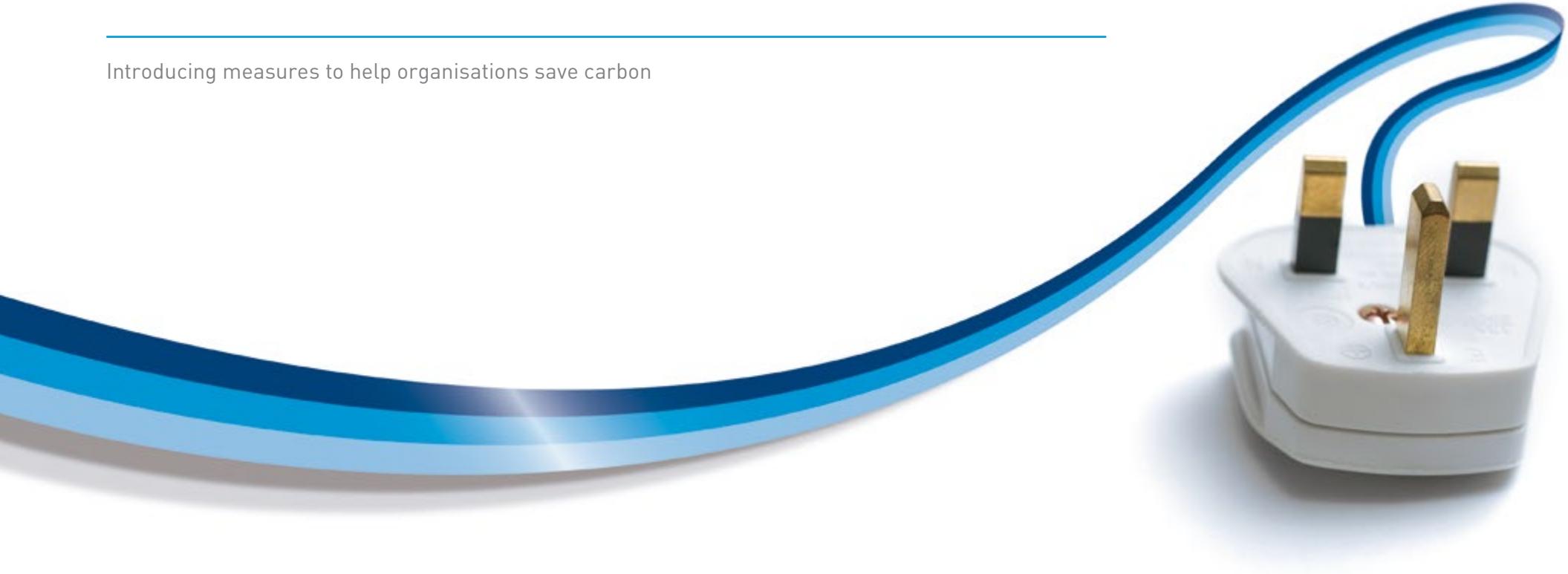
CARBON TRUST

Better business guide to energy saving

Introducing measures to help organisations save carbon



Introduction

Most businesses could use a lot less energy. Experience shows that even low and no-cost actions can usually reduce energy costs by at least 10% and produce quick returns.

This guide shows how to identify measures where energy and cost savings can be easily made with little or no cost.

It is designed for use by anyone new to carbon saving (especially in smaller businesses) and recognises that not everyone has the time or resources to undertake a full carbon management programme.

This guide can be used on its own or as an introduction to the many sector and technology specific publications in the Carbon Trust's library. Free publications can be downloaded from www.carbontrust.com/resources.

Did you know?

63% of companies say that they are now taking action to reduce energy use in their operations. The survey was conducted globally amongst 2,956 companies by McKinsey in 2010.

A 20% cut in energy costs represents the same bottom line benefit as a 5% increase in sales in many businesses

Carrying out an energy walk round

Conducting regular housekeeping walk rounds and noting down and acting on any maintenance issues can identify opportunities for energy savings and avoid expensive problems later on.

To identify where energy savings can be achieved, it is essential to start by looking at how energy is currently being used. Conducting a walk round with a checklist will identify:

- What is happening on the ground
- Wasteful energy use
- Opportunities for savings.

It will also demonstrate a commitment to improving energy performance.

The areas to look at on a walk round are heating, lighting, office equipment and, if applicable, factory and warehouse equipment. The checklist opposite is a useful guide, and the sections that follow give more information on what to look for.

