



## Assessing the energy use in your building

Energy Saving Fact Sheet



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of climate change

# What is an energy walk round?

A walk round is an assessment of energy use in your building and is one of the key techniques in energy management.

The aim of a walk round is to identify bad practice, inefficient equipment and poor energy habits. This will help you to form a plan to fix them.

Using a checklist that focuses on energy use, the walk round will enable you to:

- ▶ See what is happening on the ground
- ▶ Identify wasteful energy use
- ▶ Identify opportunities for savings
- ▶ Identify maintenance issues that need addressing.

If your business is industrial, you may be interested in the Carbon Trust's publication *Assessing the energy use at your industrial site* (CTL002).

Energy is one of the largest controllable costs in most organisations. Because there is usually considerable scope for reducing consumption in buildings, identifying where the saving opportunities lie is often a good way to save money.

Being energy efficient is proven to lead to improved profitability. Whether you take low-cost actions, or invest in long-term solutions, all cost savings go straight onto the 'bottom line', that is, these savings are pure profit.

## fact:

Most businesses could use a lot less energy. Energy costs can usually be reduced by 10-20% through simple actions that produce quick returns.

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### What to look for – simple checks and opportunities

#### The energy no-one is using

- ▶ **Out of hours tests** – Take meter readings at the end of the day and at the start of the next. The difference is the energy used whilst the building is empty. Can you account for this?
- ▶ **Standby to save money** – Some equipment will need to remain on during the day for occasional use, such as printers, photocopiers and coffee machines. Check for and enable any energy saving modes
- ▶ **Lights are on but no-one is home** – Lights switched on first thing can remain on all day, especially in winter when people arrive in the dark. Switch off lights when there is sufficient daylight
- ▶ **Workstations empty but equipment left on** – Encourage staff to turn off monitors and desk lighting when leaving their desk for any length of time
- ▶ **Ventilation fans running** – Switch off ventilation fans in unoccupied areas to save fan energy and the need to replace any warm (or cool) air.

#### Take control

- ▶ **Provide the right temperature** – Check thermostat settings are correct and compare with the actual space temperature. Look out for signs of over-heating, for example, staff wearing summer clothes in winter or opening windows when the heating is on
- ▶ **Get the timing right** – Check timers are correctly set for building occupancy. A minor adjustment may be required to achieve optimum comfort conditions
- ▶ **Check lighting controls** – External lighting should only be on when it is dark. If lighting is used as a security measure out of hours, can it be controlled by movement sensors?

# Preparing for a walk round

Energy walk rounds require a bit of time and initial planning.

The first walk round should cover your entire business or site so you can assess how things currently are.

Subsequent walk rounds may focus on priority areas identified in the first walk round, or they could reassess the situation after some energy saving measures have been implemented.

Before you start a walk round, it is a good idea to prepare a checklist. You can devise separate checklists for maintenance and good housekeeping or produce a combined version to cover specific areas in your building such as the kitchen or storeroom.

You can use the checklist included in this fact sheet or create one for your own specific business needs.

## ...and once you've completed your walk round...

Make sure you report the findings and follow up with an action plan. A good report will thoroughly justify any recommended actions, and will stimulate the reader into action.

### fact:

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

## Maintenance of energy using equipment

### Reducing the energy your building uses

The building fabric (walls, floors, roof, windows and doors) helps to keep staff comfortable but can contribute to heat loss.

- ▶ **Reduce air leaks** – Check around windows, doors, skirting and eaves for draughts and ask staff to report any discomfort. Fit and routinely check draught stripping for signs of wear or damage
- ▶ **Repair any cracks** – Replace any broken windows and repair any damage to the roof or walls immediately
- ▶ **Replace any damaged or damp insulation** – Check that pipework (especially hot pipes) and accessible roof spaces are insulated. Use removable covers on flanges to encourage replacement after maintenance
- ▶ **Stop the drip** – Check water services including taps, storage facilities and pipework, and ensure all drips are fixed immediately.

### Reducing the energy your services use

Building services (heating, hot water, lighting and ventilation) are significant energy users in a business.

