Turning the Lights On:
Solutions for Lebanon's Electricity Crisis

February 03, 2026

Contact Information
Mira Said
Senior Research Analyst
mira.said@blominvestbank.com

Lebanon's electricity sector is in a state of chronic dysfunction, characterized by massive financial losses, severe supply shortages, and a reliance on costly private generators. Political divisions, corruption, and technical inefficiencies at **Électricité du Liban (EDL)** have turned the crisis into a major burden on public finances and a barrier to economic recovery. Recent developments, including the release of an updated EDL **Cost Recovery Plan (CRP)** and a new loan from the **World Bank (WB)**, offer a cautious outlook for potential improvements. This paper analyzes the core challenges and proposes a clear, actionable plan to reform the electricity sector.

I. Core Challenges

a. Financial and Economic Shortfalls

EDL has run deficits for three decades, requiring large government subsidies that added about USD 43 billion to public debt from 1994 to 2020, at an average interest rate of 6.7%. These deficits were driven by high production costs and very low tariffs, which remained below cost recovery from 1994 until mid-2022 due to political resistance to adjustments.

EDL's break-even tariff was estimated at USD 0.23/kWh, while actual tariffs averaged only USD 0.009/kWh, as per *Lebanon's State-Owned Enterprises: What We Know About Them*. Production costs were high because of inefficient fuels, aging plants, and significant network losses, ranging between USD 0.16–0.22/kWh depending on oil prices.

In April 2022, the cabinet adopted a reform strategy, and tariffs were raised in November 2022 to USD 0.10/kWh for the first 100 kWh and USD 0.27/kWh thereafter, plus a fixed monthly fee of USD 0.21 per Amp. Although tariffs were set in USD, they were collected in LBP, creating exchange rate risks due to the exchange rate fluctuations between the time of buying fuel and collecting electricity bills.

In addition, collection remains weak: just 57% of the produced electricity is actually billed and paid, constrained by political interference and security issues.

Heavy reliance on imported fossil fuels further exposes Lebanon to global price fluctuations and debt accumulation.

EDL's Deficit (1994-2020)

Year	EDL Yearly Deficit (USD mn)	EDL Cumulative Deficit (USD mn)	EDL Cumulative Deficit incl Interest (USD mn)
1994	50	50	50
1995	70	120	123
1996	90	210	221
1997	110	320	346
1998	120	440	488
1999	140	580	660
2000	386	966	1,089
2001	188	1,154	1,347
2002	202	1,356	1,637
2003	274	1,630	2,017
2004	383	2,013	2,532
2005	646	2,659	3,342
2006	909	3,568	4,468
2007	981	4,549	5,740
2008	1,612	6,161	7,725
2009	1,499	7,660	9,726
2010	1,192	8,852	11,550
2011	1,742	10,594	14,043
2012	2,261	12,855	17,217
2013	2,027	14,882	20,363
2014	2,094	16,976	23,781
2015	1,135	18,111	26,461
2016	927	19,038	29,108
2017	1,328	20,366	32,328
2018	1,756	22,122	36,185
2019	1,505	23,627	40,042
2020	1,000	24,627	43,645

Source: Lebanon's State-Owned Enterprises: What We Know About Them; Table 4 citing Bank Audi/ Friedrich-Ebert-Stiftung

b. Corruption

Corruption in the electricity sector takes several forms: petty corruption and theft (such as bribing meter readers), corrupt management practices (like inflated payments to fuel suppliers), and grand corruption involving elite control over the supply chain.

c. Mismanagement

Between 2020 and September 2021, the central bank subsidized diesel imports at highly favorable exchange rates, far below the parallel market rate, before gradually raising them and fully lifting subsidies in September 2021. The subsidy created price arbitrage with Syria, leading to smuggling of 10–20% of imports, according to Re-Energize Lebanon: 5 Action Steps to Rebuilding Lebanon's Collapsed Electricity Sector. Once subsidies ended, smuggling was no longer profitable by 2022.

