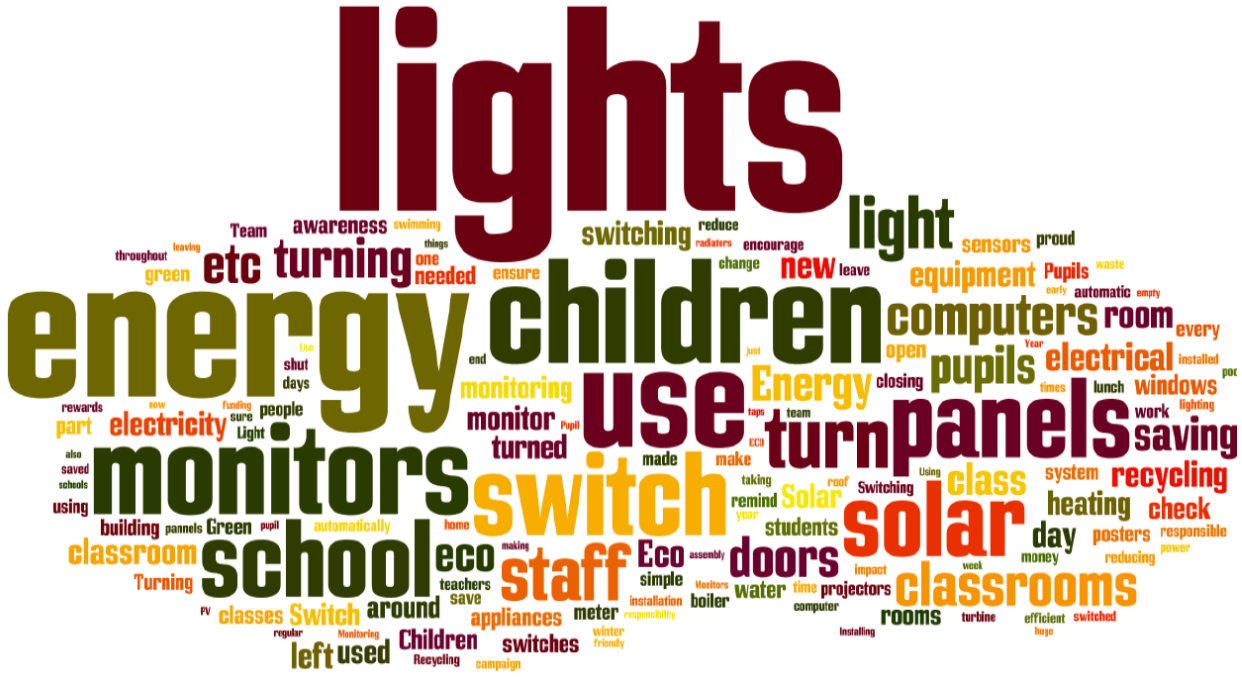
Energy Guidance for Schools



October 2022

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Background to guidance

Schools like all organisations are struggling with increased energy prices. While the Energy Bill Relief Scheme will go quite a long way to supporting schools with increased energy prices (in the short term), we know this is just one of many things increasing in price which is creating real challenges to schools balancing their budgets.

Until recently (in the last academic year) energy prices were typically 14p/kWh for electricity, 2.5p/kWh for gas and 150p/m^3 for water. We are now seeing energy prices that have climbed to over 65p/kWh for electricity and 14p/kWh for gas, water has remained relatively stable during this time.

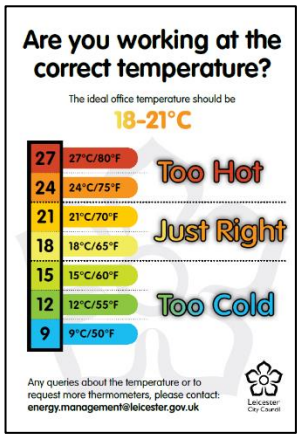
During the last two winters we have seen increased gas usage due to windows remaining open due to ventilation requirements. While we still encourage high levels of ventilation in all classrooms, this can be monitored by portable CO_2 sensors and opening windows as appropriate to temporarily increase air flow. Once CO_2 levels reduce, windows can then be closed again. In a lot of our modern secondary schools the air handling units which circulate air within the building means that windows generally do not need to be left open. If in doubt, please consult your site manager.

