

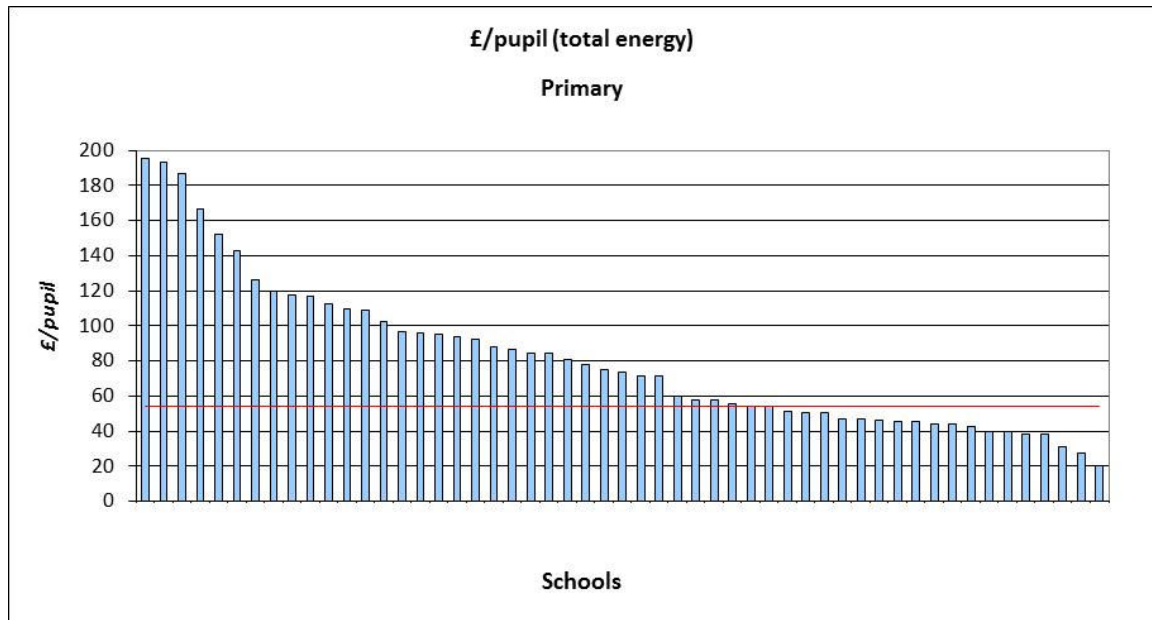
## Appendix A

### Schools Energy Performance metrics

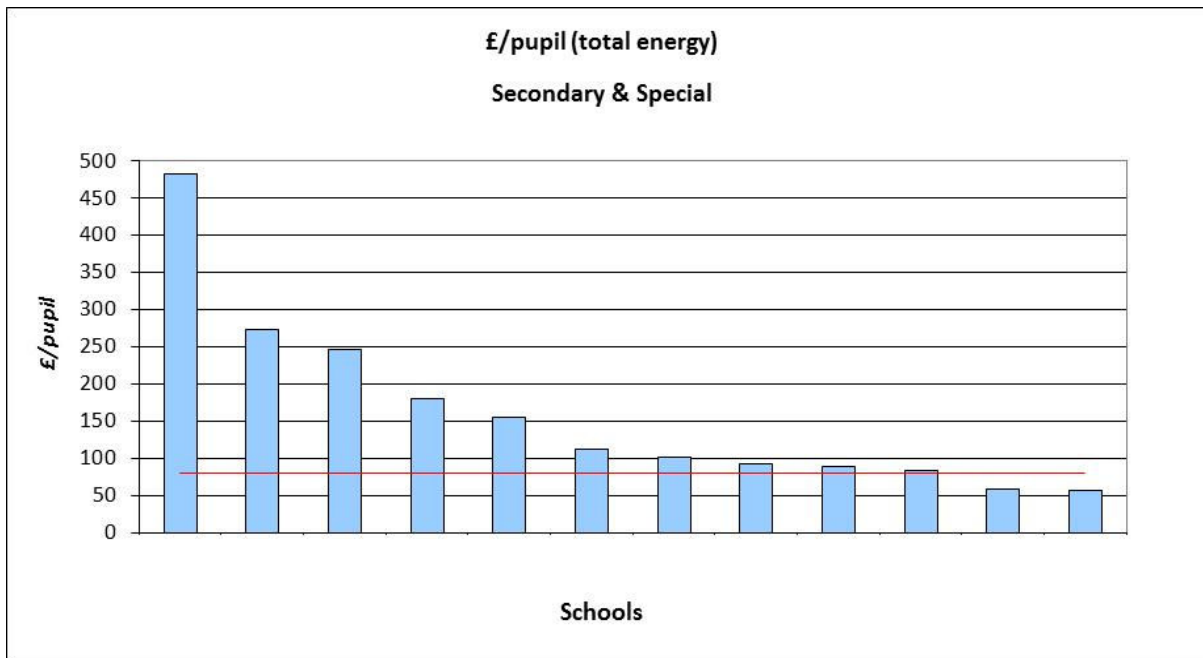
The energy performance of our schools can be assessed using a variety of metrics. Our schools' performance is presented in the following graphs. Our objective is to work with all of our schools to improve their energy efficiency and performance to below the red target lines indicated.

