Essex County Council

Energy Efficiency Guide

A practical planning guide for all schools to improve their energy efficiency, reduce costs and support climate action

Facilities Management Team
September 2025

Introduction

The Department for Education's sustainability and climate change strategy sets a clear expectation that all education settings appoint a Sustainability Lead and have a climate action plan in place.

This ECC guide has been produced to support Essex school leaders meet this ask and in doing so, improve their energy efficiency and reduce costs.

A school's climate action plan is expected to cover the following four areas.

1. Decarbonisation
2. Adaptation and resilience
3. Improving the environment and biodiversity
4. Climate education and green careers

This guide focuses on **point 1: decarbonisation**, supporting schools to reduce carbon emissions and improve energy efficiency.

For wider support with developing Climate Action Plans from ECC and key partners, including Let's Go Zero's climate action advisors, please visit Essex Schools Infolink.

This guide is designed to help schools create a focused 'energy action plan' by following a simple five-step process, from collating energy data to reviewing progress. Each step is supported by editable templates to make planning straightforward. Priority actions identified through this process can be dropped directly into your school's wider climate action plan.

The process is simple and repeatable:

The main body of this guide is a list of practical, pre-written actions. Schools can select from these, adapt them, or add their own when completing Step 4. These are grouped into the following areas:

• Plant room and BMS	• Lighting	• Kitchen
• Windows and building fabric	• Heating emitters and POU hot water	• Electrical equipment
• Ventilation	• Air conditioning	• Swimming pool
• Renewables	• School engagement	• Procurement and EV charging

Most of the suggested actions in this energy efficiency guide are low or no cost. Their impact can be significant, not just in terms of carbon and energy savings, but in very real financial savings for schools. The case studies below show how simple changes have led to thousands of pounds in reduced bills.

Electricity

24% in Oakfield Primary School

- *Delayed kitchen hot cupboards – previously switched on at 7:30am when staff arrived*
- *Reviewed the necessity of fridges and removed three of them*
- *Introduced energy and windows policies*
- *Applied defrost schedule – shutting one unit for 10 weeks cuts costs by 19%*

£16,106 saved annually

Gas

40% in St Peter's C of E Primary School

- *Implemented holiday programme, cutting energy use during school closures*
- *Removed unnecessary Sunday hot water schedule – previously unnoticed due to lack of BMS review*
- *Shortened boiler operation – start delayed by 1 hour, end time set 1 hour earlier*

£1,909 saved over two winter months

Step 1 to 5: Guidance and Examples

This section walks through each step with real examples to show how the guide can be used.

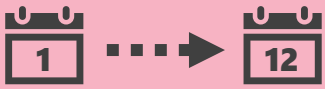
After the walkthrough, you'll find a blank template to help your school create its own 'energy action plan' and a review process.

Step 1: Collate Energy Data

The following table should be completed by your school to provide an annual summary of energy consumption and cost across all sources – electricity, gas, oil, or other fuels. Its purpose is to establish a baseline using a full year of data before implementing actions, and to track progress over time.

To gather this data, use the last 12 months of energy invoices, access an online energy portal if available, or request usage data from suppliers.

For consistency, consider using January to December or the same 12-month period each year.



The annual table offers a clear overview for planning and review but is not a substitute for detailed tracking. Monthly tracking should be maintained separately, including meter readings, billing periods, unit rates (day/night if applicable), standing charges, and other relevant details.

If your school has multiple buildings or meters, complete a separate table for each to ensure accurate tracking. Whilst energy use should ideally decrease over time, total cost may fluctuate due to unit rates and contract terms.

For guidance on managing energy contracts, access Energy Procurement support on Essex Schools InfoLink.

Energy Consumption Summary

Person responsible for updating this table	School Business Manager
Deadline for next table update before review meeting	10th January 2026

