ecoDriver®

Case Studies

Monitor • Learn • Control • Improve

Microsoft
the ingenuity point
Award Winner

ISO 9001 Registered Firm
Certificate No. GB2001483

International Accreditation Board
Registration No. 0044/1

The background

*'….non-domestic buildings 'routinely' use **3.5 times** the amount of energy they are designed to consume and rarely live up to performance expectations.'*

*'**Controls are a problem**' because they are often over-complicated, the report said. 'This can mean the building defaults to high energy use.'*

Source: Innovate UK, March 2016, 4-year study.

To close this design versus operations, performance gap, we need to know **what** was used, **when** it was used and **why** it was used

ecoDriver® Case Study 1- Independent School

TR Control Solutions

The issues

Mitsubishi VRF not integrated properly with BMS

Heating/cooling schedules had not been implemented and setpoints were not consistent

Ventilation (beyond natural building ventilation) was not controlled- impact on occupancy comfort

Annual Cost	= £23,202
Annual CO2e	= 113,472 Kg

What we have done within 1 month

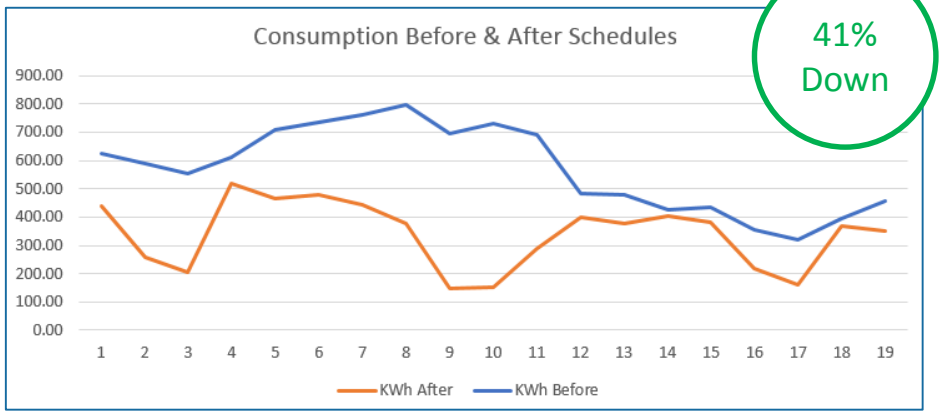
Integrate and commission Mitsubishi VRF

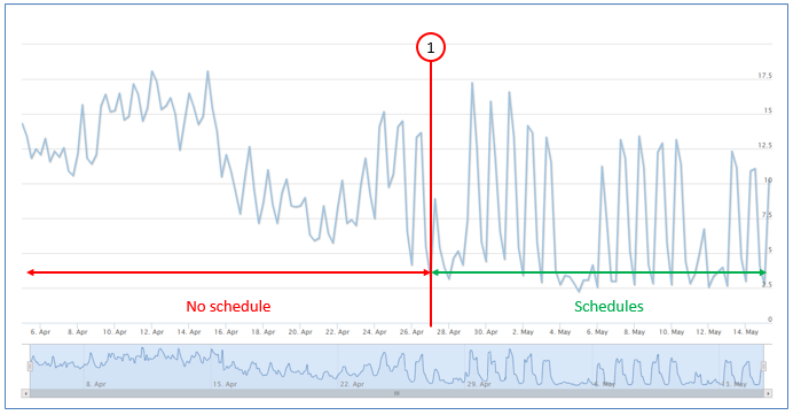