Energy use in schools

For most schools around 75-80% of running costs are staff salaries. Of the remaining budget, up to half can be spent on utilities (gas, water, electricity and district heat), through good behaviour change alone energy consumption can be reduced by 10%.

Low and no cost

The most obvious way to reduce energy is to switch equipment and light switches off. Our mantra is switch if off, switch if off, switch it off.

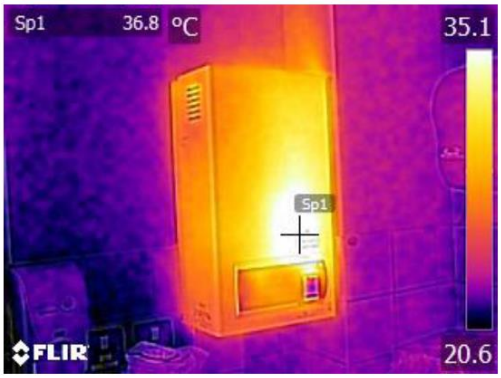


A lot of the low and no cost involves staff time – once established, often they need to be revisited during the academic year or at least annually.

- Empower pupils (Eco-Team) to undertake a campaign.
- Create a one-page guide on how to maintain spaces.
- Empower all occupants to challenge when lights are on, if possible, allow them to turn them off.
- Active label everything – light switches to plug sockets (see image with red dots).
- If blinds or curtains are used to reduce glare, remind occupants to open them rather than use artificial lights.
- Keep external doors closed, ensure it's someone's job to shut at the end of break.
- Investigate unexpected consumption – regularly monitor your use (via Dynatmat2050, Energy Sparks etc).

- Find out your baseload and stick to it overnight (base load is the amount of energy that the building uses when it's not occupied e.g. PC servers, security systems).
- Share with stakeholders how much energy is used (on a weekly/monthly/annually basis).
- Look for heat losses using a heat camera.

- Experiment with heating times, reduce until you get a complaint.
- Reduce heating and increase cooling temperatures particularly toilets and corridors.
- Complete a walk around - look for anything blocking radiators – furniture etc.
- Keep the school office window shut until the external door is closed (reduced wind running through the building).
- Look around for things covering windows – blinds/curtains and displays.
- Put timers on mobile device trollies and set to their optimal level.
- Ensure a timer is on the staffroom water heater and set for optimal use: off overnight, weekends and holidays.



Heat loss through a staffroom hot water boiler, heat loss from PCs and suggested posters to display next to laptop storage units (lapsafe).

Medium cost

- Draught proof external or fire doors from thermal imaging
- Use plastic strip curtains on doors left open for any amount of time
- Consider motion sensors especially in corridors, toilets and stairwells, always consider if a lux sensor is needed
- Insulate pipework

- Review shading for windows that receive lots of solar gain, window film is a cheaper option
- Consider extra thermostats to control delivery of heat around the building

Heat curtains massively reduce heat loss in free flow play areas.
They can be removed in summer if required.
They are also very easy to clean.

High cost

Through our Salix funded programme we have been able to install LEDs in all local authority schools as well as install Solar photovoltaics (PVs) in all schools with suitable roof structures, reducing energy and carbon. We were also able to undertake ceiling insulation. For nearly 20 schools we have started to undertake Air source heat pump installations which will further reduced carbon as we increase the amount of electricity which is generated from renewables.

- Install LEDS in all lights that aren't already (typically 30% reduction in electricity use)
- External shading for south facing windows (brise soleil)
- External cladding/insulation
- Install Solar panels if you have them – can you increase the amount if you do?
- End of life boilers – low carbon solutions such as ground source and air source heat pumps (ASHP)

Further information about how some of these technologies work is being distributed to schools over the next few weeks and will be available on the schools' extranet.

For academies we are developing an offer to install LEDs and Solar PVs. This would need to be funded through MAT financial budgets or reserves. We are starting to see payback on these technologies drop from 5-7 years to 3-5 years as energy prices have continued to increase.

Examples of LEDs and Solar PVs installed in Leicester schools along with an example of brise soleil providing shade from direct sunlight.

BESS Energy

BESS Energy is our traded service for schools and academies in Leicester City. Schools can sign up to BESS Energy separately from the council's main BESS offer (although you do receive a 10% discount if you are already in BESS).

