

HMX Solar Thermal System proves to be a game changer for Lakaki Dry Cleaners, Goa!

Background

Lakaki Dry Cleaners and Art Dryers is a renowned laundry in Goa, India, with a laundering capacity of 1000 clothes a day.

Challenges

Lakaki provides services such as steam ironing and calendaring, which require dry steam at different pressures. They were using electricity and diesel-fired boilers for generating steam, which made up a significant part of their operational costs. Lakaki was looking for ways to reduce the cost of electricity/diesel and thus improve its profit.

Solution

Lakaki's search for an alternative heating solution for laundries that can save cost led them to HMX. After understanding Lakaki's process, the thermal demand and the fluctuations on a typical day, HMX recommended its Concentrated Solar Thermal (CST) dish as a long-lasting and economical solution. After this discussion, the solution was accepted by Lakaki.

An integrated CST dish with an aperture area of 25 m² with an accumulator (storage vessel) was then installed at Lakaki.

This double axis dish automatically tracks the sun allowing the solar energy to be reflected and concentrated into a 'receiver' filled with water, thereby generating steam. The dish generated steam between 2 bar(g) and 4 bar(g), meeting Lakaki's requirements. The laundry's processes were scheduled to balance heat demands to maximise solar thermal system use.

Result

The HMX CST dish was commissioned in February 2015 and the dish significantly reduces Lakaki's fuel costs for almost 10 months in a year except for 2 months of the monsoon. The dish has helped Lakaki save approximately 1200 litre diesel and about 4200 kWh electricity each year, translating into a saving of approximately ₹1,40,000 per year at the current rate of these fuels*, offering them a great financial advantage. By embracing solar thermal solutions, Lakaki is also making a major contribution to environmental protection by reducing CO₂ emissions by almost 6.7 tonnes per year!

(*Diesel @ ₹90.44/l and electricity @ ₹7.50 per kWh)