Centralise control and data capture

Implement appropriate setpoints and schedules on VRF and AHU

Annual Savings

Energy Cost	= £9,443
Annual CO2e	= 46,181 Kg





1 Schedules Implemented

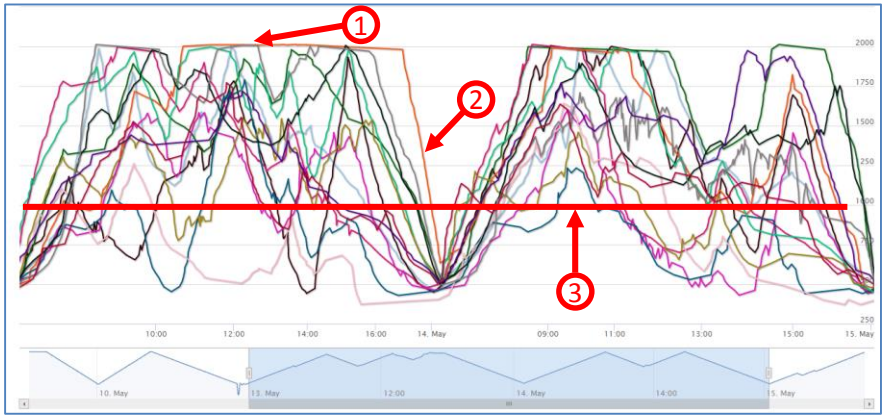
Case Study 2- Independent School

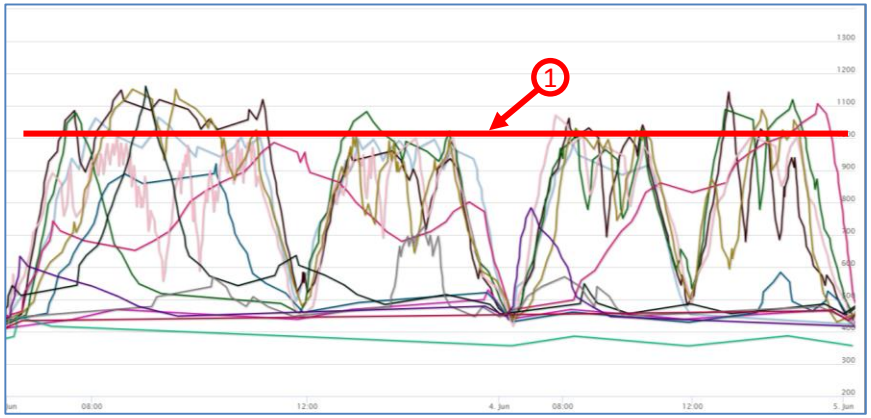
Issue

It is also about occupancy comfort. If mechanical building ventilation is not operating correctly, this can be reflected in the CO_2 levels in the classroom. Target for classrooms is < 1,000 ppm and ideally < 750 ppm.

What we have done within 1 month

Implement schedules on AHU to align with classroom occupancy and CO_2 levels.





1. CO_2 exceeds 2,000 ppm in multiple classrooms repeatedly
2. Natural Building Ventilation reduces CO_2 levels overnight
3. CO_2 levels regularly over 1,000 ppm in all classrooms

1. CO_2 levels significantly lower during occupied time following implementation of schedules

ecoDriver® Case Study 3- Secondary School

The issues

Actual energy consumption significantly higher than building design estimate.

No visibility of consumption profiles for local premises team or business managers.

BMS schedules, setpoints & exceptions not configured correctly.