BESS Energy (core) covers

- Carbon and energy report
- Monitoring via Dynamat2050 (web interface) for gas/water/electricity
- Identification of excess use/out of hours use
- Energy bill collation for your DEC certificate
- Newsletters, email communication and termly training

BESS Energy (enhanced) covers BESS Energy core as well as:

- DEC certificate completion (up to £110+VAT)
- 10 hours of bespoke support

If you would like to sign up to BESS Energy (core or enhanced) there is still time this academic year. Please email BESS.Energy@leicester.gov.uk for more information and to sign up.

We also produce carbon reports for academies as part of their annual audited accounts, this is provided as part of BESS core or enhanced, alternatively we can just produce carbon reports.

Please see below for more information about both services.

BESS Energy Core 2022-23
12 Month Subscription

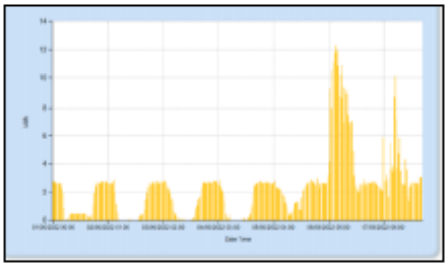
Sustainable LEICESTER

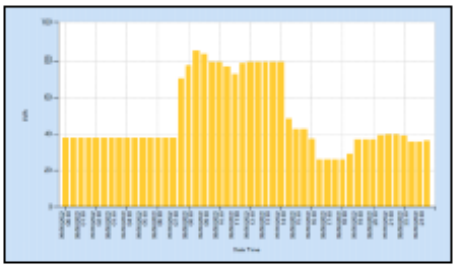
Worried about increasing energy costs? Wanting to save money and improve your environmental credentials?

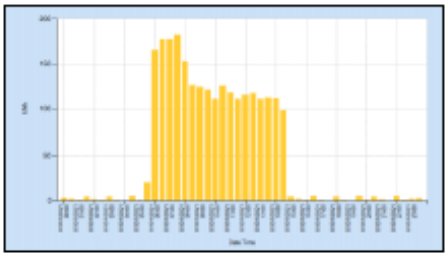
Energy and water make up one of the biggest spends for schools *after staffing*. Leicester City Council has worked closely to develop an offer as part of BESS schools to **develop tools and reports** to **empower staff and students** to **take control** of their energy and water use.

This offer is open to all schools in Leicester City at cost price as part of our Climate Emergency Declaration commitment

What is included in the service:







- **Monitoring equipment installed and maintained** (main meter gas or district heat, water, and electricity) throughout your subscription
- Access to **DynamatLite2050**, the updated half-hourly energy and water monitoring website used by Leicester City Council for your own unique data
- **Identification and reporting** of excessive use/wastage (phone and email)
- **Annual energy and carbon** report which identifies trends in data and potential savings over 5 years (subject to data availability) *and up to one hour Teams walkthrough of the report*
- **Data report for Academies** – Streamlining Energy and Carbon Reporting (SERC) as required (saving £150)
- **Provision of data** for school's preferred DEC provider
- **Regular updates** via email and Teams online

"Through monitoring our water, we identified a leak which could have cost us hundreds of pounds had it not been spotted" Business Manager, Leicester

For more information please contact:
The BESS Energy team
BESS.Energy@leicester.gov.uk
0116 454 2271
schools.leicester.gov.uk/BESS-Energy

This service will start in September 2022

Priced at £545

10% reduction for BESS schools

Sign up to BESS Energy by 31 July 2022 by completing our online form.

Leicester City Council

To provide Leicester with a high quality, efficient, effective and sustainable built environment

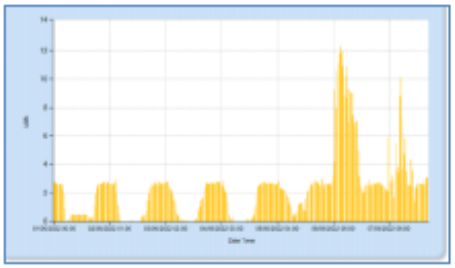
BESS Energy Enhanced 2022-3
12 Month Subscription

Sustainable LEICESTER

Worried about increasing energy costs? Wanting to save money and improve your environmental credentials?

Energy and water make up one of the biggest spends for schools *after staffing.* Leicester City Council has worked closely to develop an offer as part of BESS schools to **develop tools and reports** to **empower staff and students** to **take control** of their energy and water use.

