of private generation, which they see as an appropriation of water and energy, national and public resources they say belong to everyone. ICE remains popular, steeped in its identity as steward of the country’s energy sovereignty. But its adherence to a mega-extractive model seems likely to continue encountering resistance. Whether the organization responds adaptively, as it has done in the past, will be a key question for the future development of the electricity sector.

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Notes

1. It is noteworthy that this occurred a scant two years after Thomas Edison installed the first-ever public lighting and transportation system in New York City.
2. As in subsequent cases, translation from the original Spanish language sources are my own.
3. Later converted to the *Empresa de Servicios Públicos de Heredia* (ESPH).

4. The two traditional parties that had alternated in power since the end of the 1948 civil conflict had entered into a pact to advance the reform, seen by many as a suspicious form of collusion.
5. As a final blow, the Constitutional Court eventually declared the new law unconstitutional on procedural grounds.
6. Alajuela received a concession also, but it was later absorbed by ICE.
7. Expanded to 25 years in 2009 by Law 8723.
8. In 1994, Article 50.
9. Article 7, law 8723.
10. Only two other plebiscites were held at the municipal level, both to deal with political boundaries.
11. It would not be created by the government until 2018.
12. Mayid Halabi (president SIICE), personal interview, June 28, 2017.
13. Edgar Gutiérrez (Minster of Environment and Energy), personal interview, June 26, 2017. The minister denoted ICE a “hydrocephalic organization”.
14. See also Environmental Justice Atlas, <http://bit.ly/2GDs867>.
15. Some holders do have titles obtained in good faith, although their legality is questionable due to the statutory limitations imposed on property in indigenous reserves.
16. See, for example, *La Nación*, August 23, 2017, “La Importancia de El Diquís”; July 12, 2017, “Embalses Sustentan Diversidad de Matriz Eléctrica”; June 5, 2017, “ICE insiste en que Diquís es ‘Esencial’”.
17. *La Nación*, July 22, 2017, “Costo de Planta Hidroeléctrica El Diquís se Duplicó en Cinco Años”. The minister made a similar statement to me in a private interview June 26, 2017.
18. Mario Alvarado (Executive Director Asociación Costarricense de Productores de Energía), personal interview January 5, 2017.
19. Reventazón, the latest mega-project to come online, is estimated to have more than doubled in cost, from \$757 million at the outset to \$1.6 billion at completion. See the editorial to *La Nación*, August 21, 2017. See also *Diario Extra*, December 5, 2017, “Por omisiones del ICE y Jasec costo de Toro III subió \$90 mills.”
20. *La Nación*, January 11, “Urge bajar costo de energía”; *La Nación*, April 5, 2017, “Industriales acusan al ICE y CNFL de encarecer electricidad por ineficiencia”.
21. *La Nación*, April 6, 2017, “Diputados piden cuentas a ICE y CNFL por impacto de inversiones en tarifas de luz”; *Crhoy.com*, January 29, 2018, “Diputados le reprochan ‘chambonadas’ a presidente del ICE”, <https://www.crhoy.com/nacionales/diputados-le-reprochan-chambonadas-a-presidente-del-ice/>.
22. *La Nación*, August 6, 2017, p. 3A.
23. *Ambientico*, September 2012, p. 2-3.
24. See also *La Nación*, April 5, 2017, “Industriales acusan al ICE y CNFL de encarecer electricidad por ineficiencia”.
25. Within the energy subsector of the Ministry (“Dirección Sectorial de Energía”), the “Secretaría de Planificación”.

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