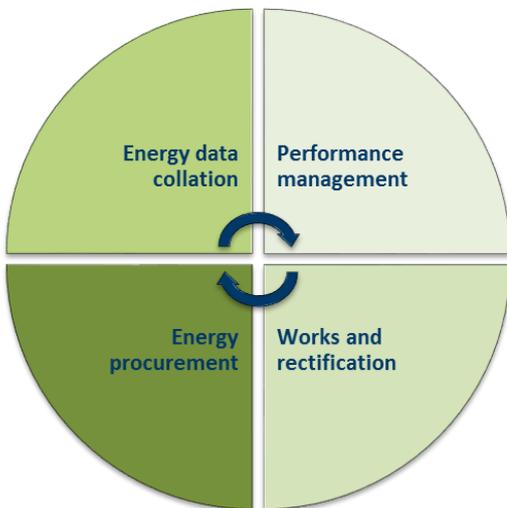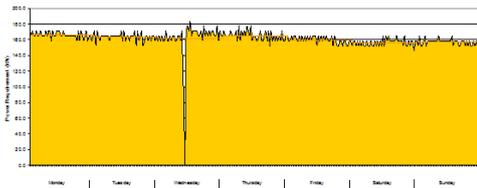# Energy management

In order to improve the efficiency of energy and carbon consumption, and hence reduce associated expenditure, there is a need to adopt a continuous cycle of activity in relation to energy management involving effective data identification and collation, performance validation and management, targeted improvement and rectification works, and informed procurement.

Our experience, together with industry estimates, suggests that effective management of supplier billing alone can generate typical annual savings of 1-3% providing valuable spare income to sustain critical services.
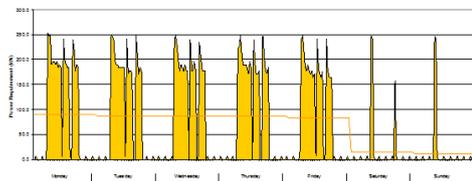
More significantly, some 10-15% of energy spend could be saved by improved understanding and structured analysis of energy use patterns that in turn can inform simple management and operational changes such as adjustment of heating time periods or temperature set points and lighting controls.

Gas consumption profile before intervention

Gas consumption profile after AMR data interrogation and intervention

Data hosting

We use various energy monitoring and targeting systems, including TEAM, STARK and eSight, to host and collate energy consumption and carbon emissions data together with associated costs to an increasing portfolio of schools. We currently record meter readings, costs and consumption for in excess of 10,000 supply points, and wherever possible, the half hourly profiles of each supply either from mandatory half-hourly settled meters or voluntarily installed Automatic Meter Readers. We can interrogate Automatic Meter Reading (AMR) data to identify anomalies where they occur and support our customers to manage down their consumption.

Supply validation

In collating energy data we recognise that customer processes and system requirements vary significantly, hence we employ a range of validation techniques from manual checking of paper invoices through to full electronic EDI verification of data provided by energy suppliers. As well as receiving customer data directly from framework suppliers (such as ESPO and YPO) we also obtain authorisation from building users, not on central contracts, to obtain and validate invoice data on their behalf. Bill monitoring and validation remains an effective process to facilitate recovery of overcharged costs and has provided significant cost savings for a number of our clients that would otherwise have gone unnoticed.

Data monitoring and targeting

Effective monitoring enables us to produce informed reports based on robust data sets in order to target inefficient buildings. We actively support our customers through detailed AMR analysis to identify patterns of excessive or unusual consumption to empower premise managers and identify management strategies for reduced consumption. From our hosted systems we are able to produce a variety of reports and league tables, including benchmarking reports based upon CIBSE Guide TM46, weather corrected reports, annual reports as well as specialist reports such as the CRCEES Footprint Reports and Annual Reports. The data also provides support for end of year budgets, mid-term reviews, current spend, consumption trends, forecasting and contingency planning. We have experienced energy engineers qualified in the International Monitoring and Verification Protocol (IMVP) to ensure that any energy improvements are robustly planned, measured and monitored.