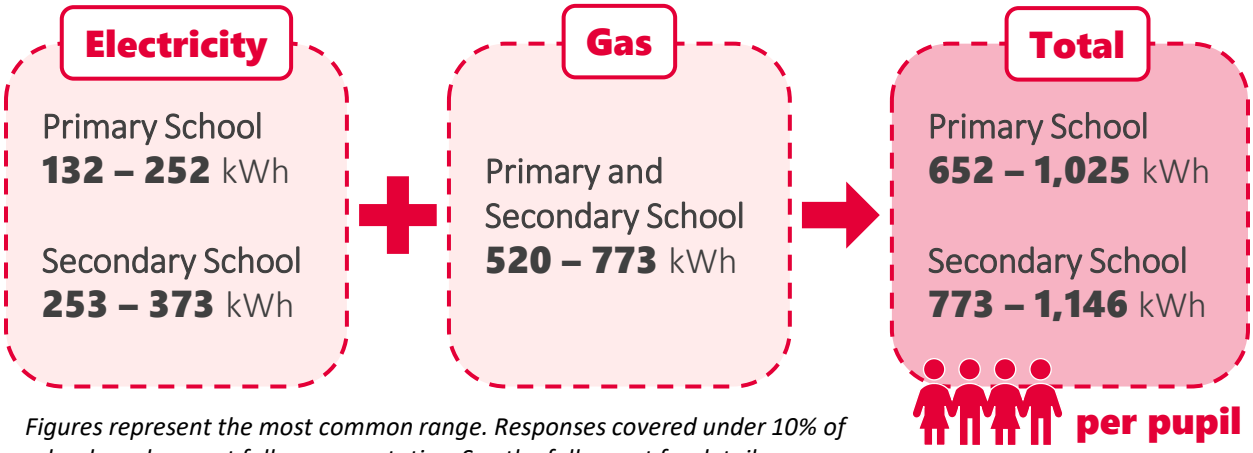
	Year	2024 (Jan – Dec 24)	2025 (Jan – Dec 25)	2026 (Jan – Dec 26)
Electricity	**Consumption** (kWh)	120,000	110,000	
	Cost (£)	33,600	30,800	
	Unit rate (p/kWh)	28.0	28.0	
	Supplier	Company X	Company Y	
	% Change	N/A	- 8.3%	
Gas	**Consumption** (kWh)	250,000	230,000	
	Cost (£)	12,500	11,300	
	Unit rate (p/kWh)	5.0	5.0	
	Supplier	Company A	Company B	
	% Change	N/A	- 8.0%	
Oil	**Consumption** (litres or kWh)	5,000 litres	4,200 litres	
	Cost (£)	4,000	3,360	
	Unit rate (p/litre or kWh)	80 p/litre	80 p/litre	
	% Change	N/A	- 16%	
	Total Energy Cost (£)	51,000	45,460	
	Notes on action taken	N/A - Baseline before changes.	Reduced heating hours and LED upgrade	

Text shown in red provides example entries to guide schools.

Please find the blank Word template at Essex Schools Infolink to complete your own table.

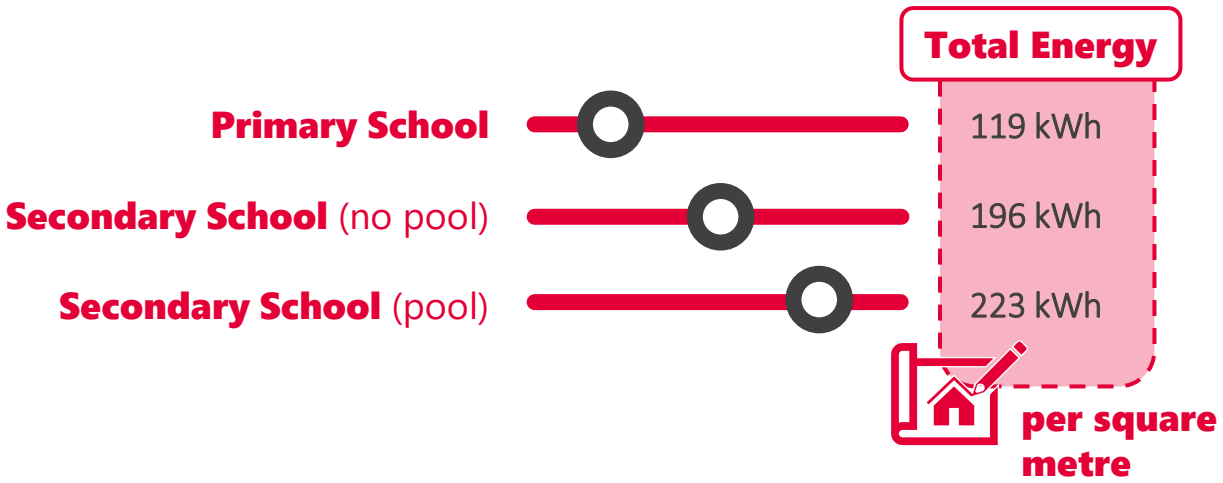
If your school knows its pupil numbers or floor area, it may be useful to calculate energy use per pupil or per square metre. This can help compare performance over time or against other schools.

Recent benchmarks are limited, but the Department for Education's 2022 Energy Survey may be useful for comparing energy use per pupil:



Figures represent the most common range. Responses covered under 10% of schools and are not fully representative. See the full report for details.

