

# Why Almost Every Business Uses Too Much Energy...

And How To **Slash Your  
Energy Bills** With The Help

of **40%** Government  
Funding!

By Simon Binks

 **Cost Centre  
Services**<sup>™</sup>

## Introduction

Almost without exception, nearly every business could use a lot less energy.

How can we know this? Because energy audits of a wide range of businesses have revealed, time after time, that a saving of 10-25% could easily be achieved by following a simple schedule of energy efficiency measures.

Experience has shown that just a few simple low-cost changes can reduce energy costs by around 10%, and produce some immediate returns.

The exciting point is that because the cost of energy can be a major overhead in most businesses, reducing energy use can have a **dramatic effect** on the bottom line. And once you make these changes they will continue to increase your profit margins year after year!

According to the Federation of Small Businesses, almost a third of small firms highlight the cost of energy as a barrier to the growth and success of their business. Finding energy efficiency savings is considered *the single best way* of reducing these costs over the short and long-term.

For example if a company has a 5% profit margin, a £500-a-year saving from energy efficiency over 3 years contributes the same profit as **£30,000 of extra sales**.

Or looking at it from a different angle, a 20% cut in energy costs for many companies would provide the same bottom line benefit as a 5% increase in sales. For companies looking to increase their profit margins, improving energy efficiency has to be the sensible option!

With energy prices *set to rise significantly* in the immediate future, SMEs need to start protecting themselves by reducing energy consumption. As prices rise, the value of any energy management decisions you take now will become more and more important, and financially advantageous. (Not to mention the need to meet increasing climate change legislation, and the need to be environmentally more responsible).

### And The Good News Is...

Some of the energy efficiency savings you can make **will cost you nothing**, and for those that do, there is **40% Government funding** available.

The aim of this report is firstly to reveal the '*low hanging fruit*' available to you to reduce your energy bill at no or very little cost. It is the wasted or inefficient use of energy associated with this '*low hanging fruit*' which explains why most businesses end up using far more energy than they should. To identify some of the more common areas where energy is wasted I have focused on a few of them below and provided you with some low cost practical remedial action to rectify the problem.

Secondly, this report will reveal how to secure Government funding which will pay 40% of the costs associated with any energy-saving measures you need to take.

Increasing your energy efficiency presents easy pickings to improve your profit margins. The Government funding hasn't been widely publicised, and comes to an end in September. So there has never been a better time to focus on reducing and managing your energy use.

## Practical Ways To Reduce Your Energy Costs For Free (Or At Very Little Cost)

I have focused my comments on 4 areas where businesses where energy is often wasted – heating, lighting, office and kitchen equipment.

### 1. Heating

Whatever method you use to heat your premises, this section covers a number of simple steps that will save you money.

- **Forgotten thermostats and timers** - Too often timers and thermostats are installed and then forgotten. A few simple steps can make all the difference. Time spent ensuring timers are set to the right date and time, especially when the clocks change, can be very profitable. Making sure different working hours at weekends and Bank Holidays are taken into account when setting controls can save you heating the office when you're not there.

Also check that the temperature is set at the correct level (19° C is generally considered a comfortable temperature for offices). In corridors, storerooms or areas of higher physical activity, the temperature can be reduced to lower than 19° C.

Controls are often tampered with by staff or visitors/guests so identify a member of staff to take responsibility for checking the controls regularly – or better still, fix automated controls.

Research has shown that heating costs increase by approximately 8% for every 10° C increase. Turning it down by just 10 degrees will therefore save £800 on a £10,000 bill.

By installing a £100 timer to its existing heating system, an Arts Centre in Manchester saved £4,363 off its energy costs and will continue to do so every year (as well as saving 17.6 tonnes of CO<sub>2</sub>).

- **Not turning air conditioning off** – Air conditioning uses a lot of energy and is very expensive. By just ensuring air conditioning is turned off in meeting rooms when people leave can save a fortune. Simple signs on the wall next to the control box, and

by the exit door will help to remind staff and visitors to take this action – or better still, fix automated controls.

- **Draughts** - up to 30% of heating costs can be saved by preventing cold air entering a building. The following steps will help to dramatically reduce your costs:  
Identify all sources of draughts and fit appropriate draught-proofing and ensure doors are not propped open for convenience. Make sure all your staff are aware of the cost of wasted heat.