This offer is open to all schools in Leicester City at cost price as part of our Climate Emergency Declaration commitment



What is included in the service?

All the benefits of BESS Energy Core:

- **Monitoring equipment installed and maintained** (main meter gas or district heat, water, and electricity) throughout your subscription
- Access to **DynamatLite2050**, the updated half-hourly energy and water monitoring website used by Leicester City Council for your own unique data
- **Identification and reporting** of excessive use/wastage (phone and email)
- **Annual energy and carbon** report which identifies trends in data and potential savings over 5 years (subject to data availability), *and up to one hour Teams walkthrough of the report*
- Data report for Academies **Streamlining Energy and Carbon Reporting (SERC)** requirements (saving £150)
- **Provision of data** for school's preferred DEC provider
- **Regular updates** via email and Teams online

Plus BESS Energy Enhanced:

- **Identification and reporting** of excessive use/wastage (including visits)
- **Provision of your annual DEC certificate** (or subsidised 7 year DEC certificate)
- Online or face to face training **termly**
- **10 hours of bespoke support** per school (including technical, analysis and education support for staff and pupils) – ***see our separate flyer***

"Through monitoring our electricity we discovered our thermal heater timers had a fault, meaning that they were being left on at the weekend - once resolved, this saved hundreds of pounds over the school holidays" Business Manager, Leicester

For more information please contact:
The BESS Energy team
BESS.Energy@leicester.gov.uk
0116 454 2271
schools.leicester.gov.uk/BESS-Energy

Price maintained at £1295
10% reduction for BESS schools

This service will start in September 2022

Sign up to BESS Energy by 31 July 2021 by completing our online form.