Date Range	Exchange Rate Used for Diesel Imports (LBP/USD)
Before 28/06/2021	1,508
28/06/2021 –23/08/2021	3,900
23/08/2021 –07/09/2021	8,000
7/9/2021	Removal of subsidy, pricing at black market rate

II. Technical and Supply Challenges

Lebanon's electricity infrastructure is outdated and unable to meet peak demand. technical losses from inefficient plants and networks, non-technical losses from theft, illegal connections, and weak bill collection, along with the damage caused by Israel's strikes on Lebanon, together account for about 40% in 2025, based on EDL's CRP.

III. Situation and Outlook

EDL's production has consistently lagged behind demand, with a widening gap between output and consumption. From 1995 to 2019, both rose, though consumption grew faster. Since 2020, production and demand have declined as the financial crisis restricted EDL's access to foreign currency, preventing fuel imports and maintenance. This caused a near collapse of operations, with power shortages reaching 23 hours per day in 2022.

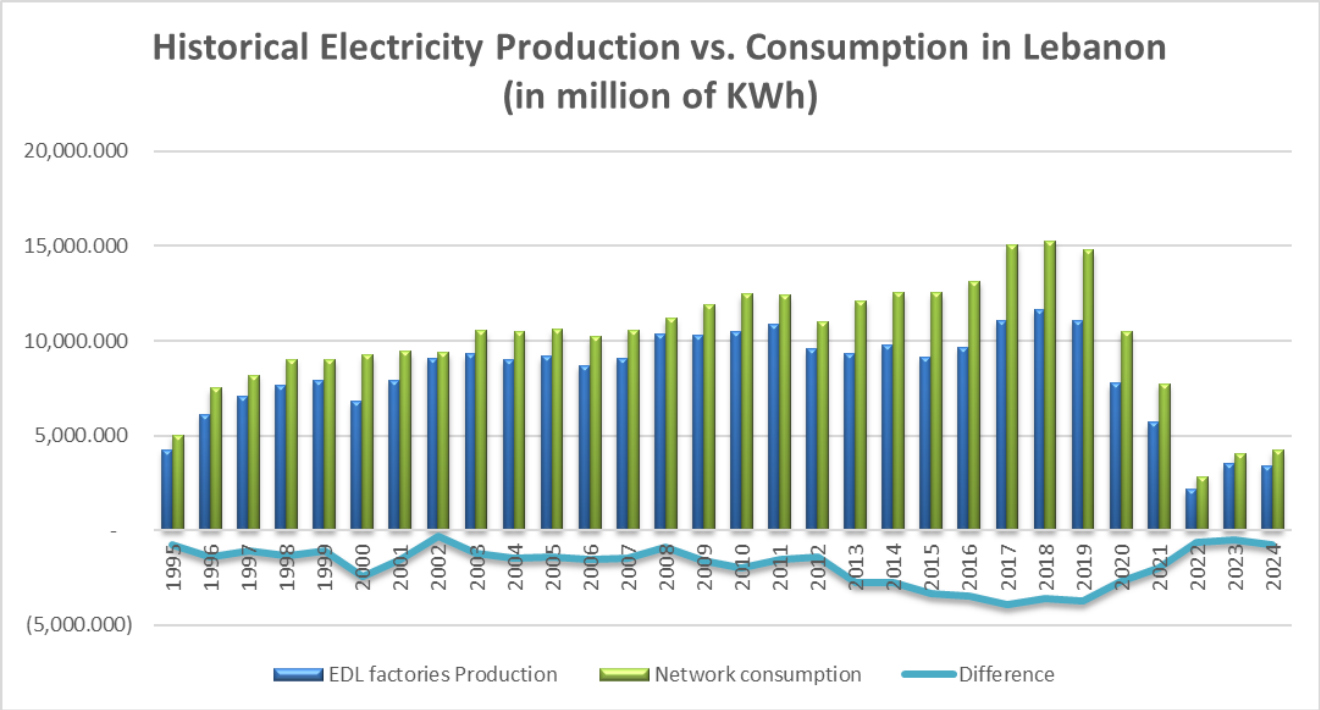
Recent EDL production relied almost entirely on the Iraqi fuel swap and limited hydropower. Demand also fell as electricity became unaffordable, particularly after subsidies were lifted and salaries lost value, leaving around 50% of the population below the extreme poverty line.

