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ELECTRICITY, PROTESTS, AND ENERGY CITIZENSHIP IN LEBANON

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This study is part of the Arab Reform Initiative's project DIRAIA, "Knowledge" in Arabic, short for "Developing Inclusive Research through Activism and Informed Advocacy". Focusing on fieldwork and multi-method research in Iraq, Lebanon, Morocco, and Tunisia, DIRAIA explores how frontline communities and organizations are mobilizing around environmental grievances as they intersect with socio-economic and political injustice across the region. DIRAIA is part of the network of Knowledge Alliance for Environmental Defenders (KALLIED), which brings together 32 organizations from 22 countries across the Global South and is funded by Canada's IDRC.

Disclaimer:

Cover photo: Beirut, Lebanon. The damaged headquarters of Électricité du Liban in Mar Mikhael stands largely abandoned, its shattered facade overlooking piles of debris and scrap metal.

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Table of Contents

1. Introduction

Across the world, energy projects are increasingly becoming sites of contestation. Communities have long resisted fossil-fuel extraction on the grounds of health, environmental harm, and threats to livelihoods,[1] and similar dynamics are now unfolding around renewable energy projects.[2] While such mobilizations are often dismissed as cases of Not in My Backyard (NIMBY) resistance,[3] residents have organized around broader demands for affordable and reliable electricity, asserting energy as a right rather than a commodity.[4]

In Nigeria, for example, grassroots movements have repeatedly protested tariff hikes and privatization policies.[5] Organizations such as the Soweto Electricity Crisis Committee in South Africa mobilized against disconnections from the grid and unequal service provision,[6] linking these struggles to the enduring legacy of apartheid-era spatial and infrastructural inequality. Civil-society groups and trade unions in Tunisia have contested foreign-led renewable and green-hydrogen mega projects, arguing that they reproduce extractive patterns of dispossession and dependency.[7]

These struggles can be read as expressions of energy citizenship,[8] where communities position themselves as political actors by asserting their rights, shaping collective energy futures, and contesting the terms under which energy systems are governed. These cases highlight the wider structural and inherently political nature of energy-related movements, which are never simply about project siting or local inconveniences, but about rights, livelihoods, and justice.[9]

Precarious electricity access has plagued Lebanon for many decades.[10] Yet despite the depth and persistence of the crisis, the country has struggled to generate sustained mobilization centered explicitly on electricity. Energy demands have instead surfaced at the margins of broader protest waves, where they remained fragmented or were reabsorbed into sectarian and political logics.[11] The protest waves of 2015[12] and 2019[13] foregrounded the collapse of public services, but electricity remained folded into broader demands in the former and did not emerge as a distinct site of sustained collective

1 Leah Temper et al., "Mapping the Frontiers and Front Lines of Global Environmental Justice: The EJAtlas", Journal of Political Ecology 22, no. 1 (2015) pp. 255–278, https://doi.org/10.2458/v22i1.21108; Kirsten Jenkins et al., "Humanizing Sociotechnical Transitions through Energy Justice: An Ethical Framework for Global Transformative Change", Energy Policy 117 (2018), pp. 66–74, https://doi.org/10.1016/j.enpol.2018.02.036

2 Benjamin K. Sovacool et al., "New Frontiers and Conceptual Frameworks for Energy Justice", Energy Policy 105 (2017) pp. 677–691, https://doi.org/10.1016/j.enpol.2017.03.005

3 Rolf Wüstenhagen et al., "Social Acceptance of Renewable Energy Innovation: An Introduction to the Concept", Energy Policy 35, no. 5 (2007) pp. 2683–2691, https://doi.org/10.1016/j.enpol.2006.12.001

4 Carmen G. Gonzalez, "Environmental Justice, Human Rights, and the Global South", Santa Clara Journal of International Law 13, no. 1 (2015) pp. 151–195, https://tinyurl.com/bddatu4t

5 John Agbonifo, "Fuel Subsidy Protests in Nigeria: The Promise and Mirage of Empowerment", The Extractive Industries and Society 16 (2023) https://doi.org/10.1016/j.exis.2023.101333

6 (Naidoo and Veriava, 2012) Prishani Naidoo and Ahmed Veriava, "From Local to Global (and Back Again?): Anti-Commodification Struggles of the Soweto Electricity Crisis Committee", in Electric Capitalism: Recolonising Africa on the Power Grid, David A. McDonald (ed.), 2012, pp. 321–337, Routledge.

7 Yasmina El Amine, "Just Transition Green Bridge: Tunisian Case Study" Arab Reform Initiative, 27 March 2025, https://tinyurl.com/y89wasc2

8 Senja Laakso et al., "Practices and Acts of Energy Citizenship", Journal of Environmental Policy & Planning 25, no. 6 (2023) pp. 690–702, https://doi.org/10.1080/1523908X.2023.2251915 [Laakso et al., "Practices and Acts of Energy Citizenship"]

9 Neal Healy and John Barry, "Politicizing Energy Justice and Energy System Transitions: Fossil Fuel Divestment and a 'Just Transition'", Energy Policy 108 (2017) pp. 451–459, https://doi.org/10.1016/j.enpol.2017.06.014; Kirsten Jenkins et al., "Energy Justice: A Conceptual Review", Energy Research & Social Science 11 (2016), pp.174–182, https://doi.org/10.1016/j.erss.2015.10.004

10 Dana Abi Ghanem, "Energy, the City and Everyday Life: Living with Power Outages in Post-War Lebanon", Energy Research & Social Science 36 (2018) pp. 36–43, https://doi.org/10.1016/j.erss.2017.11.012

11 Éric Verdeil, "Beirut: Metropolis of Darkness and the Politics of Urban Electricity Grids", in Energy, Power and Protest on the Urban Grid: Geographies of the Electric City, Andrés Luque-Ayala and Jonathan Silver (eds.), 2016, pp. 155–175, Routledge. [Verdeil, "Beirut"]

12 Samar Khalil, "Impacting Policies: Waste Management and Advocacy in Lebanon", Arab Reform Initiative, 16 June 2022, https://tinyurl.com/3buumb49

13 Jeffrey G. Karam and Rima Majed (eds.), The Lebanon Uprising of 2019: Voices from the Revolution, 2023, Bloomsbury Publishing.

organizing in the latter.

At the same time, the historic gradual erosion of state provision in Lebanon normalized the reliance on private solutions, most notably diesel generators since the civil war,[14] and more recently an expanding but uneven and disorganized solar market.[15] These shifts help account for the limited emergence of collective mobilization, as coping with electricity shortages has increasingly taken place through individual and household-level entrepreneurial adaptation. What remains unclear is how these different responses to electricity shortages have been politically articulated, and why a consolidated movement around electricity has struggled to crystalize. In parallel, community-level renewable energy initiatives have mushroomed across various regions of the country since the 2019 financial crisis,[16] becoming lifelines for many communities. This prompts questions about whether these initiatives foster participation and collective agency or reinforce fragmentation and self-reliance.

As these patterns converge, they suggest that engaging with energy in Lebanon is changing in ways that remain insufficiently examined. This paper traces how people in Lebanon articulate claims to electricity across different mobilization arenas. Approaching these dynamics through the lens of energy citizenship, the paper first examines protests and grievances around electricity provision, where communities and workers have contested rationing, precarious work, corruption, and the structural neglect of the sector. It then turns to community-based renewable initiatives, which point to an evolution in energy citizenship as individuals actively shape and govern their own energy futures.[17] Finally, it examines energy cooperatives as a potential vehicle for more democratic and decentralized energy provision, analyzing their legal foundations, governance, and regulatory constraints, and assessing the conditions under which they might offer a collective alternative to individualized and market-driven forms of energy access.

Overall, these dynamics reveal a tension that has received limited attention in existing debates on energy and governance in Lebanon. Electricity is central to everyday life and to wider struggles over public provision, yet mobilization around energy has remained intermittent, scattered, and difficult to sustain as a coherent field of collective action. Electricity-related struggles are thus often treated as crisis-driven disruptions or secondary expressions of broader political conflicts, rather than as a domain of mobilization shaped by its own actors, histories, and constraints. This gap becomes more pronounced with the expansion of decentralized energy initiatives, which lack clear regulatory frameworks or social safeguards and leave questions of affordability, inclusion, and accountability to ad hoc negotiations. Analyzing these forms of action together is therefore essential for understanding how energy citizenship is being redefined and how the burdens and exclusions of an increasingly decentralized energy landscape are unevenly distributed.

To map electricity-related mobilization in Lebanon over the past decades and examine the different forms of engagement that have emerged around energy provision and reform, this study employs a qualitative approach that combines secondary-source analysis, protest data analysis, and expert interviews. The research draws on the Civil Society Knowledge Centre's Collective Action Database to trace patterns of electricity-related protests, strikes, and campaigns. Because the database covers only the decade between 2012 and 2022, content analysis from national newspapers and media

14 Majzoub et al., "Cut Off from Life Itself": Lebanon's Failure on the Right to Electricity, Human Rights Watch, 2023, https://tinyurl.com/3su482ab [Majzoub et al., "Cut Off from Life Itself"]

15 Julia Choucair Vizoso and Yara El Murr, Privatizing the Sun: The Dark Side of Lebanon's "Solar Revolution", The Public Source, 11 October 2022, https://thepublicsource.org/lebanon-solar-privatization [Choucair Vizoso and El Murr, Privatizing the Sun]

16 Thomas Schellen, "The Race to Solar", Executive Magazine, 12 November 2021, https://tinyurl.com/3e59ptzt

17 Marianne Ryghaug et al., "Creating Energy Citizenship through Material Participation", Social Studies of Science 48, no. 2 (2018) pp. 283–303, https://doi.org/10.1177/0306312718770286 [Ryghaug et al., "Creating Energy Citizenship"]; Matthew J. Burke and Jennie C. Stephens, "Energy Democracy: Goals and Policy Instruments for Sociotechnical Transitions", Energy Research & Social Science 33 (2017) pp. 35–48, https://doi.org/10.1016/j.erss.2017.09.024 [Burke and Stephens, "Energy Democracy"]

outlets complements this catalogue, capturing mobilizations and public debates from 2006 until February 2025.

In parallel, eight in-depth expert interviews were conducted with practitioners, legal experts, researchers, and policy actors working on renewable energy, governance, cooperatives, and social movements in Lebanon (see Appendix A). These interviews focused on the emergence of decentralized renewable initiatives and the growing interest in energy cooperatives, examining how they could reconfigure governance, participation, accountability, and notions of energy citizenship in the context of a collapsing public electricity system. Combined, these methods allow for a longitudinal and multi-scalar reading of electricity-related mobilization in Lebanon, situating it within broader socio-political and socio-technical transformations. The interviewees also inform the paper's policy discussion by identifying constraints and entry points grounded in local practice for participatory, inclusive, and justice-oriented approaches to energy governance.

