



BEST ENVIRONMENTAL PRACTICES FOR THE HOTEL INDUSTRY

SILK ROAD HOTEL

Petra, Wadi Mousa, Jordan

HOTEL IN BRIEF

The Silk Road Hotel is a 3-star hotel located in Wadi Mousa near the entrance to the archaeological site of Petra. It was established in 1997 by a family business who partnered with a private investor. It has 23 rooms, one restaurant, one kitchen, one coffee-shop and one Turkish bath. It registered 5'011 guest overnight stays in 2007. The hotel has a total of 22 employees. The environmental audit was conducted with the manager, Mr. Ahmed Alhelali, on July 10, 2008.



MANAGEMENT CONSIDERATIONS

In spite that no environmental management system is established in this hotel, hotel manager shows concern for environmental issues with the aim of saving money.

The manager wishes to install several air conditioning split units in order to avoid using the central chiller for better efficiency. Indeed, the central chiller provides cooling for a minimum of 7 rooms once turned on. During the hot season which also corresponds to low room occupancies, energy is thus lost in unnecessary cooling.

The hotel management wishes to apply the Guide of Best Environmental Practices (BEP) mainly in order to reduce costs related to water and energy consumption as well as to provide a base for planning all activities related to environmental management. The results of implemented measures such as good housekeeping and investments in equipment should be monitored in order to take appropriate action according to the current situation.

ENVIRONMENTAL ASSESSMENT

Water in the hotel is supplied by the municipal network. No water saving measure has been implemented yet. Indeed, no mixers are installed on taps and showers and toilets are single flushed. Some taps do not work due to scale. The overall water consumption between January and September 2007 was 1'674 m³. Water consumption in each department (rooms, Turkish bath, kitchen, etc.) is not known. Figure 1 shows the water consumption in m³ per overnight stay for different periods. One can see that the consumption has decreased significantly in 2008 for the period between January and March. It is assumed that the Turkish bath is an important source of water consumption and thus creates variations in time.

Diesel and electricity are the most important energy sources for the hotel in terms of end energy and costs, as shown in Figure 2. The manager has a control board for air conditioning consumption, especially to detect high loads. The hotel is lighted by halogen light bulbs. The electricity consumption in 2007 was 86'993 kWh. Two diesel boilers without insulation provide the hotel with hot water for domestic use and heating and two other boilers supply the Turkish bath. The western façade is known to be cold in winter. The diesel consumption from January to November 2007 was 6'847 L. The total energy consumption (LPG, diesel and electricity expressed in kWh) in 2007 was 198'431 kWh. The BEP Guide proposes measures to reduce energy consumption such as better insulation of hot water pipes. It is also proposes to install solar panels in order to partially supply hot water.

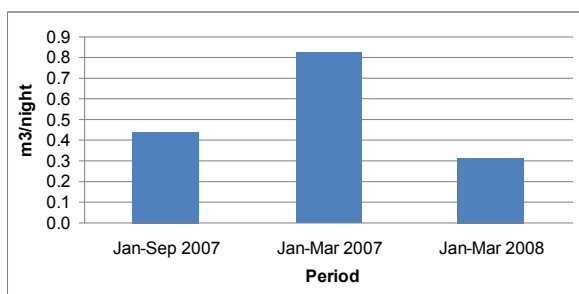


Fig 1 : water consumption per overnight stay

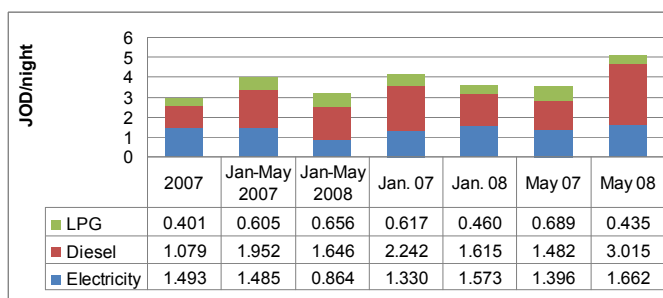


Fig 2 : energy consumption costs per overnight stay

ACTION PLAN

Environmental objective	Action & means	Expected results	Investment	Annual savings
Reduce water consumption in rooms without cutting on guest comfort	<ul style="list-style-type: none"> Install low flush toilets consumption 4.2 litres/flush instead of 13.2 litres/flush 	<ul style="list-style-type: none"> Reduction by about 70% of water consumption through toilet flushing 	4'200 JOD	1'300 JOD
Reduce the overall energy consumption of the hotel by focussing on the consumption of diesel for hot water supply	<ul style="list-style-type: none"> Use solar panels to heat water for the guest rooms 	<ul style="list-style-type: none"> Reduction by 80% of the diesel consumption Use of an indigene and clean energy source 	9'700 JOD	4'300 JOD

LESSONS LEARNED

The hotel management is aware of environmental issues and of the economic benefits that environmental action can bring in the water and energy domains. As for waste disposal, there is an urgent need for action on behalf of the local authority, i.e. Petra Regional Authority. Indeed, the hotel is willing to carry out recycling but no local recycling market, private or public, exists. Instead, scavengers search the waste containers, thus threatening their health. Hence, it is proposed that the hotels of Petra lobby for the establishment by the Petra Regional Authority of a local recycling market, allowing improving the environment of Petra and create new jobs in a sustainable way. Procedures regarding safety and health of both guests and staff of the hotel are carefully followed thanks to the supervision of the hotel manager. To limit noise emissions, double-glazed windows can be installed that will also reduce cooling and heating costs.

Awareness raising initiated by the hotel management is essential. Indeed, the hotel staff is the 'greening actor' as they implement the eco-efficiency measures on a daily basis. Water and energy issues should be addressed in priority, followed by waste management and logistics, and finally the purchasing policy and noise, air quality and landscape integration. It must be noted that many measures have positive effects in more than one environmental domain. Moreover, 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.

FOR FURTHER INFORMATION

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*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.*