The gap between EDL's production and actual network consumption (blue line in the chart below) is filled by private generators. We observe that demand for electricity from private generators has been more severely affected by the crisis than demand for EDL supply, as generator bills are significantly more expensive.

In an article published by Nida Al Watan "*The state loses a Billion dollars yearly from Electricity*", the cost of electricity produced by private generators exceeds that of EDL by around $560 million annually, driven by higher fuel costs. Despite this, private generators make an estimated profit of $490 million yearly, reflecting the unfairly high burden placed on consumers.

If the state were able to provide uninterrupted electricity, supported by urgent reforms such as enforcing bill collection, it could generate profits while simultaneously lowering costs for households, even without resorting to lowering production costs using steps such as relying more on renewable energy. As electricity bills decline for consumers, the demand on dollars will decrease given that generator bills are priced in foreign currency, thereby easing pressure on the Lebanese pound.

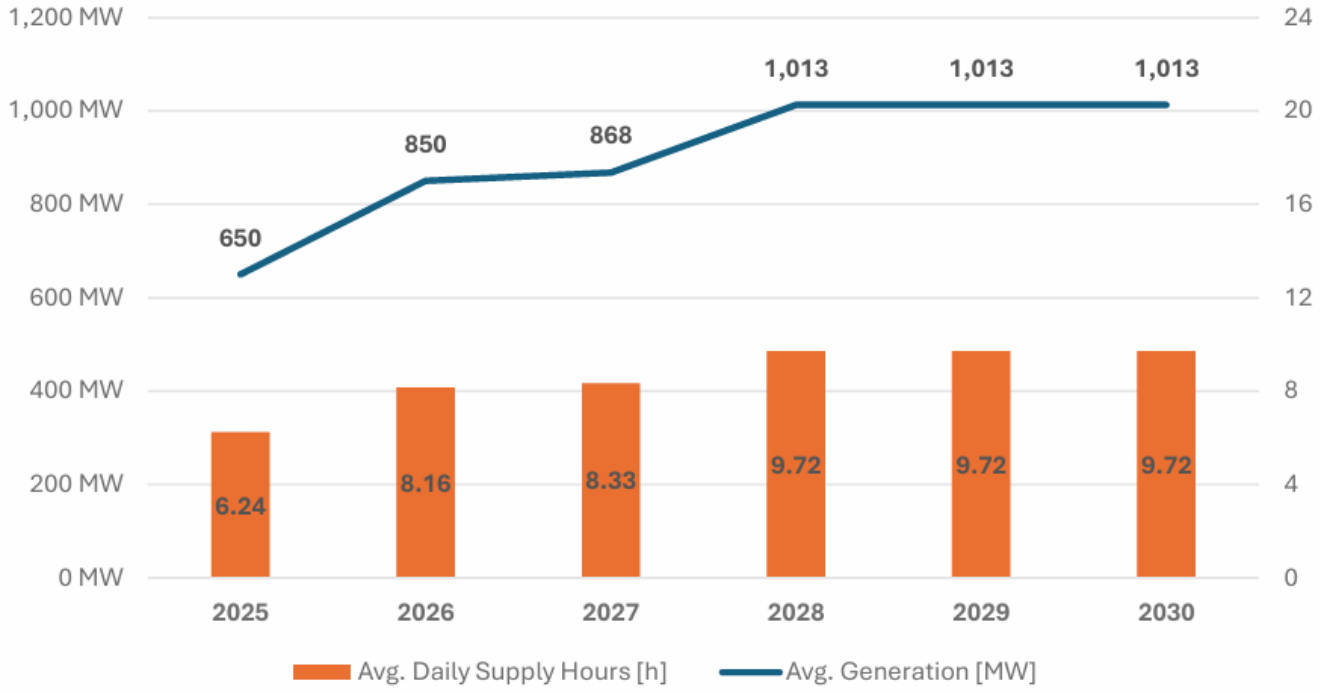
On top of that, heavy reliance on private generators has created serious environmental and health consequences. As per researchers at the American University of Beirut's Nature Conservation Center, pollution levels surged by 300% in 2021, as private generators use rose.



