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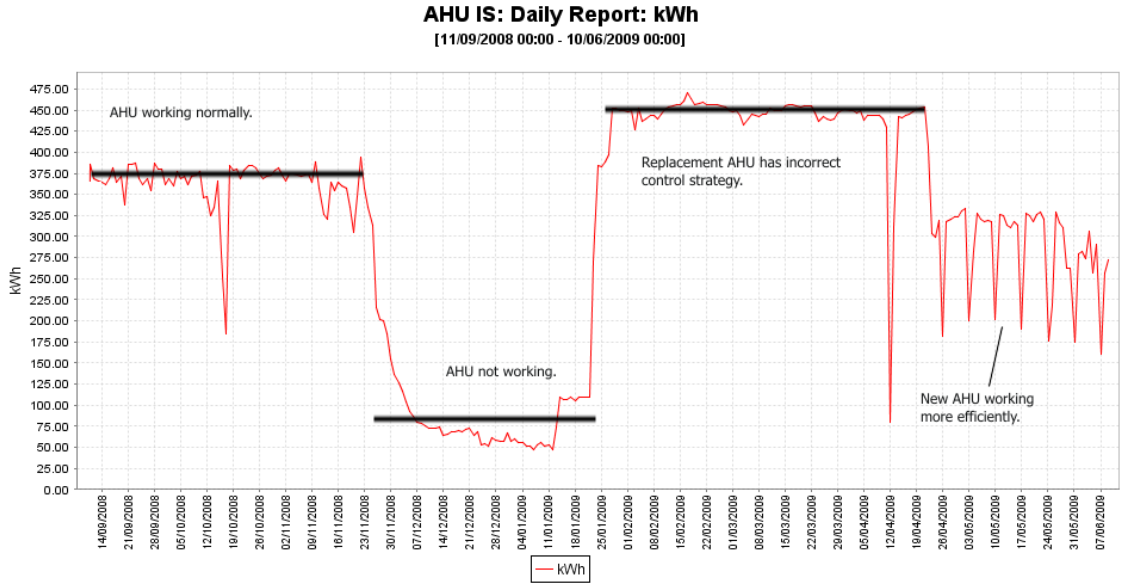
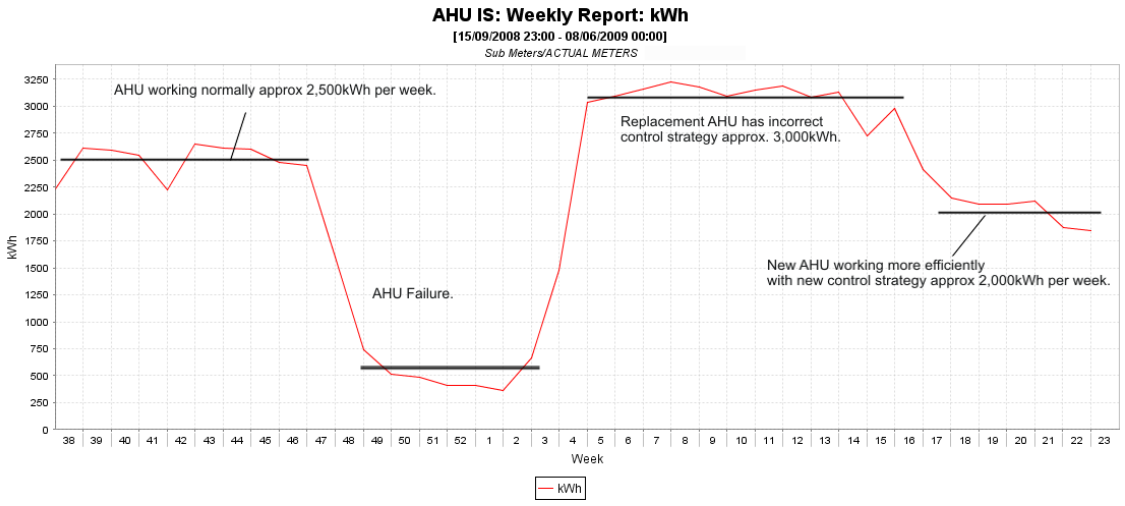
Energy management applications – Sub metering Case studies

Air Handling Unit Failure.
Study Description

The graph below shows the daily kWh of a single Air Handling Unit. As can be seen, the unit is initially performing as normal, but then malfunctions. This change in profile shape on the graph alerted the customer to the problem – which was subsequently rectified.



However, the same report also showed that the new AHU was consuming significantly more consumption even though it was supposedly a more energy efficient modern unit. Upon investigation, it was discovered that the control strategy was set up incorrectly. After another site visit the control logic was corrected, the following graph clearly shows the effect of this.

