

STEPS TO EFFECTIVE ENERGY MANAGEMENT

This section looks at the steps towards reducing energy usage and spend - but it makes lots of sense for the Energy Group to be part of (or grow) into an Eco-Group, able to address recycling, biodiversity, saving water etc. See appendices for more details of Eco-Schools.



IDENTIFY A LEAD

Nominate an **Energy Lead**. For many schools this is the business manager as they have a good overview of the energy usage and billing but also of the workings of the whole school! In smaller schools this job may be done by the head teacher or deputy head. Specialist knowledge of energy management is not needed; commitment and enthusiasm are more important than technical expertise

It is helpful to also have a **Heating Lead**, responsible for the day to day monitoring of building temperature and accessing meter reads where these are not automated.

The lead/s should not be responsible for all the work!!! But without a named individual as lead it is very difficult to keep track on progress.



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SET UP AN ENERGY GROUP

Energy management impacts everyone in school but everyone has a role in saving money and energy. The more areas of school involved in the planning - the more savings you will make.

Suggested members of an Energy Group:

A **governor** - whole-school vision, oversight, and often transferable skills

A **pupil Eco-Group** - the heart of any behaviour change

Teaching staff / TAs - turning energy saving into learning opportunities

Kitchen and cleaning staff - primary users of high-cost equipment

Site manager - access to, understanding of, and expertise in use of the school site

School business manager / bursar / office staff - prime users, managing the purse and seeing all!

And a special mention for **parents**.

Parents can bring transferable skills, enthusiasm, and time. Once your campaigning is underway, transferring energy-saving tips from school to home will make a real difference to energy poverty amongst your families.



MEASURING YOUR FOOTPRINT & SPOTTING YOUR WEAK AREAS

This falls into three areas:

- Using school energy data
- Benchmarking against similar schools
- Auditing behaviour



USING ENERGY DATA

At least for the first time, collating your energy data will need to be done by the site manager, business manager / bursar and energy lead working together. This will enable you to collate all the required information in one place and cross reference information available through billing, meter reads and online (Systems-Link and BG360 in most schools). Once this has been set up, it becomes more straightforward to keep updated and more stakeholders can be involved.

- An example meter register is in the appendices

Systems-Link will store all ongoing meter reads (manual and automated), meter details and invoice details, allowing you to analyse usage easily. Much of this information has already been entered on your school dashboard by the LB Newham Energy Unit.

Manual Meter Reading

It is important to log any readings into the LBN Systems-Link dashboard for your school. This provides you with a place to keep all meter reads together over a number of readings.

It is also very useful for the school and LBN Energy Unit to be able to refer back to logged readings when dealing with billing issues with suppliers!!

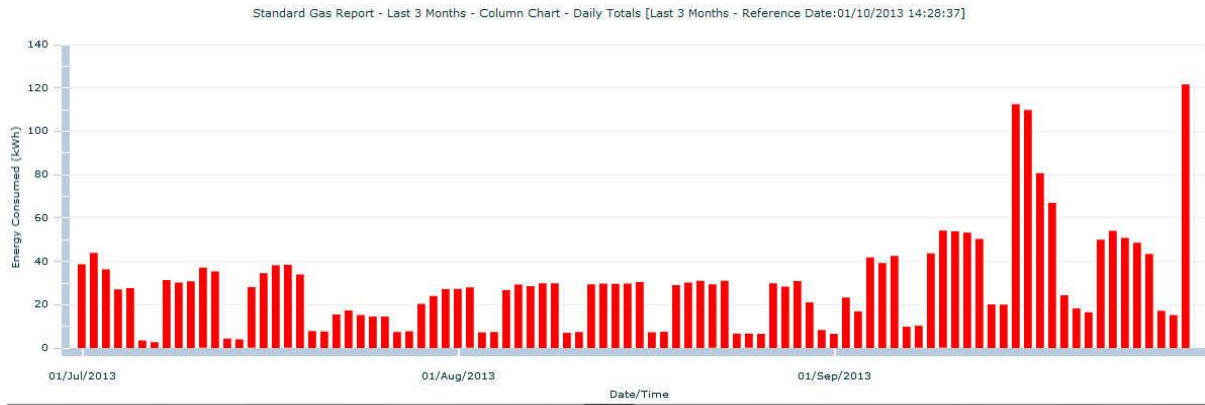
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- Instructions for Systems-Link are in the appendices along with simple guidance on reading meters.

