

ENERGY SAVINGS FOR SCHOOL



Using energy data to control usage, manage costs and help the environment

The Government supported smart meter innovation to help schools control energy usage, manage costs and help the environment.

Smart meters unlock the potential of energy data. They provide insight about schools' energy consumption that enables them to control energy use and manage costs. Smart meters are essential for the upgrade of Great Britain's energy grid, helping to pave the way for new services and technologies and a low carbon future.

To support the rollout of smart meters, the Government funded the development of smart energy management innovations to help schools turn energy data into tailored energy management actions.

Energy Sparks and **Energy in Schools** were funded to develop innovations designed to give schools the knowledge and capability to become more energy efficient, and to serve as an educational tool for pupils. The main benefits delivered through these innovations were:

- Reducing energy consumption
- Involving pupils in energy and empowering action
- Educational benefits for pupils and resources for teachers
- Monitoring and managing energy usage and costs
- Ability to tackle energy inefficiencies and faults
- Becoming more environmentally friendly
- Saving money on energy bills

The innovations offered the following features:

Energy Sparks is an online application that provides energy data visualisation dashboards for school pupils and staff, including recent and historical energy use. It includes a notification system to flag unusual consumption levels and potential inefficiencies, provides energy saving recommendations and displays performance in energy saving activities in a league table with other participating schools. Schools are encouraged to assign adults as 'Energy Champions' to promote use of the tool. The Energy Sparks system also includes educational resources to be used within extra-curricular 'eco-clubs'.

Developer: Energy Sparks

Energy in Schools includes an online portal through which energy data is displayed graphically to allow schools to access and monitor their data, and a complementary educational package. As part of the educational package, pupils are given the role of 'Energy Champions' and access to the tool and energy monitoring equipment (including temperature sensors). The package also comprises lesson plans and other educational resources. As part of the pilot, participating schools were given a TV which would display school energy performance against that of other schools in a league table.

Developer: Samsung Electronics Research UK

How can smart energy management innovations benefit your school?

Here are some of the benefits school users experienced from piloting the innovations:

Reducing energy consumption

The energy consumption data of some schools piloting Energy Sparks was analysed. One primary school, which had taken a number of energy saving measures after engaging with Energy Sparks, had substantially reduced their energy usage in their first year piloting the innovation, leading to annual electricity savings of around 20%.

Involving pupils in energy and empowering action

“ We've looked at the Energy Sparks website a few times, and the activities on there are really motivating [the pupils] to think oh yes, we can do that. They are going to plan a few things that they want to do just based on the things they've seen on there ... [the pupils] do checks three times a week about the use of energy. So, you know, have the classes turned their lights off at lunch time? Then they have prizes at the end of the week for the most eco-friendly classroom. ”

Teacher at Long Furlong Primary School in Abingdon, piloting Energy Sparks

Educational benefits for pupils and resources for teachers

“ The graphs have been brilliant to look at, I've encouraged all teachers to actually use that within their maths lessons. Why generate random things off the internet about line graphs when, actually, there's something there that's really relevant to the children in our school, and they can actually talk about the story of energy use in our school? ”

David Page, Deputy Headteacher of Jennets Park Church of England Primary School in Bracknell, piloting Energy in Schools (Samsung)

Monitoring and managing energy usage and costs

“ If you get a question like 'Is this costing us a lot of money?' you can retrospectively go back and say, 'It was costing us this before. This now [costs us X]' ... So, as a recording tool it is invaluable. It allows you to ask the questions, and you don't need to have sourced the data beforehand. So, from that point of view, it's brilliant, absolutely brilliant. ”

Governor of Long Furlong Primary School in Abingdon, piloting Energy Sparks

Ability to tackle energy inefficiencies and faults

“ It's giving me a confidence level of saying, 'We are not wasting electricity wholesale' ... Energy Sparks gives me information, the comparisons, to prove that. So, yes, it's a very useful tool for that, and it's benefiting the school, and we can see it in our [reduced] electricity bills. ”

Governor of Long Furlong Primary School in Abingdon, piloting Energy Sparks

Becoming more environmentally friendly

“ [Energy in Schools] has made us go on to try and get the Eco Schools Bronze Award. That's what we're trying to do now as a whole school because we have eco-monitors in every class. ”

Keith Atkins, Headteacher of St. Andrews Church School in Taunton, piloting Energy in Schools (Samsung)

Saving money on energy bills

“ We now understand the immersion heaters and how they work, and how we were misusing them over the holidays, we saved ourselves a shedload of money there. ”

Governor of Long Furlong Primary School in Abingdon, piloting Energy Sparks

More about the innovations piloted, including evaluation reports and insights for innovators can be found here: <https://www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition>.