Sources: CAS citing EDL, BLOMINVEST Bank

Following the termination of the Iraqi fuel swap in 2025, EDL must now cover its fuel needs. With World Bank support, it has introduced a new modeling framework that accounts for this shift and the growing role of renewables. On April 24th, 2025, the Lebanese government, through Finance Minister Yassine Jaber, signed a $250 million financing agreement with the WB to implement the Lebanon Renewable Energy and System Reinforcement project. The initiative, to be carried out by EDL and the Litani River Authority (LRA), will scale up renewable energy in the electricity supply mix, strengthen the transmission network and its management, improve EDL's operating efficiency, and rehabilitate critical assets at hydropower plants. Under the updated plan discussed in the CRP published in December 2025, average electricity production is expected to increase from 650 MW in 2025 to 1,013 MW by 2030, driven by optimized use of conventional plants and the gradual integration of utility-scale solar PV projects from IPPs and the WB–funded initiative.

Projected Growth in Generation Capacity and Supply Hours (2025-2030)

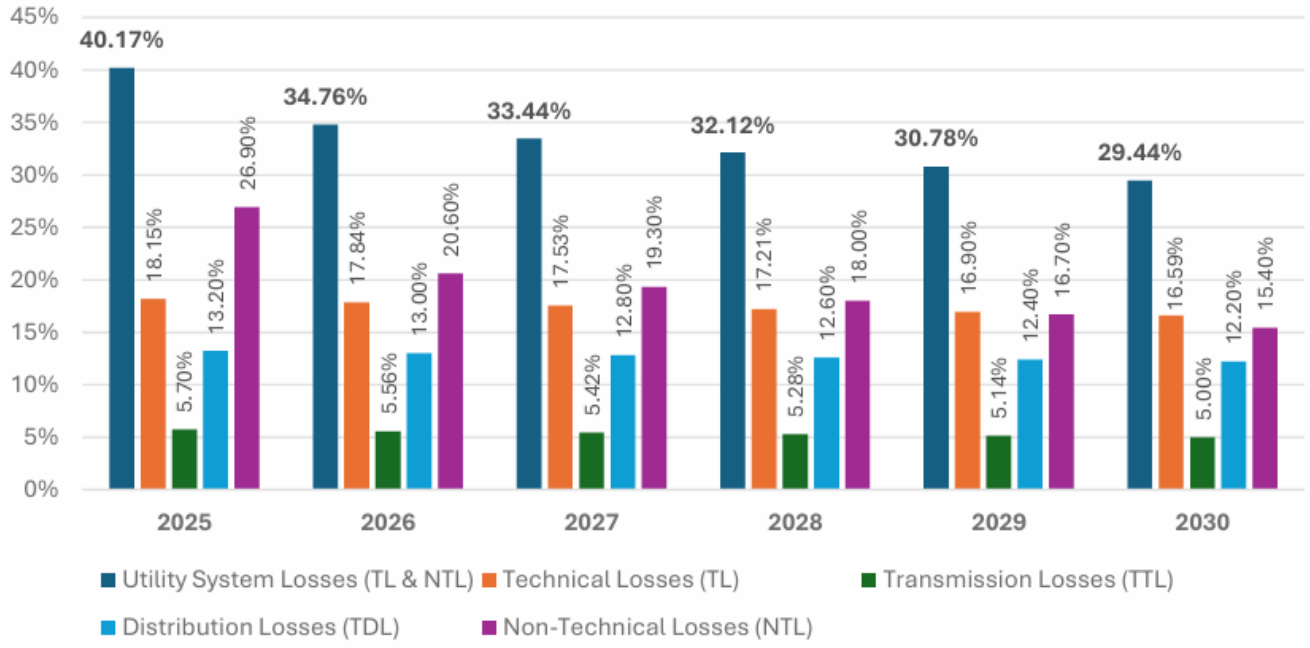


Source: EDL's Cost Recovery Plan (CRP) Addendum - December 2025

The plan combines reduced production costs, stronger revenue collection, and operating program funded entirely by EDL's revenues.