There are also some benchmarks from a 2011 study on typical total energy use per square metre. These figures are indicative only, as the study is now dated:



If your school chooses to calculate energy use per pupil or per square metre, these figures can help inform your annual target in Step 3. For example: Last year we used 250 kWh of electricity per pupil. Next year, we would like to reduce this to 225 kWh per pupil.

Step 2: Set a Vision

Set a vision for your school's approach to saving energy and reducing carbon emissions. This should reflect your whole-school commitment and where you currently stand. Consider consulting students and staff before writing your vision so that it's informed by the people who use the building every day.

Example

Our school is concerned about climate change and wants to be part of the solution. We recognise the need to reduce the greenhouse gases we release into the atmosphere. To support our Climate Action Plan, we have formed an Energy Action Team who will work with the whole school community to agree specific actions (Step 4) and then help deliver the change needed.

Step 3: Set an Annual Target

Set a clear and measurable target for reducing energy consumption over the next 12 months. Use your baseline data from Step 1 to guide this. Targets can be based on total kWh, cost, or benchmarks such as kWh per pupil or per square metre.

Example

After reviewing our energy consumption for 2024, the school used 250,000 kWh of gas and 120,000 kWh of electricity. By implementing the actions in our strategic plan, we aim to reduce our total energy use by 10%. Our target for 2025 is to use 225,000 kWh of gas or less, and 108,000 kWh of electricity or less.

- ***Review date:*** *10 January 2026*
- ***Attending staff/parties:*** *Headteacher, Business Manager, Sustainability Lead, Energy Action Team*

Step 4: Set Actions

This is where your school selects energy-saving actions to implement over the coming year and explore other energy upgrades and installations, such as renewables (e.g. solar PV). You can choose from the practical actions list provided later in this guide or create your own.

To estimate savings, you can use simple calculations. For example, multiplying the kW rating of an appliance by the number of hours it's switched off, the number of days it's used, and your school's unit rate. Reducing heating times by one hour each day may save around 10% on your gas bill.

For support with estimates, the following tools are recommended:

Citizens Advice Appliance Cost Calculator

Estimating appliance running costs

LED Lighting Savings Calculator

Comparing LED & traditional lights

Solar Wizard Calculator

Estimating building-specific power generation

Student involvement is encouraged. For example, the Energy Action Team could lead on the end-of-day checklist or help monitor meter readings.

Action	Person/ parties in charge	Impact/ savings estimate	Engaging students	Expected complete date	Additional comments
Delay hot cupboard start time by 2 hrs	*Kitchen Manager*	*£319/year (3kW × 2 hrs/day × 190 days × £0.28/kWh)*	*N/A*	*Immediate*	*N/A on Wed – early prep for roast dinner*
Reduce heating schedule	*Site Manager*	*Approx. 10% of gas bill*	*Year 6 to take daily gas readings before/after*	*Immediate*	
Add solar control film to windows	*Facilities Team*	*Approx. 2*			

Text shown in red provides example entries.

Please find the blank Word template at Essex Schools Infolink for more examples and to complete your own table.

Step 5: Review Progress

Each year, meet on the date set in your annual target. Ensure the responsible person has updated the energy consumption summary from Step 1 beforehand so that progress can be discussed.

As part of this review

- ☑ **Calculate** the headline saving figure (e.g. total kWh or £ saved compared to the previous year)
- ☑ **Reflect** on which actions were most effective
- ☑ **Share** this figure with students, staff, governors or on the school website. Celebrate progress on energy in your wider climate action plan
- ☑ **Set** new actions to implement next year
- ☑ **Revisit** the school's energy vision, annual target and review date. Adjust to reflect progress or new priorities

This process refreshes the energy action plan for another year and ensures that climate action remains active and visible across the school community. A table to aid the review meeting will be provided in the Word template.

Start building your education setting's energy strategy using the Word template at Essex Schools Infolink

The following are energy-saving actions that schools can adopt, adapt, or build on to complete Step 4.

Plant Room & BMS

Optimising plant room operations and building management systems (BMS) can significantly reduce energy waste.

- [ ] **Insulate exposed pipework and pumps:**
Use removable jackets or insulation sleeves on hot surfaces to reduce heat loss by up to 90%. Focus on pipework near boilers and pumps.

- [ ] **Optimise heating schedules:**
Set heating to match actual occupancy. Many schools have successfully used 8:00am to 4:00pm as a core schedule. Switch off slightly before the end of use, as residual heat in the building and heating system will help maintain comfortable temperatures.