2. The Context: Lebanon's Perpetual Energy Crisis and Increased Hybridization

Since the end of the civil war, Lebanon has been living through a protracted energy crisis that entered a phase of near-total collapse after 2019,[18] eventually plunging the country into prolonged blackouts.[19] Today, Électricité du Liban (EDL), the public utility that formally holds a monopoly over generation, transmission, and distribution, supplies only a few hours of electricity per day,[20] with geographic disparities in service provision. The sector's fragility is rooted in decades of fuel-import dependence, chronic underinvestment, frozen tariffs since 1994, and persistent political interference; all of which have left the utility financially insolvent and administratively paralyzed.[21] The collapse of foreign currency reserves after 2019 further undermined EDL's ability to import fuel and maintain production, deepening shortages and accelerating infrastructure decay. Successive reform initiatives and "emergency" recovery plans failed to alter these structural conditions. Instead, they entrenched a form of crisis governance in which electricity scarcity was managed by securing fuel through short-term fixes, while the underlying political economy of the sector remained intact.

Diesel generators have long been central to Lebanon's electricity landscape, predating the most recent phase of system breakdown.[22] By 2003, generators supplied up to 40% of Lebanese households.[23] This highly lucrative economy operates through negotiated arrangements between various actors who mediate connection, access, and exorbitant tariffs, and is tied to a cartel of diesel importers with strong financial and political links.[24] The collapse of 2019 further cemented this system, as EDL's supply fell to barely one hour per day during the summer of 2021.[25] With the lifting of fuel subsidies and the rapid depreciation of the Lebanese pound,[26] generator costs surged, deepening access inequalities. A Beirut survey conducted in 2023 found that over 52% of households relied on neighborhood generator

18 Zeina Abla et al., Building Committees as Spaces of Social Organizing in Beirut, Ebla Research Collective, February 2024, https://eblaresearch.org/2024/03/read-our-research-report/

19 World Bank, Lebanon: Country Climate and Development Report, World Bank Group, 7 March 2024, http://documents.worldbank.org/curated/en/099030624151542784 [World Bank, Lebanon: Country Climate]

20 L'Orient Today, "EDL Announces Return to 'Normal' Electricity Supply", 27 February 2025, https://tinyurl.com/2ctxty5h

21 Marc Ayoub et al., Unbundling Lebanon's Electricity Sector, Issam Fares Institute for Public Policy and International Affairs (IFI), American University of Beirut, September 2021, https://tinyurl.com/49ya9cu4 [Ayoub et al., Unbundling Lebanon's Electricity Sector]

22 Majzoub et al., "Cut Off from Life Itself".

23 Éric Verdeil, "Water and Electricity Networks between Stress and Reform: From Post-Civil War Reconstruction to the New Lebanese Wars" (presented at Negotiation of Space: The Politics and Planning of Destruction and Reconstruction in Lebanon, Oxford University, 13-14 June 2008).

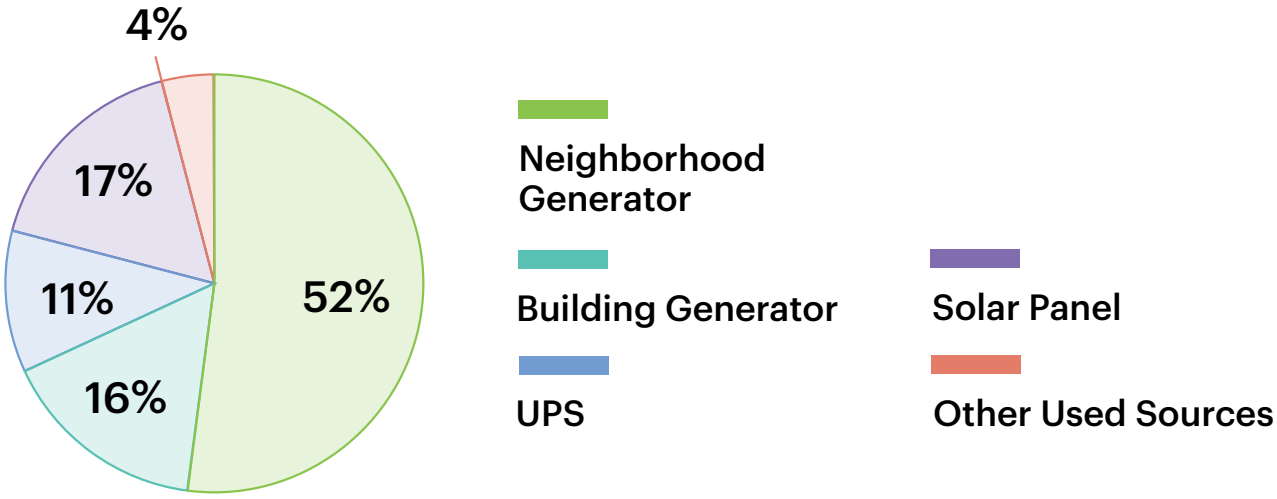
24 Ali Ahmad, Distributed Power Generation for Lebanon: Market Assessment and Policy Pathways, World Bank Group, May 2020, https://doi.org/10.1596/33788

25 National Council for Scientific Research – Lebanon (CNRS-L), "Solar Panel Dashboard", 2023, https://tinyurl.com/wvu5cac9

26 World Bank, Lebanon: Country Climate.

subscriptions, despite remaining connected to EDL (see Figure 1), underscoring the extent to which generators have become the uneven backbone of everyday electricity provision.[27] That same year, EDL increased tariffs to reflect production costs,[28] which further widened disparities as only a fraction of households could absorb the rising costs of both public and private supply.

Figure 1: Energy Sources by Households in Beirut, 2023[29]



Amid this breakdown, a rapid and uneven turn to renewable energy systems began to take shape. Households, businesses, and municipalities increasingly invested in solar photovoltaic systems to secure basic electricity access. This shift – largely unregulated and financed through private savings, remittances, or donor support – raised renewables' share significantly, with estimations suggesting it now constitutes over 20% of total electricity supply as of 2023.[30] Yet this "transition" has also deepened existing inequalities, as access to solar power remains contingent on property ownership and financial resources.[31] The outcome is a fragmented and stratified energy landscape, where access is unevenly assembled through informal, hybrid, or collective solutions. These everyday negotiations over electricity have redefined relations between people, the state, and non-state actors, revealing new configurations of agency, dependence, and exclusion. It is within this shifting terrain that the dynamics of energy mobilization and citizenship gain significance, capturing how individuals and communities collectively navigate and reshape Lebanon's collapsing energy order.

The legal framework adds another layer of complexity. Law 462 of 2002, intended to unbundle and corporatize EDL and establish an independent Electricity Regulatory Authority (ERA), remained stalled for nearly two decades amid confessional rivalries and elite bargaining.[32] Although the

27 Beirut Urban Lab, "Beyond the Grid: Exploring Municipal Beirut's Hybrid Energy Infrastructure", 15 September 2025, https://beiruturbanlab.com/en/Details/2066 [Beirut Urban Labs, "Beyond the Grid"]

28 The tariff adjustment set at 27 cents/kw is meant to reflect both the cost of production and the losses incurred by non-technical losses, such as illegal connections to the grid, meter tampering, and non-payment of bills; Connor Kanso, "New EDL Tariffs: A Step Towards the Light or a Shot in the Dark?", Badil, 7 February 2023, https://tinyurl.com/4a27nsee

29 Adapted from Beirut Urban Labs, "Beyond the Grid".

30 Sorina Mortada et al., "The National Renewable Energy Action Plan of Lebanon: 2025-2030", Ministry of Energy and Water and Lebanese Centre for Energy Conversation (LCEC), 2025, https://tinyurl.com/y8t6vxep

31 Choucair Vizoso and El Murr, Privatizing the Sun.

32 Ayoub et al., Unbundling Lebanon's Electricity Sector.

ERA has now been formally established,[33] its operationalization remains incomplete. Law 318 on Distributed Renewable Energy has similarly opened a limited legal avenue for private and municipal generation, yet its implementing decrees remain pending.[34] Both reforms coexist with EDL's enduring monopoly, leaving community-level initiatives in a legally ambiguous and institutionally unsettled vacuum.

3. What Is Energy Citizenship?

The notion of energy citizenship has gained prominence as a way to understand how people engage with energy systems beyond their role as consumers. It echoes an effort to rethink the relationship between citizens, energy infrastructures, and governance, while addressing questions of participation, agency, and justice in energy transitions.[35] Energy citizenship recognizes that citizens hold both rights to affordable, clean, and secure energy, as well as responsibilities to take part in shaping their collective energy futures.[36] More recent literature expands this perspective by moving beyond narrow accounts of enthusiastic or skilled participants as drivers of change, emphasizing the plurality of ways in which people can enact energy citizenship. These emanate from practices through which people position themselves in relation to energy, including everyday adjustments, resistance to policy agendas, and engagements that are woven into routine decision-making and social life.[37] In this sense, energy citizenship is not a predefined concept, but one that emerges through practice, shaping people's actions through material and institutional conditions.

Different interpretations of energy citizenship have emerged. Some scholars approach the concept normatively, as a framework for reimagining democratic participation in energy systems and promoting agency, ownership, and collective responsibility.[38] Others caution that neoliberal agendas can co-opt this concept by shifting the responsibility and hence the burden of "sustainability" from states to individuals. MacGregor (2006) argues that such framings turn citizenship into a moral duty rather than a political right.[39] Similarly, Silvast and Valkenburg (2023) show that energy citizenship is often depicted through technocratic lenses that prioritize behavioral compliance and consensus over addressing conflict and power imbalances.[40] They highlight that in practice, opportunities for engagement in decentralized energy projects remain shaped by ownership structures, class relations, and institutional capacity.[41] Energy citizenship can generate collective agency, yet when reduced to individual conduct or technical participation, it risks depoliticizing the very inequalities it claims to address.[42] Yildiz et al. (2015) illustrate this in

33 Naharnet, "Cabinet Names Regulatory Authorities for Electricity and Telecom Sectors", 12 September 2025, https://tinyurl.com/yfjkstnv

34 Yasmina El Amine, "Pathways for Energy Justice in Lebanon's Post-war Reconstruction", Arab Reform Initiative, 17 October 2025, https://tinyurl.com/yc39y2pe [El Amine, "Pathways for Energy Justice"]

35 Patrick Devine-Wright, "Energy Citizenship: Psychological Aspects of Evolution in Sustainable Energy Technologies", in Governing Technology for Sustainability, Joseph Murphy (ed.), Routledge, pp. 63–86; Gordon Walker and Patrick Devine-Wright, "Community Renewable Energy: What Should It Mean?", Energy Policy 36, no. 2(2008) pp. 497–500, https://doi.org/10.1016/j.enpol.2007.10.019

36 Inês Campos and Esther Marín-González, "People in Transitions: Energy Citizenship, Prosumerism and Social Movements in Europe", Energy Research & Social Science 69 (2020), https://doi.org/10.1016/j.erss.2020.101718 [Campos and Marín-González, "People in Transitions"]; Ryghaug et al., "Creating Energy Citizenship".

37 Laakso et al., "Practices and Acts of Energy Citizenship".

38 Islar et al., "Feasibility of Energy Justice: Exploring National and Local Efforts for Energy Development in Nepal", Energy Policy 105 (2017) pp. 668–676, https://doi.org/10.1016/j.enpol.2017.03.004; Burke and Stephens, "Energy Democracy".

