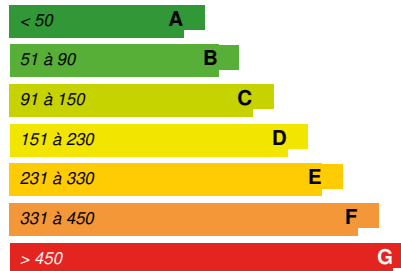


Maison Notre Dame du Mont

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Renovation

2



Building Type : Hotel, boarding house

Construction Year : 1991

Delivery year : 2015

Address 1 - street : 01 Fatka main street 1401 FATKA, BYBLOS, Libanon

Climate zone : [BSH] Subtropical Dry Semiarid (Steppe)

Net Floor Area : 4 300 m²

Construction/refurbishment cost : 159 999 €

Number of Bedroom : 181 Bedroom

Cost/m2 : 37.21 €/m²

General information

Maison Notre Dame du Mont in Fatkais one of the reference hostels in the area.

Maison Notre Dame du Mont premises consists of a two main parts:

§ A four stories nursing home comprising 61 rooms with individual bathrooms

§ A four stories hotel comprising 120 rooms with individual bathrooms, 1 central kitchen, 1 laundry, and 1 reception area with dedicated toilets.

This facility is a convent which can accommodate up to 181 residents. Thenursing home is inhabited by 61 people all year long. Whereas for the occupancyof the hotel, we assume that on average, the hotel is inhabited by 90 people onaverage all year long. Throughout the period of occupancy, the facility iscontinuously operational, since it is considered as a domestic living space.

A central domestic hot water system is installed for the entireproject. It is consisting of 4 boilers (used also for heating) located in atechnical room in Hotel's basement and the following hot water storage tanks:

1. One hot water storage tank having 1500L of capacity serving NursingHome, with circulating pump, located in the same technical room.
2. A hot water storage tank having 1500L of capacity for Hotel first andsecond floors, with circulating pump, located in the same technical room.
3. A hot water storage tank having 750L of capacity for Kitchen andLaundry, with circulating pump, located in the same technical room.
4. A hot water storage tank having 1500L of capacity for Hotel third andfourth floors, with circulating pump, located in the a technical room atHotel's roof.

See more details about this project

<http://www.saintefamille.org/>

Stakeholders

Stakeholders

Function : Company
DAWTEC

address: Dawtec, Lemec center, Furn El Chebbak, Baabda - LEBANON Tel/fax - LEBANON:+961-1-288688 Mobile - LEBANON:+961-70-288688 Tel - GERMANY:+49-15229046069 Email: dawtec@dawtec.com

<http://www.dawtec.com/>

Consultancy design and contracting for Renewable Energy solutions

Contracting method

Maximum Guaranteed Price

<https://www.construction21.org/data/sources/users/15194/management.docx>

If you had to do it again?

We execute the same system

Energy

Energy consumption

Primary energy need : 258,69 kWhpe/m².year

Primary energy need for standard building : 250,00 kWhpe/m².year

Calculation method :

CEEB : -0.0001

Breakdown for energy consumption : This project has studied the energy consumption for hot water only

Initial consumption : 258 693,00 kWhpe/m².year

Envelope performance

Envelope U-Value : 0,42 W.m⁻².K⁻¹

More information

As previously noted, the yearly thermal energy required for domestic hot water usage of the facility is around 258,693.23 kWh. This energy is currently provided by a Diesel boiler system composed of 4 boilers heating 4 water tanks of total capacity 5,250 Liters. The boiler system is assumed to have constant Diesel consumption and constant energy production for thermal energy for water heating all around the year because of the regular occupancy of the facility.

The proposed solar water heating system consists of 255 square meters of Solar Pergola area that are expected to generate around 256,019.09 kWh of thermal energy yearly.

The energy coverage of the solar water heating system covers approximately 83% of the yearly energy demand for hot water consumption.

Real final energy consumption

Final Energy : 258,69 kWhfe/m².year

Real final energy consumption/m² : 256 019,00 kWhfe/m².year

Real final energy consumption/functional unit : 256 019,00 kWhfe/m².year

Year of the real energy consumption : 2 015

Renewables & systems

Systems

Heating system :

- Solar thermal

Hot water system :

- Solar Thermal

Renewable systems :

- Solar Thermal

Renewable energy production : 83,00 %

Products

Product

Solar Pergola

Product category :

The Pergola Solar System is an innovative product offering an architectural solution to a mechanical system without affecting its performance. This system transforms solar energy into thermal energy for use in various applications such as Pool Heating, Water Heating, Space Heating, Process Heat and Solar Air Conditioning while preserving an aesthetic image. The Pergola Solar System being the only solar system with absorbers installed at 0 degree of inclination and having a system structure that can be constructed from a wide variety of materials makes the Pergola Solar System a unique design for Solar Water Heaters.

The diversity of materials and colors present an added value to the system, as the structure could be made from wood, aluminum, colored steel, stainless steel... to suit different architectural needs.

The Pergola Solar System was patented in 2009 (Patent No. 8589 - Ministry of Economy and Trade – 2009). This keeps the Pergola Solar System away from the competition whirlpool.

The Pergola Solar System is a pioneering product outweighing all standard type solar systems available in the market. Its uniqueness increases its commercial value.

The Pergola solar system can be easily expanded or upgraded on demand

The Pergola Solar System is a pioneering product outweighing all standard type solar systems available in the market. Its uniqueness increases its commercial value.

Costs

Construction and exploitation costs

Global cost : 35 000 000,00 €

Reference global cost : 50 000 000,00 €

Renewable energy systems cost : 159 999,00 €

Global cost/Bedroom : 193370.17

Reference global cost/Bedroom : 50000000

Cost of studies : 1 000 €

Total cost of the building : 25 000 000 €

Subsidies : 24 000 €

Energy bill

Forecasted energy bill/year : 9 000,00 €

Real energy cost/m² : 2.09

Real energy cost/Bedroom : 49.72

Contest

Building candidate in the category



Renewable energies



