

# LEED GOLD

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## LOS OFFICE BUILDING GETS CERTIFIED

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The delivery of any LEED (Leadership in Energy and Environmental Design) project requires consistency in providing documentation from the early phases of design until the end of the construction. Large projects generally allow for a multidisciplinary team with a full-time project manager, a general contractor and a dedicated LEED site coordinator. The procedures required by the certification and their implementation on a daily basis become much easier, and this certainly helps the smooth delivery of a LEED certification.

Green building certification is possible for most building projects. However, of fifty-four projects registered for LEED certification in Lebanon, only eleven have, so far, completed the certification (as of March 27, 2019). EcoConsulting, a leader in this sector since 2008, is the LEED consultant for seven certified projects. Looking at the size of the certified buildings in Lebanon, all except one can be considered large projects with built-up areas ranging from 5,000 to 100,000 m<sup>2</sup> (excluding basement parking). The LOS Office Building stands out with a constructed area of just 1,700 m<sup>2</sup>.





Since the start of the building design in 2015, Imad Ladhani, Assistant General Manager at LOS, insisted on having their new head office building certified according to the LEEDv3 for New Construction standard with the Gold level in mind. After the LEED strategy was set by EcoConsulting, all the team members participated in a collaborative way towards the successful achievement of this goal which was attained in early 2019. Through the NEEREA program, this LEED Gold building was eligible for a loan equivalent to 35% of its construction costs, at an interest rate of around 1%. In this case, the financial incentive from the Central Bank of Lebanon to all green building projects was certainly one of the major reasons for applying for LEED.

### ENERGY EFFICIENT DESIGN

The LOS Building features one fully glazed curtain wall on the Eastern façade with a high performance low-E glazing (low U-value of 1.3 W/m<sup>2</sup>.K) and a SHGC of 0.36 to reduce the solar heat gain to the occupied spaces. The western façade has a reduced windows-to-wall ratio with small windows openings. Exterior walls are made of 30 cm thick concrete providing a good thermal mass. The roof is insulated with 5 cm extruded polystyrene and shaded by photovoltaic panels.

Other eco-features of the project include:

- Efficient Variable Refrigerant Volume (VRV) air conditioning system for heating and cooling with a high coefficient of performance.
- LED lighting throughout the building. Exterior lighting design reducing light pollution by minimizing up-lighting and light trespass from the building.
- A large photovoltaic array, forming a 70 m<sup>2</sup> pergola on the roof. The 11.88 kW<sub>p</sub> system aims to produce ~18,000 kWh electricity/year, providing 16% of the building's total energy consumption directly from the sun.
- Energy sub-meters, allowing the building operators to accurately track energy consumption.
- The WCs, taps and showers are selected to have low water consumption.
- Solar water heaters for domestic hot water.
- Collection of the AC condensate for internal reuse, reducing water consumption significantly.
- Vegetated paving, native plants, drip irrigation and bicycle racks.

The LOS Group in Lebanon has shown that green building certification is possible even for small projects. A small and dynamic team can be an advantage in the decision-making process during the design and construction. And, this is particularly true when the owner is eco-minded and personally involved in the design stages as was the case for this LEED Gold building. Hopefully other building owners will be inspired by this case study to build the green way.