Automated Meter Readers (AMRs)

Schools purchasing their energy through LB Newham (KCC/LASER) will have access to their half-hourly gas usage data through the British Gas 360 online tool. Your school may also have access to electric AMRs as they are rolled out to all schools. Check with your FM providers or LBN Energy.

- Instructions for British Gas 360 are in the appendices



BG360 can give you a massive amount of information on how and where and when energy is being used in the school. It can lead to savings resulting from:

- ✓ Identifying timer issues
- ✓ Spotting faulty or underperforming equipment
- ✓ Recognising large spend areas
- ✓ Accurately charging renters

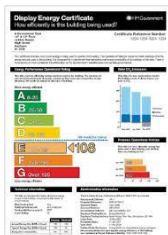
As it provides current energy usage online in graph formats, BG360 is also useful in lessons and for measuring the success of individual energy saving activities.

- Lesson Plans for using BG360 data are in the Curriculum Section

BENCHMARKING AGAINST SIMILAR SCHOOLS

Once you have your usage data how do you find out if you are spending too much?

Benchmarking for energy usage is expressed in terms of annual consumption divided by the floor area and/or number of pupils and then compared to schools of a similar type - kWh/m² or kWh/pupil per year. If possible, electricity consumption benchmarking should be kept separate from fossil fuel consumption as cost and environmental impact are different.



The benchmark for school carbon performance is production of carbon dioxide associated with energy consumption divided by the floor area of the school (KgC/m²).

The single most effective way to look at how your school is performing against similar buildings is your Display Energy Certificate.

- Details on how to read a DEC are in the appendices
- Further benchmarking tools are in the appendices

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AUDITING OUR BEHAVIOUR

Energy Walk

A walk around the school is needed to establish where energy is being wasted. This can be undertaken by pupils alongside the energy lead. The walk will focus on lighting, heating, equipment needs and use of windows and doors.

- See Appendices for example walk rounds.

It is useful to have several walks at different times of day including during lesson time, break time, after school and weekends.

School Temperature

It is helpful to establish current temperatures throughout the site to spot troublesome spots. Cardboard thermometers are cheaply available and so can be kept in rooms and zones across the school. A full audit of temperatures across the school provides several key outcomes:

- Checking that heating systems / thermostats are working effectively across the site
- Identifying over-hot and over-cold problem areas
- Building an accurate picture of temperatures - as everyone experiences temperature differently

Many schools are now introducing agreed school temperatures - using the Carbon Trust agreed comfortable temperature for classrooms/offices, corridors/sports, and sick room/nursery areas. Everyone in school is then clear about the agreed temperatures.

Individuals trying to personalise temperature cause constant adjusting of heating. This often becomes a significant burden on energy costs as heat is wasted through opening doors and windows or through regular over-riding of thermostats and use of small heaters.

It is worth noting that turning a thermostat up WILL NOT speed up heating but WILL result in overheating for long periods.

Look to use cardboard thermometers to monitor this regularly. It is better that everyone becomes accustomed to school temperature and dresses accordingly. This can also nip in the bud regular moans about temperature, as you have a clear way of defining what is needed and achieved.

MAKE A PLAN

Now you have all the information about your school energy performance, don't be disheartened! Energy management is an ongoing task but most schools are able to make a number of significant savings immediately. A 10% saving in the first year of action is typical and in the longer term savings of up to 40% are possible with hard work!

BUT none of this is possible without a clear plan of action that can be shared and owned.

- Example energy plans are in the appendices

When writing your plan look to cover:

- Billing and metering savings
- Plant and control savings - heating controls / lighting
- Building fabric - windows / insulation
- No-cost savings and campaigns
- Equipment switch off



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- f) Lighting review
- g) Agreed temperatures
- Ideas for all these areas can be found in the **Target Areas** section

SETTING TIME-FRAMES AND TARGETS

As with all things in life we need deadlines, targets and rewards!

Be realistic about what can be achieved by when.

