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No. 62
Pollution prevention case studies

Pollution prevention in a Tunisian hotel

Company Hotel Caravane Serail is a 50-employee, 399-bed hotel located at Nefta, Southern Tunisia, at the gateway to the Sahara Desert. Approximately 300,000 guests per year stay at the hotel, 95 per cent of whom come from outside Tunisia.

Industrial sector Hotel.

Environmental considerations The area in which the hotel is located is faced by a major problem of water scarcity. In this respect, water charges to be paid by the hotel represented 43% of the total utility expenditures (water, electricity, fuel). Therefore, water conservation was seen as a need from both the environmental point of view and the economic point of view.

Background A pollution prevention audit was carried out at the hotel by the Tunisian Cleaner Production Centre (CP3). The main areas to be dealt with were identified as described below:

- Water consumption: the hotel used between 70 and 200 m³ per day.
- Water quality: calcium and sand particulates in the water corroded and damaged the pipes and other equipment with which the water comes into contact. Such equipment must be replaced or repaired more frequently than normal.
- Electricity consumption: Electricity was used for heating, lighting, air conditioning, water heating, refrigeration, the swimming pool, and office. Electricity represented 50% of total utility costs.
- Propane: Propane was delivered in returnable pressurised tanks and was used to operate the machines in the laundry room and the ovens in the kitchen. Propane represented 7% of total utility costs.

Summary of actions and balances

The alternatives for pollution prevention at the hotel identified by the audit conducted by CP3 are summarised below:

Area	Pollution Prevention Measure	Environmental Benefit	Investment € (ECU) ¹	Financial Benefit € (ECU)/Year	Payback Period
Hotel management	Elaboration of a preventive maintenance programme	Efficient functioning of hotel equipment	None	Non-quantifiable: > efficiency	Immediate
Swimming pool	Installation of a pool cover	Reduction of evaporation and water conservation	122.4	310.1	5 months
Gardens	Watering in the evening; use of a special sprinkling system; use of xeriscaping ²	Reduction of water consumption	Minimal	3,427.45	Immediate
Rooms	Installation of water aeration devices	Reduction of water consumption	473.31	836.46	7 months
Rooms	Development of a towel/linen card system and training of personnel in its use	Reduction of water consumption and less wear and tear on hotel linen	106.08	136.28	9 months
Rooms	Use notices to encourage guests to conserve water	Reduction of water consumption	Non-quantifiable	Non-quantifiable: depending on involvement of customers	Non-quantifiable
Kitchen	Installation of water aeration devices	Reduction of water consumption	8.16	375.38	Immediate
Pump room	Redesigning of water tanks; water filtering and softening	Improvement of water quality; reduction of wear and tear on equipment	Non-quantifiable	1,301.62	Non-quantifiable
Engineering	Switching off equipment when not in use; use of energy-saving equipment	Energy conservation	Non-quantifiable	1,828	Non-quantifiable
Propane gas	Repair leaks; turning off stoves and laundry machines when not in use	Reduction of propane consumption	Non-quantifiable	Non-quantifiable	Non-quantifiable
Solid waste	Use of amenity dispensers in bathrooms; purchasing policy	Reduction of waste	Non-quantifiable	Non-quantifiable	Non-quantifiable
TOTALS			710 + non-quantifiable costs	8,242.21	

¹ Exchange rate of 01/01/95: 1 US\$ = 0.82 ECU (www.oanda.com/convert/classic).

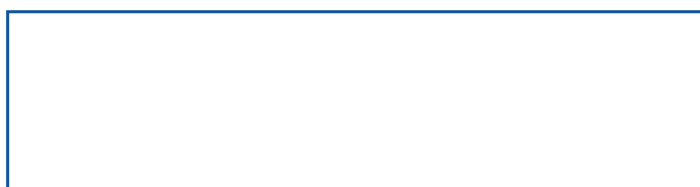
² Xeriscaping is a gardening technique using native drought-resistant plants.

Conclusions

Hotel Caravane Serail realised that the pollution prevention recommendations which had been made would enable it not only to improve environmental performance, but also to improve the quality of the overall service offered. In addition, the cost savings achieved would be used to increase and improve customer amenities and satisfaction.

NOTE: This case study seeks only to illustrate a pollution prevention example and should not be taken as a general recommendation.

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