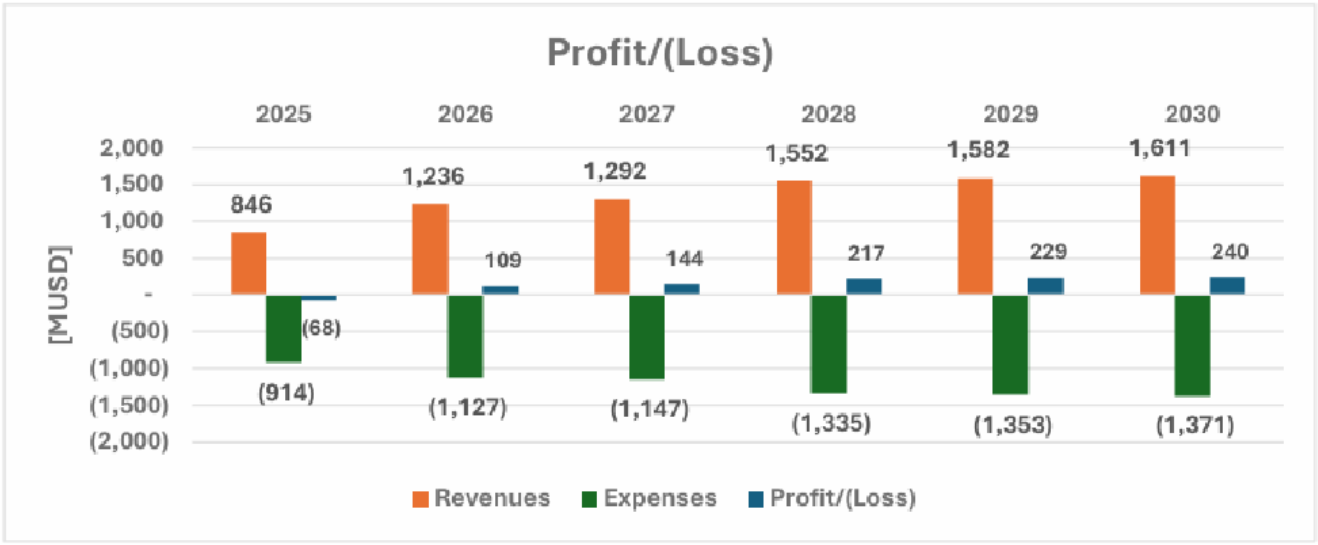
Revenues are projected to grow steadily, supported by reduced losses, stronger bill collection, higher billed consumption from increased supply once the new solar farms are incorporated into the supply system, and stricter enforcement of payments.

Losses Reduction Projection (2025-2030)



Source: EDL's Cost Recovery Plan (CRP) Addendum - December 2025

Operating costs rise in parallel, mainly due to higher generation, but margins are expected to stabilize once new assets reach full capacity. From 2026 onward, EDL is forecast to fully cover operating, fuel, and internal obligations, marking a decisive shift away from reliance on government fiscal transfers.



Source: EDL's Cost Recovery Plan (CRP) Addendum - December 2025

IV. Policy Recommendations for Reform

a. Combating Losses and Corruption

Reform must target both technical and non-technical losses. The gradual implementation of cost-reflective tariffs, aligned with production costs. Equally critical is the modernization of tariffs and billing systems to strengthen revenue collection and restore trust.

Despite the measures taken by the government to ensure generator owners comply with Ministry of Energy pricing, install electronic meters, use filters that meet required specifications, submit permits, and adhere to environmental standards, compliance remains incomplete. Stronger enforcement is still needed, especially since transitioning to alternative options and reforming the state's electricity will take time.

b. Renewable Energy Integration

As outlined in the CRP framework, reforms should accelerate the integration of renewable energy sources, which offer lower variable costs, and expand net metering. This system enables customers who generate renewable energy to feed surplus power into the grid and reduce their bills.