As the pattern of energy use will differ throughout the day, it is useful to conduct a series of walk rounds and to vary the times that they are carried out, for example:

- When the cleaners are on duty
- At lunchtime
- At night or over weekends
- At a time when you would expect to be using little or no energy.

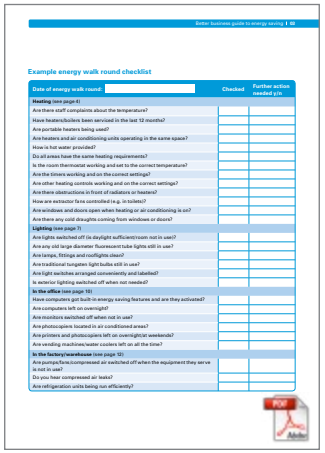
Varying the times of walk rounds will provide a better picture of when and where energy might be being wasted. It is helpful to plan future walk rounds for dates such as when the clocks change and at the beginning and end of the heating season. This will ensure that controls are set correctly for the time of year. Key members of staff can and should get involved with walk rounds, both to help identify problems and opportunities and to ensure they feel part of the process.

Comparing the findings of the walk round with meter data will help to pinpoint areas of high energy use.

It is important to prioritise energy saving actions once they have been identified, rather than expecting to do everything at once. Usually, those with the biggest savings potential or least disruption to the business will decide this. In some cases the savings are easy to identify and calculate; this guide should help you to estimate the potential savings of many of the common improvements. Where the savings are more difficult to calculate, contact the Carbon Trust (details can be found inside the back cover).

Example energy walk round checklist

Download



Heating

Heating typically accounts for about half of the energy used in offices and forms a significant proportion of energy use in other areas of a business. It is a key area to target with energy saving measures. Many businesses are overheated which can cause discomfort and wastes money.

Overheating is often the result of heating areas that do not need to be warmed (such as storage areas or corridors) to the same temperature as those that do, such as occupied areas. Overheating can also be the result of poor control of heating systems.

Preventing as much heat loss as possible through improving insulation and draught control can also significantly reduce heating bills.

Key areas and issues to look out for when carrying out an energy walk round, are:

Equipment and heat usage

When were the heaters or boilers last serviced?

- Heating costs can increase by 30% or more if the boiler is poorly operated or maintained. Ensure they are serviced at least annually and adjusted for optimum efficiency. More information can be found in the Carbon Trust technology overviews Low temperature hot water boilers (CTV051) and Steam and high temperature boilers (CTV052).

Is there evidence of use of portable heaters?

- Portable electric heaters are expensive to run. If portable heaters have to be used, install a simple time switch so they turn themselves off after a designated period, for instance 30 minutes.

Are there heaters and air conditioning units operating simultaneously in the same space?

- Simultaneous heating and cooling of a space is commonplace and wastes a lot of money. Set a 'dead band' of 5°C between heating and cooling, to avoid this happening.

Heating costs rise by about 8% for every 1°C of overheating

Further information

The Carbon Trust has a broad range of publications on saving energy aimed at all levels of experience. Visit www.carbontrust.com/resources

How is the hot water provided?

- Consider installing local instantaneous water heaters where small quantities of hot water are required a long way from the main heating plant. This may also allow the main boiler to be switched off in the summer.
- Insulate all hot water tanks, boilers, valves and pipework unless they provide useful heat to occupied spaces.

Do all areas have the same heating requirements?

- Consider heating the building in zones to allow heating to be adjusted for each area. Areas such as storerooms and corridors, or areas where there is a high level of physical activity, require less heat.
- Warehouses are sometimes heated in an attempt to reduce humidity and maintain product quality, but warm air can often hold more moisture than cold air and heating may actually increase humidity. Dehumidification can be more efficient for this purpose.
- Remember the effect of sunlight – are you heating areas that are already warmed by the sun?

Controls and timing

Are thermostats correctly set?

- Thermostats should generally be set at 19-20°C for heating.
- Install thermostatic radiator valves where possible to provide local control of radiators and make sure they are used correctly.
- Are thermostats placed in the correct locations – away from draughts and direct sunlight and at a distance from any heating sources?
- Zone controls allow heating or cooling of different parts of a building at different times and different temperatures according to occupants' needs.

Are time controls correctly set?

