Swissôtel Sydney

Monitoring the efficacy of energy efficiency upgrades

Swissôtel is a luxury hotel chain that has a worldwide commitment to improving and reducing their impact on the environment by upholding sustainability standards throughout their business. Since 2012, 74% of Swissôtel properties have launched energy consumption reduction programmes, including low-energy lighting, laundry reduction, team-member awareness training and purchasing green energy.

Swissôtel Sydney is a luxury five-star hotel located in the heart of Sydney's central business district within walking distance of many of the city's famous landmarks and cultural attractions including Sydney Tower, the Sydney Harbour Bridge, Sydney Opera House and the beautiful Royal Botanic Gardens.

Swissôtel recently embarked on a major renovation of their flagship Sydney CBD hotel and in line with best practice, built sustainability into the project from the ground up. The renovation was performed floor by floor in order to minimise disruption to hotel patrons and to enable contractors to efficiently refit all guest rooms from top to bottom.

A major component of the refit was the introduction of sustainability measures including energy efficiency. This included upgrading the lighting in the rooms and shared hallways to LEDs, replacing appliances such as in-room fridges with higher efficiency rated appliances as well as upgrading the air conditioning system in each room. However, despite these efficiency improvements the hotel's energy bill had increased dramatically.

UNDERSTANDING ELECTRICITY USAGE

Swissôtel Sydney engaged KMH Environmental (KMH) to conduct a review of their energy usage to determine why their energy bill was unexpectedly increasing as renovations progressed at the hotel. KMH is a specialist energy services company established in Sydney in 1998 and a leading environmental manager, advisor and provider of turnkey engineering solutions to many public and private sector clients across Australia and South East Asia.

Swissôtel Sydney provided KMH with information on how the refit was staged and were able to show that as each floor was commissioned and put into use, the energy bill was going up proportionally rather than down. Energy data was obtained from the energy retailer but did not provide the granularity needed to locate the suspected excessive usage.

Each of the contractors stood by their individual work practices on the refit. It was even suggested that hotel patrons were simply using more electricity in the rooms. Although the team from KMH reviewed the hotel's electricity bills, interviewed the contractors and examined the hotel facilities, they were unable to immediately determine exactly which electrical load was contributing to the increasing cost.

"The problem was quickly isolated to the room air conditioning controls and once these were reconfigured, Swissôtel Sydney was able to realise immediate savings of approx. 50% in every guest room, or $20,000 per month on their electricity bill."

ROBERT NICHOLSON
Principal Energy Consultant
KMH Environmental

By using a sub-metering solution comprised of Wattwatchers Auditors and SimbleSense, KMH were able to isolate the exact cause of the excessive energy usage within a week.

KMH DELIVERS THE ANSWERS WITH GRIDANALYTICS

KMH's proposal to Swissôtel Sydney involved the installation of Wattwatchers AUDITOR Series three-phase energy meters powered by SimbleSense to provide effective sub-metering of hotel equipment. SimbleSense is a cloud-based energy management platform that provides real-time visibility as well as historical analysis of energy data. By using a sub-metering solution comprised of Wattwatchers AUDITORS and SimbleSense energy management software to monitor targeted circuits in individual rooms as well as entire floors, KMH were able to isolate the exact cause of the excessive energy usage within a week.

IDENTIFYING THE SOURCE OF HIGH ENERGY CONSUMPTION

The original temperature and timing settings of the HVAC System in each room had resulted in the air-conditioning cooling and heating working continuously against each other and KMH were able to clearly see that large amounts of energy were being consumed due to this initial misconfiguration. Confirmation of the incorrect settings was immediately evident when one of the monitored rooms was re-configured while the room's energy consumption was being monitored through the SimbleSense dashboard.

Despite assurances from the air conditioning controls company that they had previously checked their system and all was operating correctly, Swissôtel Sydney was now armed with contrary conclusive information and able to suggest specific corrective action.

THE VALUE OF LIVE DATA MONITORING

The value of live data being sent to the SimbleSense dashboard meant KMH and the Swissôtel Sydney could immediately see the results and put a corrective plan into action. Each of the 360 rooms had to be re-configured individually. KMH continued to monitor the results through SimbleSense to confirm down to room level that the new energy efficient HVAC system was indeed operating as promised and that guests' comfort was not being compromised nor excessive energy wasted. KMH were also able to use SimbleSense to confirm the anticipated improvement in average room efficiency as lighting loads and power were also being monitored.

LONG TERM COST-SAVINGS

The savings were immediate and substantial. Once the room air conditioning system controls were reconfigured, Swissôtel Sydney was able to identify immediate savings of $20,000 per month (based on measured room savings) on their electricity bill. In addition to these significant savings, the hotel also had access to data confirming the stated improvements in average room efficiency due to lighting and appliance upgrades.

As Swissôtel Sydney's chosen energy advisor, KMH used the SimbleSense Energy Management Platform connected to Wattwatchers AUDITOR Series energy meters to give the hotel the ability to:

- Obtain detailed data to ensure energy efficiency upgrades operate as promised
- Analyse equipment consumption at circuit level granularity
- Utilise a new window into room electrical consumption
- Track and report on the effectiveness of new policies to reduce wastage

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