c. PPP and the EDZ Model

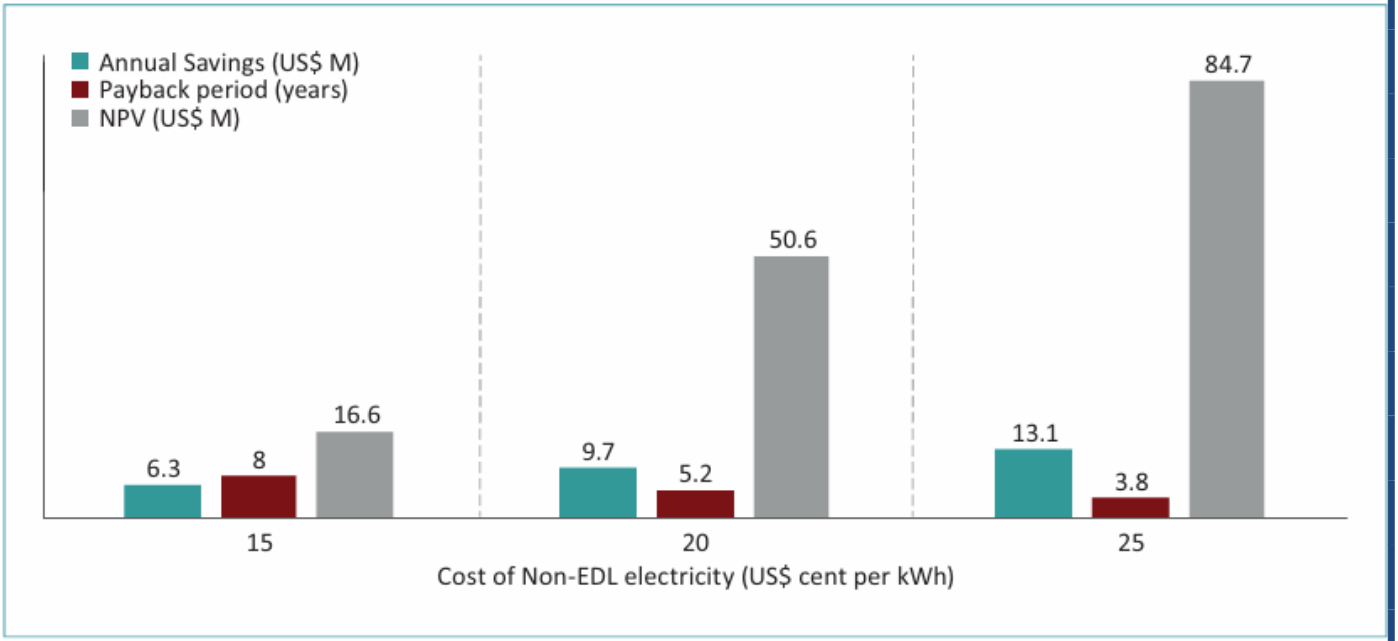
Lebanon's Finance Minister Yassin Jaber has emphasized that the government cannot rebuild electricity production plants solely through public funding, advocating for strengthened public-private partnerships (PPPs) within clear and stable frameworks. He highlighted the Électricité de Zahle (EDZ) model as a successful example of such a partnership.

EDZ operates as a private concession ensuring 24/7 supply to Zahle and surrounding areas, even amidst national financial turmoil and fuel shortages. It distributes EDL power when available and uses diesel generators (via Aggreko) when supply is insufficient.

EDZ's success rests on its close connection with the community and a transparent relationship with citizens, offering fair billing, quick service, and consistent collection in return for payment compliance and safeguarding the network. It pioneered Lebanon's first integrated solar project, introduced net metering, and installed over 10,000 smart meters. It has maintained low technical losses (around 5%), and developed significant expertise in grid monitoring and balancing, crucial for incorporating distributed renewable projects.

The economic viability of integrating renewable energy into EDZ's operations is significant, with solar generation costs being substantially lower than diesel-based generation. This demonstrates the potential for cost savings and reduced reliance on fossil fuels through such models.

Financial impact of a 63-MWp solar PV plant on EDZ's electricity costs. NPV = Net Present Value.



Source: The economics and politics of integrating renewables into electricity concessions in Lebanon

While EDZ stands out as a success story, its nationwide applicability requires careful consideration. Other electricity distributors may struggle to overcome political obstacles, particularly resistance from vested interests in the fuel supply chain and local generator markets. Additional challenges include legal uncertainties resulting from the absence of long-term contracts, and the need for tariff regulation that balances consumer affordability with concession profitability.