Break your plan into:

Immediate actions - e.g. agreed school temperatures / switch off campaign

Medium-term actions - e.g. replacing all light bulbs/tubes

Long-term planning - e.g. insulation rolling install / PV or solar panels

Have a nominated **lead, outcome** and **deadline** for every action.

Identify a **BIG HAIRY TARGET** which everyone is working towards. This could be the **TOTAL** amount of money or carbon you want to save. For many schools a saving of 10% of the annual energy bill is a reasonable and attainable target within the first year; by **QUANTIFYING** this for your school, everyone can see how much is being spent now and what will have been achieved. Systems-Link records saved carbon in terms of “trips around the world”, but thousands of pounds saved are just as compelling!

Establishing Good Habits

As soon as possible set in place a regular timetable of

- Reading meters and adding to Systems-Link
- Reviewing actual usage against billing
- Pupil Eco-Group walkabouts, and monitors checking all is switched off that should be
- Temperature checking - cardboard thermometers in classes can involve pupils in this

INVOLVE EVERYONE

Big and long-lasting savings come in schools where **EVERYONE** is involved, with staff, pupils and governing bodies co-operating to save energy together.



It is a team effort but there must be positive leadership. If senior management are not enthusiastic or prepared to take the first steps, other staff are less likely to play their part. Staff and pupils must know what they are trying to achieve and be given real, tangible credit for their efforts.

Agreeing an energy policy ASAP will allow senior management and governors to demonstrate their commitment to core actions like agreed school temperatures from day one of your campaigning.

A good **energy policy** will reaffirm everyone’s responsibilities and provide a long term vision.

- Example energy policies are in the appendices

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- Actions and commitments that can be asked of different groups are included in the **Roles** section

Some simple ideas for raising awareness amongst staff and pupils:

- ☆ **Present findings and your plan** - using assemblies / notice boards/ energy bulletins
- ☆ **Encourage everyone to sign-up** to achieving the BIG HAIRY TARGET
- ☆ **Launch a campaign** - hold termly events to raise awareness and encourage continued engagement/ design a mascot/ display 'switch-off' stickers and posters around the site
- ☆ **Write a newsletter** to share the work of the Energy Group
- ☆ **Meet regularly** to discuss campaign/ monitoring/ targets/ presentations
- ☆ **Regularly report progress** on the BIG HAIRY TARGET in assembly - the pupil group could lead this
- ☆ **Hold competitions** between classes, teams or areas - contact companies that produce energy saving equipment for prizes/ visits
- ☆ **Embed energy behaviour change into the school ethos** - explain that the school is striving for a different attitude to how electricity is used and wasted and why!

MEASURE & CELEBRATE SUCCESSES

This is the area most often forgotten but it is what motivates us to keep going and to not fall back into costly behaviours.

Measuring success

Hopefully you will have set a BIG HAIRY TARGET but you will also have lots of smaller outcomes that can be measured for success.

Here are just a few things you can measure to assess your positive outcomes:

- ❖ Number of lights/PCs left on at the end of each day
- ❖ Heating costs over a week or month
- ❖ Average temperature across the school
- ❖ Number of energy saving bulbs/tubes
- ❖ Number of radiators backed by foil



BUT DON'T FORGET TO DO THE BASELINE FIRST OR YOU WILL HAVE NO IDEA WHAT YOU SAVED!

Some success will come quickly - for example savings from spotting night-time boiler misfires. Other successes will take a little longer to record such as reducing temperature by degrees.

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Celebrating Success

Above we mentioned ways that you can ensure celebration is an ongoing motivation for your work - through newsletters, noticeboards, reward assemblies and competitions.

In the beginning, set a review timeline so that you have a fixed point in the year when you will compare achievements against your BIG HAIRY TARGET. This might work best at the financial year end as it will help with collation of your finance figures but will also fit neatly at the end of the expensive winter months.

Look for external accreditation via Eco-Schools



Completing the actions we have described will allow your school to self-accredit as a bronze award Eco-School. Maintain the Eco-Group and its work and you will quickly proceed to the silver award and then the prestigious green flag.

Registering for Eco-Schools and setting up an eco-committee is an invaluable start, but the most energy-efficient schools are those where everybody plays a part. Similarly, the most effective eco-committees or action teams are those with input from classroom, kitchen and site staff alongside pupils, senior management and governors

- Further details for Eco-Schools are in the appendices