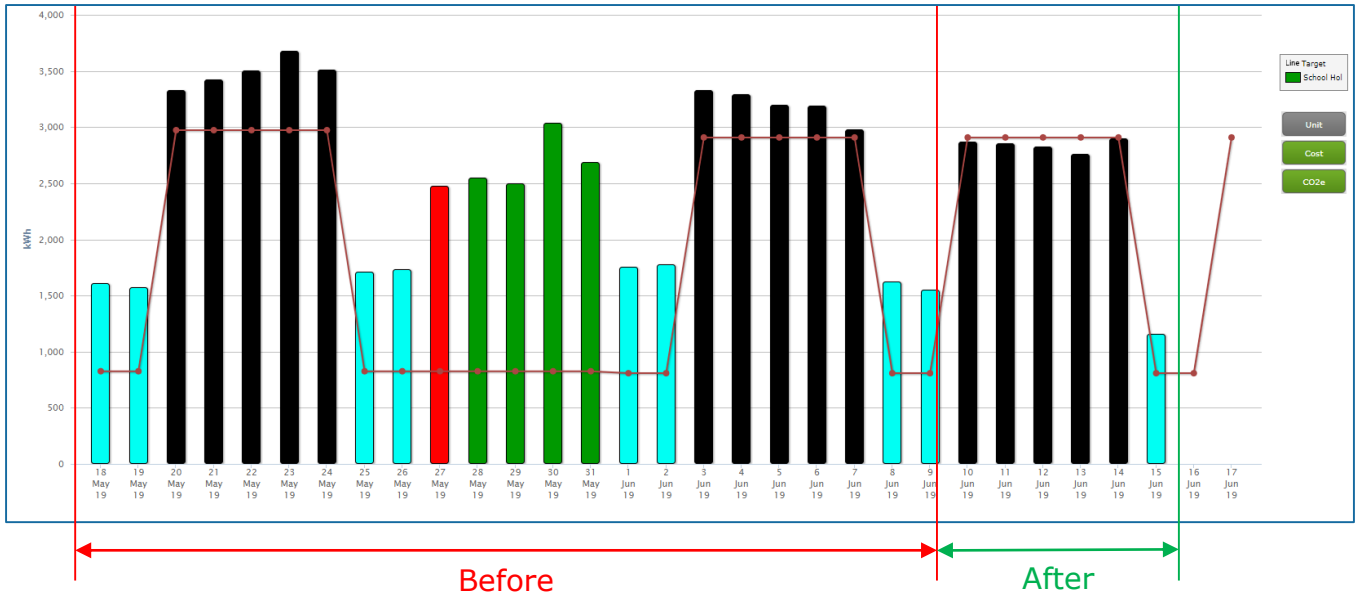
What we did

Integrate automated main meter data capture and reporting in ecoDriver.

Review energy profiles and identify anomalies.

Systematic approach to energy reduction working with local premises manager to modify schedules and setpoints.

10% saving (Payback < 4 months), much more to come



ecoDriver® Case Study 4- Central Government HQ

The issues

BMS had undetected faults and had been frequently changed without tracking

Schedules and setpoints not configured correctly

FM contractors not fully engaged

What we did

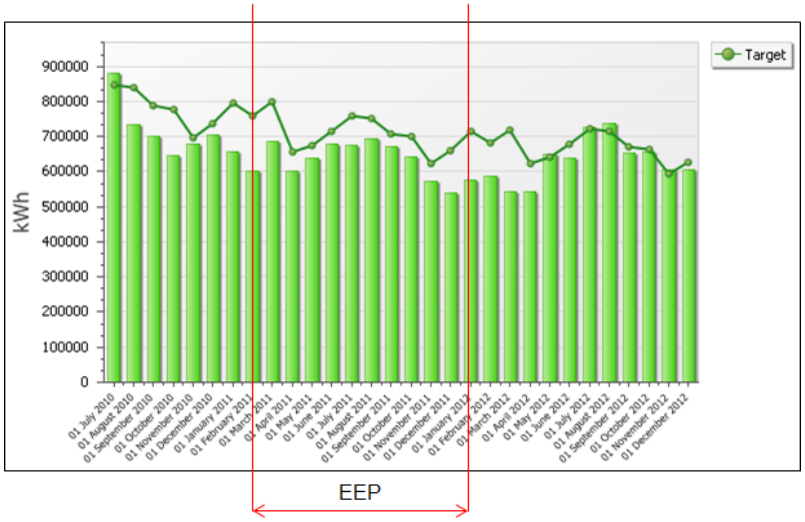
Implemented ecoDriver metering and efficiency program

Systematic approach to energy reduction

Assist FM in uncovering and resolving faults

Payback < 4 months

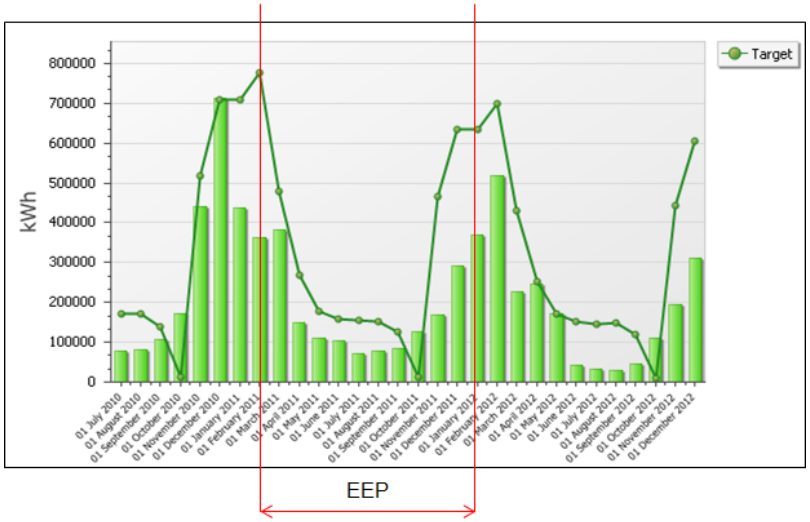
Central Government (UK) HQ



22% reduction on previous 12 months (weather corrected)

