Case Study

Organisation:	**Great Learners Trust, Buckinghamshire**
Sector:	Education
Requirements:	Consumption monitoring and reduction
Services provided:	Operational and Behavioural Change
Provider:	REDUCE YOUR USE
Achievements:	Energy and carbon reduction

The Customer

Great Learners Trust (GLT) is a Multi Academy Trust (MAT) of 11 primary schools in Buckinghamshire with 3,000 pupils aged 3-11 across the schools.

The schools are a mix of building ages, size and location, many central to the communities in which they sit. Many schools lease or share space with nurseries, family centres / community areas.

The journey started when the MAT was captured by the Streamlined Energy and Carbon Reporting (SCER). Compiling data revealed that there was an opportunity to record energy monthly, bring all the supplies into one procurement basket and start to track emissions. A successful PSDS grant to decarbonise heating at Elmhurst School set the trajectory for reducing both energy and carbon.

The school estate is being upgraded as and when finances allow.

Energy Management is now embedded into the Trust across key teams; Operations and Maintenance; School Business Managers and Finance and Trustees.

West Wycombe Primary School has replaced oil heating with electrical heating from heat pumps.

Objectives

The project started when the Estates & Facilities Manager at the Trust wanted a better regime of monitoring energy performance following the installation of an Air Source Heat Pump. Additionally, energy savings from operational efficiencies needed to be captured and good energy behaviour acknowledged with poor energy management investigated. Cost savings from both better procurement and energy reduction were vital.

Initially energy management was done via manual meter reads as the base year was assembled for the SECR. A programme of installing AMRs and loggers on electricity and gas supplies was introduced.

Regular analysis of 30-minute energy data revealed that:

- Equipment and lights were left on in the evenings, holidays and weekends across all buildings
- Heat settings at some schools were a pre-covid legacy and had not been changed to new occupancy with reduced lettings. Some loggers revealed savings that paid back their costs within less than a week

The objective of the Estates & Facilities Manager and wider senior team, was to reduce needless consumption in the first instance and cut costs by obtaining data on demand across all school supplies for both electricity and gas as well as submetering for Air Source Heat Pumps.

Services provided

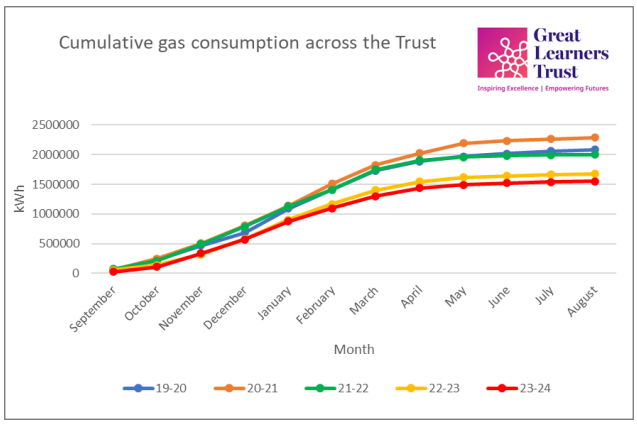
The school appointed a Data Collector (Stark) via direct contract to access data ‘on-demand’. Gas is also now recorded in 30-minute intervals with old metering replaced by appointing Stark as gas MAM at some schools. REDUCE YOUR USE reviews and reports on consumption monthly which is disseminated to Trustees and senior managers and school site and finance teams. Monthly reports illustrate anomalies that have been identified. These anomalies are raised with Site Managers. Recent patterns of unexpected consumption are raised and addressed with each site manager or at School Business Manager meetings, which occur each term.

Gas

Graph 1. The gas consumption at Princes Risborough Primary School, December 2023 after a logger installed. Demonstration of good close-down procedures ahead of Christmas holiday. Prior to loggers the settings had not been aligned to the school occupation and it was hard to detect such issues.

Since the loggers were installed, data is reviewed daily as necessary to find and investigate unexpected consumption. Costs are also applied and sent to finance staff on the first of each month for accruals. Additionally lower gas consumption has reduced carbon emissions.

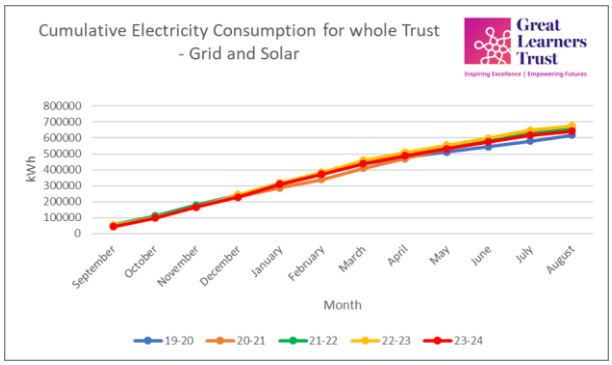
Graph 2. Gas reduction over time. As the Trust decarbonises, gas consumption has reduced by 26% against the base year.



Electricity

The annual electricity consumption has remained constant despite a move to electrical heating. Three of the schools have solar arrays under various ownership but this supports zero carbon electricity generation.

Graph 3. Cumulative electricity consumption for the last five years.

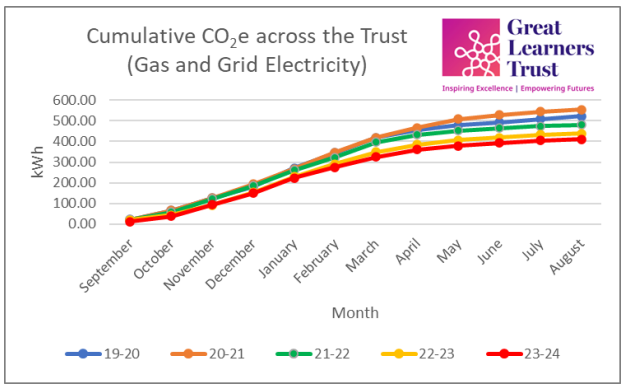


Now all AMRs and loggers are in place energy reduction projects involving staff and pupils will be launched in the Autumn term 2024.

Carbon

The Trust has wirtten an extensive Sustainability Policy and aims to be net zero by 2050. Progress towards that trajectory is updated annually and the Trust is on track. Limited resources mean the Trust is exploring no cost behaviour change initiaitives to bring down consumption.

Graph 4. Total Carbon emissions associated with energy have reduced by 21% from the base year.



Summary

Through logging gas supplies and accessing 30-minute electricity data, investigation of out-of-hours consumption and full involvement of all stakeholders, the overall electricity at the Trust has remained static despite the move to electrical heating. Gas has reduced by 26% and carbon 21% from the base year. This is all attributed to using data to spot problems, investigate anomalies and dedicated monthly energy and carbon reporting to continuously measure and therefore manage consumption. Water has also recently been included in line with the sustainability policy.