39 Sherilyn MacGregor, "No Sustainability without Justice: A Feminist Critique of Environmental Citizenship", Environmental Citizenship, Andrew Dobson and Derek Bell (eds.), MIT Press, 2006, pp.101–126.

40 Antti Silvast and Govert Valkenburg, "Energy Citizenship: A Critical Perspective", Energy Research & Social Science 98(2023), https://doi.org/10.1016/j.erss.2023.102995

41 Timothy Moss et al., "Whose Energy Transition Is It, Anyway? Organisation and Ownership of the Energiewende in Villages, Cities and Regions", Local Environment 20, no. 12(2015) pp. 1547–1563, https://doi.org/10.1080/13549839.2014.915799; Breffní Lennon et al., "Citizen or Consumer? Reconsidering Energy Citizenship", Journal of Environmental Policy & Planning 22, no. 2(2020) pp. 184–197, https://doi.org/10.1080/1523908X.2019.1680277

42 Mine Islar and Henner Busch, "'We Are Not in This to Save the Polar Bears!' – The Link between Community Renewable Energy Development and Ecological Citizenship" Innovation: The European Journal of Social Science Research 29, no. 3(2016) pp. 303–319, https://doi.org/10.1080/13511610.2016.1188684; Kacper Szulecki, "Conceptualizing Energy Democracy", Environmental Politics 27, no. 1(2018) pp. 21–41, https://doi.org/10.1080/09644016.2017.1387294

their review of renewable energy cooperatives in Germany.[43] Cooperative membership was overwhelmingly male (around 80%), concentrated among individuals over the age of 35 (over 88%), and skewed toward higher-income groups.[44] Access to cooperative membership was closely tied to the ability to mobilize upfront capital, navigate legal and financial frameworks, and invest time in governance processes. Rather than broadening participation, cooperative models may reproduce existing socio-economic hierarchies, revealing how formally inclusive governance structures can still generate exclusion in practice.[45]

Extending these debates to the Global South shifts attention from participation within stable energy systems to the material and political realities of energy access. In contexts of unreliable supply or weak state provision, citizens often turn to informal or hybrid arrangements, such as collective maintenance and self-generation.[46] Lemanski (2024) argues that when the state can no longer guarantee universal provision, infrastructure itself shapes how citizenship is experienced.[47] In such contexts, belonging and entitlement are negotiated through the ability to connect, maintain, or pay for services that are increasingly fragmented between public, private, and informal actors. In practice, energy is no longer accessed as a public right, but as a differentiated experience of infrastructural inclusion or exclusion. What Lemanski calls "infrastructural citizenship" captures how people navigate these hybrid systems – repairing, self-organizing, or improvising to secure access – while also revealing the limits of such agency.[48] These arrangements create new forms of dependency and inequality, where some groups can buy reliability, and others remain disconnected. This perspective broadens the understanding of energy citizenship beyond formal political participation, viewing it instead as a relational practice embedded in everyday struggles over access and recognition.

In Lebanon, the collapse of state provision, the proliferation of informal and decentralized systems, and the growing role of private and community initiatives have redefined how citizens relate to energy. While these developments have expanded access in some areas, they have also blurred the boundaries between public responsibility and private adaptation. Understanding energy citizenship in this context requires examining how Lebanese citizens navigate a system that both excludes them from formal governance and compels them to secure energy through their own resources and ingenuity. Rather than focus on state-led transitions, energy citizenship in Lebanon may therefore manifest through fragmented, negotiated, and locally embedded practices that reveal how people make sense of energy, agency, and the collective amid systemic collapse. These practices suggest energy engagement forms that stretch the concept of citizenship and warrant further unpacking.

4. Contesting Electricity and the Limits of Mobilization

Electricity-related mobilization – whether protesting precarious work, resisting privatization, contesting infrastructural siting, or reacting to outage – reveals how citizens express their grievances, engage with the state, while attempting to hold it accountable. This section examines this type of mobilization in Lebanon across different eras and forms, focusing on labor unions, individual-, community-, and campaign-based activism.

43 Özgür Yildiz et al., "Renewable Energy Cooperatives as Gatekeepers or Facilitators? Recent Developments in Germany and a Multidisciplinary Research Agenda", Energy Research & Social Science 6(2015) pp. 59–73, https://doi.org/10.1016/j.erss.2014.12.001 [Yildiz et al., "Renewable Energy Cooperatives"]

44 Yildiz et al., "Renewable Energy Cooperatives".

45 Ryghaug et al., "Creating Energy Citizenship".

46 Kirsten Campbell, "Smart Solar Futures: Politics and Instability in Off-Grid Electrification in Odisha, India" (PhD diss., The University of Edinburgh, 2010), https://tinyurl.com/duzxm8j5; Helene Ahlborg, "Towards a Conceptualization of Power in Energy Transitions", Environmental Innovation and Societal Transitions 25(2017) pp. 122–141, https://doi.org/10.1016/j.eist.2017.01.004

47 Charlotte Lemanski, "Infrastructural Citizenship in Post-Networked Contexts: Hybridity in South Africa", in Handbook of Infrastructures and Cities, Edward Elgar Publishing, 2024, pp. 323–338, https://doi.org/10.4337/9781800889156.00032 [Lemanski, "Infrastructural Citizenship"]

48 Lemanski, "Infrastructural Citizenship".

4.1. Precarious Workers and Fragmented Unions

Around the world, unions operate as one of the collective channels through which service provision experiences are translated into political claims about rights and accountability, constituting an important pillar of energy citizenship. Workers in the electricity sector are directly implicated in matters of restructuring, privatization, and reform, placing labor mobilization at the intersection of employment conditions and service provision.[49]

The very conception of a just transition emerged from labor struggles in carbon-intensive industries, where unions sought to ensure that environmental regulation would not come at the expense of workers' job security and livelihoods.[50] For this reason, labor representation constitutes an important arena in which claims about energy are articulated, linking workplace grievances to broader debates over sectoral access, affordability, and organization.

In Lebanon, however, labor has been shaped by sectarian capture and political interference, undermining its capacity to function as a sustained collective force.[51] The General Confederation of Lebanese Workers (CGTL) [52] was once a central arena for class-based mobilization and opposition to state policy.[53] However, under the post-Taif order, it gradually lost its autonomy as political parties infiltrated union structures and reconfigured representation through clientelist arrangements that subordinated labor to the interests of the ruling class.[54] In parallel, successive governments since the 1970s curtailed public recruitment and normalized temporary hiring; a trend deepened by neoliberal reconstruction and fiscal austerity that institutionalized precarity in state employment.[55] Within EDL, this took the form of a hiring freeze and an increasing reliance on daily workers, known as miyawmeen, who performed core public functions under civil-service authority but without stable contracts, benefits, or job security.[56]

By the early 2010s, the miyawmeen had become the backbone of the electricity utility with over 2,300 workers. EDL's daily and contract workers organized through the Daily Workers' Committee (DWC), which became the main body articulating their demands.[57] In 2012, the DWC led a 94-day strike – Lebanon's longest labor action – triggered by a proposal to outsource electricity maintenance and distribution to private companies known as Distribution Service Providers,[58] which threatened to exclude daily workers altogether. The strike centered on demands for permanent contracts, social protection, and recognition of their employment status.[59]

Sectarian leaders quickly moved to contain the strike by shifting focus to a sectarian and security terrain. The Free Patriotic Movement (FPM), led by then Minister of Energy and Water (MoEW) Gebran Bassil, reframed workers' demands as a threat to sectarian balance within EDL, arguing that granting permanent employment to the predominantly Shia daily workers would undermine Christian representation in public administration and violate

49 Peter Newell and Dustin Mulvaney, "The Political Economy of the 'Just Transition'", The Geographical Journal 179, no. 2(2013) pp. 132–140, https://doi.org/10.1111/geoj.12008

50 Xinxin Wang and Kevin Lo, "Just Transition: A Conceptual Review", Energy Research & Social Science 82(2021), https://doi.org/10.1016/j.erss.2021.102291

51 Lea Bou Khater, "Understanding State Incorporation of the Workers' Movement in Early Post-War Lebanon and Its Backlash on Civil Society", Civil Society Knowledge Centre, 2019, https://doi.org/10.28943/CSR.003.003 [Bou Khater, "Understanding State Incorporation"]; Salloukh et al., The Politics of Sectarianism in Postwar Lebanon, Pluto Books, 2015.

52 The national trade union center founded in 1958, with a current membership of over 200,000.

53 Bou Khater, "Understanding State Incorporation".

54 Jamil Mouawad, "Lebanese Trade Unions and Independent Professional Associations: A Review in Light of the Popular Movement", in Between the Significance of Roles and the Challenges of Organization and Representation: Independent Professional Unions in the Arab World, Jamil Mouawad (ed.), Arab Reform Initiative, 9 November 2021, https://tinyurl.com/3j23nhax

55 Rossana Tufaro, "A Historical Mapping of Lebanese Organized Labor: Tracing Trends, Actors, and Dynamics", Civil Society Knowledge Centre, 2021, https://doi.org/10.28943/CSKC.001.90002

56 Yazan Al Saadi, "Electricity Workers in Lebanon, and the Fate of Labour, National Development, and Governance", Civil Society Knowledge Centre, 2015, https://doi.org/10.28943/CSKC.002.30002 [Al Saadi, "Electricity Workers in Lebanon"]

57 Al Saadi, "Electricity Workers in Lebanon".

58 Gebran Bassil, "Policy Paper for the Electricity Sector", Ministry of Energy and Water, June 2010, https://tinyurl.com/erhvvcdx

59 Al Saadi, "Electricity Workers in Lebanon".

confessional parity.[60] Beyond this confessional framing, Bassil deployed a broader security discourse to delegitimize the strikers, and physical pressure was used to disrupt sit-ins and intimidate those involved in the mobilization.[61] In parallel, the Amal Movement, despite presenting itself as representative of the largely Shia workforce, actively worked to quell the strike, viewing the mobilization as a threat to the then-being-implemented privatization process.[62] These interventions diverted attention away from labor rights and toward sectarian competition, allowing rival parties to close ranks through a political settlement that weakened the movement's cohesion. Although the mobilization briefly revived cross-sectarian solidarity, it was eventually neutralized through a backroom political agreement between Speaker of the House Nabih Berri, Bassil, and the Minister of Labor, in which the CGTL also participated, imposing a settlement on the workers rather than negotiating one with them. The 2012 agreement offered some of the daily workers temporary employment through the three Distributor Service Providers and vague promises of future integration into EDL. In practice, however, it entrenched subcontracting, fragmented workers along party lines, and further advanced privatization.[63]