Electricity

Central Government (UK) HQ



18% reduction on previous 12 months (weather corrected)

Natural Gas

ecoDriver® Case Study 5- Manufacturing Facility

The issues

Increasing energy bills and inefficient heating systems

Unsupported legacy BMS running independently of each other with no visibility for FMs

Unable to understand heating demand and appropriate setpoints as temperatures, setpoints, faults etc. were not logged

Annual gas spend £135k

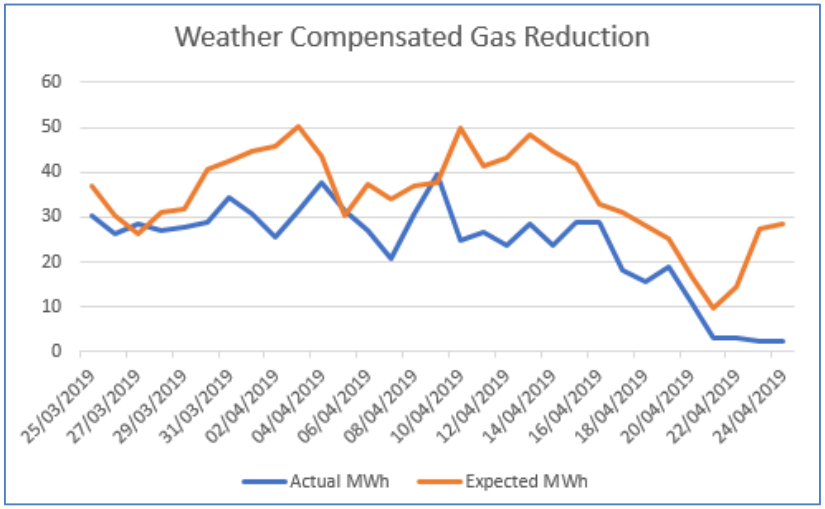
What we did

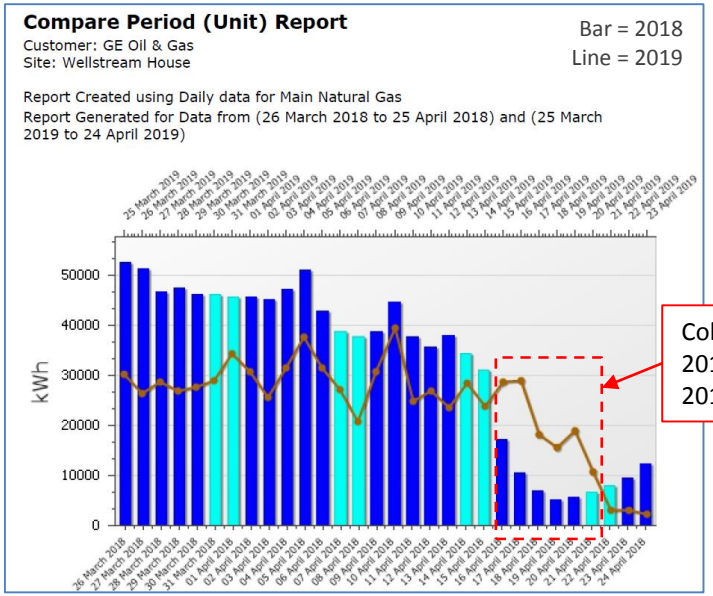
Replaced Legacy BMS with a modern networked open source solution

Implemented a centralised BEMS platform

Integrated wireless Outside Air Temperature heating interlocks

32% reduction = 6 month payback





Want to know more?

Contact us on the details below and we would be happy to meet you to explore how we can help you.

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