### Financial Metric

The most influential factor to drive school interest is financial (£/pupil/year energy cost). The following graphs show the current spread of £/pupil/year energy costs amongst our primary and secondary schools respectively. The Carbon Trust's 'typical' performance benchmark for primary schools is £54/pupil/year energy costs and 'good practice' is £39/pupil/year energy costs. Currently more than 60% of Halton schools are performing at a level worse the 'typical' benchmark and only four schools reach the good practice benchmark.



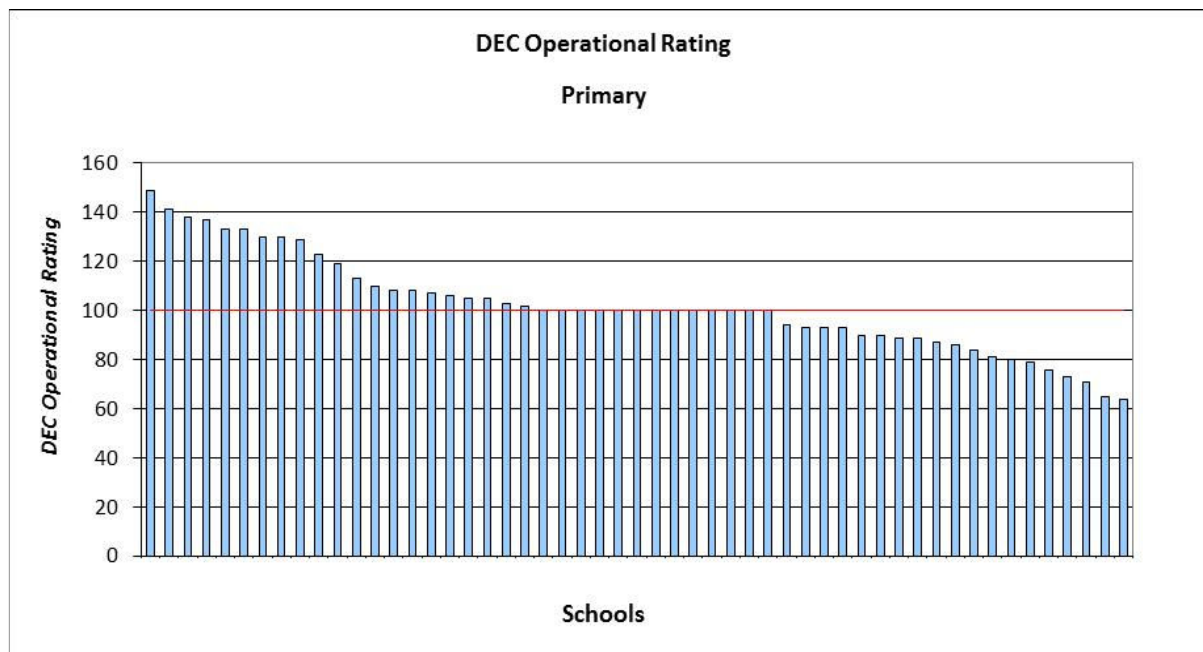
The graph shows that the performance of our primary schools ranges from £195/pupil to £28/pupil (excluding a nursery that uses total rather than FTE pupil numbers, which skews the performance results).

