ECOENERGY
INSIGHTS

An Indian luxury hotel saved 15.8% in energy consumption
Improved hotel operations and enhanced guest experience with an IoT based program.

The Client

An Indian luxury hospitality brand with a chain of luxury hotels, palaces and resorts. Each hotel site consists of 350+ rooms and a banquet area of approximately 21,000 sq. ft. The property that was engaged in this project is spread across 7 acres and includes an outdoor swimming pool, a spa and wellness center, yoga studio and 6 in-house restaurants and dining areas.
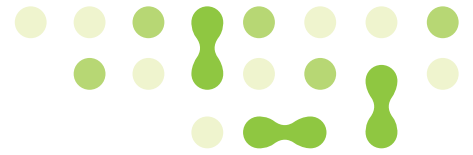
The Challenge

The hospitality industry is undergoing a huge transformation, both green and digital, to meet changing customer demands. A recent survey of hotel guests found that over 50% prefer a sustainable stay – while admitting to using more energy than ever. Customers want greener hotels and are more likely to book stays in hotels that are eco-friendly. Energy accounts for up to 60% of a property's carbon footprint. While managing energy use is imperative, hotels need to do so without compromising on guest satisfaction.

The property was looking to digitize its operations for greater visibility into day-to-day operations and to easily access information. They also wanted to standardize daily operations to improve energy efficiency. The end objective was to implement a solution that simultaneously addressed multiple needs including improving guest comfort, operational efficiency, and equipment reliability. To tackle this varied set of challenges, the hotel invited EcoEnergy Insights to help, and sought a customized solution tailored for operations at their property, driven by the Internet of Things (IoT) and advanced energy analytics.

The Solution

In 2017, we deployed our IoT-enabled energy monitoring and analytics program. This data driven program was offered based on the site assessment and pain areas identified by the property. This multi-year program was based on a unique self-funded model wherein all the costs and charges are recovered from the energy savings achieved.

In the first phase of implementing the program, we liaised with the client's technical team to understand the hotel's equipment. Data was collected on energy consumption, tariff, demand, etc., as well as equipment like HVAC, lighting, control system (BMS, plant system) and other infrastructure (computers, printers, ovens, geysers, etc.). The analysis of this data on historical energy used by operating equipment helped identify specific energy-saving strategies.

The next phase saw a secure integration of the building management system and plant management system in the network with the CORTIX™ platform. The presence of multiple protocol control systems was an integration challenge. However, once completed, we enabled a unified view of equipment performance and tracking of consumption.

The vast amount of data from the hotel's equipment including sensors, controllers, energy meters and systems was fed into the CORTIX platform. The platform used advanced analytical models and correlation logic to provide actionable insights on the equipment performance. The insights led to a continuous improvement in energy savings, better equipment performance and optimization of schedules. The hotel could also track and utilize maintenance vendors more efficiently.

Additionally, the operations managers were preemptively supported by the Command Center - a team of domain experts and data scientists who collate, classify and interpret insights from the CORTIX platform to identify trends and requisite interventions, define action plans and ensure their completion in a timely manner. The managers readily accessed the insights from the platform through an easy-to-use intuitive dashboard. They could view and download reports on energy consumption, thermal compliance, and equipment performance.

EcoEnergy Insights demonstrated a reduction in equipment energy consumption immediately after implementing the recommended measures, and the same was reflected in the overall energy consumption. Post savings and sustenance of the same became vital. To sustain the savings, the Command Center team regularly monitored the property remotely and generated alerts through the platform. These alerts covered any deviations observed and highlighted any fault in controllers. They were communicated to the facility team immediately.

The Result

The program focused on areas such as efficiency, guest comfort, hazard analysis and critical control points (HACCP). Functions such as deviation management, policy compliances, proactive detections, and equipment lifecycle enhancement have been crucial in delivering value over the past 3 years.

The key results achieved in the last 3 years include:

- 653,949 kWh units of energy savings delivered

- 15.8% energy savings achieved on utility bills on average

- 49,726 kWh savings achieved through chiller set point optimization

- 148,096 kWh savings achieved through pump speed optimization

- 126,507 kWh savings achieved in chiller sequencing

- 5% improvement in thermal guest comfort compliance in 2019 as compared to 2018

Other benefits included enabling operations and maintenance teams to proactively manage equipment performance, reduced downtime, and reduced man-hours spent on diagnosis and reporting. Thermal and schedule compliance also improved, in addition to improvement in overall equipment performance.

Write to us at **info.ecoenergy@carrier.com** and elevate your business now.

About EcoEnergy Insights - EcoEnergy Insights is a leading provider of AI and IoT-enabled solutions to digitally transform building and equipment operations. Their CORTIX™ platform collects data from multiple sources, analyzes it, acts on defined deviations autonomously and offers predictive actionable insights. The platform, combined with expert human analytics, has been delivering award-winning outcomes in comfort, maintenance and energy efficiency across multiple industries such as retail, hospitality and banking. EcoEnergy Insights is a part of Carrier Global Corporation, a leading provider of innovative HVAC, refrigeration, fire, security and building automation technologies. For more information on EcoEnergy Insights and the CORTIX™ platform, visit www.ecoenergyinsights.com and www.cortix.ai.