

CASE STUDY: LOT SPA AND HOTEL

The Lot Spa Hotel, on the shores of the Dead Sea in Israel, is a 200-room spa hotel with a 3,229-square-foot outdoor pool and three 430-square-foot indoor spa pools. All pools are functional year round.

UMA Solar manufactures and distributes the industry's highest-performing solar products for commercial and residential applications. Founded in 1977, UMA Solar promotes sustainability in energy and business.

Industry: Lodging

Project Type: Solar Water Heating and Preheating

Challenge:

UMA Solar was asked to reduce costs associated with heating the outdoor swimming pool for use in the winter, while using the same solar thermal collectors to preheat water for use in indoor showers April through November.

Solution:

UMA Solar designed a customized solar solution to dramatically reduce water heating costs while decreasing the Lot Spa Hotel's dependence on liquid petroleum gas. In November, 2004, UMA Solar installed 3,444 square feet of Heliocol solar panels flat on the ground adjacent to the hotel. In the winter months, the collectors would heat the outdoor pool. In April through November, the same panels were designed to be integrated with the existing infrastructure as a preheating system for indoor shower use – significantly decreasing the amount of fuel required by existing boilers.



QUICK VIEW

System Size	3,444 Sq Ft of Heliocol Solar Panels
Annual Gas Consumption	
Before Heliocol Panel Installation	119.5 Tons
After Heliocol Panel Installation	78.5 Tons
	Savings = +34.5%
Annual Gas Savings	
After Heliocol Panel Installation	40.94 Tons
Annual Energy Output	
After Heliocol Panel Installation	7,166 Btu/Sq Ft/Day
Return of Investment	1.8 Years

Results:

The installation of Heliocol solar panels resulted in a yearly savings of 41 tons of liquid petroleum gas (34.5 percent) and a return of investment in 1.8 years. The yearly CO₂ reduction totaled 100 tons. The installation also resulted in a direct reduction in the maintenance cost of boilers, pumps and heat exchangers. As an added, unmeasured benefit, visitors seemed to enjoy staying at an environmentally-friendly hotel.



The Lot Spa Hotel at www.lothotel.co.il