



BEST ENVIRONMENTAL PRACTICES FOR THE HOTEL INDUSTRY

CANDLES HOTEL

Madaba, Jordan

HOTEL IN BRIEF

The Madaba Inn Hotel is a three-star hotel located on Yarmouk Street in the centre of Madaba. The hotel was established as one of the hotels belonging to the Social Security Corporation in 2005. The hotel has 33 rooms, one restaurant including a ball-room, one kitchen, one laundry, one coffee-shop, one bar and one meeting room. The hotel registered 8'522 guest overnight stays in 2007 and has a total of 28 employees. The environmental audit was conducted with the manager, Mr. Barjas Ma'ayeh, on September 15, 2008.



MANAGEMENT CONSIDERATIONS

In spite that no environmental management system is established in this hotel, the management is motivated to improve its current environmental and economic performance through the application of cleaner production.

The manager wishes to reduce his energy bill that has soared drastically in the last years, mostly because of the increase in oil prices. Measures to reduce water consumption have already been implemented.

The hotel management wishes to apply the Guide of Best Environmental Practices (BEP) for the Hotel Industry mainly to reduce costs related to energy consumption. This should be achieved through good housekeeping measures and investments in equipment allowing significant annual savings.

ENVIRONMENTAL ASSESSMENT

Water is provided by the municipal network. The water taps and showers are of arm lever type and the toilet is a dual flushing system. Towels are changed daily even if the same customer stays more than one day. The municipal water consumption in 2007 was 4'054 m³. Figure 1 shows the water consumption in m³ per overnight stay for different periods.

Diesel is the most important energy source for the hotel in terms of end energy and costs, as shown in Figure 2. Air conditioning and heating in the rooms and hotel departments are provided by split units. The common areas are cooled and heated by a central chiller. Windows are double-glazed. Electrical stand-by heating units exist in the ball room that may be used in case of emergency. When the door of a room is closed, the air conditioning is automatically switched off. Lighting is provided by energy-saving light bulbs instead of classic light bulbs. Hot water for domestic use is produced using two diesel boilers – one in operation, the other on stand-by. There is a sand filter followed by two water softeners used to treat the boiler water but currently they are not in use because of the high amount of reject water generated during backwash. The hot water lines in the boilers room are well insulated. The diesel consumption in 2007 was 11'995 L. The total energy consumption in 2007 was 177'481 kWh. The BEP Guide proposes several measures to reduce diesel consumption (solar panels, more energy-efficient boilers, etc.). It is also proposed to install solar panels to partially supply hot water.

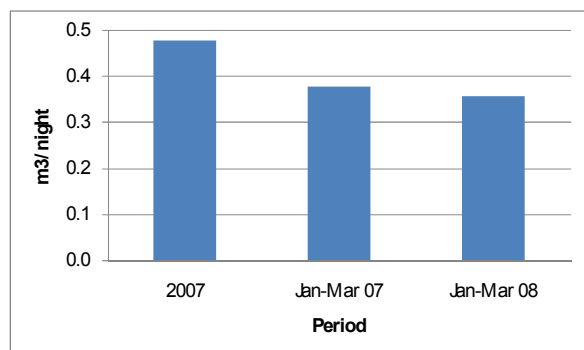


Fig 1 : water consumption per overnight stay

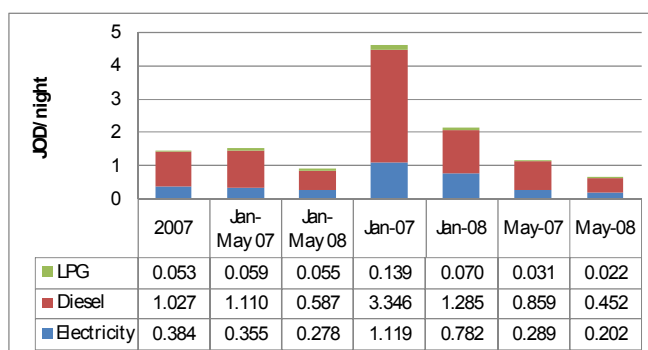


Fig 2 : energy consumption costs per overnight stay

ACTION PLAN

Environmental objective	Action & means	Expected results	Investments	Annual savings
Reduce the overall energy consumption of the hotel by setting a priority on the reducing consumption of diesel for hot water provision	<ul style="list-style-type: none"> Install two new energy-efficient diesel boilers 	<ul style="list-style-type: none"> Reduction by about 12% of the diesel consumption 	4'500 JOD	1'050 JOD
	<ul style="list-style-type: none"> Use solar panels to heat water for the guest rooms 	<ul style="list-style-type: none"> Reduction by 50% of domestic hot water costs of the hotel Use of an indigene and clean energy source 	12'000 JOD	4'400 JOD

LESSONS LEARNED

The hotel management is aware of environmental issues and of the economic benefits that environmental action can bring in the energy domain. However, other domains covered by the BEP Guide such as waste and purchasing policy are not considered by the management as relevant, although economic savings can also be achieved. Efforts made by the hotel to reduce water consumption are fruitful, proving that efficient measures exist that do not cut on guest's comfort and that bring economic benefits on the long term. As for diesel consumption, the management has the choice between increasing the efficiency of its heating system or opting for a new heating system, i.e. solar heating. Improving the efficiency of the heating system will also contribute to lower the water consumption. Moreover, the annual savings from an energy-efficient seem low in comparison to the investment, but one should bear in mind that with ever rising oil prices, the savings will also increase.

Awareness raising initiated by the hotel management is essential. Indeed, the hotel staff are the 'greening actors' as they implement the eco-efficiency measures on a daily basis. Energy issues should be addressed in priority, followed by water, waste management and logistics, and finally the purchasing policy and the noise as well as air quality and landscape integration. It must be noted that many measures have positive effects in more than one environmental domain. Furthermore, all measures implemented by the hotel should be communicated to the local and foreign guests who are becoming ever more aware of environmental protection. This communication can be used as a 'green marketing' tool. The ultimate goal can be an environmental management system (ISO 14'001 or EMAS) or an eco-label. Finally, as Madaba Inn Hotel is the biggest and highest ranking hotel in Madaba, the adoption of an environmental management system or of an eco-label could trickle down to the other hotels of Madaba.

FOR FURTHER INFORMATION

WITH THE SUPPORT OF



ROYAL SCIENTIFIC SOCIETY (ERC/RSS)
www.cp.org.jo



SUSTAINABLE BUSINESS ASSOCIATES (sba)
www.sba-int.ch



UNIVERSITY OF APPLIED SCIENCES OF NORTHWESTERN SWITZERLAND (FHNW)
www.fhnw.ch



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confedraziun Svizra

Federal Department of Economic Affairs FOA
State Secretariat for Economic Affairs SECO

The Guide of Best Environmental Practices for the Hotel Industry was developed by sba with the participation of the Royal Scientific Society. This Guide presents eco-efficiency measures adapted to the hotel industry of the Mediterranean countries in order to reduce their impact on the environment. These measures are built on sba's experience in the field of environmental management. Cost-efficient and easy to implement, they constitute the first step towards sustainable tourism.