- Does heating come on only when needed?
- Control heating using seven-day timers to allow it to be turned off or down during regular unoccupied periods.
- Money can be saved by adjusting any preheat period in the morning to match weather conditions. Controls are available that can do this automatically.

How are extract fans, for example in toilets, controlled?

- Fans left running extract warm air and waste money – consider fitting time switches or occupancy detectors.

Energy Efficiency Financing

Investing in energy efficient equipment makes sound business and environmental sense, especially with the easy, affordable and flexible Energy Efficiency Financing scheme brought to you by Carbon Trust Implementation and Siemens Financial Services. To find out more visit **www.energyefficiencyfinancing.co.uk**

Further information

Technology overviews

Heating, ventilation and air conditioning (CTV046)

Low temperature hot water boilers (CTV051)

Technology guides

Heating control (CTG065)

Steam and high temperature hot water boilers (CTV052)

Draughts and avoiding heat loss

Are windows and doors left open during the heating season?

- Windows are often opened because rooms are too hot.
- Instead of opening windows, turn down thermostats a little until a comfortable temperature is reached.
- Use promotional material and staff meetings to raise staff awareness. Posters and stickers are available from the Carbon Trust.

Are there cold draughts coming from windows and doors?

- Draughts are not only a cause of complaint and discomfort, but waste money.
- Fit draughtstrips and seal up windows and doors that are no longer used.

Further information

See the Heating control technology guide (CTG065) for further guidance on recommended temperatures.

Case Study

Birmingham Hippodrome

Birmingham Hippodrome is one of the largest receiving venues in the country, with a 1,887 seat main auditorium, a 206 seat studio theatre and first class studio space, conference and hospitality facilities. However, heating and ventilating the theatre had resulted in high energy bills of around £35,000 per year for the Main Auditorium.

Eager to find a way to reduce costs, the Birmingham Hippodrome Theatre Trust applied for an energy efficiency interest free loan from the Carbon Trust. The loan enabled the trust to fit variable speed drives to the uncontrolled fans in the Main Auditorium and to the heating and chilled water pumps on the present heating and ventilating system, which was oversized for normal duty. The proposed changes will enable the dampers on the main auditorium air handling units to be fully opened to increase the overall efficiency of the existing system, thus reducing energy usage.

Although the cost of the project was nearly £60,000, the Birmingham Hippodrome should reduce its energy expenditure by more than £17,500 per year. Based on these yearly energy savings, the initial loan from the Carbon Trust will pay for itself in less than four years, and all further savings on the company's energy bill will go directly to the bottom line.

Lighting

There are many simple and inexpensive ways to reduce the energy consumption and costs associated with lighting without compromising health and safety or comfort levels.

Key areas and issues you should look out for when carrying out an energy walk round are:

What type of fluorescent tubes are in use?

- Slimline fluorescent tubes (26mm diameter) use 10% less electricity and are cheaper to buy than the older 38mm tubes.
- Installing new high frequency fluorescent lighting eliminates flicker and hum, extends lamp life and can often reduce consumption by around 25%.

Are lamps, fittings and rooflights clean?

- Dirty shades and rooflights greatly reduce lighting levels.

Are standard (tungsten) light bulbs still being used?

- These bulbs are very expensive to run for long periods and produce more heat than light!
- Replace standard light bulbs with more efficient compact fluorescent bulbs – they have a longer life, lower maintenance costs and use up to 75% less energy.
- 'Task lighting' is a good way to minimise the amount of electric light being used, by lighting just theworking area to a higher level and providing background lighting at a lower level for the rest ofthe space. The use of 'task lighting' can also reduce glare on computer screens making it more comfortable for employees.

Is there an opportunity to use LEDs?

- LED lighting can provide substantial energy savings. LEDs typically have a long lifetime and will need less frequent replacement than many other lighting types.

Lighting in a typical office costs about £3/m^2 annually, but in the most efficient office only costs about £1/m^2

Did you know?

Fluorescent tubes use only a few seconds' worth of power in start up – therefore, it is always better to switch them off when leaving a room.

Top tip

Banks of lights are often controlled by a single switch. Consider installing more switches or pullcord switches to improve control of individual fittings.

Further information

Lighting technology overview (CTV049)

How to implement LED lighting (CTL164)

How to implement lighting controls (CTL161)

How to implement lighting refurbishments (CTL163)

How to implement external lighting (CTL162)

Is the exterior lighting always switched off when it is not needed?

