

Peek Project Description

The overall aim of the “Program for Energy Efficiency in Kho Khao and Khao Lak (PEEK)” is to significantly reduce green house gas emissions from the hotel industry in Kho Khao and Khao Lak by means of innovative and replicable solutions for energy efficiency and renewable energy. PEEK is part of further efforts of UNWTO along with the Ministry of Tourism and Sports (MoTS) to create a model destination for sustainable tourism in Kho Khao and Khao Lak. The core work streams of the project are: Stakeholder engagement and information dissemination, Energy efficiency measures, Renewable energy technologies and Feasibility study for decentralized energy supply of the island.

Khao Lak Mohin Tara Hotel /Pool Pump & Key Separation Tag

1. Hotel Description

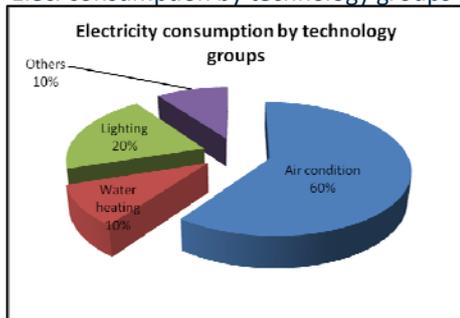
The Khaolak Mohin Tara hotel offers 46 guest rooms spread across of two main buildings; in addition, there is a seminar building. The hotel was built in 2005 and is rated as 3 star-category. Regarding occupancy the hotel is open during the whole year with high occupation in high season November-March (86%) and low occupation (33%) in off season .



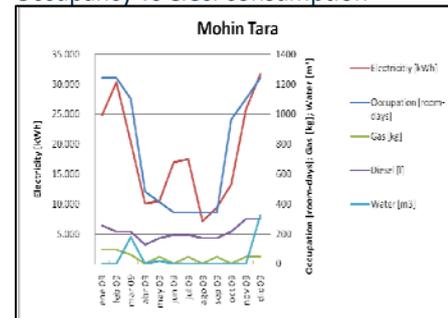
2. Energy Consumption

The detailed energy self-audit performed in early 2010, provided the following results*:

Elec. consumption by technology groups



Occupancy vs elec. consumption



*Elec. consumption vs. ops. Areas could not be calculated since it was a self audit process without metering.

Mohin Tara has an annual electricity consumption of around 218.000 kWh. Air conditioning was estimated to be responsible for 60 % of the electricity consumption.

3. CO2 and electrical savings

Four new efficient Pool Pumps (2 Main Pool; 1 Jacuzzi; 1 Diving pool) were changed with variable speed pumps, instead of the single speed ones. Key tag separations were implemented in order to avoid A/C being turned on while guests not in room. Moreover, no- and low cost measures such as efficient lighting have been introduced. All Energy efficiency measures implemented are stated in Table 1.

Monitoring: The expected CO2 & energy reduction from the efficient pool pumps was calculated, comparing the previous single speed pumps functioning data (power, hours per day used, length of pool season) against the efficient variable speed pumps. Regardless of the previous data, confirmation of specified performance for each velocity was measured. The key separation tags were monitored measuring power and duty cycle of compressor, related to technician data for guest behavior, were estimated reduction was achieved. EE no-low cost measures had been introduced and checked.

Table 1.

Energy saving measures	Annual kWh saving	CO2 reduction (ton/year)	Annual cost saving (Baht)
Key separation tag	12,160	6.15	42,628
Pool Pumps	8,424	4.21	29,484
No/low cost measures	14,496	7.4	52,185
Total	35,080	17.74	124,297