In 2014, when the workers' demands were only partially honored, and most daily workers remained excluded from formal employment, mobilizations resumed. Between 2014 and 2018, strikes, sit-ins, and workplace occupations were cyclically organized, yet were repeatedly absorbed into political settlements that diluted demands and deferred their implementation, reproducing the same precarious conditions.[64] During this period, workers linked to EDL accounted for 16% of all recorded labor actions in Lebanon – illustrating how electricity struggles were shaped simultaneously by workplace grievances and by fragmented, politicized sectoral governance.[65] In the years that followed, labor action did not disappear, but became increasingly fragmented and reactive.[66] Since the 2020 Beirut Port explosion destroyed EDL's headquarters, workers have repeatedly mobilized over unpaid wages and unrepaired workplaces, while resisting the growth of private contractors that had been taking over public electricity.[67] This pattern continues to this day. The EDL workers' union called for a warning strike and sit-in in February 2026 in protest of Law 462 on the privatization, unbundling, and corporatization of EDL. They demanded payment of end-of-service indemnities and formal inclusion in any amendment to Law 462, insisting that workers be treated as partners rather than as residual restructuring costs.[68]

These dynamics anchor energy citizenship in labor relations that have not extended to broader participation and cross-constituency and cross-sectoral alliances. In the electricity sector, the state is both employer and provider, and the boundary between social protection and public service is constantly blurred. When workers demanded contracts and stability, their claims were pulled into sectarian bargaining, turning a conflict over rights into a conflict over representation. The limited engagement from the left further reduced the possibility of linking these demands to a broader vision of public electricity. Without such a framework, mobilization remained tied to immediate survival and to defending existing positions inside EDL, while privatization advanced as the only coherent project. Energy citizenship, therefore, took shape as a constrained practice, marked by precarity and a political order that treats work and electricity as negotiable favors rather than collective rights. When debates over the implementation of Law 462 resume, this tension is likely to reappear, as workers contest a reform framed as technical restructuring while experiencing it as a threat to their livelihoods

60 Marc Abizeid, "A Guide to Lebanon's Street Protests", Jadaliyya, https://www.jadaliyya.com/Details/30559 [Abizeid, "A Guide to Lebanon's Street Protests"]

61 Al Saadi, "Electricity Workers in Lebanon".

62 Abizeid, "A Guide to Lebanon's Street Protests".

63 Al Saadi, "Electricity Workers in Lebanon".

64 Civil Society Knowledge Centre (CSKC), "2014-07 - EDL Conflict | July, 2014 to April, 2018", July 2014, https://tinyurl.com/3ny3s5wd

65 Nizar Hassan, "Collective Action Digest - 4 February 2020", Civil Society Knowledge Centre, 4 February 2020, https://tinyurl.com/dsbhbzta [Hassan, "Collective Action Digest"]

66 Hassan, "Collective Action Digest".

67 L'Orient Today. "Electricité du Liban Workers' Union Again Calls for Protests, This Time from Thursday through Saturday", 8 December 2012, https://tinyurl.com/yj846szc

68 L'Orient Today, "EDL's Workers' Union Calls for Warning Strike, Sit-In on Feb. 3", 29 January 2026, https://tinyurl.com/57rkhmmjhttps://today.lorientlejour.com/article/1493204/edls-workers-union-calls-for-warning-strike-sit-in-on-feb-3.html

and what remains of public provision.

4.2. Electricity Protests and Dissent

Outside labor mobilization, electricity-related protests in Lebanon have often emerged through issue-specific campaigns. Early efforts, such as Lebnen mesh lal-bay' (Lebanon Is Not for Sale, 2006-2007) and Dawle aw Ishtirak (State Electricity or Generator, 2008-2009), denounced privatization and the normalization of generator economies, articulating electricity as a public right rather than a commodity.[69]

At other moments, mobilizations crystallized around the uneven geographic distribution of electricity supply. This was most visible during the protests of 2007-2008, when prolonged blackouts in the southern suburbs of Beirut led residents to block roads and clash with security forces, resulting in multiple fatalities.[70] These actions were initially framed as demands for basic service provision rather than sectarian claims, yet they were rapidly pulled into partisan narratives.[71] Hezbollah and Amal played visible roles in directing and containing mobilization, while rival parties sought to reinterpret both shortages and protests for themselves. The Lebanese Forces and later the FPM advanced a counter-discourse that attributed rationing to low bill collection in predominantly Shia areas, whereas protesters and local actors pointed instead to infrastructural limits and to EDL's own allocation practices.[72] Protesters returned to the streets in 2010[73] as rising oil prices and deeper rationing exposed the fragility of the existing electricity model. This unfolded under EDL's payment-based load-shedding policy, which tied hours of supply to collection rates and treated neighborhoods as collective defaulters. While non-payment was real, many households in these areas did pay their bills yet were penalized alongside others; a logic that perversely encouraged further non-payment and strained relations with the state. This policy was further discredited by the fact that numerous political elites themselves accumulated unpaid electricity dues.[74]

Beyond issues of distribution, infrastructure itself became a site of conflict, most notably the Mansourieh high-voltage transmission line. Since the early 2000s, residents of Mansourieh and Ain Saadeh have opposed the installation of a 220-kilovolt line linking Mkalles to Bsalim, citing health risks, proximity to homes, and an absence of meaningful consultation.[75] When construction was resumed in 2019 under an FPM-led MoEW, these objections were reignited through sit-ins, road blockades, and legal appeals. Yet the dispute was once again channeled into partisan contestation, with FPM framing the project as a matter of state authority and technical necessity, while the Kataeb party positioned itself as a defender of residents' environmental and local rights. This polarization displaced attention from the planning process itself, narrowing mobilization to competing party narratives rather than consolidating demands for participatory decision-making or alternative routing.[76] As construction proceeded under security forces' protection, the conflict was contained within a familiar sectarian script in which political actors compete to speak on behalf of residents while leaving institutional government infrastructure intact. In this sense, the Mansourieh case reproduces the same trajectory of initial grievance formation,

69 These campaigns are mentioned briefly in Abi Yaghi and Yammine (2020), and no other public or media documentation of their activities, demands, or outcomes exists. The limited record makes it difficult to trace their trajectories, assess their reach, or understand how they were received – and perhaps points to how quickly electricity-related mobilization has slipped out of view; Marie-Noëlle AbiYaghi and Léa Yammine, "The October 2019 Protests in Lebanon: Between Contention and Reproduction", Civil Society Knowledge Centre, July 2020, https://tinyurl.com/3kj5xcdd [AbiYaghi and Yammine, "The October 2019 Protests in Lebanon"]

70 The New Humanitarian, "Politicised Power Cuts behind Deadly Riots?", 28 January 2008, https://tinyurl.com/4n5yejr4

71 Verdeil, "Beirut".

72 Lebanese Forces, "Hezbollah and Amal Supporters Protest against Power Cuts", 22 January 2008, https://www.lebanese-forces.com/2008/01/22/3818/

73 Al Etihad News Center, "Protests Over Power Outages in Beirut" [Arabic], 29 May 2010, https://tinyurl.com/8749dr5r

74 AFP, "Power cuts for Politicians" [Arabic], Al-Akhbar, 5 June 2010, https://www.al-akhbar.com/node/109984

75 The Daily Star, "Matn Residents Protest High-Voltage Power Lines", Civil Society Knowledge Centre, 7 April 2019, https://tinyurl.com/3emu322a; Walid Hussein, "Tensions Run High between the Ministry of Energy and Residents of Metn…as They Curse the Power Company" [Arabic], Al-Modon, 8 May 2019, https://tinyurl.com/y4dsjnw6

76 Lauren Holtmeier, "Despite Protests, Mansourieh Power Lines Go Live", Executive Magazine, 8 July 2019, https://tinyurl.com/yp2uacc3

sectarian reframing, state repression and policing, and political containment observed in earlier electricity-related mobilizations.

These recurring cycles of contention fed into the broader uprising of 2019, which briefly transformed streets and squares into spaces of encounter, visibility, and cross-sectarian claim-making that interrupted long-standing patterns of political fragmentation.[77] Activists incorporated energy into a wider discourse of anti-corruption and anti-privatization. One of the most visible moments was the Mesh Def3in (We Will Not Pay) campaign, which called on citizens to stop paying EDL bills as an act of civil disobedience against a state seen as corrupt and complicit with the banking sector.[78] Protesters gathered outside EDL headquarters and the Central Bank, framing non-payment as both a social and political statement: why should citizens finance institutions that denied them access to their own money, failed to provide electricity, and sustained a system of elite enrichment? Groups such as Li Haqqi, the People's Observatory Against Corruption, and the Committee for the Protection of Small Depositors linked electricity bills, fuel contracts, and bank loans to the same web of extraction. The campaign demanded revising interest rates, releasing small depositors' assets, and ending collusion between political and financial elites. Although it drew wide public sympathy and reflected unprecedented coordination between socio-economic and anti-sectarian movements, it remained episodic. As the crisis deepened and livelihoods deteriorated, the campaign lost momentum.

What links these mobilizations is less their object than their trajectory. As AbiYaghi and Yammine (2020) argue, Lebanon's power-sharing order generates protest cycles that are recurrent but rarely transformative.[79] Waves of mobilization arise in response to economic shocks or governance failures; they draw in diverse social groups and, at moments, transcend sectarian boundaries. However, collective contestation of deprivation or mismanagement is repeatedly reabsorbed by mechanisms of elite accommodation, clientelist brokerage, and securitized containment that prevent structural reform. Mobilization around electricity has evolved within this same dynamic by exposing the inequalities, corruption, and exclusion embedded in the sector, but rarely shifting the political economy that sustains them. Energy citizenship, as the capacity to make claims around energy — as a right, a public good, or a collective obligation — is continually narrowed by a political order that fragments mobilization and channels grievances away from structural accountability.

4.3. After the Uprising: Energy Protests in Times of Collapse

In the period following the 2019 uprising, collective mobilization in Lebanon entered a markedly different terrain. Intensifying repression, monetary collapse, and rapidly deteriorating living conditions eroded the capacity to sustain collective action. As Zbeeb (2023) argues, this period reflected a form of crisis governance when austerity measures were imposed amid institutional breakdown, narrowing material and temporal horizons of mobilization and displacing it toward more fragile, situational, and risk-laden forms of contention.[80] The destruction of EDL's headquarters in the 2020 Beirut Port explosion further exacerbated this rupture, eliminating the institutional site around which labor and electricity-related mobilization had previously coalesced.

