Hôtel-Dieu de France (HDF) Leading the Path in Sustainable Development & Renewable Energy

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Introduction

Most institutions, such as HDF, operating in Lebanon compile high energy bills which could reach into the thousands of US dollars per day. The state owned "Electrictie du Liban"(EDL) does not provide sufficient power, imposing the use of generating sets in order to provide for adequate amounts of electricity. The multiple sources, in addition to the amounts spent on fuel for heating, accrue large monetary amounts required for cohesive power throughout the year.
For HDF, electricity consumption has increased due to the proliferation of medical equipment and the increased use of air conditioning systems. The hospital also spends extensively on fuel for the power generating sets and for the heating system. This has encouraged the hospital to look for different power sources to alleviate the financial strain of increased consumption.

Alternative Sources

Despite the fact that Lebanon benefits from approximately two to three thousands hours of sunshine per year, only 1 percent of Lebanese electricity is produced from solar energy. To that point, prior to 2014, solar energy was used almost exclusively for heating water and not for the production of electricity.
The productivity and supply of photovoltaic solar panels increased significantly during the past half-decade. These factors contributed to a significant decrease in the price of panels, which has allowed private consumers to install cost-effective, independent solar power projects.
In addition, several national and international organizations are providing various incentives to encourage the use of renewable energy. Most notably, the Lebanese Central Bank provides a subsidized loan at an interest rate close to zero percent over a period of ten to fourteen years for the acquisition and installation of solar panels. The loan effectively replaces the burdensome initial investment required in solar projects with monthly payments that act similar to electrical bills.

HDF 2020: The Vision

In 2011, the President of HDF launched HDF 2020, a visionary plan to improve the energy efficiency of the hospital. The plan aims to reduce the hospital's energy bill by adopting renewable energy sources and integrating energy optimization solutions.

Renewable Energy

During 2014, the hospital installed 800 m2 of photovoltaic solar panels, a first of its kind for a Lebanese institution. This solar park is expected to produce approximately 200,000 kWh of electricity per year. HDF intends to keep growing its solar park till it reaches 1,000,000 kWh per year. Annual savings are expected to reach 150,000 USD per year as the technology improves.

Energy Recovery

The operation division at HDF has decided to install heat recovery units to existing chillers. These units use the heat produced from the chillers to pre-heat water before it reaches the boilers. This measure has reduced the cost of hot water heating by almost 75%.

Lighting

HDF is replacing all of its existing lights with energy efficient LED lights as well as lighting motion detectors.

Existing and New Premises – Insulation and Sustainable Design

As the hospital continues to expand, and builds or renovates premises, it employs a team of experienced professional architects and designers who combine aesthetics, functionality, and energy performance in their designs.
Each project is subject to an interdisciplinary discussion with specialists in various fields including fluids, air conditioning systems, thermal break windows, double walls, etc.

Results

The measures adopted and installed by HDF will correspond to annual savings in excess of 20% of the current bill.