

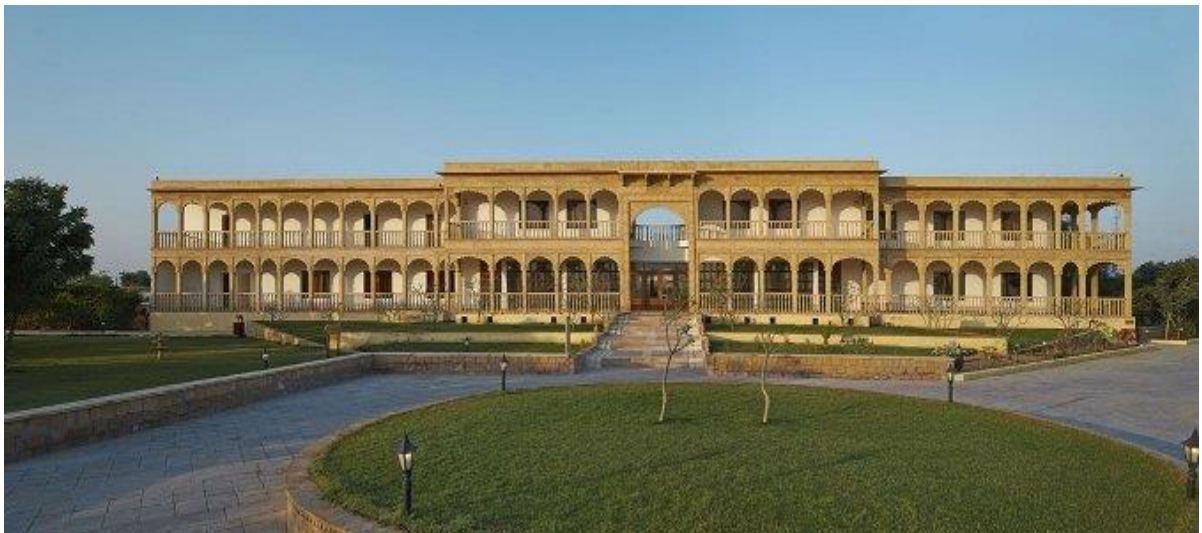
GALAXY ENERGY SOLUTIONS LLP

CLUB MAHINDRA, JAISALMER

CASE STUDY

Executive Summary

- 40.37% energy savings was achieved.
- Return on investment is less than a years.
- No changes to the building infrastructure or heating system.
- Practical and cost effective energy saving opportunity.



M/s Mahindra Holidays Resort India Ltd. is a renowned company in the hospitality sector. It has about 45 hotels to its crown. One of them is named as Club Mahindra at Jaisalmer, Rajasthan having 70 rooms with all kinds of facilities. This hotel is provides hot & cold water around the clock to its guest.

The hot water is also being extensively used in kitchen and laundry applications. Hot water to hotel is supplied through M.S water tank of approx. 10 kL capacity. The hot water tank has make up water pipe line with suitable valve and flow meter for recording net water consumption. The hot water is circulated in the hotel and application area and residual is pumped back in the hot water tank for conserving the energy, which have been wasted if the circulation path of water is kept in open cycle mode. The hotel Club Mahindra is using a hot water generator of Thermax make having capacity to burn 2.00 Lakh kcal per hour.

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The HWG has feature of auto start based on temperature setting of return secondary fluid (existing was the treated water). At full capacity of running, the burners of boiler consumes about 25 litres of Diesel per hour. This hotel caters the need of tourists going to western part of Rajasthan. Jaisalmer known as Golden City is well placed on the tourist map of India. This Hotel is catering needs for comfortable stay, meeting & parties.

CASE STUDY

Galaxy Energy Solutions installed a data logger to obtain temperature settings and run hours of Boilers. After installation of data logger and having historical data of hot water uses and consumption of diesel, the Hydromx solution was replaced in the primary heat circuit. G.E.S. replaced the (water) primary circulating fluid by Hydromx fluid in the ratio of 50:50 i.e. 50 % treated water with Hydromx.

The Hydromx solution is a state of art heat transfer liquid involving nano technology. It has low specific heat and high thermal conductivity which enable it to transfer heat very fast by conduction, convection and diffusion.



Hot water generated per HSD with water was 724.1 Litres. So it consumed 135 Litres HSD to generate 98000 Liters of hot water. If boiler was running on water, consumption could be $51000/724.1 = 70.4$ Litres HSD. But with Hydromx it consumed 42 Litres HSD, so the saving is $70.4 - 42 = 28.4 / 70.4 * 100 = 40.4\%$ saving.