



RESEARCH

Pathways for Energy Justice in Lebanon's Post-war Reconstruction

RESEARCH QUESTIONS

- ① What has been the impact of the 2023–2024 war on Lebanon's energy infrastructure, including national grid, solar systems, and informal generator networks?
- ② How are communities, municipalities, and local actors coping with destruction and shortages?
- ③ What roles do donors, state institutions, and private actors play in shaping reconstruction pathways?
- ④ How do financing instruments and conditionalities influence prospects for energy justice?
- ⑤ How can post-war recovery open space for more just, inclusive, and sustainable energy systems, or will it reproduce past failures?

CONTEXT

Lebanon's energy sector was already in collapse before the 2023–2024 war, shaped by decades of corruption, sectarian patronage and political inertia.

- Energy losses are estimated at USD 207 million (3% of total war damages), but this only reflects EDL infrastructure.
- No reliable data exists on the destruction of household solar systems and generators, despite their central role in daily provision.
- Lebanon had about 1,300 MW of installed renewable capacity before the war, heavily relied upon in the absence of reliable public supply.
- The war caused severe destruction to housing (67% of total damages), likely wiping out a large share of these household-level systems.

METHODOLOGY

- **Desk review** of primary/secondary literature on Lebanon's energy sector, governance, and reconstruction frameworks.
- **Fieldwork** (March 2025): site visits to 10 towns in South Lebanon and Bekaa, with semi-structured interviews of municipal officials, EDL, solar providers, and residents.
- **15 in-depth interviews** with donors, energy experts, journalists, and civil society actors.
- **Secondary data** from CNRS satellite imagery and Lebanese Solar Energy Society mapping of renewable systems.
- **Analysis** of policy, financing, and donor frameworks including World Bank's Recovery and Reconstruction loan (LEAP) and the electricity sector loan.

GEOGRAPHIC FOCUS

South Lebanon and the Bekaa Valley, including border villages most affected by the war.

Key Takeaways



JUSTICE AND HOUSING FIRST

Reconstruction must be anchored in dignity, participation, transparency, sustainability and the right to return. Housing is the largest share of losses, and without rebuilding homes there is no pathway to energy justice, particularly for border villages most affected by the war.



DECENTRALISED RENEWABLES MUST BE CONNECTED, REGULATED AND SHARED

The destruction of more than 60,000 solar panels shows both the fragility and importance of these systems. Justice requires legalising and regulating decentralised renewables, connecting municipal systems to the grid where feasible, enabling collective self-consumption, and protecting vulnerable consumers through targeted exemptions and equity measures.



CONSUMER PROTECTION AND TRANSPARENCY

Fiscal exemptions for renewable energy must be preserved and translated into lower end-user prices through mandatory cost disclosure and a public registry of approved providers. Targeted support should prioritise vulnerable households, renters and conflict-affected areas.



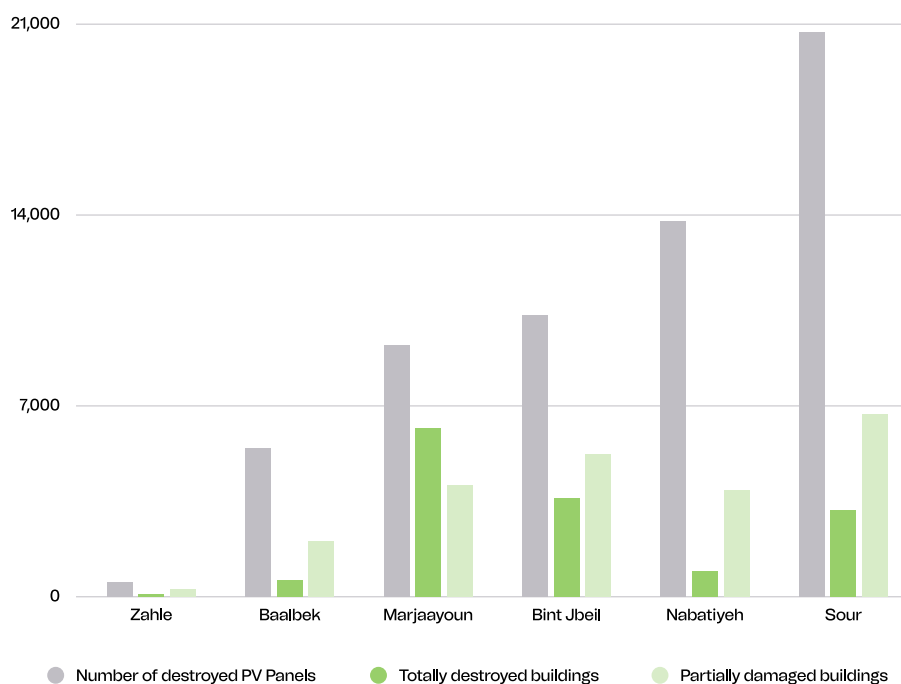
RECONSTRUCTION MUST BREAK WITH PAST FAILURES

Current efforts are fragmented between government, donors, and partisan actors, risking a repeat of exclusionary patterns. The newly formed Electricity Regulatory Authority should use its regulatory role to prioritise equity and transparency while linking the LEAP framework with the World Bank electricity loan to deliver a full package of reforms including grid rehabilitation, transmission upgrades, the control centre, smart meters, renewable integration and Electricité du Liban capacity building.



FAIR AND SUSTAINABLE FINANCING

An independent, transparent reconstruction fund with diaspora participation should direct resources to housing, municipal renewables, and critical services. Innovative tools such as Energy Performance Contracts—where companies finance and install renewable or efficiency systems and households or municipalities repay costs over time through energy savings—can ease prohibitive upfront costs. Safe recycling and disposal of damaged solar systems must also be treated as an essential part of recovery.



About the Author

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