

### Company Profile

#### Nile Badrawi Hospital

Established in 1985, Nile Badrawi Hospital is one of Cairo's recognized tertiary hospitals and a leading healthcare service provider for the private sector. The hospital facility is a 13-floor building with 139 beds, four operating rooms, a radiology department, laboratory, and oncology center. Nile Badrawi has developed several specialties and delivers complex treatments, such as IVF services, neonatal care, organ transplant and open-heart surgery. The hospital also specializes in internal medicine, physiotherapy, cardiac care, pediatrics, dentistry, oncology, gynecology and obstetrics, endoscopy and general surgery. Nile Badrawi's mission is to deliver the highest standard of healthcare services in a safe, reliable and caring environment.

### The Challenge

In line with growing prosperity in Turkey, food consumption outside the home has been increasing significantly. The market for 'food-away-from-home' has almost doubled in the last 5-6 years, reaching \$20 Billion USD mainly due to increasing disposable income, urbanization, a young population and changing eating habits. As a trend, the concept of fine food has been emerging, which has resulted in increasing demand for high-quality food products. Koza is well equipped to serve customer needs for high-quality products, mainly through imports. However, due to constant changes in regulation, the importing process has become more challenging in Turkey, resulting in an increased carbon footprint, more expensive products and issues with product availability.

The infrastructure of the hospital has sustained with minimum investment throughout the years, leading to a lack of quality electromechanical equipment, innovative environment friendly measures and most importantly quality accreditations compliance. Nile Badrawi management identified the following main areas of concern:

#### Medical oxygen supply

The medical oxygen supply had several issues, including:

- Vendors had been supplying oxygen in cylinders on a daily basis which faced occasional delays.
- Manual handling of oxygen cylinders from transportation vehicles (i.e. loading and unloading) carried high hazard risks
- The store area (station) was not located in a concise safe place, shared with other electromechanical equipment. and the price of cylinders were rising periodically.
- Prices of oxygen cylinders were rising periodically and was becoming an expensive option for the hospital.

#### Lighting

The hospital had been using traditional bulbs that were consuming more power, representing 30% of the total energy bill. Although energy prices were subsidized, the subsidy was being diminished gradually with periodic increases.

#### Water heater

Boilers were used for heating domestic water costing around Egyptian Pound 450,000 (approximately \$ 32,430 CAD) per year. There was also a safety risk with the fuel tanks being located in the hospitals basement.

#### Firefighting and alarm system

The water pipes were not fire rated and the alarm system did not localize fire locations with adequate sensors that were covering all hospital areas. The system was mainly dependent on manual extinguishers.

### The Sustainability Innovation Grant (SIG)

In October 2016, Nile Badrawi was awarded a \$117,282 CAD Sustainability Innovation Grant (SIG) from Global Affairs Canada through a project managed by Menonite Economic Development Associates (MEDA). The company planned to invest \$238,118 CAD of its own funds to implement the SIG activities. The main purpose of the SIG initiative was to develop and upgrade hospital's current infrastructure with a special focus on improving HSE (health, safety, environment) standards that meet Joint Commission International (JCI) requirements, through the following four initiatives.

1. Replacing the use of traditional oxygen tanks with an in-house oxygen generator.
2. Replacing the current lighting systems from traditional incandescent lighting to energy efficient LED powered bulbs.
3. Replacing boilers with solar powered water heaters
4. Upgrading the fire fighting and alarm systems to include fire tracking and fire suppression sprinklers



The company believed that the above upgrades would benefit the community, hospital staff and patients. Through the availability of an optimum oxygen systems, the hazards from traditional tanks will be reduced and ensure quality of oxygen that is transferred to the patient in both the operating rooms and intensive care units. Through introducing energy savings lighting systems, the hospitals will aid in Egypt's energy saving programs, decrease monthly costs in addition to reduction maintenance costs. Through solar powered water heaters, fuel consumption will be eliminated hence cost savings, in addition to safety due to removing fuel tanks from the basement of the hospital. Fire alarm upgradation will ensure maximum safety and is basic requirement for any healthcare facility.

The greater community and environment will also benefit from installing LED lights and solar heaters as the carbon emissions will be minimized in comparison to the existing systems. As for the oxygen generator, it will benefit the community as the logistical handling noise of transporting tanks effecting the neighborhood will be diminished as well as reducing the carbon emissions caused by the daily delivery of the oxygen tanks. Installing a proper firefighting system will benefit the community in assuring the public of its safety from within the hospital and the surrounding buildings. Lastly, the SIG initiative will improve business performance of the company by reducing cost associated with electricity.

### SIG Impact

The SIG initiative has not been launched yet due to delays in procuring equipment from abroad. Frequent devaluation of local currency (i.e. Egyptian Pound) also contributed in delaying the implementation of the SIG. However, although the project did not start, the company management and staff are optimistic and keen to implement all SIG activities in 2018.



### Sustainability

All proposed projects are long-term and require hospital management and project partners to follow up, maintain and measure the impact of the initiative. The hospital's strategy is to develop state of the art electromechanical and safety compliant infrastructure. The hospital plans to implement this strategy through a team of well trained and informed medical and non-medical staff.

Once implemented, Nile Badrawi's sustainability initiative will contribute to the Sustainable Development Goal # 7— Affordable and Clean Energy.

#### 7 AFFORDABLE AND CLEAN ENERGY



### Lessons Learned

The company learned that cost saving elements such as solar heater and oxygen generators of the project needed to be prioritized in the face of challenges resulting from macroeconomic changes that occurred in Egypt, especially with the devaluation of the local currency. The project timelines need to be realistic especially if the project involves importing equipment from abroad.

