

Pupils at Freshford Church School used the Energy Sparks energy management tool to identify energy wastage of £740 per year

Energy Sparks helped this school to identify an inefficient freezer and inspired school management to purchase a more efficient replacement freezer (at a cost of £300). The electricity savings will pay for the investment within 4 months. Over the 10-year life of the freezer this could save the school around £7,400+ – enough to buy 1,500 library books!

What is Energy Sparks? Turning energy data into energy savings through a UK Government supported innovation to help schools save energy and costs*.

- Energy Sparks is an **interactive online platform with a pupil and teacher homepage**. It provides tools for analysing your school's energy consumption and activities based on your school's data. The information can **highlight potential to achieve energy savings**.
- Energy Sparks also has an **online alert system**, with optional email or text options to notify you of changes in electricity and gas consumption if the heating or hot water is accidentally left on at weekends or during holidays, or if the boiler starts coming on too early. It also sends texts and emails to remind you to turn appliances and heating off for upcoming holidays.
- An important part of Energy Sparks is **pupil education**; pupils can act as strong advocates for change in schools. Energy Spark's educational activities can also **provide pupils with skills in understanding energy** which can be applied in their future lives.

“Energy Sparks is amazing. It is great to find out how much electricity and gas our school uses and how much we can save. It has made me more confident at understanding graphs. The activities encourage us to work as a team, and have more of an impact.”

Pupils at Freshford Church School.



How did pupils use Energy Sparks to identify energy waste?

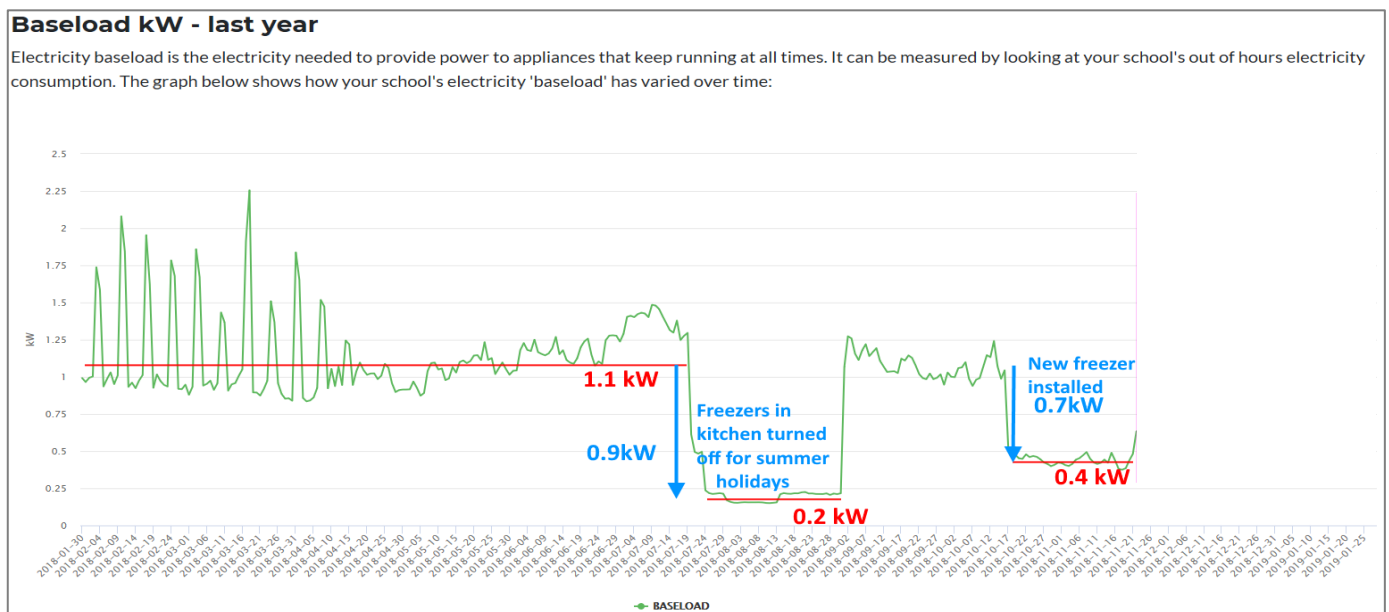
- After the summer holidays pupils noticed that the Energy Sparks chart displaying **‘baseload’ electricity had dropped over the holiday period** (a drop of 0.9 kW). Pupils discovered that the kitchen staff had turned off the fridges and freezers over the summer holidays, explaining the drop.
- To understand the efficiency of the school freezers, the pupils **borrowed some appliance monitors from Energy Sparks** to record how much electricity each individual freezer used. This showed **one of the freezers to be very inefficient**.
- The pupils **wrote a letter to the head teacher and school business manager** explaining their findings and asking for the freezer to be replaced, to save energy, reduce the school's costs and reduce CO₂ emissions.
- The school **management agreed to replace the freezer**. Energy Sparks showed the school's 'baseload' to have reduced by 0.7 kW, saving about £740 per year (as shown in the chart overleaf).



What is a baseload? Why is this useful information for a school to be able to see?

- The 'baseload' is the **amount of electricity a school uses out of hours** when there is no one in the building, typically from appliances which have been left on e.g. ICT servers, fridges, freezers or items on standby e.g. laptops, photocopiers.
- Energy Sparks has several charts which show the baseload (see Figure 1 for an example).
- Energy Sparks also has an **alert-based system** which displays online notifications and sends emails or text messages if the baseload changes significantly; this can indicate if something has been accidentally left on.

Figure 1: Energy Sparks 'Baseload' electricity chart



*Energy Sparks is one of the innovations developed as part of the Non-Domestic Smart Energy Management Innovation Competition, led by the GB Smart Metering Implementation Programme. More information can be found here: <https://www.gov.uk/government/publications/non-domestic-smart-energymanagement-innovation-competition>.

If you have any questions about Energy Sparks please contact us: hello@energysparks.uk

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+This is the potential saving as a direct result of the freezer upgrade. However, the size of the saving over time may be affected by other changes in equipment or activity that a school makes.