

What is
energy
inefficiency
in the
work place
costing you?

25 ways to improve your energy efficiency,
save money and help the environment

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by

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Introduction

Office-based business activities are responsible for the emission of around 6.8 million tonnes of carbon dioxide a year.

It is estimated that energy savings of up to 20%, equivalent to more than £157 million, are possible across the sector. Here are just a few energy saving tips that can be implemented in an office environment:

1. Turn off lights when you leave a room. Always turn off lights that you don't need (for example, use a desk lamp instead of the overhead light). While surveys show 94% of workers turn their lights off at home, only 66% are doing the same at work. So very often lights continue to shine in empty buildings throughout the night. Make it company policy that whoever is last in the room or building, switches off the lights. One of the biggest ways you can be more energy efficient is to evaluate how you use energy. If you can switch it off or turn it down, you can make significant reductions to your energy usage and bills. Simply switching off lights in areas you aren't using will help save money and energy.
2. Implement a light dimming strategy. Many businesses are over-lit, which not only wastes energy, it also makes the working environment uncomfortable. Without compromising operational functionality or Health & Safety, to save energy and create an environment that's easier on the eye, switch off or dim unnecessary lights and consider task lighting where necessary.
3. Use blinds to maximise daylight. Natural daylight is by far more beneficial to occupant well-being and productivity in comparison to artificial lighting. By re-directing daylight onto the ceiling or higher walls, horizontal blinds can eliminate glare while brightening the workspace, so you can save on unnecessary lighting.
4. Enhance your lighting control strategy. Occupancy sensors, which switch off lights when a space isn't being used, can reduce lighting costs by 30%. Light sensors (photocells) can switch off or dim artificial lighting when there is sufficient daylight per zone.
5. Use low-energy light bulbs. These last up to 12 times longer and use around 80 per cent less energy than traditional filament bulbs. Incandescent light bulbs burn as much as 75% of the energy they use as heat. If you have fluorescent tube lighting, changing from T12 tubes to T8s will bring energy savings of 10%. Upgrading lamps and fittings to T5 will bring even greater savings and will retain a high light output. LED lighting provides even greater energy savings than a normal tungsten bulb.

6. Raise your AC set-points. Make sure your air conditioning doesn't operate below 24°C. Also, make sure that you don't have the heating and cooling systems competing with each other – it's a waste of money. The best way to do this is to keep a temperature gap (known as a 'deadband') between your heating and air conditioning control temperatures. Also ensure staff understand how to operate the AC programmers and the optimum set-points to suit the companies corporate energy saving strategy.
7. Turn off electrical appliances & PCs at the wall. Every year the country spends in excess of £700m on appliances being left on standby.
8. Unplug electronics and battery chargers when they are not in use. Even when these items are turned off, they still draw electricity. This is called 'vampire power' and all small electronics can draw power if they are not unplugged.
9. Use smart software. Some employees might not turn off their PCs because they forget or find it a nuisance to have to boot up every morning. To solve this problem, install software to shut down PCs at a set time and restart them in the morning before their users arrive for work. You can also fit timer plugs to devices such as photocopiers, scanners and printers that spend a lot of time idling to save money by turning them off at night and on again before the office opens for business. Remember, it's a myth that screensaver software saves power when your computers are not in use. The Government estimates that if all PCs were turned off overnight and at weekends, they would save £63 a year each. Multiply that figure by the number of computers in your business and you may be surprised at how much you could save.
10. Time for new equipment? Office equipment of some kind or another is used by almost all UK businesses, and accounts for around 15% of all the electrical energy used in UK offices. It's an area where huge savings can be made, as effective management of equipment can reduce its energy consumption by up to 70%. A lot of energy wastage comes from old and inefficient equipment. When it comes to new office items, invest in those that are better for the environment. This can be as simple as purchasing a more energy efficient kettle, low energy lamps, or printers that print double-sided.
11. Retrofit a Building Energy Management System (BEMS). Consider retrofitting a Computer-based system that automatically monitors and controls a range of building

services. It can also provide energy performance data to support a targeted energy savings programme (Automated Metering & Targeting).

A Building Energy Management System can deliver energy efficiency improvements of 10-20%, compared with an independent control. Buildings with changing usage and occupation patterns will greatly benefit from having a Building Energy Management System installed.

12. Proper control of your heating can make a huge difference to your bills. Your firm could save around 10 per cent of its energy simply by turning down the office thermostat by one degree, while a new boiler could be up to 40 per cent more efficient, and insulation and regular maintenance will cut costs further.
13. Open windows in summer instead of using air-conditioning. Note: While there is no set maximum, the regulations state that temperatures should be 'reasonable'. The TUC recommended maximums are 27°C for manual work areas and 30°C in sedentary areas.
14. Fit individual radiator thermostats. Install thermostatic radiator control valves. Take charge of your central heating by introducing a system of valves to manage temperature.
15. Foil-back your radiators to reflect heat back into your rooms. Heat loss can be foiled once and for all by following this cheap and easy suggestion.
16. Don't heat areas that aren't in constant use, such as corridors and store rooms, and make sure radiators aren't blocked by furniture.
17. Heat your premises with clean renewable bio-fuels. If you are currently heating with oil, consider switching to heating with biodiesel (also referred to as bio-oil or bio-heat). With heating oil prices expected to reach record levels, biodiesel is cleaner burning and likely to be competitive in price.
18. Install water saving devices in WCs. Hippo the Water Saver is the simple, proven and low cost water saving device to help conserve water in workplace toilet cisterns. Every time a toilet is flushed the Hippo saves approximately 3 litres of water. In the workplace the typical cost saving will be £3 per employee/annum – that's a £3000 saving if you have 1000 employees or even pupils in a school.

Whether you purchase Hippos for the office, the school, an hotel, the factory, a local authority building or any other, the likely pay back on your initial investment is an amazing 8 - 12 weeks.

19. Invest in water capture technology. This could be as simple as installing water butts around your premises. Use the collected water for garden/lawn areas or to wash cars/vans and other outdoor equipment.
20. Install low flow water appliances. Consider installing low flow taps and low flush WCs in your office.
21. Ban plastic cups. With 100 people in an office having three cups of tea a day, that's 6,000 cups a month going into landfill. Chinaware is the answer – and will save you money in the long run.
22. Use less paper. One of the major benefits of the Internet and email is that there is less need for printing files to paper to show to colleagues. Considering that the average office worker uses over 1500 sheets of paper every month, alternatives like this have to be worth investigating.
23. Insulate your building facade. Install cavity wall and loft insulation where possible. Circa 25% of a buildings heat can escape from an un-insulated buildings roof.
24. Have an energy audit. [An energy consultant](#) will examine your offices and other buildings and highlight ways you can save even more energy. The survey will include examination of your air-conditioning/heating control methodology, lighting and lighting controls. More importantly the consultant will identify and undertake any of the required energy certification to ensure your workspace and organisation is fully compliant under English law (e.g [Commercial EPC](#), [AC inspection](#), [PAT certification](#), [Fire Risk Assessment](#))
25. Have an LED lighting feasibility study. [A lighting specialist](#) will examine the existing luminaires in your premises and produce a feasibility study in terms of the appropriate LED lighting replacement solution along with the CO2 and energy cost savings. Application assistance for the LED replacement grant funding may also be included.