- [ ] **Tailor settings to specific zones:**
If available, use zoning to tailor timings. For example: Turn off hall heating by 1:00pm if unused after lunch and keep admin areas running later only if occupied. Consult BMS providers to add zoning where needed to avoid over- or under-heating.

- [ ] **Utilise optimum start features:**
Check whether your system has an optimum start function. This feature accounts for warm-up time, so the building reaches setpoint temperature by the scheduled time. There is no need to start heating earlier then the first building users' arrival.

- [ ] **Adjust heating setpoints:**
Reduce heating setpoints in line with DfE guidance :

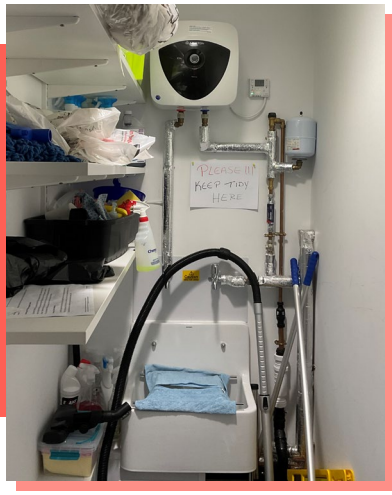
> ***18°C** for classrooms, offices or normal activity*
> ***21°C** for areas with inactive or sick occupants*
> ***15°C** for washrooms, circulation spaces or sleeping accommodation*

- [ ] **Review hot water temperature:**
The HSE legionella guidance states that large tanks of hot water need to be stored at 60°C and reach 50°C at the outlet (before the thermostatic mixing valve) within one minute.

- [ ] **Reduce hot water hours:**
Generally, the largest hot water consumer is the kitchen. Trial timing hot water to switch off when catering staff leave (e.g. 1:30 p.m.). Later building users usually have minimal hot water needs (occasional handwashing). If hot water is set to 60°C, it is only needed at 43°C for handwashing.

> *Reduce heating and hot water schedules by **one hour** or **lower setpoints** by 1–2°C. If there's no disruption, adjust further to increase savings.*

- [ ] **Point-of-use (POU) hot water:**
POU units, typically found under sinks or in demountables, provide on-demand hot water. Assign them to staff working outside core hours such as cleaners, admin teams or site managers. This allows central hot water systems to be switched off earlier without disrupting access.



> *For guidance on **operating POU units efficiently**, see the 'Heating Emitters and POU Hot Water' section.*

- [ ] **Set holiday schedules:**
Programme all holiday and bank holiday dates into the BMS to prevent heating and hot water from running unnecessarily during closures. Switching to ‘summer’ mode will only disable heating, not hot water.

- [ ] **Enable weather compensation:**
Many heating control systems monitor outside temperature and automatically switch off heating when it’s warm enough. This function may be called ‘eco summer hold-off’ in your BMS. If available, set the outside temperature between 15°C and 17°C to prevent unnecessary heating.

- [ ] **Monitor comfort:**
Regularly review staff and pupil feedback when adjusting heating times or temperatures.

- [ ] **Check sensor placement:**
Ensure thermostats and BMS sensors are not obstructed by displays or furniture or placed near heat sources or draughts.

- [ ] **Use sub-metering:**
Monitor sub-meters (e.g. for kitchens) to identify high-usage areas and investigate anomalies.

- [ ] **Check systems outside the BMS**
Identify areas not controlled by the BMS such as demountables, electric heaters or air-to-air units. They will need separate schedules and shutdown protocols

Lighting

Upgrading lighting systems and controls can deliver substantial energy savings with relatively low investment.

- [ ] **Switch to LEDs:**
Replace fluorescent and halogen lights with LEDs, prioritising high-use and high-wattage areas such as sports halls and car parks.

- [ ] **Add lighting controls:**
Install occupancy, daylight, or motion sensors to automatically switch off lights after short periods of inactivity. If sensors are already installed, consider removing the dial and checking if lag times can be reduced.

> Specify that potential installers adhere to the DfE's output specification for lighting.

- [ ] **Review quotes carefully:**
Compare wattage reductions in LED proposals. Use online calculators to estimate savings and payback periods.

- [ ] **Label switches:**
Use 'traffic light' stickers to guide staff on which switches to use during daylight hours.

- [ ] **Control exterior lighting:**
Even if dusk-to-dawn sensors are installed consider adding timers and motion sensors. Generally, lights should not stay on permanently overnight for security. Digital 7-day timers allow users to limit operation to key hours (e.g. 6:00–8:00am and 4:00–7:00pm on weekdays, off on weekends). In the meantime, implement manual shutdown procedures.