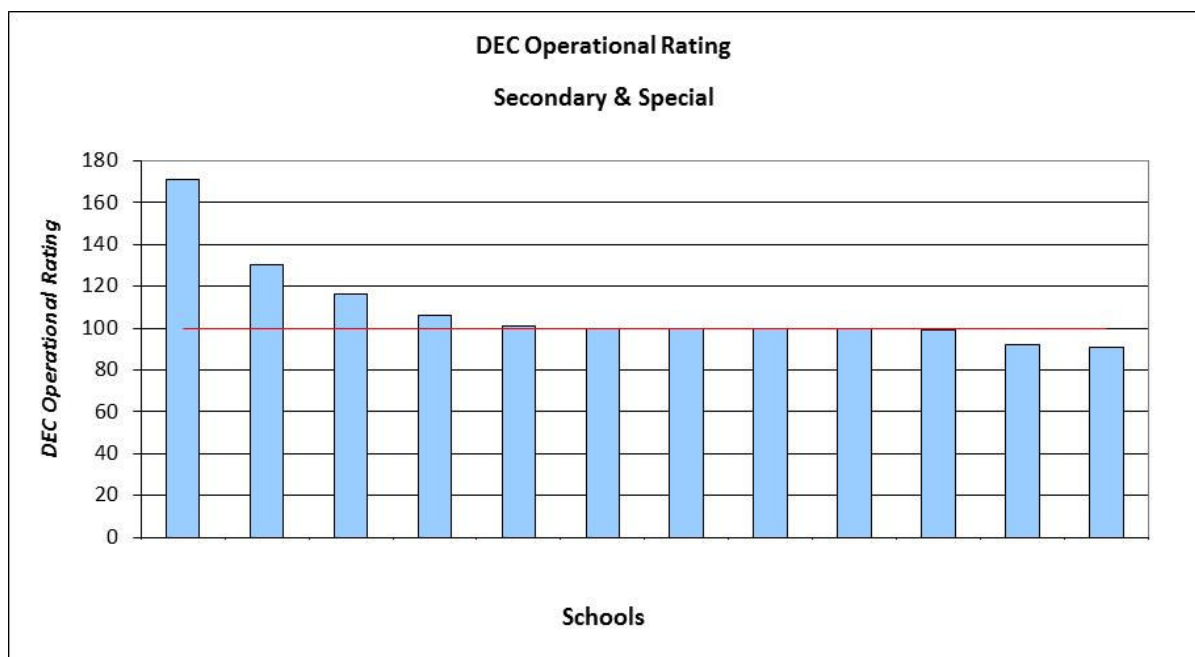


For secondary schools the 'typical' performance benchmark is £80/pupil/year energy costs and 'good practice' is £60/pupil/year energy costs. Currently 80% of Halton schools are performing at a level worse than the typical benchmark. Only two schools exceed the typical benchmark and also achieve the good practice standard. The four special schools and pupil referral unit have the highest cost per pupil, which would be expected given their specific needs and requirements; however this does not mean that there is not scope for improvement.

### Display Energy Certificate Metric

The spread in energy performance can also be illustrated by energy ratings given to schools in their Display Energy Certificates (these are annual ratings which take account of the school building and the amount of energy that is used within it; ratings run from A-G with A being the most efficient lowest energy users).





Currently 21 primary schools and 5 secondary and special schools are performing at a level worse than the 'typical' DEC rating. Four primaries have performed well with a score under 75 resulting in a C rating. Please note that for these charts, schools without a DEC or with a default rating for insufficient consumption data have been given a nominal 100 rating and therefore there could be further schools with potential for improvement in next year's data.

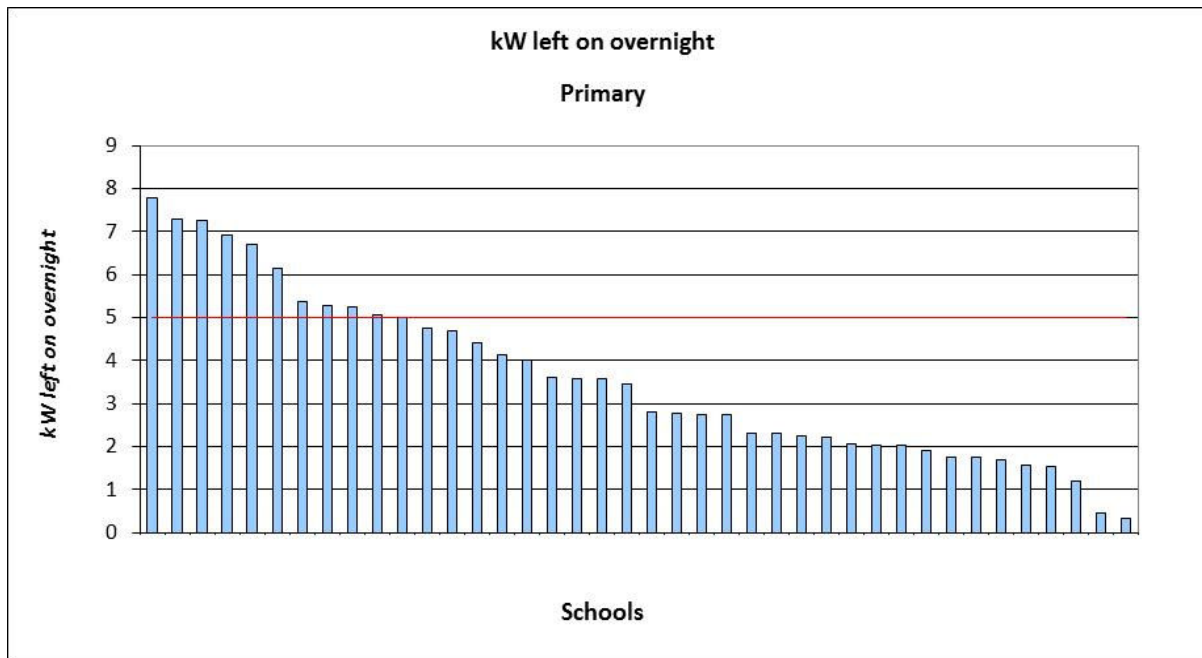
The council will encourage and assist all schools to improve performance to D or less DEC rating (D represents typical energy performance, operational rating less than 100).