- Exterior lighting should be limited to the hours of darkness.
- It may not be necessary to have lights on continuously throughout the night. Consider fitting lighting controls to limit hours of use.

Are lights switched off when the premises are not occupied?

- A lot of energy is wasted when unnecessary lights are left on out of hours.
- Carry out an out-of-hours check to see if this is a problem.
- Make staff responsible for switching off the lights.
- Posters and stickers are available from the Carbon Trust to raise awareness amongst staff (see the inside back cover for details).

Case Study

Henderson Group

The Henderson Group has worked with the Carbon Trust to get a better understanding of its energy consumption and reduce its carbon emissions. The company owns the SPAR, EUROSPAR, VIVO and VIVOXTRA franchises in Northern Ireland, supplying almost 400 stores across the province and owning and operating 60 stores through its Henderson Retail division. Henderson Group Property, the group's property development firm, is a specialist in the acquisition and development of retail outlets, particularly petrol forecourts and neighbourhood retail schemes.

Carbon surveys identified that lighting and refrigeration were the two main sources of energy use. The company has now piloted a range of different energy efficient lighting system solutions, including changes to lighting system design, upgrading lamps and luminaries, as well as appropriate automatic controls.

The pilot projects have delivered proven savings of approximately £2,200 per annum for each lighting system in a typical store. Store appearance and lighting levels have also been improved, and with payback periods of less than a year, the group now intends to roll out the modifications across all its stores.

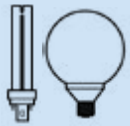
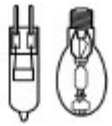
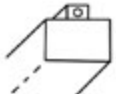
Mark Adrain, Property Director said: "Given the continual increase in energy costs, we have made a conscious effort to reduce our energy consumption and carbon emissions. With the support of the Carbon Trust and the conclusive findings of the energy audits, we have been able to implement energy efficient corporate refrigeration and lighting specifications which satisfy our objectives and provide an enhanced retail environment at reduced operating costs."

Make sure that the most efficient type of lighting is installed. The following table shows different types of bulbs and whether there might be a more efficient alternative.

Did you know?

It is possible to cut your lighting costs by up to 30% by implementing energy saving measures outlined in this overview.

Lighting a typical office overnight wastes enough energy to heat water for 1,000 cups of tea.

Existing lamp type	Energy-efficient option	Energy saving benefits
 Standard (tungsten) light bulbs	 Replace with energy saving compact fluorescent bulbs in the same fitting*	75% energy saving plus longer lamp life
 38mm (T12) fluorescent tubes in switch-start fittings	 Replace with equivalent 26mm (T8) fluorescent tubes of lower wattage	8% energy saving plus longer lamp life
 High wattage filament lamps or tungsten halogen lamps as used in floodlights	 Replace with high-pressure sodium or metal halide lighting	65-75% energy saving plus longer lamp life
 Mains voltage reflector lamps, filament spot and flood types	 Replace with low-voltage tungsten halogen lighting or metal halide discharge lighting	30-80% energy saving for equivalent lighting performance
 Fluorescent fittings with the old 2ft 40W, and 8ft 125W fluorescent lamps	 Replace with modern, efficient fittings using reflectors/ louvres or efficient prismatic controllers with high-frequency electronic or low-loss control gear and triphosphor lamps	30-45% energy saving with much improved lighting quality. The use of high-frequency electronic control gear eliminates flicker, hum and stroboscopic effect
 Fluorescent fittings with opal diffusers or prismatic controllers which are permanently discoloured	 Replace with new prismatic controllers or replace complete fittings as above	No reduction in energy consumption but increases the amount of light by between 30% and 60%

*Take care when tungsten light bulbs are used as task lighting for machinery in workshops. Replacing them with energy saving bulbs can cause a stroboscopic effect, so tungsten bulbs can sometimes be the safest option. An alternative is to use a compact fluorescent fitting with high-frequency electronic control gear which eliminates the stroboscopic effect.

In the office

Businesses rely on a range of office equipment. From computers and photocopiers to teleconference facilities, these items have become integral to daily activity. However, it is not always appreciated how much this equipment can cost a company.

Apart from heating and lighting savings, energy consumption in offices can be reduced by looking at the way equipment is used.

In an air conditioned office it can take half as much energy again to remove the heat generated by office equipment as it takes to run the equipment in the first place.

Have the computers got in-built energy saving features?