Kitchen

Catering areas are highly energy-intensive. Efficient equipment use and operational changes can deliver significant savings.

- [ ] **Choose energy-efficient appliances:**
  Review energy labels when purchasing fridges, freezers, dishwashers, ovens etc. Use the EU efficiency checker to easily compare ratings. An Energy Sparks case study shows how switching to an A+ rated freezer saved one school £740 per year.

- [ ] **Choose efficient dishwashers and sterilisers:**
  When selecting a dishwasher, or steriliser, choose models with eco modes and heat recovery. Eco cycles may be too slow during peak times but can be used during quieter periods like morning prep. Avoid pre-rinse cycles and prioritise full loads.

- [ ] **Switch off during holidays:**
  Turn off or consolidate refrigeration units during closures. Coordinate with site staff to restart appliances before deliveries.

- [ ] **Relocate appliances:**
  Position fridges and freezers in well-ventilated areas away from heat sources to reduce compressor strain and energy use.

- [ ] **Reduce hot cupboard operation and use timer plugs:**
Switch hot trollies and dishwashers on shortly before service, not at the start of the day. Use timer plugs or manual protocols to automate shutdowns and reduce reliance on staff. Always ensure timer plugs are rated above the appliance wattage to avoid overheating or damage.

A typical 3 kW hot trolley, if run two hours less daily, can save around £320 per year (based on 190 school days and an electricity rate of 28p/kWh).

- [ ] **Maintain ventilation systems:**
Clean extractor fans and filters regularly to prevent energy waste and breakdowns.

- [ ] **Trial low-energy days:**
Regularly Introduce “picnic days” with cold meals to reduce cooking demand.

- [ ] **Batch cook:**
Prepare double portions of cakes or biscuits for menu rotations to save time and energy. According to the Essex School Meals Advisory Service, items can be safely stored for up to 3 days at room temperature (if properly covered), or frozen for up to 1 month.

- [ ] **Defrost regularly:**
Follow manufacturer guidance or defrost every two months to maintain freezer efficiency.

- [ ] **Check refrigeration temperature settings:**
Avoid overcooling. Each degree below recommended settings increases energy use by 2-4%.

- [ ] **Label equipment:**
Label equipment with preheat times and fan speed guidance. Most ovens, including Rational models, heat up in under 10 minutes and don’t need to be switched on early. For hotplates and bain-marie trolleys, keep lids on and switch on just 30-40 minutes before use. Fan speed should match cooking needs, not default to full.

- [ ] **Run a portion/wastage book:**
Use a daily diary to record how much was cooked and wasted. This helps adjust quantities for future menu cycles and can significantly reduce your cost per head.

- [ ] **Recover waste heat:**
Consider installing heat recovery systems to reuse warm air for preheating water.

Windows and Building Fabric

Improving insulation and reducing heat loss is essential for maintaining comfort and cutting heating costs.

- [ ] **Upgrade glazing:**
  Replace single-glazed windows with double or triple glazing. Prioritise units with low U-values and low-emissivity coatings. Windows are given efficiency ratings from A++ to E. Schools should check these when replacing or upgrading.

- [ ] **Replace damaged units:**
  Condensation between panes or difficulty operating windows may indicate failed seals and poor insulation.

- [ ] **Use secondary solutions:**
  Where full replacement is not feasible, consider secondary glazing, thermal blinds, or window film to reduce heat loss.

- [ ] **Improve draught proofing:**
  Seal gaps around windows, doors, loft hatches, and wall cracks. Use infrared thermometers to identify problem areas. See the Energy Saving Trust's guide.
  Do not seal intentional vents, airbricks, or extractor fans.

- [ ] **Clean glazing regularly:**
  Maximise natural daylight to reduce reliance on artificial lighting.

- [ ] **Upgrade wall panels:**
Replace uninsulated uPVC panels with foam-filled alternatives to improve thermal performance.

- [ ] **Assess roof insulation:**
Consult professionals to evaluate and upgrade insulation using PIR boards, Rockwool, or insulated ceiling tiles. Current Part L (2021) requirements for existing non-domestic buildings in England:

Roof type	Target U-value	Typical insulation thickness
Pitched Roof	0.16 W/m²K	180–220 mm
Flat Roof	0.18 W/m²K	120–150 mm

- [ ] **Maintain Ceiling Integrity:**
Replace missing ceiling tiles promptly to prevent expensive heat loss.

