**FACT SHEET**

Simple Energy Saving Measures

Summary

- Know how much energy your business is using – get monthly consumption data and check how usage levels change over the year.
- Check your heating system – make sure your boiler settings are correct and that your heating is only operating fully when required.
- Lighting – low energy LED lamps should be fitted as standard – these can reduce electricity use by 75% in comparison to fluorescent lamps.
- Switch off office equipment when it is not needed – involve staff and make a checklist of items that can be switched off.
- If you are looking to invest in energy efficient equipment, check the Energy Technology List for products that have been approved and had their performance validated by the Government.
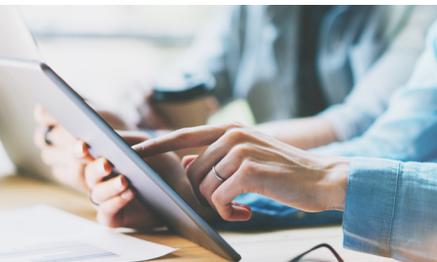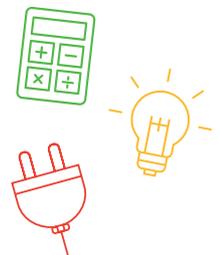
Know Your Energy Data

To reduce energy consumption, you need to understand what your current consumption levels are. Getting all available energy data is a good start. You can't manage what you can't measure.

1. Check your energy bills – make a note of the energy consumption each month in kilowatt-hours. Are there any patterns that are noticeable? Gas consumption is likely to follow a seasonal pattern as it will mainly be used for heating.

2. Check with your energy supplier if they can provide half hourly data for electricity and/or gas. This data will show if there is a high usage overnight, at weekends or at times when the site is not operating. Are items being left on overnight and at weekends unnecessarily? Is the heating coming on at the weekend when the site is empty?

3. If you can't access half-hourly data do your own meter readings - last thing at night and first thing in the morning. Over several days you will get data on overnight energy consumption.

4. Compare your energy performance with standard levels. There are several energy use benchmarks for buildings available – such as the CIBSE Benchmark. These show energy use in kilowatt-hours per metre squared. You need to know the area of your building to calculate the benchmark value. You can then compare your value to typical use levels for different types of building. If you are significantly above the typical level it would suggest that there are energy saving opportunities.

5. Keep monitoring your energy consumption as you make energy efficiency changes – this will show if your actions are being effective.

Next Steps

Once you have your base level data you should work systematically through the energy using services in your business to identify any potential savings. Evidence from the Carbon Trust suggests that in office-based businesses heating, lighting and use of equipment make up around two thirds of total energy use.

Heating & Cooling

- Know where your thermostat is located – is it in a suitable position? Make sure that the thermostat is not in direct sunlight or close to a radiator.
- Have a heating and cooling policy – set a temperature that your workspace will be heated to. If you have air conditioning, make sure there is a "dead-band" between the heating and cooling temperatures, so they are not working simultaneously. The Carbon Trust recommends heating to 19°C and cooling to 24°C.
- In colder weather ask staff to dress suitably for the conditions.
- Make sure that the time schedules for the heating system are set accordingly – is the heating on when the business is not operating?
- If you have an old boiler controller, consider getting a new system. The latest systems are easier to use and give much more control over time schedules.
- When was your boiler last serviced? It should be regularly maintained to keep at optimum performance. If your boiler is particularly old it might be time to look at a replacement.
- Check your plant room - Is the pipework lagged? In some plant rooms the pipework has been lagged, but valves have not. It is possible to get insulation jackets that cover valves and flanges.

Lighting

The environmental impact of lighting systems has fallen significantly over recent years. Older fluorescent lamps used relatively large amounts of electricity and were an environmental hazard as they contained mercury. Now Light Emitting Diode (LED) lamps are the standard for most applications – they are much more efficient and have a lower overall environmental impact.

- Is your lighting provided by LED lamps? LED lamps can be up to 80% more efficient than fluorescent lamps. Payback periods for replacing fluorescent lamps with LED can be two to three years. Often it is more cost effective to purchase whole new light fittings rather than just replacing the lamps.
- LED lamps also reduce maintenance costs as they last for much longer periods than fluorescent lamps. A fluorescent lamp has a typical lifespan of 10,000 to 12,000 hours, whereas LED lamps can last for 25,000 to 75,000 hours.
- It will become increasingly expensive to find like for like replacements for fluorescent bulbs as many manufacturers have stopped producing them, therefore they are becoming a niche product.
- External lighting, store rooms, cupboards, stairwells, spotlights and toilets – these types of areas are often missed when office or factory space is converted to LED. It is worth checking if these types of lamps have been converted to LED.
- Presence or absence detectors in store rooms and toilets can reduce the amount of energy used.

Office Equipment

Electricity consumption for office equipment can make up a considerable part of the overall energy bill – roughly 15% of the total. This proportion is growing as the amount of equipment increases.

- Make a switch-off checklist for the end of the working day. If equipment does not need to be on switch it off. Get staff involved in the process and make sure they are encouraged to switch off items that are not required.
- Label equipment that can be switched off and items that should NOT be switched off.
- Enable power-down modes – many items have standby modes.
- Items such as printers can generate large amounts of waste heat during use. If you have air conditioning, make sure that printers are placed in rooms that are not air conditioned.
- Procurement – make sure that you take account of the energy consumption and other running costs of office equipment when purchasing new items. There can be considerable differences in energy consumption between similar products. Some flat screen monitors can use up to 20% more electricity than the best performing versions. Over the lifetime of the lower energy using product will reduce energy costs.

Other Equipment

The energy use of manufacturing equipment is very much reliant on the type of equipment being used and so it is difficult to make general recommendations for these items. There are specific guides from the Carbon Trust looking at energy saving actions – for example for devices with electric motors and for systems that use compressed air.

If you are looking to invest in new energy using equipment and building insulation check on the Government's Energy Technology List for approved energy saving technology that has been validated. The Energy Technology List can be accessed from: https://www.gov.uk/guidance/energy-technology-list.
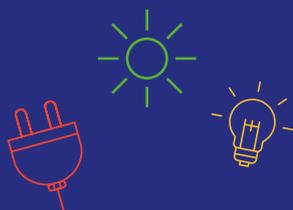
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