- The best known energy label for office equipment is the Energy Star rating, whereby equipment automatically enters a low power mode after a preset amount of time.

However, these savings can only be achieved if the energy management software has been enabled.

- Screensavers do not save energy. They only save the screen image from 'burning in' when the image does not change for a long period.

Are computers left on overnight?

- By switching computers off at nights and weekends, rather than leaving them running, their energy consumption can be reduced by 75%per year.
- If the monitor is also turned off when not being used (including lunchtimes, etc), and the standby options are activated, energy consumption can be reduced by 90% per year.

Are photocopiers located in air-conditioned areas?

- Place photocopiers in areas that are naturally ventilated where possible. This will help avoid any air conditioning plant having to compensate for the associated heat gains.
- Run copies in batches to reduce the amount of time the machines are running in idling mode before and after use. This will allow machines to remain in power save mode for a higher proportion of the day.
- A photocopier left on overnight uses enough energy to make over 5,000 A4 copies.

On average, 20% of the total energy bill in commercial offices is accounted for by office equipment – about half of this use stems from PCs and monitors

Is other office equipment left on unnecessarily?

- Activate energy saving mode where available on printers and fax machines, as this will allow the machine to automatically power-down after a set time period.
- By switching laser printers off in the evenings and at weekends, energy consumption can be reduced by 75%.

Don't forget to switch off cold drink vending machines and water coolers overnight and at weekends too. Install a plug-in seven-day timer to reduce the likelihood of machines being left on out of hours. These can be bought for a few pounds from most DIY stores. Consult your manufacturer for advice.

Check what equipment is being used in the office kitchen: old kettles, tea urns, or refrigerators tend to be less efficient than newer models – it could be worth investing in a new, energy efficient appliance to improve performance and save money in the long run.

Did you know?

A computer and flatscreen monitor left on 24 hours a day will cost around £50 a year. Switching them off out of hours and enabling standby features could reduce this to less than £15 a year and prolong the lifespan of equipment.

Further information

For more detailed information on office equipment and for office-based companies,see the Carbon Trust Office equipment technology overview (CTV005) and Maximising savings in an office environment (CTV007)

In the factory/warehouse

There are some excellent opportunities for energy saving that can be made on the factory floor or in the warehouse. The exact equipment used and the processes will be unique to each business, however it is possible to highlight a few common areas in which opportunities can often be found.

Compressed air

Is the system leaking?

- Check for wasteful leaks in the compressed air system (20-50% leakage is not uncommon) and repair them immediately – this simple measure could produce dramatic savings.
- It is easiest to check for leaks during quiet periods when there is no demand for air.

Does the compressor run when not needed?

- Many factories run their compressor for most of the day, even when compressed air is not needed, and are unaware of how much this is costing them – encourage staff to switch the compressor off when not in use.

Electrical equipment

Is equipment left running when it is not being used?

- Conveyor systems, machine tools and other equipment should be switched off when not in use.

Are Higher Efficiency Motors fitted?

- Higher Efficiency Motors now cost no more than normal ones and can save 3-5% of the running cost.

Are Variable Speed Drives (VSDs) fitted to equipment?

- In many cases, using a VSD to reduce the speed of a pump or fan by just 20% can halve its running cost.

Tax incentives

Enhanced Capital Allowances (ECAs) enable businesses to buy energy efficient equipment using a 100% rate of tax allowance in the year of purchase. Businesses can claim this allowance on the investment value of energy efficient equipment, if it is on the Energy Technology List. The procedure for claiming an ECA is the same as for any other capital allowance.

For further information please visit www.eca.gov.uk.

Case study

AAC Cyroma

Oxfordshire based manufacturer AAC Cyroma was incurring energy costs of more than £19,000 per year, much of which was being spent on electricity. Eager to reduce costs, the company applied for an interest-free Carbon Trust loan to replace three fixed speed air compressors with one, more energy efficient variable speed ompressor, which could supply the entire factory.

Although the overall cost of the project was more than £29,000, the replacement of the equipment will result in the reduction of AAC Cyroma's energy expenditure by nearly £7,000 per year. Based on these annual energy savings, the payback period for the Carbon Trust loan is approximately four and a half years. All further savings will then go directly to the bottom line. The company will also reduce its CO_2 emissions by more than 77,000 kg per year.

Refrigeration

Are the seals on refrigerated areas/equipment in good condition?