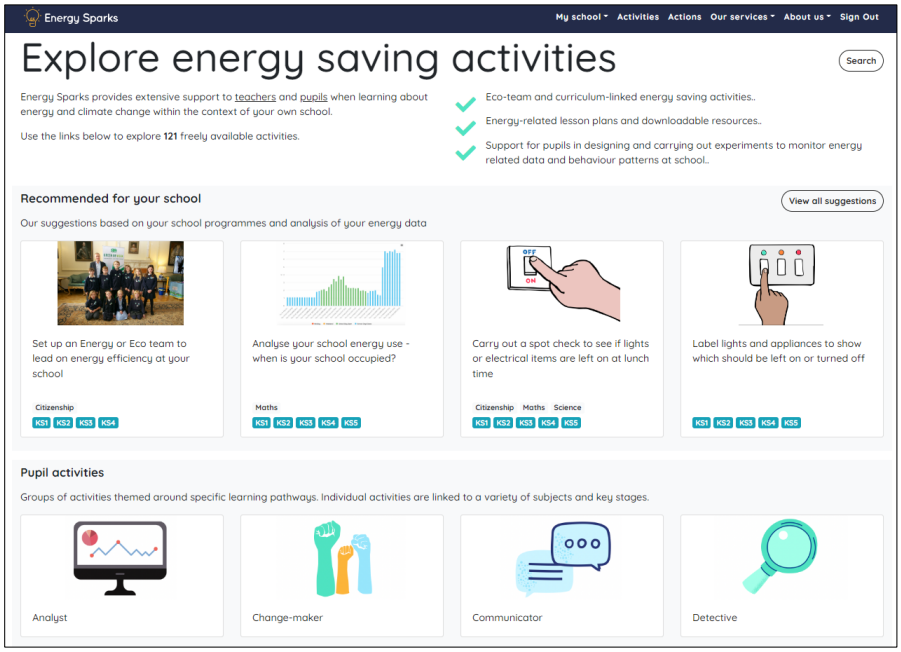
Leicester City Council

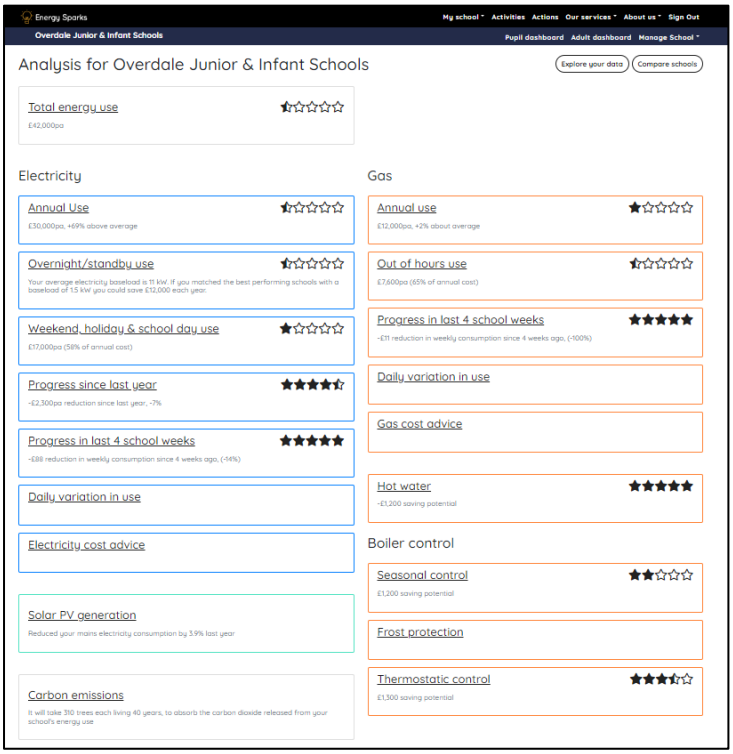
To provide Leicester with a high quality, efficient, effective and sustainable built environment

Energy Sparks

Energy Sparks is an online monitoring tool with an extensive range of educational activities and resources. It is endorsed by the Department for Education (DfE) and is currently provided free of charge to schools (funded via the DfE). We have worked with nearly 30 schools to set them up on the system and delivered training.

Subject to capacity by Energy Sparks, additional schools can join the system. For more information, please contact energy sparks at hello@energysparks.uk or SustainableSchools@leicester.gov.uk. You can also review the website and view current schools at Map | Energy Sparks.





Buying energy

The Department for Education has produced a detailed guide on buying energy. Please see their website for more information.

The energy market is different to most other goods and services you buy and is different to the domestic energy market for home use, for example:

- there's usually no cooling off period
- prices are not capped
- separate contracts are required for gas and electricity
- at the end of the contract, if no action is taken, you will move to a higher uncompetitive cost, known as the 'deemed rate'
- energy prices can fluctuate rapidly from day to day

There are 3 main ways of buying energy

1. **Direct with a supplier** - manually comparing unit prices and standing charges. You can choose a fixed tariff for usually between one and three years. We would previously always recommend a fixed tariff, however like domestic prices, this is not likely to be cheaper (and the Energy Bill Relief Scheme will ensure a cap until 31 March 2023). This is the most time consuming and likely you won't find all deals available.
2. **Via a broker** before you use an energy consultant or broker, be aware of the additional costs for this service.
3. **Via a framework** – large purchasing organisations work with suppliers to drive the cost of prices down. Locally most schools (and the council) use the frameworks which has been previously out to tender and is fully compliant with procurement without further scrutiny. Schools can join the ESPO framework at any time, however, may not receive the very best deal immediately. Total Energies are the current supplier on the framework. To find out more information please either see the ESPO framework webpage or email energy@espo.org There is a short animation which explains how the ESPO framework works.

Energy Bill Relief Scheme

On the 21 September, the government announced an energy bill relief scheme (EBRS) Further information is available on the Government website (BEIS) Energy Bill Relief Scheme: help for businesses and other non-domestic customers

Through the scheme the government have set a price cap for non-domestic building including schools, for 6 months, discounts will be applied to energy usage initially between 1 October 2022 and 31 March 2023.

The price cap set at:

- £211 per megawatt hour (MWh) for electricity – which is the same as 21.1p/kWh
- £75 per MWh for gas – which is the same as 7.5p/kWh

You do not need to do anything to claim the price cap, it will be automatically applied to your bills, whether you are on a fixed contract such as ESPO or a variable tariff. Please be aware scammers may contact the school (the same way that scammers have contacted homeowners through the domestic price cap).

If you are contacted do not respond and forward to the police for investigation.

Key action: check your October bill for gas and electricity take into account the new price cap, if they are not there – raise with your supplier (alternatively there may be a refund in the November bill – but double check).

Energy and heating policy for schools

Often, the quickest way to reduce gas consumption is to review your heating either for switch on and off time or set temperatures. Reducing the temperature by 1 degree can make a big difference, as can reducing by 15 minutes at the start or the end of the day.

We have produced a draft policy for local authority schools to adopt. This policy can also be used by academies. Download a copy from the schools' extranet.