PROJECT CASE STUDY

LARGE BANK UK

Improving workplace energy efficiency and identifying savings opportunities with real-time energy monitoring & IoT control

APRIL 2019

SimbleEnergy

BACKGROUND

Offices are generally environments with a high energy consumption due to multiple factors including occupation, comfort and lighting requirements,.

Pain point - inefficient energy use

However, the inefficient usage, such as the ongoing operation of devices and lighting after hours, presents a great opportunity for monitoring tools.

The need for energy monitoring

IoT devices and software technology will help to measure energy consumption, extract patterns and schedules and detect energy leaks.

SimbleSense

SimbleSense allows organisations to zero in and get a detailed understanding of energy usage across the board. The platform helps establish and monitor benchmarks to ensure all components of the workspace run as efficiently as possible.

PROJECT OVERVIEW

Monitor, Identify, Control, Reduce

Deployment: 2018 - present
Software: SimbleSense
Hardware: 30 + WattWatcher sub-meters, Zipato IoT devices

Track energy usage

The team in charge of the management of resources and expenses of a large bank approached us regarding the use of energy in its offices.

Monitor Shared Spaces

Simble arranged the deployment and installation of Wattwatchers energy sub-meters to accurately monitor, visualise and analyse the energy consumption within the buildings.

Implement IoT

IIoT devices were also installed to remotely control and automate processes to improve efficiency.

Reduce Energy Consumption

The main goal to address in this stage was to monitor and reduce the energy consumption in the areas used by staff, in the small interview rooms, and in offices and then identify opportunities for cost effective equipment upgrades.

DATA COLLECTION

In order to measure and verify energy consumption, the project required an initial collection of consumption data in the buildings. The longer the monitoring period, the greater the analysis of the consumption patterns.

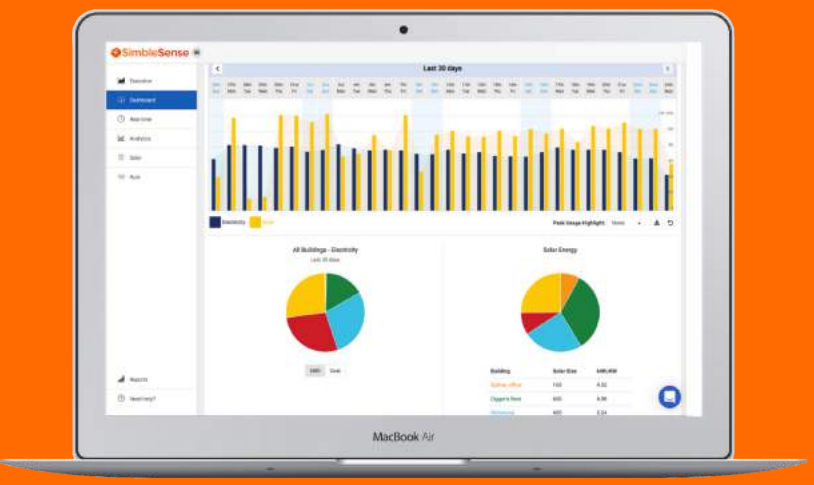
IOT AUTOMATION

Following an analysis of the energy consumption, the following actions were taken:

- Switch off all devices after office hours to reduce unnecessary consumptions and stand-by loads
- Schedule water heaters to start working two hours before opening times and one hour after close of business to reduce unnecessary consumption and stand-by loads.
- Set the temperature of electric radiators to 22C to reduce unnecessary consumption
- Switch off electric radiators after office hours to reduce unnecessary consumption and stand-by load

DATA WATCH

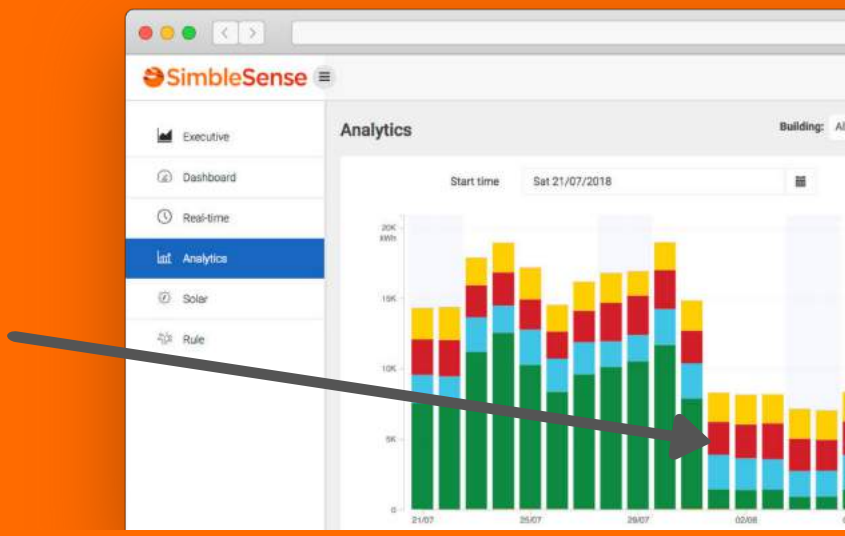
A quick payback



BRANCH 1:
Energy Consumption reduced 15.6% per week.
Energy Cost reduced 13.4% per week.

BRANCH 2:
Energy Consumption reduced 25.5% per week.
Energy reduced 23.4% per week.

This graph shows a significant drop in energy consumption. Energy waste can be costly and is typically unnoticed due to lack of visibility and difficulties in ongoing monitoring and controlling.



Source: SImbleSense Platform

"Installing an energy management system is a cost-effective solution that has helped my company reduce costs and improve the overall productivity of the business"
– SimbleSense User

FUTURE PLANS

Once the SimbleSense platform is installed and configured, the additional cost of adding new sensors is relatively low. Actions that can improve the reduction of energy consumption, costs and emissions are as follows:

Occupancy sensors:

Installing occupancy sensors gives the option of keeping lights off when offices and other areas are not in use. This action can achieve savings of up to 50% on lighting costs. These automatically turn lights on when a room is occupied and turn them off after a period of vacancy.

Light sensors

Light sensors can be used to dim or turn off artificial lighting when there's sufficient natural daylight. As daylight hours vary throughout the year, sensors help to provide closer control and thus, substantial savings. A return on investment (ROI) is often seen within a year.

Thermostats scheduled

Interfacing with existing thermostats or installing new ones can help to improve the comfort of the branches by controlling the appropriate temperature. This action can achieve savings of up to 35% on climate costs.

LED lighting

Replacing traditional lighting systems with LED lighting significantly reduces energy consumption. Typical ROI for this improvement is 3 years.

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