- Replacing worn or damaged seals can drastically reduce refrigeration costs.

Make sure that doors to refrigerated areas are being kept closed.

- If doors to refrigerated areas are left open, even for short periods, costs can rise significantly.
- Are the doors adequate to prevent warmer air entering the chilled space?

Is the refrigeration equipment well maintained?

- Badly maintained chiller plant will increase energy consumption.
- Are chiller units free of ice build-up and are they regularly serviced?
- Is the chiller outlet free of debris and blockages?

Motors can consume their purchase price in energy costs in just a few weeks!

Further information

Technology overviews

Refrigeration (CTG046)

Motors and drives (CTV048)

Compressed air (CTV050)

Sector overviews

High temperature industry (CTV056)

Chemicals sector (CTV057)

Food and drink processing (CTV054)

Using bills and meter readings to investigate energy use

Looking at energy bills and taking regular meter readings helps to track how energy is being used and take control of energy costs.

Reviewing energy invoices and checking meter readings regularly will help build a picture of your energy performance. These measures will also help to:

- Ensure that only the fuel actually used, is paid for.
- Assist with comparing current consumption and costs with previous years.
- Enable assessment of the seasonal pattern of consumption.
- Identify unexpectedly high or unusual patterns of energy use so that quick action can be taken.

Electricity and gas meters are two of the most important tools in helping to identify opportunities to save energy. Taking regular meter readings should help to establish a pattern of energy consumption, which can be compared against what the business should be using. Inconsistencies between the two could show where energy is being used unnecessarily.

The meter

Know where energy meters are

- Remember, there may be more than one meter for each type of fuel.

What type of meter is it?

- Meters that need to be read manually will have either a digital display or an analogue dial.
- Increasingly, energy companies are installing meters which automatically send information on energy usage to them on a regular basis – sometimes every half-hour. If this type of meter is installed, the data should be available from the energy supplier.

Analysing data

- Record meter readings regularly. If there is a change that can't be explained, or no reduction when you would expect to see one (e.g. summer holiday periods) check controls and settings – equipment may be left on when it is not needed. Ideally energy use should be plotted over time graphically to make it easier to see trends.
- Fluctuations in energy use may have many possible explanations, including variations in workload, holidays, the season or the weather.
- If there is an unexpected fluctuation, then it is worth looking further to check if some equipment malfunction or change in working method has caused an increase in energy use.

Pay less for your energy

There are many factors that affect the price of a unit of electricity. To reduce costs, bear in mind that the price of a unit can vary significantly throughout the day and be substantially cheaper at night.

Contact the electricity supplier for further information.

There are several ways of paying less for each unit of electricity, for example:

- Make maximum use of cheaper electricity rates, especially those at night-time.
- Minimise use of peak rate and winter units.
- If possible, reschedule work activity so that the maximum daily demand for electricity does not fall in peak rate times.
- Check tariffs to ensure you are paying the minimum amount.
- Check with the supplier that the load (the amount drawn from the supply) has no unusual characteristics that may affect the unit price.
- Check the power factor (see page 16).

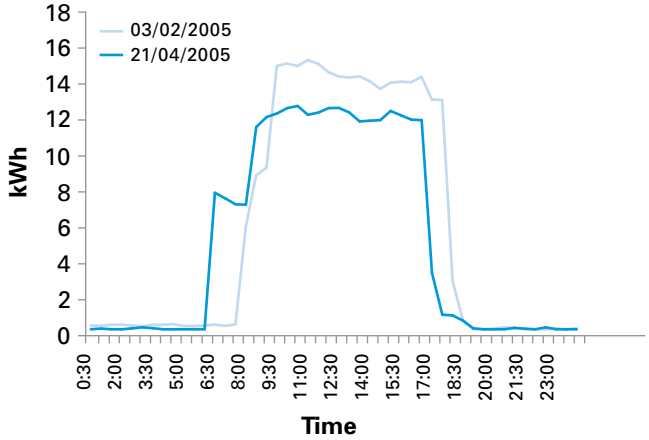
In addition, the maximum demand – i.e. the maximum number of electricity units the premises take from the supplier in any half-hour period – can have a big impact on the cost, especially if the maximum demand exceeds what is agreed with the supplier. Check what the maximum demand limit is – it should be on the bill but check with the supplier if it isn't.

Maximum demand is usually provided as a figure expressed in kW (kilowatts).