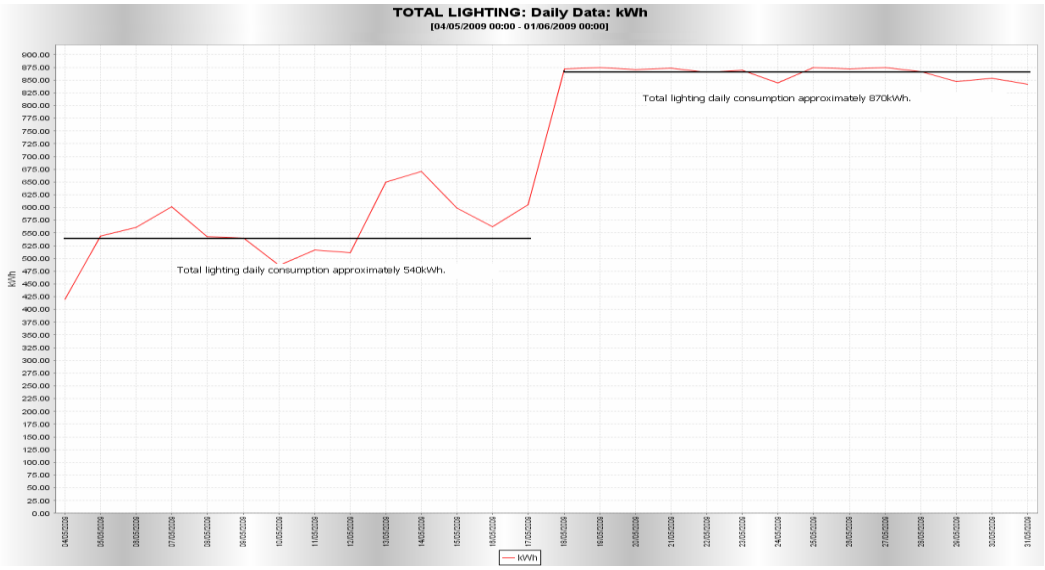


Conclusion

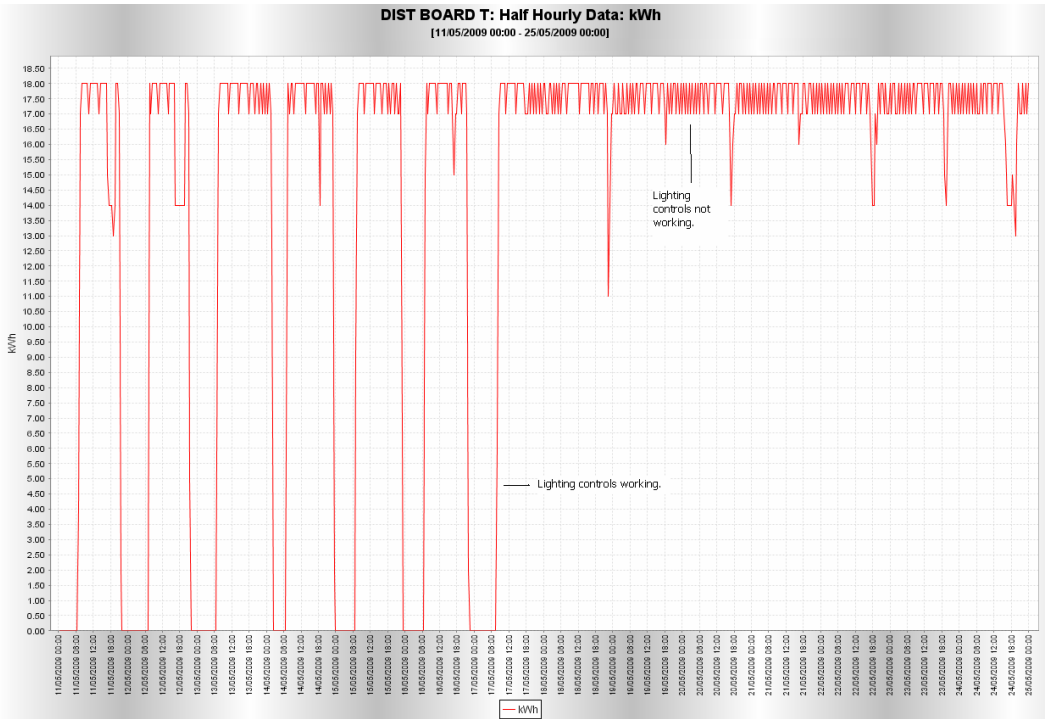
Without sub metering reports, this issue would not have been detected. Detecting the new AHU had incorrect control strategy has saved the client approximately 52,000 kWh/year (approx28 tonnes of CO2/year) at just one site

Lighting Controls
Study Description

The graph below shows the daily kWh consumption of the total lighting in a store. As can be seen, the consumption increases by approximately 330 kWh per day. The total lighting for this site was the sum of two lighting meters.



Upon investigation of one of the meters it was immediately obvious to that the lighting controls had stopped working (as the next graph clearly demonstrates).



Conclusion

Detecting this problem has saved the client approximately 120,000 kWh/year. Without sub metering this issue would not have been detected!