- [ ] **Identify wall types:**
Schools built before 1920 likely have solid walls; consider internal or external insulation using the Energy Savings Trust guidance.
Post-1920 buildings may have cavity walls. It was not mandatory to insulate cavities until after 2005. If cavity walls have not been insulated, Energy Sparks suggests that cavity wall insulation typically costs about £20/m2 of wall area, and payback on the investment through energy savings is between 3 and 10 years.

- [ ] **Use trusted installers:**
Refer to the Insulation Assurance Authority and SWIGA for guaranteed installation services.

Heating Emitters and POU Hot Water

Optimising heating emitters and local hot water systems can improve comfort while reducing unnecessary energy use.

- [ ] **Set thermostats appropriately:**
Maintain room temperatures between 18°C and 21°C. Each 1°C increase can raise heating costs by around 10%. The preferred approach is to limit setpoints via the BMS, if possible.

- [ ] **Keep radiators clear:**
Avoid placing furniture, coats, or shelving in front of radiators to ensure effective heat distribution.

- [ ] **Use TRVs effectively:**
Thermostatic radiator valves should not be set to maximum. Lower settings are suitable for infrequently used or warmer rooms. TRV guards can help prevent damage and maintain lower settings.

- [ ] **Install TRVs where missing:**
Consider adding or upgrading to smart TRVs for better control and remote management.

- [ ] **Insulate pipework:**
Exposed pipes can overheat rooms and pose safety risks. Insulation reduces heat loss and improves system efficiency.

- [ ] **Add timers to POU units:**
Use electric switches or 7-day timers to match operation with occupancy. Most units warm up within 30 minutes, so a typical classroom schedule might be 9:00am - 3:30pm. If timers aren't installed or don't support holiday settings, apply manual end-of-day shutdowns.

- [ ] **Adjust temperature settings:**
Most POU units have an adjustable temperature dial. Set POU units to 43–50°C where appropriate. Many are unnecessarily set to maximum. Most modern units have anti-legionella features that automatically increase the water temperature once a month if the water hasn't reached 60°C in the previous 30 days, helping to eliminate Legionella bacteria.

- [ ] **Enable eco modes:**
Where available, activate eco settings to reduce energy use. , These modes typically reduce boiler capacity by around 50%.

- [ ] **Assign POU units to early/late users:**
This allows central hot water systems to shut down earlier, reducing overall demand.

Electrical Equipment

Managing electrical devices effectively can reduce energy waste and lower operational costs.

- [ ] **Use timers and smart plugs:**
Use plug-in or 7-day timers, electric switches, or assign an energy monitor to switch off devices overnight, at weekends, and during holidays. Prioritise charger trolleys, printers, and ICT equipment. If on a cheaper night rate tariff, schedule charging for 2–3 hours overnight.

- [ ] **Audit and consolidate:**
Audit the number and location of printers and fridges. Where possible, consolidate to fewer shared units in central areas to cut energy use.

- [ ] **Optimise power settings**:
Adjust sleep and hibernation modes on printers and photocopiers to activate after short periods of inactivity.

- [ ] **Switch to low-energy devices:**
Replace desktops with laptops or tablets to reduce energy consumption by up to 80%.

- [ ] **Automate ICT shutdowns:**
Explore using the server to programme computers to shut down after school hours or assign energy monitors to switch off manually.

- [ ] **Install distribution board timers:**
Fit consumer unit timers to control entire circuits like lighting or ICT suites. This automates shutdowns outside school hours, reduces energy waste, and avoids reliance on staff to switch off equipment manually.

- [ ] **Transition to cloud services:**
Migrating to cloud-based platforms helps reduce reliance on energy-intensive local servers. Schools should follow DfE cloud standards.

- [ ] **Monitor appliance usage:**
Use plug-in energy monitors to assess overnight consumption. Engage pupils in monitoring activities.

A single computer left on standby at 10W can cost around £24 a year in electricity (based on 28p per kWh).

- [ ] **Review staffroom appliances**:
Hot water boilers, fridges, freezers, and microwaves in staff areas often run continuously. Assess whether these can be:
  - Switched off during holidays or weekends
  - Consolidated into shared areas
  - Connected to timers or smart plugs to reduce standby consumption

Ventilation

Effective ventilation supports indoor air quality and comfort while minimising heat loss and energy waste.

- [ ] **Set appropriate schedules:**
Use the BMS or timeclocks to align ventilation system operation with school hours. No warm-up time is needed.

- [ ] **Maintain systems:**
Clean extractor fans and replace filters annually or as advised by the manufacturer.

- [ ] **Prevent condensation and damp:**
In problem areas, install humidistats, extractor fans, or mechanical ventilation with heat recovery.

