

Med *Clean* *Propre* *Limpio*



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Pollution Prevention Case Studies

Electricity Savings in a Greek Hotel

Company	Daphne's Club Hotel Apartments
Industrial sector	Short term accommodation activities ISIC Rev. 4 no. 5510 (International Standard Industrial Classification of All Economic Activities)
Environmental considerations	Holiday accommodation and activities should be able to bring guests into contact with what they miss most in big cities, namely natural surroundings. Our awareness of the surrounding natural environment led us to contemplate measures for protecting and enhancing it.
Background	Daphne's Club opened in 1996 as a small, family-owned hotel and apartment complex. In 2006, after 10 years in the accommodation sector, the family decided to venture further into the hospitality business, by opening up its horizons to other related services, such as the hosting of business meetings and private and corporate events and the organisation of customised cultural excursions and thematic workshops. At the same time, the family committed itself to an environmental policy, aiming to alleviate the negative effects of human activity on its small corner of the planet.
Summary of actions	To reduce the use of electricity, the following measures have been taken: <ol style="list-style-type: none"> 1) The main electricity switch is turned off when the apartments remain unoccupied. 2) For the electricity to work, guests must insert their key into a special slot inside the apartment. When they exit all electricity is turned off, except for the refrigerator. 3) Air conditioning automatically turns off when doors or windows are opened. 4) No central air conditioning is used and in common areas the air conditioning is seldom turned on. 5) Guests are offered fans in order to avoid the use of air conditioners. 6) Conventional light bulbs have been replaced by low-consumption light bulbs. 7) Lights in all common areas are automatically turned on and off when necessary with a timer. 8) Only appliances (refrigerator, air conditioners, etc.) that are highly energy-efficient (A+) are purchased.

Table	Process	Old process	New process
	Electricity use in unoccupied apartments	The main electricity switch was left turned on.	The main electricity switch is turned off.
	Electricity use in occupied apartments, when the guest is absent	Guests could leave the lights on when leaving the apartment.	For the electricity to work, guests must insert their key into a special slot inside the apartment. When they exit, all electricity is turned off, except for the refrigerator.
	Use of air conditioning in guest apartments	Air conditioning could be left on while the doors or windows were open.	Air conditioning automatically turns off when doors or windows are opened.
	Use of air conditioning in common areas	Air conditioning was often used in the common areas.	No central air conditioning is used and in common areas the air conditioning is seldom turned on.
	Use of alternatives to air conditioning	None	Guests are offered fans in order to avoid the use of air conditioners.
	Light bulbs	Conventional	Low-consumption
	Lights in common areas	Without timer	With timer
	Purchase of appliances	Conventional	High energy efficiency

Balances	As a result of the previously stated measures, from 2006 to 2009, the annual electricity consumption of Daphne's Club in terms of kWh per guest per night has decreased as follows:		
	Year	2006	2009
	kWh per stay	9.55	7.63
	However, the net energy consumption of Daphne's Club has increased from 2006 to 2009:		
	Year	2006	2009
	Electricity consumption (kWh)	21,840	25,340
	This can be explained due to the growing number of visitors per year, as shown in the table below. Without the measures undertaken, the net energy consumption would have been around 20% higher (over 31,000 kWh).		
	Year	2006	2009
	Number of stays	2,286	3,319
	INVESTMENT		
	Fans and energy-efficient bulbs	€2,000	
	Other measures	€0	
	Total	€2,000	
	SAVINGS		
	Average since 2008:	≈5380.8 kWh/year * €0.11/kWh = €590/year	
	RETURN ON INVESTMENT		
	For the current reduction	≈ 3.4 years	

Conclusions	The amount of electricity used by the hotel has declined slightly despite the increase in the number of guests per night, in number of days with excessively high temperatures (over 35°C) and in the number of guests from countries which traditionally overuse air conditioning (USA, Canada and Russia).

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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