

Power Generation Planning for Lebanon, a MENA Country with a Population of 4M

BACKGROUND

The failure of the Government of Lebanon to reform the electricity sector is causing an annual deficit of 1.5 billion dollars on the public purse and losses on the national economy estimated at not less than \$2.5 billion dollars per year. This crisis is caused by the lack of worthy investments; high fuel bill (62%-75%); the operating status of power plants half of which are old and inefficient and the other half uneconomical; high technical and commercial losses in transmission and distribution; wrong tariff structure and low average tariff; deteriorating financial, administrative, technical and human resources of the Électricité Du Liban company, all this in the presence of convoluted legal, political, and organizational frameworks.

EXECUTIVE SUMMARY

Client Challenges

The Government of Lebanon has been plagued with political deadlock and financial debts for over 25 years. Such hurdles have hindered the reform of the electricity sector, and such delays are increasing both annual deficit and losses on the national economy.

Our Solution

- Chaired the steering committee charged with the development of a global framework for the electric energy sector in Lebanon using a comprehensive policy and a realistic implementation program for the radical rehabilitation and development of the electricity sector
- Liaised with Ministers, Prime Minister, NGOs and donor organizations
- Performed feasibility studies
- Monitored implementation of the above program

Our Intervention's Impact:

- **Increased power generation to meet expected load** by a) rapidly increasing installed capacity in the short term, b) rehabilitating, maintaining, replacing and upgrading of existing plants, c) introducing process for increasing installed capacity using Independent Power Producers, d) increasing the share of hydraulic resources, e) introducing renewable energies including wind and solar farms, and f) encouraging the private sector to adopt the technology of "Waste to Energy"
- **Enhanced transmission infrastructure to evacuate energy** by removal of bottlenecks, reduction of transmission losses, completion of national control center, and building of regional substations
- **Improved distribution infrastructure to manage energy** by enhancing distribution services, developing a distribution management center, introducing new customer services
- **Improved fuel sourcing by planning** for an infrastructure to supply/distribute natural gas, and developing feasibility studies for both an LNG terminal and a coastal gas pipeline
- **Integrated Demand-Side Management / Energy Efficiency** by encouraging the adoption of both new energy conservation law and energy efficient devices, and setting up of National Energy Efficiency and Renewable Energy Account (NEEREA)
- **Developed Norms and Standards / Legal Status** such as rules for green buildings, guidelines for energy efficiency, and plans for the corporatization of Electricité Du Liban, along with legal, administrative and financial frameworks

Short and long term interventions that effected solid change in the Lebanese electricity sector, improved operations, and decreased the deficit:

- **Rapid increase of installed capacity**
- **Increased the share of hydraulic resources**
- **Reduced transmission losses**
- **Increased penetration of solar water heaters**

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Key Client Challenge

The failure of the Government of Lebanon to reform the electricity sector is causing an annual deficit on the public purse and losses on the national economy.

Our Solution

Energy Policy Steering Committee

- Chaired the steering committee charged with developing the energy policy
- Developed the main initiatives and prepared the necessary budgets
- Coordinated the activities with various governmental and non-governmental stakeholders
- Liaised with ministers, prime minister, NGOs and donor organizations
- Prepared all the necessary documentation including reports, budgets, and presentations

Implementation of the Energy Policy

- Led a team of experts in the implementation phase
- Performed feasibility studies
- Prepared expressions of interest, terms of reference for several projects
- Conducted bidding process and performed evaluation
- Negotiated contracts
- Reviewed EIA studies
- Performed tariff studies and assessed impact

Oversight Committee of the Energy Policy

- Monitored performance and evaluated deliverables
- Updated policy as required
- Reported progress of policy implementation regularly to minister

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