For separate areas which have different temperatures, swing doors that allow easy access, or PVC strip curtains, will greatly reduce draughts. Fit spring-loaded door closers to minimise the amount of time doors are open will reduce cold air coming into the property. There is a cost associated with this but it is eligible for the Government funding mentioned later.

- **Poorly positioned thermostats** – Thermostats are sometimes located in the wrong place. Savings can be made by relocating them to areas that aren't affected by local heating or cooling from radiators, draughts or direct sunlight.
- **Un-insulated pipe work** – This can be a significant source of heat loss. Simply insulating pipe work can reduce energy losses by 70%.
- **Un-insulated lofts, cavity walls and roof spaces** - These can be a major cause of heat loss. Again, although there is a cost it would be negligent of me not to mention that by simply installing 100-150mm of glass fibre insulation to your loft, you can reduce heat loss by up to 90%. Insulating cavity walls can also reduce losses from walls by two thirds. These too are eligible for the Government funding mentioned later.
- **High ceiling heat loss** - Everyone knows hot air rises, so if you are heating areas with high ceilings the temperature at the roof will be significantly higher than at floor level. This is a double cost – not only does it mean you have to use more energy to heat the workspace, the high roof temperature means you lose more heat through the roof. Install circulation fans controlled by a thermostat – they'll drive warm air back down to the working areas.

## 2. Lighting

Lighting can be responsible for up to 40% of a building's electricity use. Common areas where energy is wasted:

- **Not Switching off** – Meeting rooms, storage areas and corridors in particular, are often lit unnecessarily. A simple rule which needs to become a Mantra is: 'Last one to

leave turns the lights out' (whether it's daytime staff, cleaners or security).

Why not take a quick survey at the end of the day to identify places where lights are being left on and action is required. Create reminders and promotional materials to raise awareness so that all your staff know it's their job to turn them off.

Installing timers and sensors are also an excellent low cost solution. Occupancy sensors alone could cut energy use from lighting by 30%. This is especially important for areas that are often left unoccupied, that only require lighting when it's dark, or even for just making sure everything gets turned off at the end of the day.

(External flood lights can be particularly expensive if left on – a single 500w flood light can cost around £250 a year extra if it's regularly left on overnight).

Timers are easy to install and are very low cost – they can payback within a matter of months (less if Government funding that's available is used to purchase them!)

Consider using movement sensors in areas such as storerooms, toilets and corridors, to prevent lights which are not used regularly being left on unnecessarily.

Alternatively, timed switches can be used to switch off lights a few minutes after a push switch is activated. The cost of installing these is minimal, and eligible for 40% funding!

Daylight sensors - can be placed in areas that use both natural and artificial light. These can automate lights to turn off when there is enough daylight in the room. By adding occupancy sensors to its store area and toilets, an electronic components manufacturer saved £813 and 5 tonnes of CO2 a year. The initial £225 investment paid for itself in three months (this too is eligible for 40% funding).

- **Not cleaning lights and maintaining them properly** - Lighting is often overlooked in the day-to-day maintenance and cleaning of buildings. It is important to review and then incorporate lighting maintenance into your overall maintenance procedure. Cleaning of light fittings is often over-looked. It should be done at least once a year, as keeping them clean will improve lighting without increasing your energy use.
- **Inaccurately set security lighting.** This can be high-powered and energy intensive, so make sure the timer and any daylight sensor controls are set accurately and working correctly.
- **Not using full use of natural light** - It seems obvious, but there may be areas where natural light from windows and skylights is not being used to its full potential. It may be a filing cabinet placed in front of a window or blinds that are left down. Rearrange your office plan to maximise natural light by arranging desks near windows, and

obviously have windows and skylights regularly cleaned!

- **Too much light** - Lighting in non-working areas such as corridors can be minimised. This can be done by removing tubes from multi-tube fittings or disconnecting surplus bulbs, but don't go too far – the HSE has clear guidance on safe lighting levels.
- **One switch for large areas** - Providing more switches to give more control over individual areas of your workspace means it doesn't have to be a case of all lights on or all lights off (also eligible for funding).
- **Dark walls** – Increase the need for artificial light. When you repaint your office consider using a light reflective colour which can maximise available light.
- **Vertical or roller blinds at windows**- Also consider horizontal rather than vertical or roller blinds if you're installing window blinds to cut glare. Vertical and roller blinds can block out too much natural light, requiring more artificial lighting. Horizontal blinds can be set to protect computer screens while directing light onto the ceiling to maximise its benefits.
- **Using high energy light bulbs** – changing bulbs over a period of time to more energy efficient ones as old ones need changing. If a decision is made to change bulbs, over a short period of time, to low energy bulbs the good news is that this cost is eligible for 40% funding. Seek professional advice regarding the most energy-efficient bulb for your particular situation, as the choice of bulb can dramatically affect you energy efficiency.

