

## **Green Buildings – Making business and Environmental sense**

Lebanese are awakening from a deep environmental slumber when it comes to green design, with the realization that environmental measures and awareness start literally from one's home. **Hayek Group, Eco Design – Architects and BHN Holding s.a.l** are proud to present the **first residential Green Building in Lebanon, Achrafieh Green Tower.**

Green buildings practices in **Lebanon** and worldwide have proven they can substantially reduce or eliminate negative environmental impacts through high- performance, market leading design, construction and operations practices. They reduce operating costs, enhance building marketability, increase occupants' productivity and lessen potential liabilities from indoor air quality problems.

There are 5 major categories to cover in a Green Building Design:

### **Sustainable Sites:**

Promote responsible, innovative and practical site design strategies that are sensitive to plants, wildlife, and water and air quality. These sites also mitigate some of the negative impacts buildings have on the local environment.

Sustainable sites design promotes the following measures:

- Selecting and developing the site wisely.
- Reducing emissions associated with transportation.
- Planting sustainable landscapes.
- Protecting surrounding habitats.
- Managing storm water runoff.
- Reducing the "Heat Island Effect".
- Eliminating light pollution.

### **Water Efficiency:**

Green building designs encourage the use of strategies and technologies that reduce the amount of potable water consumed in buildings; many water conservation methods bear negligible costs or provide rapid pay- back. Water efficiency in green building designs promotes the following measures:

- Monitoring water consumption performance.
- Reducing indoor water consumption.
- Practicing water efficient landscaping.

A reduction in water consumption decreases building operating costs and brings about wider economic benefits. It allows municipalities to lessen or defer the capital investment needed for water supply and wastewater treatment infrastructure.

### **Energy & Atmosphere:**

The energy performance of a green building depends on its design. It reduces the amount of energy required for building operations and uses more benign forms of energy. If real time monitoring is incorporated into the building energy system, the design team can see how the building responds to sunlight, moisture, temperature and other environmental conditions.

The Energy & atmosphere of green building design promote these kinds of activities:

- Tracking building energy performance through designing, commissioning and monitoring.

- Managing refrigerants to eliminate the release of Chlorofluorocarbons (CFCs) which destroy the ozone molecules.

- Promoting the use of renewable energies: photo- voltaic, wind, hydro, wave, tidal, bio- fuel based, and geothermal and solar power.

### **Materials and Resources:**

Green buildings encourage responsible construction and material selection as well as affective waste management. These promote:

- Selecting sustainable materials.

- Practicing waste reduction.

- Reducing waste at its source.

- Reuse & Recycling.

Operations and building management can effectively reduce a building's overall impact on the environment with waste management progress and purchasing policies that reduce waste and specify its harmful materials & supplies.

### **Indoor Environmental Quality:**

Green buildings address environmental concerns relating to indoor environmental quality, occupants' health, safety, comfort, energy consumption, air ventilation effectiveness and air contaminant management.

The following strategies are important for addressing these concerns and improving indoor environmental quality:

- Improving ventilation.

- Managing air contaminants.

- Specifying less harmful material.

- Allowing occupants to control desired settings.

- Providing daylight and views.

All these issues have the potential to enhance and optimize the quality of indoor environments for occupants.



In short, green design construction and operation have environmental, economic and social elements that benefit all building stakeholders including owners, occupants and the general public.

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