77 Jinan S. Al-Habbal, "Protesting Sectarianism: Lebanese Regime Resilience and Thawrat Tishreen" (Middle East paper series 87), LSE, June 2024, https://tinyurl.com/2av5xsu9

78 Anne-Marie El-Hage, "'We Will Not Pay Our Bank Loans'", L'Orient Today, 27 December 2019, https://today.lorientlejour.com/article/1200217/we-will-not-pay-our-bank-loans.html

79 AbiYaghi and Yammine, "The October 2019 Protests in Lebanon".

80 Mohamad Zbeeb, "Lebanon's Postwar Political Economy: From Reconstruction to Collapse", in The Lebanon Uprising of 2019: Voices from the Revolution, Jeffrey G. Karam and Rima Majed (eds.), Bloomsbury Publishing, 2023, pp. 28–42; Jannis Julien Grimm, "Revolutionary Burnout: Subjective Crisis Responses and the Demobilization of Mass Protest in Lebanon", Mediterranean Politics (2025) pp. 1–26, https://doi.org/10.1080/13629395.2025.2459553

Figure 2: EDL Headquarters Damaged after the 2020 Beirut Blast[81]

Mobilization resurfaced sporadically in subsequent years; each episode triggered by a different shock yet unfolding within similar constraints. For example, the lifting of fuel subsidies in August 2021 triggered widespread road blockages and confrontations, as residents demanded diesel for hospitals, bakeries, and essential services.[82] These protests articulated survival politics rather than programmatic reform. Prolonged electricity shortages had become normalized, while access to fuel emerged as an immediate condition of life itself. In January 2022, demonstrators stormed the Aramoun substation, causing a nationwide blackout, and accused the MoEW – then under the control of FPM – of politically selective distribution.[83] By early 2025, the same pattern reappeared in the West Bekaa, where the suspension of hydropower generation by the Litani River Authority, due to drought conditions, provoked intense yet short-lived protests in the towns of Maidoun, Ain el-Tineh, and Sohmor.[84] In each case, protests flared and dissolved rapidly, leaving no organizational residue behind.

In 2023, protesters entered EDL's headquarters to denounce sharply increased tariffs. These were introduced despite only a few hours of electricity

81 Yasmina El Amine, Beirut, November 2025, personal photograph.

82 AFP, "Angry Residents Block Lebanon's Roads after Central Bank Lifts Fuel Subsidies", Al-Arabiya English, 12 August 2021, https://tinyurl.com/4de3u8et

83 Najia Houssari, "Lebanon Goes Dark after Bungling Protesters Disable Key Power Plant", Arab News, 9 January 2022, https://arab.news/vt3cx

84 L'Orient Today, "Protest Against Power Outages in West Bekaa and Rashaya", 22 March 2025, https://tinyurl.com/48wf5b7k

provision per day.[85] These confrontations exposed a central paradox of post-crisis governance: citizens were expected to finance a collapsing public service that was neither functional nor accountable to them. More than 2,000 households responded by going fully off grid,[86] eroding infrastructural citizenship as electricity ceased to function as an obligatory state bond and became a privately managed substitute. Existing conflicts between residents and generator owners over pricing and access intensified during the same period.[87] Citizens found themselves struggling for electricity access not only against the state but against the private intermediaries that had replaced it.[88]

Since October 2023, these dynamics have unfolded under the shadow of escalating Israeli attacks on Lebanon, which culminated in the 66-day war in September 2024 and resumed through a renewed large-scale war from 2 March 2026. In this context, struggles over electricity were no longer confined to tariffs, outages, or fuel access, but became inseparable from infrastructural destruction, displacement, and the labor of survival itself.[89] Across war-affected areas, access to energy came to depend on everyday arrangements through which households, municipalities, generator owners, and the diaspora sought to sustain life and basic services amid Israeli aggressions and state abandonment. Read through the lens of energy citizenship, these practices reveal that energy claims are not only articulated through protest or formal participation, but also collectively through acts of solidarity, care, and repair to secure access to electricity under conditions of war.

Across these episodes, mobilization became more episodic, localized, and materially driven, emerging when deprivation crossed tolerable thresholds and where organizational continuity or unified leadership was absent. Road blockages, facility occupations, refusals to pay, and grid exits were acts of dissent through which citizens asserted rights to electricity and demanded state accountability. This turn to private systems embodied a simultaneous refusal of the state as electricity provider. As these acts unfolded without stable organizational channels, they allowed grievances to be absorbed into crisis management. Energy citizenship, therefore, persisted in a diminished and precarious form, articulated through interruption and survival practices rather than participation and enforceable rights. What these mobilizations reveal is a narrowing political horizon: the social contract with electricity quickly erodes while new systems of collective provision emerge.

5. New Forms of Energy Citizenship? Localized Energy Arrangements under Crisis

Building on the analysis of electricity-related protest, this section turns to community-level renewable energy projects as crisis-driven responses to public provision collapse. While the energy crisis pushed many households toward individualized solutions – most notably private generators and rooftop solar panels – some localities entered the collapse with pre-existing solar infrastructure or collective energy arrangements that became vital to sustaining everyday life.

These renewable systems were not introduced as part of a planned transition but were repurposed and expanded under the emergency conditions imposed by the crisis. As electricity provision receded, energy citizenship increasingly shifted from claims directed at the state toward practices of collective self-provision shaped by local capacity, institutional legacies, and access to resources. Examining the cases of three towns, Qabrikha, Bchaaleh, and Baaloul, this section explores how their local conditions structured communities' ability to organize energy access, raising critical questions about participation, ownership, and justice within emergent forms of communal energy governance.

85 L'Orient Today, "Protesters Besiege EDL Headquarters for more than Hour", 26 September 2023, https://tinyurl.com/5ex6u3ua

86 Mario Doueiry, "Thousands of Lebanese Households Unsubscribe from EDL", L'Orient Today, 13 March 2023, https://tinyurl.com/55cw2xd7

87 Nabila Ghossein, "في العتمة (1): كيف يعيش الناس تحت رحمة أصحاب المولّدات؟" ["In the Darkness (1): How Do People Live at the Mercy of Generator Owners?"], المفكرة القانونية (Legal Agenda), November 2, 2022,

88 Rima Majed, "interview by author", February 2026

89 Yasmina El Amine, "Rethinking Energy Justice in Geographies of War" [Arabic], Al-Sifr, 9 December 2025, https://alsifr.org/rethinking-energy-justice-geographies-war

5.1. What Are Energy Communities and Cooperatives?

Energy communities and energy cooperatives represent collective, citizen-driven forms of energy governance that challenge the hierarchical structures of state and market provision. They have gained prominence as decentralized responses to energy poverty, climate change, and the erosion of public trust in traditional utilities.[90] While both terms describe participatory models centered on shared control and local benefit, they differ in their legal status and ownership arrangements.

Energy communities refer to local or regional initiatives where citizens, municipalities, or businesses jointly manage energy generation, distribution, or consumption, defined by open participation, community benefit, and collective decision-making. They often emerge in contexts of weak public provision or inequitable access, and function as bottom-up mechanisms for resilience and inclusion.[91] They may take diverse institutional forms, from informal associations that coordinate energy sharing to formalized partnerships involving municipalities or small enterprises.

Energy cooperatives are legally codified entities based on collective ownership and democratic governance. They institutionalize what Hansmann (1996) describes as a "user-owned" model of enterprise,[92] in which members participate simultaneously as consumers and proprietors, though cooperative practice has since diversified toward hybrid and service-oriented arrangements, particularly in the renewable energy sector.[93] Rooted in principles of open membership and one-member-one-vote governance, cooperatives anchor decision-making and benefit-sharing in participation rather than capital, with surpluses reinvested to serve collective goals or used to reduce members' energy costs rather than distributed to external shareholders.[94] Unlike private utilities, they treat energy as a collectively governed resource, prioritizing collective use-value over private profit and formalizing participatory ideals often expressed informally in energy communities.[95]

Within the energy sector, cooperative forms vary by ownership structure: consumer-owned cooperatives organize users as collective owners of energy assets; producer-owned cooperatives bring together generators who jointly own installations and share revenues; worker-owned cooperatives link ownership to labor in installation, operation, and maintenance; and energy-service cooperatives center on delivering collective efficiency, retrofitting, and flexibility services rather than generation ownership alone.[96] These configurations shape how participation is organized and what forms of energy citizenship cooperatives they can institutionalize.

In the current neoliberal global architecture, financial autonomy in energy cooperatives is sustained through blended financing models that align ownership, participation, and investment. Core mechanisms include member capital contributions, community-share offers, and concessional loans from cooperative or ethical banks, often complemented in developing contexts by donor and diaspora funding.[97] Figure 2 illustrates

90 Alejandra Bernal et al., "Bottom-Up Energy Transitions: Managing the Rise of Energy Communities in Latin America", International Energy Agency (IEA), 25 September 2024, https://tinyurl.com/73t6w6nr [Bernal et al., "Bottom-Up Energy Transitions"]

91 Bernal et al., "Bottom-Up Energy Transitions".

92 Henry Hansmann, The Ownership of Enterprise, Harvard University Press, 1996.

93 Yildiz et al., "Renewable Energy Cooperatives".

94 Benjamin Huybrechts and Sybille Mertens, "The Relevance of the Cooperative Model in the Field of Renewable Energy", Annals of Public and Cooperative Economics 85, no. 2(2014) pp. 193–212, https://doi.org/10.1111/apce.12038 [Huybrechts and Mertens, "The Relevance of the Cooperative Model"]; Jakob R. Müller and Lars Holstenkamp, "Governance and Financing of German Energy Cooperatives" (Paper presented the International Conference "Cooperative Responses to Global Challenges" at Humboldt-Universität zu Berlin, Germany, 21-23 March 2012); Emily Creamer et al., "Community Energy: Entanglements of Community, State, and Private Sector." Geography Compass 12, no. 7 (2018), https://doi.org/10.1111/gec3.12378

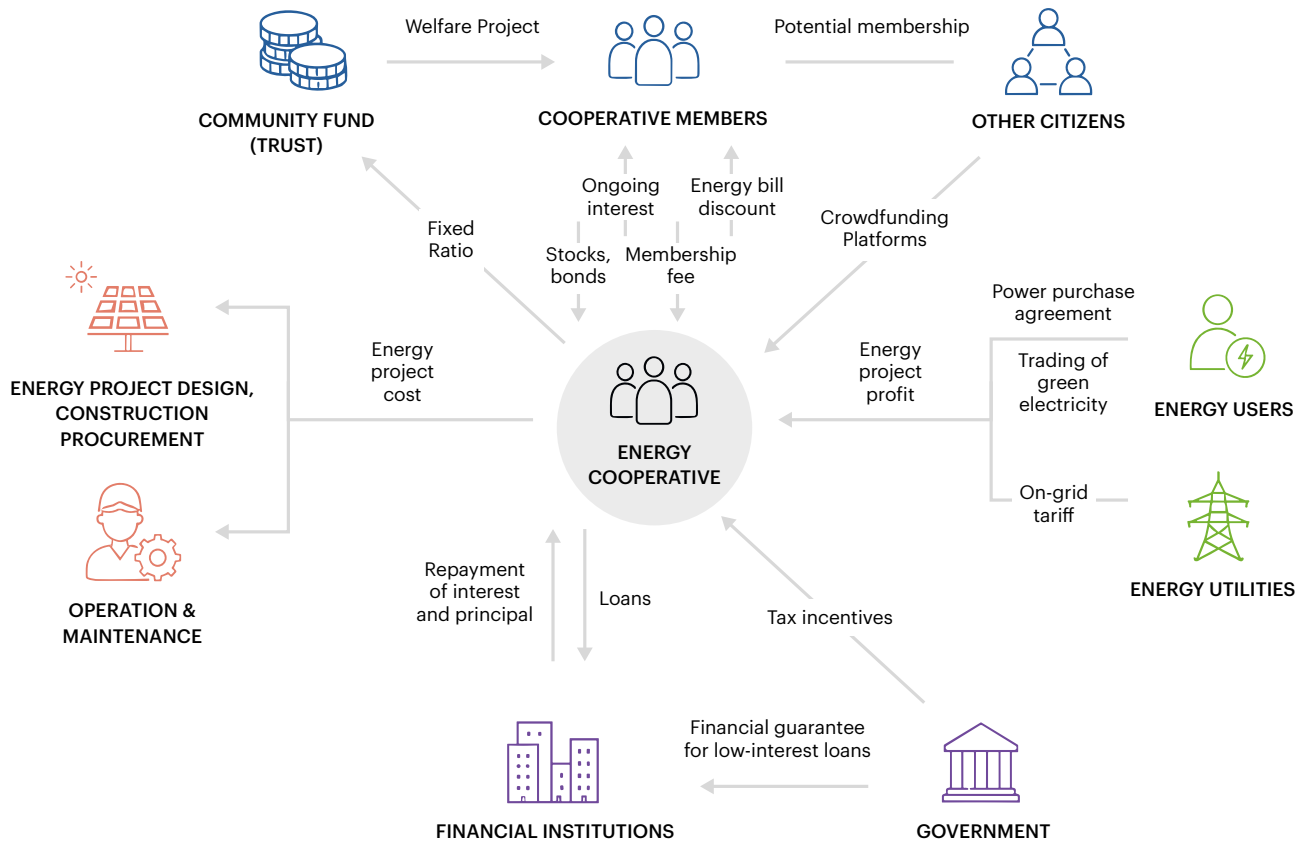
95 Campos and Marín-González, "People in Transitions".