### 3. Office Equipment

Computers, printers are big energy users. The great news is that there are some really simple steps to cut down on these energy costs, just by raising awareness and changing bad habits.

46% of electricity in businesses is used **outside of standard operating hours**, therefore whether it's leaving on monitors, or vending machines keeping things unnecessarily cool at night, there are lots areas where you could be wasting energy.

- **Not switching off** - Even leaving things on standby can still be a big waste (each little red or green dot costs around £1 a year for every watt of power used). It all adds up and can make a noticeable difference to your energy bill. Have you considered asking staff to turn their computer monitors off if they are away from their desks for more than 10 minutes? Ensuring that both PCs and monitors are turned off at the plug at the end of the day should become an essential practice too.

All communal equipment should be turned off at the end of the day, including printers, copiers, vending machines and coffee machines. Only turn on infrequently used printers and photocopiers when required. Leaving equipment on can also reduce the lifetime of the equipment so you'll need to replace it more often. One engineering firm saved £596 and 3.5 tonnes of CO2 a year just from implementing a 'Switch Off' campaign to ensure all office computers are turned off at the end of the day, and at weekends.

- **Using desktop PCs rather than laptops** - When it comes to replacing computers, consider laptops instead of desktop PCs as they use a lot less energy. They are also much quieter and emit less heat. Also, when the time is right, replace any cathode ray tube (CRT) monitors with modern flat screen technology. These will reduce monitor running costs by at least 50% and are easier on the eyes (this cost is eligible for 40% funding too).
- **Individual printers** - If you have several printers consider replacing them with one large communal printer which will increase efficiency and reduce idle energy costs (also eligible for funding)
- **Monitors brighter than necessary** – Having monitors too bright not only uses more energy, it can cause eye strain.

## 4. Kitchen Equipment

Kitchens are one of the easiest places in the office to make energy savings. Here are some common examples of wasted energy in the kitchen and some very simple actions you can take, for no or very little cost to reduce your energy use.

- **Not switching off** - Ensure all electrical kitchen items, such as microwaves and kettles, are switched off at the plug at the end of the day. Any electrical items that are not used regularly are unplugged. Timers for kitchen devices can be purchased from DIY stores for only a few pounds, and remove 'human forgetfulness' from the equation.
- **Fridge very full and/or in tight space** - Ensure air can circulate your refrigerator freely both inside and out. To work efficiently air needs to circulate freely, if not, running costs can increase by up to 10% and products won't be sufficiently cooled.
- **Fridge not defrosted regularly** - defrost to avoid ice build-up, and ensure condensers (external) are regularly cleaned to help prolong life, fill faster and therefore reduce costs, and make sure evaporators (internal) are regularly defrosted.
- **Damaged doors and seals** - Ensure damaged door seals on fridges and freezers are repaired or replaced quickly (if the door isn't shutting properly, it's costing you

money). Check the dials on fridges and freezers are set at the appropriate levels; leaving a freezer on fast freeze increases electricity demand unnecessarily. Ensure fridge doors are kept closed to keep warm air out, and contents are only cooled to the temperature you need. Every 1°C increase in fridge temperature reduces energy use by 2%.

- **Fridge close to heat source or in draught** - Relocate refrigeration units if they are close to direct heat and draughts. For open fronted display cabinets, bad draughts can increase energy use by up to 95%. Fridges and vending machines containing non-perishable items can be switched off when they are not in use, such as at the weekend. By just turning a water cooler off out of hours could save you £72 a year!
- **No washing up bowl** – Provide a washing-up bowl if washing up is done at the sink, so that the hot tap isn't left running. Make sure dishwashers are filled-up before being switched on, and that an energy saving cycle is used if available.
- **Over filling kettles** - Kettles should only used to boil the amount of water that is needed. Making rounds of hot drinks is more efficient than making them separately.