### **Out-of-hours electricity waste**

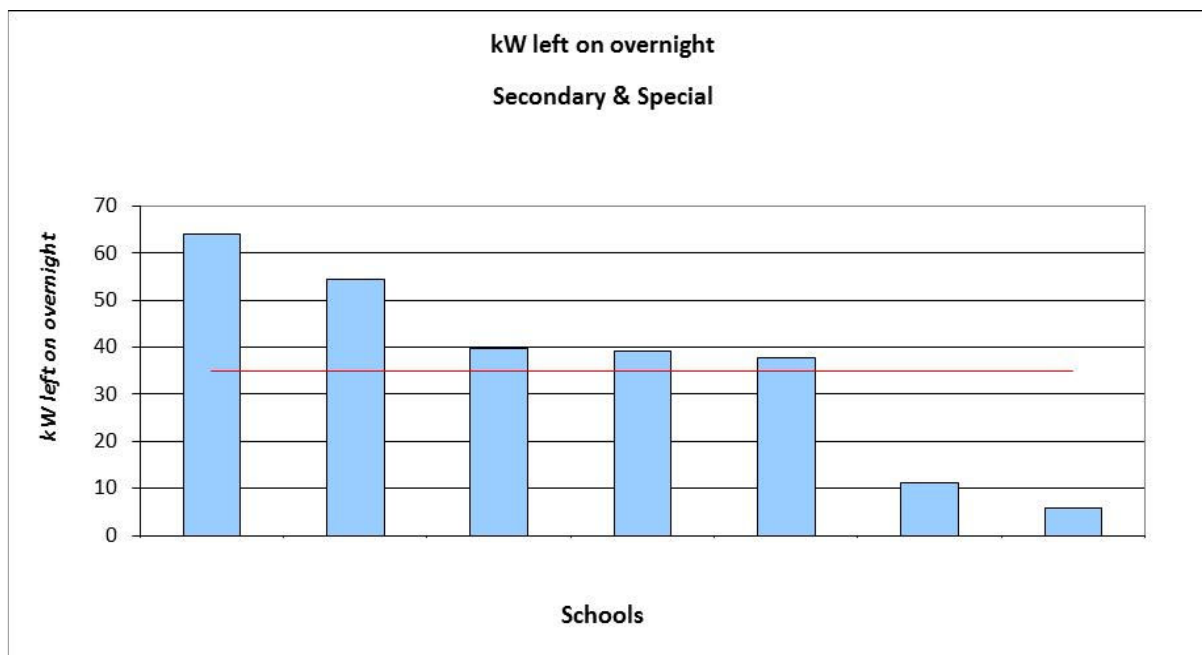
One of the most significant causes of high school energy spend is electrical equipment being left on unnecessarily overnight. Where night metering is installed we are able to quantify the power consumed by the equipment that is being left on overnight. The charts below show this for both primary schools and secondary schools.

Whilst there will be an out-of-hours electrical consumption for fridges, freezers and IT server hub, it is typical that schools leave significant electrical load on out-of-hours, overnight, weekends and during holidays and this represents a key opportunity for simple cost savings.

The graphs show the significant variance between schools. The benchmarks can be established at around 5kW for a typical primary school and 35kW for a typical secondary school, although the potential will differ between sites depending on their use. Each additional kW left on adds over £350 per year to the school electricity bill so clear savings can be achieved by eliminating this wastage.



Of the 40 primaries with out of hours data, 10 schools were above the benchmark consumption. 16 schools were using less than half of the average consumption overnight.



Of the seven secondary and special schools with out of hours data, the five secondary schools were above average consumption and two special schools were below average. This is an interesting contradiction to the overall consumption benchmarks which saw special schools having greater £/pupil energy costs.