- [ ] **Use DfE issued CO_2 monitors:**
Monitor indoor air quality and adjust ventilation as needed. Levels under 800ppm indicate sufficient ventilation. If CO_2 stays high, consider air cleaners or consult with leadership for long-term solutions. Training on CO_2 monitors is available at CoSchools. Consider placing the DfE's simple guide next to monitors:

CO_2 level	What it means	What to do
Under 800 ppm	Good ventilation	Consider partly or completely closing windows to keep your space warm during winter.
800 – 1,500 ppm	Adequate ventilation	Consider opening windows and/or doors.
Over 1,500 ppm	Poor ventilation	Increase ventilation by opening windows and doors, where appropriate.

Air Conditioning

Air conditioning (AC) should be used sparingly and only when necessary to maintain safe and comfortable conditions.

- [ ] **Restrict controls:**
Set temperature limits which cannot be overridden via the wall panel, remote control or BMS (e.g. 24°C for cooling, 19°C for heating) and use weekly time programmes to avoid excessive use.

- [ ] **Maintain system efficiency**:
Clean or replace air filters every 30-90 days, and ensure thermostats are not placed near heat sources such as computers or radiators.

- [ ] **Clear external units:**
Keep condenser units free from vegetation and debris to maintain performance.

- [ ] **Review server cooling needs**:
Store servers in well-ventilated areas where possible. Use sensors or manual controls to limit AC operation to when temperatures exceed 21-24°C depending on server requirements.

- [ ] **Consider passive cooling:**
Before installing AC, explore alternatives such as solar control film, thermal paint, improved ventilation, and shading.

- [ ] **Explore low-energy cooling options:**
Use solar-powered or passive ventilation systems to improve comfort without high energy consumption.

Read the DfE's guidance on hot weather and heatwaves

Specify that potential ventilation or AC installers adhere to the DfE's output specification for mechanical services

Swimming Pool

Swimming pools are energy-intensive facilities. Targeted upgrades and operational controls can yield substantial savings.

- [ ] **Refer to expert guidance**:
  Use the Carbon Trust swimming pool guide and Sport England's swimming pool design notes to identify immediate and long-term energy-saving opportunities.

- [ ] **Install a high-quality pool cover**:
  Install insulated pool covers to cut energy use by 10-30% and reduce evaporation. After installation, review air handling and ventilation settings; lower air volume and pool air temperature may be possible. This ensures savings are realised

- [ ] **Install variable speed drives (VSDs):**
  VSDs can be fitted to ventilation fans, circulation pumps, and other pool equipment to reduce energy use. When linked to dew point sensors, VSDs adjust fan speed based on humidity levels. For further guidance, see PWTAG's technical note on VSDs.

- [ ] **Consider solar water heating:**
  Solar thermal systems can supplement pool and shower heating, especially in summer months. For guidance on suitability and savings, see the Energy Saving Trust's advice.

- [ ] **Upgrade lighting and maintain motors:**
  Switch to LEDs and reduce lighting hours during daylight. Keep motors clean and free from corrosion or dust, especially in humid or chemical-prone areas.

Renewables

Renewable technologies can reduce long-term energy costs and support climate action goals.

For schools considering installation

- [ ] **Explore solar water heating**:
  Solar thermal systems preheat water using roof-mounted collectors, reducing boiler demand and energy costs. For guidance on suitability and savings, see the Energy Saving Trust's advice.

- [ ] **Assess solar PV potential**:
  Use this solar calculator to estimate savings and demonstrate potential to decision-makers. As electricity prices rise, the business case strengthens. If investment isn't currently available, include solar PV in your long-term energy plan. For current funding opportunities, visit Grants4Schools. Consider talking to your local community energy group (where available), as they can advise on the whole process including funding options.

- [ ] **Follow landlord consent process**:
  Maintained Schools must obtain approval before installing solar PV. Guidance available here.

For schools with solar PV installed

- [ ] **Maintain existing systems**:
  Schedule annual servicing, monitor performance online, and clean panels periodically to maintain efficiency.

- [ ] **Engage pupils**:
  Use online monitoring platforms to share real-time generation data with staff and students.

- [ ] **Register for Smart Export Guarantee (SEG)**:
  Schools can receive payments for exporting surplus electricity back to the grid. See Ofgem's SEG supplier list.