96 Huybrechts and Mertens, "The Relevance of the Cooperative Model"; Yildiz et al., "Renewable Energy Cooperatives"; Thomas Bauwens and Patrick Devine-Wright, "Positive Energies? An Empirical Study of Community Energy Participation and Attitudes to Renewable Energy", Energy Policy 118(2018) pp. 612–625, https://doi.org/10.1016/j.enpol.2018.03.062; International Labour Office (ILO) et al., "Providing Clean Energy and Energy Access through Cooperatives", 20 December 2013, https://tinyurl.com/mz9uktzb

97 Yihan Hao et al., "Toward a Shared Zero-Carbon Energy Future: A Global Analysis of Rural Energy Cooperatives", Rocky Mountain Institute (RMI), November 2024, https://tinyurl.com/3s8ma9f2 [Hao et al., "Toward a Shared Zero-Carbon Energy Future"]

the interdependent financial and governance flows that broadly structure cooperative energy models.

Figure 3: Energy Cooperative Financial Model[98]



5.2. Energy Cooperatives in Lebanon: Openings and Obstacles

Cooperatives in Lebanon operate under Decree 17199 of 1964 and its amendments and are overseen by the Directorate General of Cooperatives within the Ministry of Agriculture.[99] The sector is concentrated in agriculture and agro-food activities, while industrial and service cooperatives remain limited. A central incentive for registration is the preferential fiscal regime, which exempts cooperatives from several taxes and fees, including profit tax, municipal taxes – rent and construction – finance fee on contracts, and tax on owned real estate.[100] These provisions have historically made the cooperative form attractive to traders and agricultural exporters, while cooperatives linked

98 Adapted from Hao et al., "Toward a Shared Zero-Carbon Energy Future".

99 Kanj Hamade et al., The Cooperative Sector in Lebanon: What Role? What Future (Technical report), International Labour Organization (ILO), 2018, https://tinyurl.com/29ktjcam [Hamade et al., The Cooperative Sector in Lebanon]

100 Hamade et al., The Cooperative Sector in Lebanon.

to energy have (so far) been absent.[101] Interviewed practitioners have identified three avenues that have been pursued for establishing renewable energy cooperatives under existing legislation, each running up against the boundaries of EDL's monopoly in different ways.

5.2.1. Working through Existing Cooperative and Energy Laws to Establish Collective Renewable Energy Projects

Law 462 allows private generation of up to 1.5 MW, strictly for self-consumption, effectively confining generation to individual use and limiting the scope for shared arrangements. Law 318 on Distributed Renewable Energy later raised this ceiling to 10 MW and formally recognized decentralized generation, but it remains pending implementation decrees. When proponents attempted to register cooperative-based projects, the process stalled. The Directorate General of Cooperatives sought a formal opinion from the MoEW, which declined to endorse the initiative, citing the unresolved scope of EDL monopoly in the current legal framework and a reluctance to set a precedent in a politically sensitive domain. The blockage is therefore not a clear legal prohibition, but an institutional impasse. At the same time, the cooperative model remains administratively and financially viable. Cooperatives can access loans through the National Cooperative Fund, which is not available to municipalities, and project approval typically requires a feasibility study. Interviewees also pointed to the need to build capacity within the Directorate to assess renewable energy proposals, given the absence of established templates, and noted a territorial rule limiting one energy cooperative per area, with exceptions in cities exceeding 20,000 inhabitants[102].

5.2.2. Mobilizing the Industrial Zones Framework as a Basis for Shared Generation among Clustered Enterprises

A second pathway relied on the Industrial Zones Law of 2017 and earlier provisions that allow the Ministry of Industry to license maamel kahrabaiyyeh (power facilities) in industrial areas. In the Nahr El-Mot zone, a group of industrialists explored establishing a cooperative among adjacent factories to produce electricity for their own operations, reasoning that industrial zones enjoy a degree of exemption from the general electricity regime. The project aimed to become the first formally registered energy cooperative in Lebanon, yet negotiations with the General Directorate of Cooperatives proved unsuccessful following a cross-ministerial check with MoEW.[103] This case illustrates how actors search for legal windows outside the MoEW framework while still navigating the boundaries of the monopoly regime.

5.2.3. Looking to Agricultural Cooperatives as Entry Points, particularly for Collectively Managed Solar Water Pumping Systems

Several cooperatives already manage shared water resources, such as the Dardara cooperative in South Lebanon and initiatives in Deir El-Ahmar in the Bekaa, demonstrating that collective common infrastructure management is legally accepted. Interviewees argued that nothing in cooperative law prevents these entities from also managing renewable energy, particularly for solar water pumping, which suggests a pragmatic route through existing structures that are socially embedded and administratively recognized.[104]

Across these experiences, the central tension lies less in the absence of a legal basis than in the fragmentation of authority across ministries. Cooperative registration requires consultation with MoEW, which refuses to endorse such initiatives on

101 A unique and forgotten attempt to extend this framework to the energy sector was the creation of the Cooperative Association for Alternative Energy – Deir al-Qamar and its Surroundings (Ministerial Decision 26 of 23 March 2010). This cooperative was mandated to import, equip, operate, and maintain solar systems for the production, storage, and marketing of alternative energy and to promote awareness of renewables. The cooperative was established for 99 years with a modest capital base, yet was dissolved within the same year, leaving almost no public record of activities or explanation for its termination; see Legal Information Center, "Establishing a Cooperative Society for Alternative Energy in Deir al-Qamar and Its Suburbs/Mount Lebanon", Lebanese University, 23 March 2010, http://77.42.251.205/LawView.aspx?opt=view&LawID=225636

102 Rani Al Achkar, interview by author, November 2025 [Al Achkar, "interview by author"]

103 Joseph El Assad, interview by author, December 2025 [Assad, "interview by author"]

104 Kanj Hamade, interview by author, May 2025 [Hamade, "interview by author"]

the grounds of EDL's monopoly, while the Directorate General of Cooperatives will not proceed without that approval. Therefore, there is not a clear legal prohibition of energy cooperatives but a problem of cross-ministerial coordination, where reluctance on the energy side effectively blocks action on the cooperative side.

This institutional ambiguity is compounded by the incomplete implementation of Law 462 and ERA's still-evolving role. In the absence of settled secondary legislation, projects depend on discretionary interpretation rather than predictable rules. Even net metering decisions, such as 318-32/2011,[105] authorized bill deductions rather than direct payments, create uncertainty for cooperatives whose legal definition hinges on generating a tangible economic benefit for members.[106]

Several interviewees described energy initiatives as unfolding in "crisis mode", driven by the urgency of securing electricity rather than by a coherent cooperative vision. One proposed pathway was a worker-focused model, recalling a short-lived alternative energy cooperative established in 2010, in which technicians and installers would jointly import equipment, manage installation and maintenance, and organize their services through a shared structure. Interviewees also noted that municipalities could formally participate in cooperatives, including holding larger capital shares, while governance would remain based on the principle of one member, one vote. Yet, as the cases discussed below suggest, institutionalizing a cooperative form is not always necessary for participation or for accountability to take shape.[107]

5.3. Local Microgrids and Renewable Energy Initiatives

Across Lebanon, community-level renewable energy initiatives have proliferated in the form of solar systems integrated into local microgrids powered by diesel generators. While commonly traced to the period following the financial collapse, many of these systems existed previously. Established through donor funding, private investment, or diaspora support, these systems have become essential infrastructures of survival since the crisis, ensuring access to power where supply through the national grid had collapsed. While they address urgent material needs, they also reflect emerging forms of infrastructural citizenship, where communities and municipalities negotiate access, responsibility, and rights through everyday energy management.[108] In the absence of effective public electricity provision, these projects produce new relationships between citizens, technology, and governance, revealing both the potential and limits of bottom-up energy systems.

Debates over the legality of these systems are widespread among energy practitioners in Lebanon, particularly when set against diesel generator networks that have become synonymous with corruption and informal control.[109] Yet in a context where scarcity is routine and informality permeates the sector, legalistic arguments often displace more substantive questions about energy citizenship, including who governs local energy, on what terms, and with what forms of accountability. This section approaches microgrid initiatives as experimental sites of local energy governance, evaluating whether they enable participation, accountability, and collective agency, and consider their implications for developing future energy cooperatives in Lebanon. By analyzing cases in the villages of Qabrikha, Bchaaleh, and Baaloul, the discussion identifies social, financial, and regulatory factors that shape the scope of citizen involvement and explores possibilities for more inclusive energy governance.

The cases outlined below do not correspond to legally defined energy cooperatives. Instead, municipalities have formed energy committees – hybrid governance entities composed of municipal representatives, civil-society actors, and residents – to legally oversee project management and maintenance. These committees operate as de facto local regulators, mediating between donors, private operators, and end-users. While not legally recognized under cooperative law, they provide a participatory structure for decision-making and resource management that approximates the functions of community energy institutions.