- ▶ **See the light** – Keep light fittings and glazing clean. Consider replacing old yellow fittings with reflector (mirrored) fittings
- ▶ **Keep filters clean** – Replace them at manufacturer's recommended intervals and do not block grills and fans
- ▶ **Spot the difference** – Ask staff to report any hot or cold spots in the building. Check when colder areas reach a comfortable temperature, what happens in the hot areas? Your heating may need balancing, or require more controls. Seek advice from a heating technician.

# Take action!

## Follow these steps to start saving energy today:

- ▶ Carry out a site walk round (see overleaf for a checklist you can use)
- ▶ Involve staff in the walk round process wherever possible
- ▶ Make a note of any good housekeeping problem areas and which actions are required
- ▶ Analyse your findings and prioritise actions in terms of business benefit against cost and payback
- ▶ Report the walk round results to staff and management
- ▶ Produce a plan of action with dates and named individuals responsible
- ▶ Implement quick wins and report successes
- ▶ Maintain momentum: keep people informed of progress and continue to raise awareness of energy use
- ▶ Follow up outstanding actions and implement in line with your action plan
- ▶ Schedule the next walk round
- ▶ Feed the findings from further walk rounds into your current plans and activities.

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## When to conduct an energy walk round

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 you carry them out. For example:

- ▶ When the cleaners are on duty
- ▶ At lunchtime
- ▶ At a time when you would expect to be using little or no energy such as at night or over weekends
- ▶ At a busy time, when you would expect to use a lot of energy.

By varying the times of your walk rounds, you will get a better picture of where and when energy might be being wasted. It is helpful to plan future walk rounds for specific times such as when the clocks change and at the beginning and end of the heating season. This will ensure that your controls are set correctly for the time of year.

### How often should you do these walk rounds?

As often as you feel it is necessary, but at least once per year and preferably every three to six months. For larger sites, you may want to do this more regularly.

# Example energy walk round checklist

Date of energy walk round

Checked by

Heating, Ventilation and Air Conditioning	Complete y/n	Action/Comment
Check for complaints about comfort conditions and report any over/under heating issues		
Measure space and water temperatures regularly and document these against a schedule of preferred conditions for different areas		
Check that heaters/boilers have been serviced in the last 12 months		
Ensure that heaters and air conditioning units are not operating in the same space at the same time		
Check that heating controls/room thermostats are operating properly and are correctly set		
Check that timers and programmers are working and are on the correct settings		
Clean filters and grills associated with heating, air conditioning and ventilation systems at intervals recommended by the supplier		
Check that there are no obstructions in front of radiators, heaters and air ducts		
Close windows and doors in heated or air-conditioned areas		
Ensure air conditioning is switched off at the end of the day. Turn off as early as possible to meet comfort conditions		
Check for draughts and damage to windows, window frames and doors. Repair any damage and install or maintain draught seals		

Lighting	Complete y/n	Action/Comment
Check that lighting is switched off in unoccupied areas		
Check that lights are switched off if there is sufficient daylight		
Ensure that bulbs, fittings and rooflights are clean		
Check that light switches are arranged conveniently and labelled		
Check external lighting is off during the day		
Check for any old, large diameter fluorescent tube lights still in use and consider replacing with slimmer tubes		
Check for traditional tungsten light bulbs still in use and consider replacing with compact fluorescent bulbs		
Replace any failed or failing lights, preferably with more efficient options		

Equipment	Complete y/n	Action/Comment
Check that computers and other equipment have built-in energy saving features – and that they are activated		
Ensure that all unnecessary equipment is switched off over night and at weekends		
Check hours of operation for vending machines/water coolers and consider timers		



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**The Carbon Trust helps businesses and public sector organisations cut their energy costs to combat climate change through the provision of free, professional advice and assistance.**

### **Safety First!**

Always have safety uppermost when conducting a site walk round. Make sure that all safety procedures are followed and take particular care around hot or hazardous machinery. Always wear recommended protective clothing such as gloves, goggles and headgear, and call in an expert when needed.

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