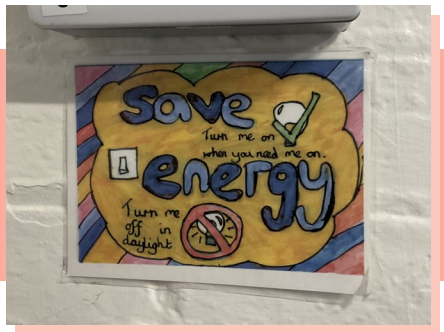
Visit 'Renewable Energy' page on Essex Schools InfoLink for more details

School Engagement

Engaging staff and pupils while monitoring energy use is essential for effective energy management.

- [ ] **Track consumption:**
Maintain a spreadsheet to record energy use, unit rates, and all non-commodity charges each time a bill is received. Summarise past invoices or request them from suppliers to set a baseline. Quotes often exclude non-commodity costs, which can make up nearly half the bill. Tracking these supports like-for-like quote evaluation.

- [ ] **Establish an Energy Action Team:**
Involve pupils in promoting energy-saving behaviours. The team should create classroom checklists and holiday shutdown protocols to reduce waste.



- [ ] **Maintain your DEC:**
Ensure your Display Energy Certificate is current and displayed. Find your DEC here, renew it through accredited assessors when necessary.

- [ ] **Share progress:**
Display your energy consumption summary (step 1) and strategic plan (step 4). Communicate updates to governors and parents. Consider using a business energy monitor for live tracking.

- [ ] **Join free programmes:**
  - Energy Sparks – DfE recommended support with live data tracking. The free actions tab includes downloadable resources that schools can access without logging in.
  - Eco Schools – Structured programme with Green Flag accreditation.
  - Better Planet Schools – Primary schools can sign up and choose three 10–12 week modules per year, covering topics like energy saving and sustainability.
  - For wider support with developing Climate Action Plans from ECC and key partners, including Let's Go Zero's climate action advisors, please visit Essex Schools Infolink.

Procurement & EV Charging

Procurement support and electric vehicle (EV) infrastructure can help schools plan for a more sustainable future.

Procurement support

- [ ] **Prioritise energy efficiency in procurement**:
Review energy labels when purchasing new equipment. Use the EU efficiency checker to easily compare ratings and annual consumption figures.

A comparison of two commercial 600L freezers:

	Freezer A	Freezer B
Capacity (Ltr): actual / usable	600 / 376	600 / 469
Energy Label Rating	D	B
Annual kWh Consumption	2,054	989
Annual cost (Presumes a cost of 43.4p per kWh)	£891	£429

Freezer B has a £462 annual saving and has 93L of extra capacity – these benefits can be achieved by simply taking the time to compare like-for-like products and make use of their energy labels.

Use this online tool or scan the QR code, to compare several products against each other and choose the most energy efficient and cost-effective option.

- [ ] **Use DfE frameworks**:
Access the full list of DfE-approved procurement frameworks. These frameworks offer procurement compliant routes for purchasing energy, LED lighting, catering equipment, ICT services, financial services and decarbonisation support. Schools can share energy consumption data, current contract details, and any quotes to explore savings and tailored options.

- [ ] **Request free procurement support**:
support to access any of the DfE's approved frameworks can be accessed using the DfE's online form. The service offers free advice on specifications, tenders, and frameworks.

- [ ] **Plan ahead:**
Begin reviewing energy contracts early. Switching suppliers can take up to two months, and some tariffs are only available 6-12 months before expiry.

- [ ] **Request written quotes:**
Always obtain written quotations from multiple suppliers. Avoid relying solely on brokers and never accept verbal offers.

- [ ] **Check total costs:**
Ensure quotes include all charges—unit rates, taxes, levies, and non-commodity costs. Refer to Ofgem's guide for a breakdown.

- [ ] **Avoid contract gaps:**
Do not allow contracts to lapse. Suppliers should provide a 12-month usage summary to support renewals.

- [ ] **Consider DfE's energy scheme:**
The 'Energy for Schools' scheme offers access to centrally managed energy contracts with no hidden fees. Schools must onboard by mid-September for the following April.

- [ ] **Explore cost recovery**:
The DfE's approved service can audit historical bills (up to six years) and recover overpayments on a commission basis.

Visit 'Energy Procurement' page on Essex Schools InfoLink for more details

Electrical vehicle charging

- [ ] **Apply for EV charging grants**:
The Workplace Charging Scheme offers up to 75% off installation costs for state-funded schools. Open until March 2026.

- [ ] **Explore further resources:**
For more information on renewable energy, retrofit, and electric vehicles, visit the Essex Schools Infolink page on renewable energy and building retrofit. To explore sustainable travel options, see the Essex Schools Infolink page on sustainable travel.