105 El Amine, "Pathways for Energy Justice".
106 Hamade, "interview by author"
107 El Assad, "interview by author"
108 El Assad, "interview by author"
109 Abi Haidar, "interview by author"

5.3.1. Qabrikha's Community Net Metering

Qabrikha, a village in South Lebanon's Marjeyoun district, piloted a community net metering scheme in 2016 under an EU-funded UNDP-CEDRO program in collaboration with MoEW, Lebanese Center for Energy Conservation (LCEC), and EDL. A 250kWp photovoltaic plant was installed on municipal land and connected to EDL's low-voltage grid under Decision 318-32/2011 on net metering.[110] Designed to benefit around 100 households, the system operated through a virtual net metering mechanism managed by the Jouwayya billing office, which reconciled import and export readings to credit each participant's account. While each household retained its individual EDL subscription, participation was limited to customers "in good standing" with EDL – excluding those without formal connections or with unpaid bills, a significant constraint in a region marked by irregular billing and widespread electricity pilferage.[111]

Technically, the project was pioneering. The system incorporated an automatic switching mechanism that injected solar power into an EDL substation when public supply was available and into a local generator network when it was not. In this way, Qabrikha functioned as a hybrid microgrid – formally tied to EDL but effectively operating through the parallel grid.[112] While legally situated in a grey area due to EDL's monopoly over electricity distribution, the project represented an innovative attempt to institutionalize collective solar ownership within existing constraints. Despite operational success, replication proved difficult. EDL's administrative and technical limitations, compounded by Lebanon's financial crisis, halted the expansion of the community net metering model to other areas. The interviewee noted, "community net metering cannot work until EDL is reformed and empowered."[113] Discussions with the town's mayor confirmed that, in practice, residents see little consistent reduction in their energy bills. Nonetheless, Qabrikha remains an important experimental precedent: it demonstrated that collective production and virtual crediting were technically feasible and socially desirable, while exposing the institutional fragility that prevents local energy citizenship from taking root in Lebanon's current system.

Beyond its technical design, Qabrikha was initially envisioned as something closer to an energy cooperative, or at least as a stepping stone toward one. The project was conceived as a community energy model with shared governance. Its initial design envisioned a local energy committee and an ownership structure based on household "shares" in the plant, allowing residents to co-invest and co-manage the system. The idea was not only to produce electricity collectively but to anchor ownership of the system in the residents themselves, through a share-based structure in which households would invest according to their means and co-own the plant proportionally. Yet, as the interviewee explained, this financial contribution never materialized. The system was fully grant-funded, and residents made no monetary investment, so the possibility of formal shared ownership receded. Consequently, the municipality assumed full responsibility for operations, procurement, and coordination with EDL, while the committee remained largely under the municipality's umbrella.[114]

In legal terms, community net metering also does not fall comfortably within the cooperative definition, since Decision 318-32 operates through bill deductions rather than monetized revenue;[115] participants reduce their electricity bills but do not generate distributable financial returns, which cooperative law typically presumes. The model, therefore, remained administratively innovative but structurally limited. If Law 318 were fully operationalized, however, it could open space beyond bill-crediting toward more substantive forms of collective generation, including peer-to-peer trading or inter-village exchanges that move beyond simple netting against EDL consumption. Such arrangements could align more closely with a cooperative structure, where production, revenue, and governance are collectively organized.

5.3.2. The Case of Baaloul

Baaloul, a rural municipality in the Western Bekaa, provides one of Lebanon's most compelling examples of community-led electricity provision. In 2012, amid chronic power cuts and widespread

110 El Amine, "Pathways for Energy Justice".

111 Hassan Harajli, interview by author, August 2025 [Harajli, "interview by author"]

112 Harajli, "interview by author"

113 Harajli, "interview by author"

114 Harajli, "interview by author"

115 El Amine, "Pathways for Energy Justice".

reliance on costly private generators, residents collectively established a diesel-based mini-grid financed through community and diaspora contributions amounting to roughly US$300,000.[116] The initiative emerged from a shared dissatisfaction with private suppliers and reflected the town's strong culture of civic participation and environmental concern, embedded in the Junta de Baaloul – a local assembly modelled after Latin American neighborhood councils.

Governance of the Baaloul hybrid mini-grid rests on democratic and participatory principles. The system is owned collectively by residents rather than the municipality, and profits are distributed among community members, who are recognized as shareholders in the grid. A local energy committee (Khedmat Kahraba Baaloul) determines investment priorities, sets tariffs, and oversees maintenance. Tariffs are calculated transparently based on workers' salaries, the cost of maintenance and replacement, and the price of diesel oil.[117] The integration of solar photovoltaic capacity in 2018, supported by the USAID-funded BALADI program and implemented by Caritas and the René Moawad Foundation, significantly increased the grid's efficiency and profitability, enabling a 50% reduction in bills – applied twice – and maintaining tariffs lower than those set by MoEW. Through community mobilization in project funding, collective decision-making, and equitable profit-sharing, the Baaloul mini grid has strengthened local solidarity and institutionalized a form of participatory energy governance.

The hybrid grid combines diesel generation with 80 kWp of solar capacity linked to EDL. Although EDL has not formally recognized the project, it has tacitly acknowledged its existence by connecting it to the national grid and applying net metering to the town's public lighting and nearby refugee camp.[118] However, Baaloul's residents do not directly benefit from the net metering mechanism, as their consumption is offset only indirectly through communal savings rather than individual bill reductions. Despite its local success, the system remains constrained by regulatory ambiguity and technical inefficiencies: it cannot export surplus electricity when production exceeds demand, limiting both economic optimization and integration into the broader energy system.[119]

Baaloul's experience demonstrates how a decentralized and collectively governed energy system can approximate a cooperative model in practice. Ownership is community-based, governance is participatory, and revenues are redistributed among residents recognized as shareholders.[120] In this sense, the model aligns closely with cooperative principles of shared productive assets, democratic decision-making, and collective benefit. The central limitation is not its internal structure but its legal status. Operating in a grey zone under EDL's monopoly, the project lacks formal recognition as either a licensed generator or a registered cooperative energy entity. Its regulatory ambiguity restricts its ability to expand, export surplus electricity, or integrate fully into the national framework.[121] Baaloul therefore illustrates not the absence of viable cooperative energy practice, but the friction between locally institutionalized collective ownership and a legal architecture that does not readily accommodate it.

5.3.3. The Case of Bchaaleh

Bchaaleh, a village in North Lebanon's Batroun district, hosts one of the country's most advanced local microgrids. Established in 2023 through a partnership between the private company ME Green, the municipality, and a local energy committee known as Nour Bchaaleh, the project provides 24-hour electricity through a hybrid system, combining solar photovoltaic generation, battery storage, and minimal diesel backup.[122] The generator now operates for less than forty hours per year, marking a 98% reduction in diesel use and a substantial improvement in reliability in a region long dependent on costly and erratic electricity supply.[123]

The project operates through a lease-to-buy arrangement structured around performance guarantees. It builds on an earlier solar installation

116 Alix Chaplain, "Strategies of Power and the Emergence of Hybrid Mini-Grids in Lebanon", Jadaliyya, 8 May 2022, https://www.jadaliyya.com/Details/43932 [Chaplain, "Strategies of Power"]

117 Chaplain, "Strategies of Power".

118 Chaplain, "Strategies of Power".

119 El Assad, "interview by author"

120 El Assad, "interview by author"

121 Abi Haidar, "interview by author"

122 Philippe Khoury, "interview by author", August 2025 [Khoury "interview by author"]

123 Khoury, "interview by author"

in the village that had become insufficient and poorly adapted to rising demand, both in terms of capacity and system design. ME Green financed and installed the solar and storage infrastructure and retains ownership during an initial fifteen-year period. The municipality does not purchase the system up front; instead, it pays a fixed monthly amount derived from electricity revenues, allowing the company to recover its investment and agreed return over time. At the end of the contract, once the capital cost and return are repaid, ownership of the system transfers fully to the municipality.[124] Unlike a conventional Independent Power Producer model,[125] the company does not permanently own or sell electricity to the grid; rather, it temporarily owns the equipment while operating it under contractual conditions tied to performance and service delivery. Electricity is distributed through a smart metering system, and tariffs are set at approximately US$20 for 250 kWh per month, significantly below prevailing generator prices.[126] In a context of prolonged energy insecurity, the central objective was not the creation of a cooperative identity but stabilizing access and reducing financial strain on households.

Participation in Bchaaleh takes a different form than in cooperative models. The Nour Bchaaleh committee, composed of municipal and community representatives, oversees system management and tariff decisions, embedding a degree of local accountability within a privately financed structure. Revenues are directed toward operational sustainability rather than dividend distribution, and profit margins are bound by contractual terms and political oversight.[127] This raises an important distinction: participatory energy governance does not necessarily require collective ownership of assets, but it does require constraints on profit extraction and transparency mechanisms. In this sense, Bchaaleh illustrates a hybrid model shaped by energy insecurity rather than ideological commitment – one that prioritizes affordability and stability while attempting to prevent the re-emergence of speculative logics that defined Lebanon's generator economy.

5.3.4. Synthesis: Implications for Energy Citizenship

Across these three cases, energy citizenship is not expressed primarily through formal political participation, but through infrastructural organization itself. People enter the energy field by building, financing, governing, or stabilizing supply in contexts where the state no longer guarantees it. Yet these practices do not unfold on equal terrain. They are shaped by prior infrastructural investments, municipal capacity, access to diaspora funding, and geography. Villages that entered the crisis with solar assets or existing parallel grids could reorganize provision collectively. Others remained locked into informal or exploitative arrangements, making energy citizenship materially uneven from the outset.

Cooperative models sit within this landscape as a possible institutionalization of collective ownership, but not as a universal solution. Qabrikha gestured toward share-based ownership yet remained grant-funded and institutionally hindered. Baaloul approximates a cooperative in practice, redistributing surpluses and recognizing residents as shareholders, though without formal registration. Bchaaleh demonstrates that participation can also occur without collective ownership, through tariff oversight and bounded returns under a lease-to-buy structure. These variations suggest that what matters is not the legal label but the structure of benefit distribution, decision-making, and limits on extraction.

This is where the absence of a fully operational regulatory framework becomes decisive. Without a clearly empowered ERA defining generation rights, profit ceilings, grid access conditions, and boundaries between self-consumption and commercial sale, collective initiatives operate in a grey zone. In that space, the distinction between community provision and private accumulation remains unstable. If Law 318 were fully implemented and ERA articulated rules for peer-to-peer exchange, surplus sales, and cooperative licensing, energy cooperatives could move beyond bill-offsetting toward genuine collective generation with regulated revenue streams. Just as importantly, the regulator would need to ensure that decentralization does not reproduce the logic of the generator economy under a greener guise.

