Energy

“A true conservationist is a man who knows that the world is not given by his fathers, but borrowed from his children”.

John James Audubond

The DfE’s Sustainability and Climate Change Strategy, a strategy for the education and children's services systems, stated that 36% of total UK public sector building emissions are from schools and universities. So how can we reduce these emissions?

Procure your energy well

If you’re not already engaged with an energy procurement expert, find one or you may also have considered purchasing your energy through a DfE approved gas or electricity framework. However you chose to do it, please don’t do it on your own – get expert advice to buy your energy well.

Use your energy well

“The cheapest and greenest kilowatt is the one you never use.”

To use your energy well, you will need to understand when and how it's being used, so make the most of smart metering and get your excel nerdy pants on with some data analysis. Have a look at Energy Sparks - They deliver energy management systems in schools with real-time information about their energy usage, presented in a user-friendly online portal. It's supported with an energy education programme for KS1 through to KS5, so you really can influence changes in behaviour patterns for all, again at home as well as school. Energy Sparks can also conduct energy audits either for free virtually or at a cost for a visit (which includes a thermal imaging camera). You may also want to engage with School Energy Efficiency or register your school with Lets go Zero, an organisation which will support your school to set zero carbon targets.

Monitor your consumption

Using Energy Sparks or your energy supplier portal, keep an eye on consumption patterns.

Let staff and pupils know how much energy they are consuming and when their actions have an impact.

If you have smart meters installed, you will be able to monitor out of hours consumption. Up to 60% of your energy consumption may be when the school is closed. If you don’t have access to either, take a meter reading at the end of the school day, just before the school closes, upon opening in the morning and again just before the children enter for the day. This will tell you what energy is used when the building is occupied, partially occupied and unoccupied. Taking meter readings before and after lettings may mean that charges need to be amended to cover increased energy consumption.

Purchase timer plugs to ensure charging trolleys, ICT equipment and non essential electricals are turned off. Or put in place a protocol for turning things off and allocate responsibility for this.

Encourage good energy behaviour

- Switch off lights, ICT and electrical equipment when not in use.
- Turn off fridges and freezers in the holidays and consolidate where necessary.
- Label light switches to show which don't need to be switched on.
- Remove obstructions from windows to allow maximum natural light into rooms.
- Encourage staff and pupils to close doors and windows in winter to avoid heat loss.
- Monitor user behaviour and feedback success and action points.
- Appoint eco champions to make sure their classes have positive energy behaviours.

Energy compliance

Streamlined Energy and Carbon Reporting (SECR)

If your organisation meets two of the following criteria, they should be reporting on their Streamlined Energy Carbon annually in their year-end accounts. Understanding your school's intensity ratio (total gross emissions in metric tonnes – CO_2e per pupil) and sharing this with the school community could focus minds in working together to reduce it.:

- 250 or more employees;
- Balance sheet assets of £18 million or more;
- Turnover greater than £36m

Display Energy Certificates (DECs)

If your school has usable floor space of over 250m2 it is a legal requirement to have a Display Energy Certificate (DEC). They last for one year for buildings with a total useful floor area of more than 1000m2 and for 10 years when the total floor area is over 250m2 and up to 1000m2 . The advisory report which accompanies the DEC, includes recommendations for improving the energy performance of the building. Are you able to implement any of those recommendations? Can't find your DEC? Take a look at Find energy certificate, if your home has one it will be on here too.

You can compare how your school is performing against National and regional benchmarks using the Chartered Institution of Building Services Engineers (CIBSE) provides an energy benchmarking tool for all building users energy benchmarking tool.

Manage your building well

Using existing heating or lighting controls effectively can reduce energy wastage, save money and reduce emissions by up to 40%. If the boiler is poorly operated or maintained, heating costs can increase by 30% or more.

Make sure it is serviced at least annually and adjusted for optimum efficiency. Heating costs increase by around 8% for every 1˚C increase (Carbon Trust).

Make sure temperature controls are set and adjusted to reflect different uses and activities in different areas or rooms.

The DfE recommends:

- 15°C for corridors and halls
- 18°C for classrooms

- 21°C for Early years, SEND and rooms with little activity, i.e. offices.

Check timers so they reflect actual hours of use and are set to the right date and time (particularly after the clocks go forward or back). You may want to limit the ability for individuals to change the heating controls, or only enable very small adjustments.

Up to 30% of heating costs can be saved by preventing cold air entering the building (Carbon Trust). Make sure all sources of draughts are identified and appropriate draught proofing is fitted. If the room is too warm and the heating is on, adjust the temperature control rather than opening windows.

Overheating in the summer can be a problem in some areas. Either open windows or use air-conditioning, never both.

Poor control of a space can lead to discomfort, so it is important that staff understand and know how to adjust the temperature, ventilation and lighting in their spaces so that conditions can be adjusted to achieve the desired comfort levels.

Purchase appliances and digital technology well

Replacing old electrical or IT equipment with more energy efficient models can significantly reduce your energy consumption.

Before making purchasing decisions, use Energy Star to compare energy efficiency.

Further Support

- https://www.eco-schools.org.uk/ten-topics/energy/
- https://www.gov.uk/guidance/good-estate-management-for-schools/performance-management-and-sustainability
- https://assets.publishing.service.gov.uk/media/5f847c598fa8f504594d4b82/Top_tips_to_reduce_energy_and_water_use_in_schools.pdf