Moreover, the model is not without flaws. EDZ previously benefited from government subsidies, paying tariffs to EDL that were lower than appropriate and pricing electricity based on unused original costs, thereby shifting the burden onto the national system. Its scalability is limited, as not all municipalities possess the financial resources and funding, expertise, or political leverage to replicate Zahle's arrangement. Uneven adoption also risks widening regional disparities in electricity access and affordability.

One important point to consider is that private generators are often associated with strong lobbying power —which makes phasing them out difficult—and higher production costs due to the absence of economies of scale. A potential solution is to encourage private generator operators within each region to pool their resources and produce electricity under a PPP model similar to that of EDZ. This approach could help achieve economies of scale and reduce overall costs. With proper government oversight, regional disparities in pricing and service quality would likely diminish. While no model is flawless, this approach could offer a more accountable and cost-effective alternative to the existing setup.

d. Conversion from Fuel to Natural Gas

As per Re-Energize Lebanon: 5 Action Steps to Rebuilding Lebanon's Collapsed Electricity Sector, Natural gas combined cycle plants offer Lebanon the most efficient base load generation. Proposals from major original equipment manufacturers (GE, Siemens, Mitsubishi, Ansaldo) in and prior to 2021 suggest the price to produce electricity through gas-to-grid projects is around USD 0.12/kwh, close to half of EDL's generation cost at the time. Switching to gas would cut emissions, complement renewables, and deliver annual savings exceeding USD 300 million. The estimated investment is USD 2 billion (USD 1.5 billion for plants, USD 500 million for grid and gas infrastructure).

It is noteworthy that Lebanon already has four power plants designed to operate on natural gas: Beddawi (Deir Ammar), Zahrani, Baalbak, and Tyr. The Beddawi plant in North Lebanon can run on natural gas immediately, while the others would require certain modifications before doing so.

Since converting existing plants and developing the infrastructure needed for gas-based electricity production will require considerable time, Lebanon may need a short-term solution. Powerships offer a viable short-term option, as they can quickly supply electricity through onboard gas-fired generators. However, this solution is generally more costly compared with long-term generation strategies.

It is also important to mention that Lebanon signed several gas deals lately.

On December 29, 2025, Lebanon signed a gas-supply agreement with Egypt to power the Deir Ammar plant and increase electricity production. The deal supports Lebanon's shift from fuel oil to natural gas—an option that is cheaper, cleaner, and avoids fuel tender complications. Egypt also pledged technical support for Lebanon's gas sector. In parallel, Lebanon received a Jordanian study for a low-cost gas pipeline connecting Jordan, Syria, and Lebanon through Deir Ammar, which could be completed within three to four months.

In January 2026, TotalEnergies, Eni, and QatarEnergy have signed an agreement with the Lebanese government to explore for gas in Block 8. Under the deal, TotalEnergies will operate the block and hold a 35% stake, while Eni will also hold 35% and QatarEnergy 30%.

V. Conclusion

Lebanon's current electricity system remains inefficient, ineffective, costly, and highly polluting. It is encouraging that the CRP has already shown signs of improvement, with projections indicating that EDL will reach profitability by 2026. Yet, achieving long-term sustainability requires a combination of reforms: reducing losses, tackling corruption, and accelerating the integration of renewable energy. While certain reform measures have been taken, the level of compliance remains uncertain. Expanding solar and net metering will lower costs and reduce dependence on fossil fuels, while switching to natural gas—especially in light of Lebanon's ongoing gas exploration trials—offers a cleaner, cheaper, and more efficient alternative to fuel oil and diesel.

Electricity reform is not just about fixing a utility; it is a catalyst for economic recovery. Reliable and affordable power will support industrial growth, attract foreign direct investment, improve public health by reducing pollution, and provide households with cheaper alternatives to costly private generators. If implemented effectively, Lebanon's electricity sector can shift from a burden to a source of growth and even help reduce the deficit.

For your Queries:

BLOMINVEST BANK s.a.l.

Research Department

Zaituna Bay

POBOX 11-1540 Riad El Soloh

Beirut 1107 2080 Lebanon

Mira Said

mira.said@blominvestbank.com

Research Department

Tel: +961 1 991 784

research@blominvestbank.com