124 Khoury, "interview by author"

125 Christoph Wurzenrainer, "What is an Independent Power Producer (IPP)?", PowerUp, 17 December 2025, https://tinyurl.com/nebfejft

126 Khoury "interview by author"

127 Khoury, "interview by author"

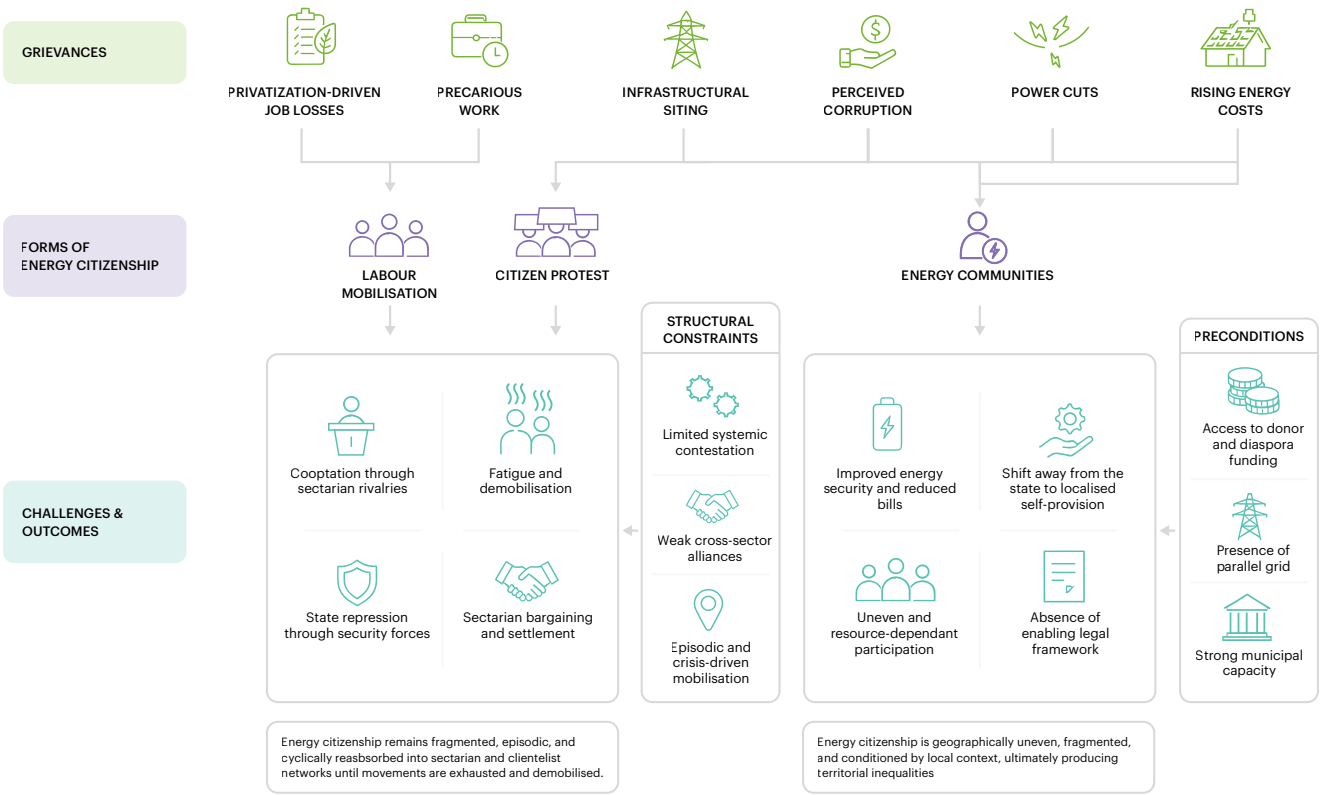
Energy citizenship here is therefore neither absent nor fully realized. It is negotiated within fragmented infrastructures and incomplete regulation. Collective practice exists, but its durability depends on whether institutional architecture evolves to protect participation from capture by sectarian brokers and private capital interests, and to prevent decentralization from becoming another terrain of unbounded profit-making.

6. Recommendations and Conclusion

This study approaches electricity as a site where governance, contestation, labor, and territorial inequality intersect. Electricity-linked mobilization in Lebanon, though overlooked, has been neither absent nor exceptional. Workers organized against privatization and precarious conditions, while residents protested rationing and uneven allocation, and activists tied electricity to corruption and financial collapse. Yet these struggles remained fragmented across space, time, and material conditions, preventing their consolidation into a sustained political project centered on electricity as a public right. Crucially, they also failed to generate durable cross-struggle or class-based alliances. Labor mobilization did not converge with consumer grievances, municipal initiatives remained locally bounded, and activist campaigns rarely translated into broad social coalitions. Union action unfolded within a sectarian power-sharing order that constrained class-based organizing, while local protests were frequently reframed through partisan competition, further inhibiting solidaristic convergence.

After 2019, as institutional collapse deepened, collective energies were increasingly redirected toward securing access under conditions of scarcity rather than transforming the institutional architecture of provision. Political engagement shifted from claims on the state toward negotiated arrangements within and around failing infrastructures (see Figure 4).

Figure 4: Summary of Energy Citizenship in Lebanon



For at least the past two decades, electricity in Lebanon has therefore not functioned as a universal public service mediating its citizenship. Access turns on geography, income, prior infrastructural investments, diaspora support, and municipal capacity. Citizenship is enacted through the ability to secure, finance, maintain, or collectively organize supply. In this sense, infrastructural citizenship is not an abstract framework but an empirical condition: belonging and entitlement are negotiated through connection, payment, and local management rather than guaranteed through enforceable public provision.

The shift toward localized solutions has been materially significant. Villages such as Qabrikha and Baaloul entered the crisis with donor-funded or diaspora-supported infrastructure that could be repurposed and expanded. Bchaaleh built on earlier, imperfect solar efforts and an existing municipal generator network. These transitions were therefore layered onto pre-existing systems. In that sense, decentralization in Lebanon has not replaced the generator economy so much as it further reconfigured its already hybrid form. Yet, this localization carries distributive consequences. Communities with organizational cohesion, remittance flows, and political leverage were able to stabilize supply and, in some cases, institutionalize participatory governance. Others remained locked into exploitative generator arrangements or even deeper energy precarity, resulting in a geography of differentiated reliability where energy citizenship, under these conditions, is uneven by design.

Cooperative models enter this landscape as a potential institutional mechanism for structuring participation and limiting extraction. The local cases demonstrate that cooperative practice can exist de facto, as in Baaloul, even without formal registration. They also show that collective ownership is not the only route to accountability, as in Bchaaleh's lease-to-buy model, where profit margins are contractually bound and subject to municipal oversight. The more fundamental issue lies in the absence of a fully operational regulatory framework. Without a clearly empowered ERA, decentralization risks replicating generator economy logic under a renewables veneer. If distributed generation expands without rules on profit ceilings, grid access, peer-to-peer exchange, and cooperative licensing, local initiatives may simply become new sites of accumulation.

Overall, Lebanon's electricity crisis has eroded its provisional social contract, but it has also generated experiments in local governance. These experiments reveal both the capacity of communities to reorganize energy and the fragility of such arrangements without structural reform. The future of energy citizenship in Lebanon will not be determined solely by protest, nor solely by technology. It will be shaped by whether decentralization is institutionalized as a democratic and socially bounded system or allowed to drift into another market of unregulated accumulation. The question, then, is not whether communities can organize electricity; they already do. The question is whether the state will create the regulatory architecture that ensures these efforts deepen collective rights rather than entrench differentiated survival. The recommendations below follow from this diagnosis.

Operationalize the ERA with a Social and Democratic Mandate

The ERA's mandate must explicitly address the governance of decentralized generation. This includes clarifying the legal status of community-based and de facto cooperative energy entities. This would establish transparent criteria for licensing distributed generation up to the 10 MW ceiling under Law 318 and create a regulatory framework for peer-to-peer trading and inter-village electricity exchange.[128] Equally important is the introduction of enforceable limits on profit margins in decentralized supply models, which prevents the consolidation of new forms of speculative accumulation. Without such guardrails, decentralization risks reproducing the unregulated generator economy in renewable form.

Develop a Legal Pathway for Renewable Energy Cooperatives

The main hurdle in Lebanon is not the absence of an adequate cooperative law but the lack of cross-ministerial coordination and political will. A formal protocol between MoEW and the Directorate General of Cooperatives is needed to prevent discretionary blockage of energy cooperatives at the registration stage. Within this framework, two models deserve particular attention. A worker-owned renewable energy cooperative could bring together technicians, installers, and engineers to

128 El Amine, "Pathways for Energy Justice".

jointly import equipment, organize procurement, and provide installation and maintenance services. This model would address employment precarity in the renewable energy sector, reduce dependence on dominant importers, and anchor technical capacity locally. At a moment when reform is framed around corporatization and outsourcing, such a cooperative offers an alternative employment trajectory rooted in collective ownership rather than subcontracted labor.

In parallel, community energy cooperatives should move beyond bill-offsetting arrangements. Current community net metering models reduce costs but do not generate distributable income. For cooperatives to function as genuine economic entities, regulatory reform must allow the sale of surplus electricity within defined geographic zones and enable peer-to-peer exchange beyond simple net-metering against EDL consumption. Importantly, revenue should remain bounded by cooperative principles: one-member, one-vote governance and a limited return on capital.

Introduce Profit Caps and Social Safeguards in Decentralized Models

Not all decentralized systems need to adopt a cooperative form. Hybrid arrangements, such as lease-to-buy structures, may be appropriate in contexts of acute energy insecurity. However, these models require clear safeguards. Tariff-setting must be transparent, internal rates of return contractually bound, cost-recovery schedules publicly disclosed, and ownership transfer clauses clearly defined from the outset. The objective is not to discourage private participation, but to prevent decentralized electricity from becoming a new site of rent extraction under conditions of weak regulation.

Address Geographical Inequalities in Energy Access

Decentralization has already produced territorial disparities. Communities with access to diaspora finance, donor partnerships, or prior infrastructure are securing reliability and lower tariffs, while others remain dependent on a fragmented and costly supply. National policy must acknowledge this divergence. Mechanisms such as solidarity funds financed through distributed generation levies, targeted technical assistance for under-resourced municipalities, and incentives for coordination at the level of unions of municipalities could mitigate emerging inequalities. Without redistributive measures, energy citizenship will remain tied to wealth, remittance flows, and municipal capacity.

Reframe Cooperatives as Democratic Infrastructure, Not Ideological Ends

Cooperatives are not inherently successful models and should not be romanticized. In practice, they can reproduce exclusion when entry depends on upfront capital or when governance is captured by existing political networks. In Lebanon, their democratic potential will depend on an institutional design that does not tie participation to the ability to pay, that keeps membership open, and that is not easily captured by partisan actors. The value of the cooperative form lies not in its label, but in its capacity to embed democratic and collective governance procedures into infrastructure. Whether its participation expands or narrows, it will depend on regulatory enforcement and political commitment.

Appendix: List of Interviewees

1. Hassan Harajli: UNDP, Lebanon.
2. Philippe Khoury: CEO ME Green, the renewable energy company that implemented the ME grid project in Bchaaleh.
3. Christina Abi Haidar: Lawyer and legal expert on energy cooperatives.
4. Joseph El Assad: President of the Lebanese Centre for Energy Conservation (LCEC) with expertise in energy cooperatives.
5. Kanj Hamade: Development and agricultural economist with expertise in agricultural cooperatives.
6. Rani Al Achkar: Former staff member at LCEC with experience in energy cooperatives.
7. Sabine Saad: Director at the Lebanese Association for Energy Saving and for Environment (ALMEE) with expertise in energy communities.
8. Rima Majed: Assistant professor at the American University of Beirut (AUB), specializing in social movements.

About the Arab Reform Initiative

The Arab Reform Initiative is an independent Arab think tank working with expert partners in the Middle East and North Africa and beyond to articulate a home-grown agenda for democratic change and social justice. It conducts research and policy analysis and provides a platform for inspirational voices based on the principles of diversity, impartiality, and gender equality.

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