These are just a few of the common examples of why many businesses use more energy than they actually should. They have been mentioned because generally they involve no or very little cost to rectify. The most effective energy efficiency measures will be individual to your business and will, if acted upon, almost certainly save you £1,000's a year off your energy bills.

To achieve the highest savings, **a systematic step by step approach is key**. Some reductions in energy use can be achieved by simple ad-hoc changes, but to really understand where the '*low hanging fruit*' is in your company, and where the **other longer term major savings are**, an Energy Management Plan is essential.

## How An Energy Management Plan Can Maximise The Benefits -- And Additional Profits -- From Your Energy Efficiency Measures...

Effective energy management can result in **10%-25% savings (or even more)** over a short period of time and obviously the more energy you use the greater the positive effect on your profits. If you have an energy cost of £50,000 per year this could represent a saving of **between £5,000 to £12,500 a year**, and ongoing.

In the past, energy management has seemed a complex business. Keeping track of where the most energy is being used – and wasted – can be a daunting task, and without this detailed



knowledge, it's difficult to identify the efficiency measures that will deliver the most significant cost savings. (In reality most SMEs only know how much they are paying for their electricity on a monthly/quarterly or annual basis, and this is often estimated!)

In the past many SME organisations didn't have the resources or expertise in-house to identify where they are most inefficient, and so found it difficult to put measures in place to cut the amount of energy they use. Many organisations were also put off by the perceived costs they would have to pay upfront to put energy efficiency measures in place.

## Conclusion

### The Good News Is ....

The good news is that with the introduction of some **new, specifically designed software** plus **generous Government funding**, these problems have now been completely removed!

### Let me explain.....

Research within the energy industry has shown that savings of between 10% and 25% are easily achievable for many SMEs just by **identifying** and **eliminating** inefficient energy usage and poor practices.

Up until now, Energy Management Systems have all been costly, very complex and require a dedicated energy manager to oversee them, so only large companies have been able to benefit from them.

It is therefore exciting to reveal that there is now an Energy Management Programme available which has been written and designed especially for SMEs. The programme is simple, online and totally automated, which means any of your staff can use it to identify where the biggest opportunities are to reduce energy use within your business.

The software presents a clear and compelling analysis of **where** and **how** you are spending money on energy. It takes minimal effort to run, does not require daily maintenance or input and requires no electronic or mechanical devices.

This Energy Management Programme is called **EnergiPlan+** a certified ISO 50000 system capable of complying with the requirements of the Energy Savings Opportunity Scheme (ESOS).

EnergiPlan+ identifies **exactly where** your energy is being used, even down to the running cost of each light bulb! The system can be used for businesses located on multiple sites to allow comparison of energy consumption between your departments, offices or locations.

The system creates a formal energy plan for you to follow, which cannot fail to reduce your energy bills and carbon footprint **significantly**, if you take action. By systematically

following your bespoke energy plan you will take control of your energy costs and *easily quantify your savings, year on year.*

## Government Funding To Help Make It Happen...

The Low Carbon KEEP Capital Grant Scheme is offering a 40% grant to SMEs within East Anglia for energy reduction software and equipment up to a total cost of £20,000 -- which is eligible for an £8,000 grant. Other regional grants may be available in other areas of the country.

This funding will reduce the cost of getting the EnergiPlan+ system up and running in your business by 40% and also any capital equipment required to implement the changes that it recommends.

### Here's what to do next

If you're serious about cutting your energy bills and taking action to permanently reduce them, and you'd welcome the 40% funding to help make it happen, then [click here](#)

to watch a short video which gives you more information about EnergiPlan+ and how it works. It will also provide you with the next steps to take to find out if you are eligible for the 40% funding.

Best wishes

A handwritten signature in black ink that reads "Simon". The signature is written in a cursive style and is positioned above a long, thin, diagonal line that extends from the bottom left towards the right.

**Simon Binks, Managing Director,**  
Cost Centre Services Ltd,  
1 & 2 Merchants Court, St Georges Street, Norwich, NR3 1AB  
Tel: 0345 450 1446 Email: [contact@costcentre.co.uk](mailto:contact@costcentre.co.uk)  
[www.costcentre.co.uk/energiplanplus](http://www.costcentre.co.uk/energiplanplus)