Maximum demand greater than 100kW

If the maximum demand for electricity is greater than 100kW, a contract can be negotiated with a supplier. The supplier (or meter operator) will install a meter that records consumption every half hour and automatically sends the reading to them. Lower prices can be obtained by minimising the maximum demand in any half-hour period during the day and, depending on the details of the contract, minimising demand during the peak times (usually 4.30pm to 7.30pm Monday to Friday).

An example of reduced energy use after installing a half-hour meter



Maximum demand less than 100kW

If the maximum demand is less than 100kW the organisation will probably be on a standard tariff. There is a wide range of tariff structures and it is important to check that the tariff is the most economical for the organisation's consumption pattern. Contact the supplier to discuss the available tariffs and which is likely to be appropriate.

Some electrical equipment, e.g. motors and fluorescent lighting, can exhibit an effect known as power reactance (a bit like driving a car with the brakes on). The combined measure of this unwanted effect in a business is the power factor. A low factor places an increased load on the power supply and means that the electricity could be more expensive. However, Power Factor Correction (PFC) equipment is available which corrects the power factor effect.

It is always advisable to consult an independent consultant when exploring this measure – it can produce significant cost savings but is not applicable in many businesses and needs expert help to implement.

Further information

Technology guide

Power factor correction (CTG076)

Technology overviews

Metering (CTV061)

In-depth guides

Monitoring and targeting (CTG077)

Many businesses pay too much for their electricity and gas and paying less needn't always involve switching supplier

Next steps

Once the opportunities for savings have been identified, it's time to act. The following steps should help you to take effective measures.

Step 1. Make someone responsible

Give one person responsibility for an energy saving initiative at the site. They could:

- Be responsible for reading the meters and checking fuel bills
- Carry out a walk round at designated times to identify new sources of wasted energy
- Manage specific energy saving projects
- Make sure other staff know about the main areas of energy waste and show them how to save energy – and the benefits of doing so.

Step 2. Plan and organise

Draw up an action plan which should be a simple schedule of the improvements that need to be made, when they will be made, and who will be responsible for them. When writing an action plan:

- Make someone responsible for each improvement
- Allocate resources – both time and money if needed – to each improvement
- Where possible, set deadlines for the completion of each improvement and keep checking to ensure each has been done
- Identify a governance structure and reporting lines so that the person(s) with day to day responsibilities have a Director level contact in charge of ensuring that the improvements proceed as planned
- Prioritise improvements according to energy cost savings and time taken to recoup the cost.

Step 3. Involve staff

Although one individual may be responsible for energy efficiency, the involvement and commitment of all staff is crucial to achieving success. Encourage all staff to participate in a campaign of energy efficiency. Raising awareness is the first step on the way to getting staff participation.

Posters, stickers and leaflets are an inexpensive, effective way of reminding staff to be energy efficient. These can be produced in house, or there is a range of materials available to order from the Carbon Trust. Many companies have introduced incentive schemes to ensure that actions are undertaken and that all staff contribute to energy saving measures.

Further information

Energy management guide (CTG054)

Creating an awareness campaign (CTG056)

Further services from the Carbon Trust

The Carbon Trust advises businesses and public sector organisations on their opportunities in a sustainable, low carbon world. We offer a range of information, tools and services including:

Website – Visit us at www.carbontrust.com for our full range of advice and services.

➘ **www.carbontrust.com**

Tools, guides and reports – Free publications and tools for energy saving across range of sectors and technologies.

➘ **www.carbontrust.com/resources**

Case Studies – Our client case studies show that it's often easier and less expensive than you might think to bring about real change.

➘ **www.carbontrust.com/our-clients**

Carbon Trust Empower – Help employees play a part in achieving energy and carbon savings for your organisation with our interactive employee engagement tool

➘ **www.carbontrust.com/empower**

Carbon Trust Green Business Directory – Looking to install energy efficient or renewable energy technology? Find your ideal supplier in our directory of Carbon Trust accredited businesses.

➘ **www.carbontrust.com/greenbusinessdirectory**

The Carbon Trust is an independent company with a mission to accelerate the move to a sustainable, low carbon economy.

The Carbon Trust:

- Advises businesses, governments and the public sector on opportunities in a sustainable, low carbon world.
- Measures and certifies the environmental footprint of organisations, products and services.
- Helps develop and deploy low carbon technologies and solutions, from energy efficiency to renewable power.

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