

WHY IS OUR FOOTPRINT IMPORTANT?

DID YOU KNOW...

UK schools release up to four million tonnes of CO₂ a year?

ONE tonne of CO₂ would fill SIX double decker buses



SAVING THE PLANET

In the UK, most of our electricity comes from the dirty process of burning coal, oil and gas. Using less energy means burning less of these fuels, which cuts down on pollution. That protects the environment, and our health.

When power plants burn oil, gas or coal, energy is not the only thing they produce. They also create pollution - lots of it. Power plants are one of the biggest sources of carbon dioxide, a greenhouse gas that's causing our planet to get warmer. If you're thinking, "that will give me a longer summer holiday!", think again. Rising temperatures are bad news. They could cause flooding, heat waves and droughts - not to mention the spread of disease. Some of these effects have already started.

Emissions from power plants also cause acid rain, which damages eco-systems worldwide, killing plants and fish whilst destroying homes and livelihoods. And they cause much of the ugly smog that floats over our cities, making it hard to breathe. Smoke from power plants also contains harmful substances which make people sick. Smog and toxins are especially troublesome for the ever-increasing number of people with asthma and other breathing problems.

Fossil fuels also cause environmental problems even before they're burned for energy. Drilling and mining destroy wildlife habitat, and they release wastes that travel through the air and into water. The machinery that extracts coal, oil and gas also causes pollution. So does the process of shipping these fuels to power plants

SAVING MONEY

This doesn't take much arguing!



After staff costs have been covered your energy bill will be one of your biggest annual spends. Primaries can spend over £20,000 per year, and for secondaries this can be up to and over £100,000. Every school will be dreaming of the ways it could better spend this rather than continuing to fund big energy providers. More staffing, improved resources, better equipment?

Most schools waste huge amounts of energy but this also means they offer many opportunities to save money too.

NURTURING THE NEXT GENERATION

The world is changing. The scientific community is very clear that whatever our actions from now on, the process of significant climate change has begun and will continue to increase over the next generations. In addition the fuels we have become dependent on are running out. Many of the products we have produced over the past 100 years will not decompose for millennia.

Our children and future generations are entering a landscape that will demand big changes in types of employment, energy sources and materials, and a whole new array of skills. The skills that they develop through practical energy



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management are starting this process. They are eager to engage and learn how to be the difference. It is now our responsibility to help them.

As schools we are in a position to teach pupils to care for the world responsibly if it is to endure. Instilling pupils with the knowledge of how to live in a way that is sustainable saves both resources and money whilst teaching them that they can each be important and caring members of society.

We can teach children why it is important to conserve energy, explaining the difference between renewable and non-renewable energy sources, and demonstrating ways to cut back on energy use. Placing this learning in a real situation where THEY can see the difference they have made will help them understand, remember and reuse what they have learned.

LEARNING OPPORTUNITIES



Activity around energy management draws on a huge range of curriculum areas. By involving pupils directly you can use the school as a living laboratory and bring energy issues to life.

Measuring and reviewing energy use can feed into mathematics, technology and the sciences. The practical identification and addressing of energy losses requires scientific understanding of theories like heat movement, as well as the design and technology opportunities offered by creating the solutions. Extending out into the wider themes of how and why this is important are great opportunities for a number of topics within history, geography and economics.

Energy saving requires everyone to be involved and committed. How this is achieved will build PSHE and Citizenship skills including leadership, team work, rights and responsibilities - and even health education, behaviour changes and personal choice. There is a growing library of resources for each subject area.

SO FOOTPRINT MATTERS! BUT WHAT CAN BE DONE?

Through good and consistent energy management, schools can reduce energy usage by **up to 40% per year** by taking simple steps to reduce energy use and carbon emissions.

Nationally 1,600,000 tonnes could be saved. That's nearly ten billion double decker buses of CO²!

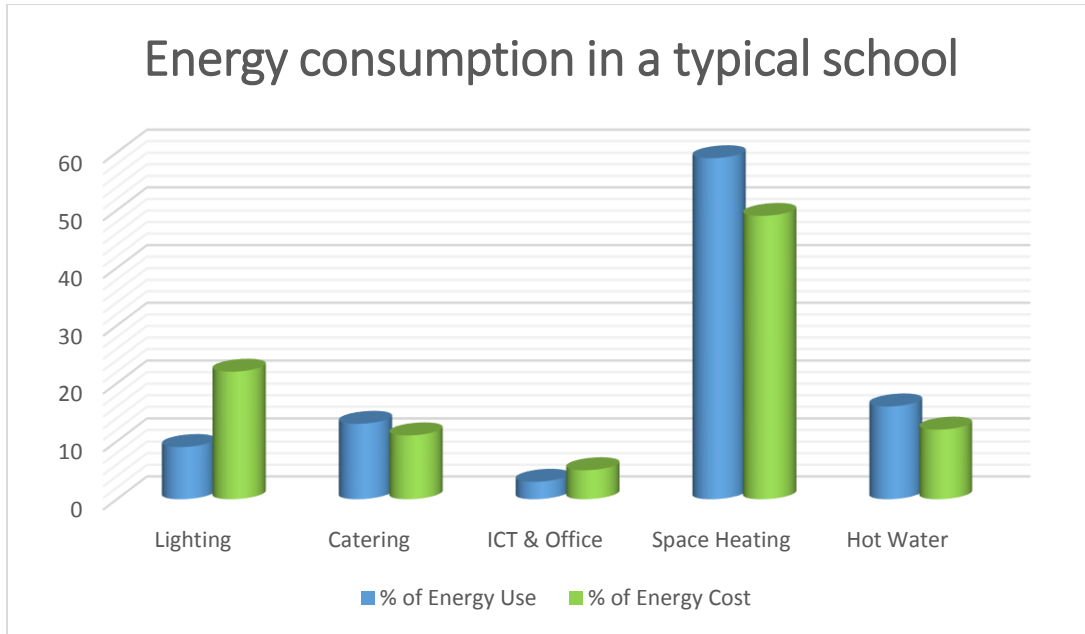
How much **money** would you save by reducing your bills by 40%?

WHAT ARE THE PRIORITIES - HEATING, LIGHTING OR EQUIPMENT?

The graph below illustrates the core users of energy in school but also the difference in cost between predominantly fossil fuels and electricity users.

Savings in cost are more considerable from electric users - mainly lighting and ICT - but the sheer amount of energy used from fossil fuels in heating (59%) and hot water (16%) shows massive opportunities for carbon and money savings.

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Looking at the amount of CO2 emitted from the different fuels gives another perspective.

| Energy source | Kg CO2e per kWh |
|------------------|-----------------|
| Grid electricity | 0.54522 |
| Natural gas | 0.18523 |
| LPG | 0.21445 |
| Gas oil | 0.27533 |
| Fuel oil | 0.26592 |
| Burning oil | 0.24683 |
| Diesel | 0.25301 |
| Petrol | 0.24176 |
| Industrial coal | 0.32227 |
| Wood pellets | 0.03895 |

